



# CITY OF SACRAMENTO

11-2-3168

## DEPARTMENT OF FINANCE

915 I STREET  
ROOM 112

SACRAMENTO, CALIFORNIA 95814  
TELEPHONE (916) 449-5736

February 12, 1985  
FA85057:JRC:ld

JACK R. CRIST  
DIRECTOR OF FINANCE

ROBERT C. LELAND  
ASSISTANT DIRECTOR

City Council  
Sacramento, California

CITY MANAGER'S OFFICE  
**RECEIVED**  
FEB 12 1985

Honorable Members in Session:

SUBJECT: CITY COUNCIL REQUESTED REPORTS BACK RELATING TO THE SACRAMENTO  
LIGHT RAIL PROJECT (A SPECIAL CITY COUNCIL MEETING OF 2/5/85)

### SUMMARY

As requested, the following separate reports are transmitted herein in response to questions from City Council members.

1. Patronage numbers and population for comparison of North American cities
2. List of Redevelopment Plan starter projects as permitted by the Downtown Redevelopment Advisory Committee
3. List of Redevelopment Agency 1985 projects approved in 1984
4. Percentage of tax increment funds for public versus private projects
5. Tax increment flow from starter projects / implementation strategy (leverage ratio)
6. LRT Oversight Committee (Budget Controls)
7. City tax revenues from Redevelopment projects (Lost Revenue Opportunity Costs Due to Use of Tax Increment Funding for Light Rail)



RECOMMENDATION

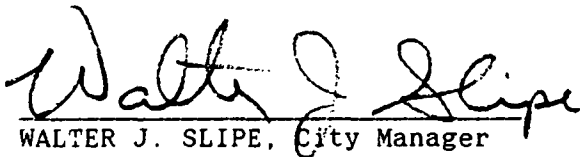
These reports are in response to City Council questions and are for information purposes. City, SHRA, STDA, and RT staff will be available at the February 12, 1985 meeting to answer questions.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Jack R. Crist". The signature is fluid and cursive, with a large initial "J" and a distinct "Crist" at the end.

JACK R. CRIST  
Director of Finance

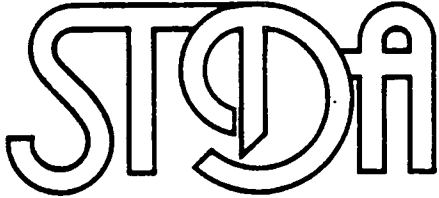
FOR CITY COUNCIL INFORMATION:

A handwritten signature in dark ink, appearing to read "Walter J. Slipe". The signature is cursive, with a large "W" and "S".  
WALTER J. SLIPE, City Manager

Attachments

February 12, 1985  
All Districts





# MEMORANDUM

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1201 I Street, Room 205 • Sacramento 95814 • (916) 445-6519

February 11, 1985

TO: Jack Crist, Controller

FROM: <sup>PRS</sup> Phillip R. Smelley, Technical Coordinator

RE: ADDED OPERATIONS DATA REQUESTED AT  
FEBRUARY 5, 1985 PUBLIC HEARING  
FILE NO: 039.002.000

At our presentation to City Council on February 5, 1985 additional data was requested on the demographic and operational statistics for North American cities building or rehabilitating LRT systems. The attached table reflects the data requested.

cc: William H. Edgar, Interim Executive Director, STDA  
David A. Boggs, General Manager, RT



# SERVICE COMPARISONS & STATISTICS

## I. Rehabilitated Streetcar/LRV Systems

<u>CITY</u>	<u>SERVICE AREA POPULATION</u>	<u>PREVIOUS RIDERSHIP</u>	<u>CURRENT RIDERSHIP</u>	<u>PROJECTED RIDERSHIP</u>	<u>BUS FEEDER SYSTEM</u>
Boston	2,500,000	N/A	a. 120,000	N/A	Yes
Cleveland (Shaker Heights)	1,700,000	18,500	b. 16,700	19,200	Yes
Pittsburgh	1,671,000	21,000	c. (1)	45,000	Yes

(1)  
System currently partially shut down for rehabilitation.

## II. New LRV's Only

<u>CITY</u>	<u>SERVICE AREA POPULATION</u>	<u>PREVIOUS RIDERSHIP</u>	<u>CURRENT RIDERSHIP</u>	<u>PROJECTED RIDERSHIP</u>	<u>BUS FEEDER SYSTEM</u>
Philadelphia (City Subway)	3,683,000	80,000	d. 100,000	N/A	Yes
(Red Arrow)	3,683,000	12,600	e. 14,780	N/A	Yes
Toronto	2,146,000	N/A	a. 200,000	N/A	Yes

## III. Statistics on Comparison Cities

<u>CITY</u>	<u>SERVICE AREA POPULATION</u>	<u>PREVIOUS RIDERSHIP</u>	<u>CURRENT RIDERSHIP</u>	<u>PROJECTED RIDERSHIP</u>	<u>BUS FEEDER SYSTEM</u>
Calgary	623,000	-	42,000	25,000	Yes
Edmonton	551,000	-	22,000	12,000	Yes
San Diego	1,200,000	-	14,500	9,800	(Partial)
San Francisco	650,000	-	125,000	98,000	Yes



- a. Both Boston and Toronto have intermingled with LRV's with the existing PCC fleet. No comparative counts are available.
- b. Shaker Heights current decline due to construction.
- c. Portion of rail service not operating due to rebuilding of LRT right of way.
- d. Figures represent the five subway surface routes only. The surface streetcar routes have not received equipment or right of way modifications.
- e. Some ridership increase is attributed to a strike on a competing railroad and the opening of a new suburban shopping mall.



**DOWNTOWN REDEVELOPMENT PLAN  
IMPLEMENTATION STRATEGY (Proposed)**

The following is the list of starter projects as included in the Downtown Redevelopment Plan Update Implementation Strategy recommended by the Downtown Redevelopment Citizens Advisory Committee in January 1985. The starter projects are prioritized by Categories I, II and III. All the Category I projects would be initiated with substantial number of projects completed within a three-year period beginning in 1985.



DOWNTOWN REDEVELOPMENT ADVISORY COMMITTEE  
PRIORITIZATION OF STARTER PROJECTS

	ESTIMATED COST (5000's)
<u>CATEGORY I</u>	
1. Convention Hotel	\$ 4,000,000
2. K Street Mall Light Rail Improvements	1,000,000
3. Two Downtown Parking Garages (Travelers and Old Sacramento Garages)	16,000,000
4. Old Sacramento Waterfront Development	1,641,000
5. Redevelopment of L Street, 7th to 8th (including N.W. corner of 7th and L)	6,000,000
6. Restoration of Crocker Art Gallery	1,000,000
7. City Plaza Improvement (as proposed by the Sacramento Downtown Association)	750,000
8. Food Courts and Arcade (J to K Street)	3,100,000
9. Public Street Improvements	3,000,000
10. Docks Area Development	6,000,000
11. Free Bus Zone	1,000,000
12. Library Development	4,000,000
13. Land Acquisition for Housing	6,850,000
* Additional Downtown Security (\$100,000 per year for 3 years)	300,000
14. St. Rose of Lima Park	298,000
15. Old Sacramento Service Courts	141,000
Subtotal	<u>\$55,080,000</u>

CATEGORY II

16. Frail-Elderly Housing	\$ 2,000,000
17. Commercial Rehab Loan Program	1,000,000
18. Sacramento Heritage, Inc.	500,000
19. SRO Rehab	1,300,000
20. Southside Housing Infill	1,000,000
21. J Street/4th Street Overpass	250,000
22. Mid-size Performance Facility	5,000,000



23.. Southwest Neighborhood	3,000,000
24. Emergency Housing	2,000,000
25. Motor Inn/Hotel	1,000,000
26. Long-term Parking	13,690,000
27. County Garage	250,000
Subtotal	<u>\$30,990,000</u>

CATEGORY III

28. SRO Replacement	\$ 500,000
29. Housing Reserve	6,200,000
30. Lower End Department Store	500,000
Subtotal	<u>\$ 7,200,000</u>
TOTAL	<u>\$92,531,341</u> *****



**1985 DOWNTOWN TAX INCREMENT  
FUNDED PROJECTS**

The following is that portion of the 1985 Agency Capital Improvements Program which pertains to the Downtown (Redevelopment Project Areas 2A, 3, 4 and 8) Tax Increment financing as approved by the Redevelopment Agency in December 1984. This action was prior to recommendations of Downtown Redevelopment Citizens Advisory Committee for starter projects; and the policy consideration of using Downtown Tax Increment Funds to support construction of the Light Rail Transit System.



SACRAMENTO HOUSING AND REDEVELOPMENT AGENCY  
1985 CAPITAL IMPROVEMENT PROJECTS

ITEM NO.	PROJECT TITLE	COST
1.	St. Rose of Lima Plaza Improvements	298,113
2.	Museum and History Division Services	75,250
3.	Garage U Development	25,000
4.	K Street Underpass -Pedestrian Walkway	66,000
5.	Central Pacific Freight Station	388,200
6.	Historic Riverfront Buildings	852,500
7.	Construction of the GLOBE	523,370
8.	Old Sacramento Service Courts	138,600
9.	Old Sacramento Security Lighting	8,800
10.	Lot Line Adjustment-Ebner/Empire OS 83-84	12,000
11.	Lot Line Adjustment-Orleans Hotel, Parcel 48	12,000
12.	Old Sacramento Developer Assistance	1,802,000
13.	Old Sacramento Land Acquisition	15,000
14.	Old Sacramento Parcels #103-107	27,500
15.	Docks Area (Design/Land Acquisition)	900,000



SACRAMENTO HOUSING AND REDEVELOPMENT AGENCY

1985 CAPITAL IMPROVEMENT PROJECTS

ITEM NO.	PROJECT TITLE	COST
16.	Marysville Boulevard Commercial Revitalization	200,000
17.	Downtown Land Appraisals	150,000
18.	Downtown Urban Design Study	50,000
19.	Downtown Commercial Development Loan	540,000
20.	Downtown Retail Parking	10,000
21.	Downtown Exhibit Hall Expansion	10,000
22.	Downtown City Library Expansion	57,111
23.	Downtown Market Arcade	290,000
24.	SRO Hotel Program	353,000
25.	Replacement Housing-Project Areas 3 and 4	607,474
26.	Northeast Residential Development	100,000
27.	NE & SWS Neighborhood Housing	15,042
28.	Southside Infill Housing	329,484
29.	Housing Strategy and Marketing	73,030



SACRAMENTO HOUSING AND REDEVELOPMENT AGENCY

1985 CAPITAL IMPROVEMENT PROJECTS

ITEM NO.	PROJECT TITLE	COST
30.	SRO Rehabilitation	200,000
31.	Clunie Hotel Rehabilitation	25,000
32.	Sacramento History Center	32,371
33.	Crocker Museum Parking Lots	72,000
34.	Old Sacramento Riverfront Phase II	1,641,000
35.	Old Sacramento-Relocation of Stage	10,000
36.	Old Sacramento-Historic Ships and Moorage	145,000
37.	Old Sacramento-Handicap Access and Replacement of Wooden Sidewalks	289,000
38.	Old Sacramento-Site Assessment	15,000
39.	Old Sacramento-Barge Enhancement	60,000
40.	Downtown Greyhound Bus Depot Relocation	230,000
TOTAL		<u>\$10,648,045</u>
Cash Financing		\$ 6,042,001
Bond Financing		<u>4,606,044</u>
TOTAL		\$10,648,045



PERCENTAGE OF TAX INCREMENT FUNDS FOR  
PUBLIC VERSUS PRIVATE PROJECTS

- Based on the starter projects included in the Downtown Redevelopment Plan Update Implementation Strategy recommended by the Downtown Redevelopment Citizen's Advisory Committee, approximately 62% or \$34M in Tax Increment Bond proceeds would be for "private" projects and 38% or \$21M for "public" projects.
- Should the City Council approve the policy issue of supporting completion of the Light Rail Transit starter project with Tax Increment funds, the balance of Tax Increment Bond proceeds should be used in such a way that at least 80% of the bond proceeds are used for "private" projects.
- Historically over the last four to five years, it is estimated approximately two-thirds of tax increment funds received were for "private" projects and one-third for "public" projects.



TAX INCREMENT FLOW FROM STARTER PROJECTS/  
IMPLEMENTATION STRATEGY

- Based on the starter projects included in the Downtown Redevelopment Plan Update Implementation Strategy recommended by the Downtown Redevelopment Citizen's Advisory Committee, approximately 62% or \$34M in Tax Increment Bond proceeds would be for "private" projects.
- Assuming a 3:1 leverage of private investment to public investment, the \$34M would generate approximately \$100M in private investment, for a total of approximately \$134M in development.
- Using the 1.15% factor for tax increment generation, the \$134M would generate approximately \$1.5 M in tax increment funds at completion of such development; this would occur over a three to four year period.
- Should the City Council approve the use of tax increment funds to support completion of the Light Rail Transit starter project, the gross estimate for the amount of Tax Increment Bond proceeds available for redevelopment activities is approximately \$22M.
- Assuming 80% or \$18M of the proceeds are used for "private" projects.
- Again, assuming the 3:1 leverage of private investment to public investment, the \$18M would generate approximately \$54M in private investment for a total of \$72M in development.
- Using the 1.15% factor for tax increment generation, the \$72M would generate \$.8M in tax increment funds at completion of such development; this would occur over two to three years.
- These figures are all estimates based on a gross analysis of the figures presented above.



**Regional Transit**

P.O. BOX 2110 • 1400 29TH STREET • SACRAMENTO, CA 95810-2110 • (916) 321-2800

February 11, 1985

Mr. William H. Edgar  
Interim Executive Director  
Sacramento Transit Development Agency  
926 J Street, Suite 611  
Sacramento, CA 95814

Re: LRT Oversight Committee

Dear Bill:

An Oversight Committee is established in the Transfer Plan in order to provide the City and County the routine input and review of the LRT Project. You have asked me to address how this Oversight Committee would actually function. It is my intention to utilize this Committee in the same way that RT now uses the RT Board Committees for its regular business, except the Oversight Committee would be used for the Light Rail Project only.

All RT Board business is taken to committee for recommendation prior to Board action. For regular RT Board business, the General Manager must get Board approval of all expenditures over \$10,000.

This means that the Board must approve all specifications for purchase or construction in excess of that amount. In addition, any design or budget changes and change orders over a certain dollar limit or policy changes would have to receive Board approval. In the case of the Project, all such matters would go to the Oversight Committee instead of the normal RT Board committees.

In addition, it is our practice to bring matters for which Board action is not required, as a legal or policy matter, to the committees for their review and discussion where a matter about which they are interested or concerned is involved. As you can see, all significant decisions are covered by this procedure. Also, from time to time, for special projects, we have utilized the committee process at a lower threshold than the Board review would normally require, or the Board has delegated categories of decisions to committees. This may be desirable in the LRT project as well.

In addition to the Oversight Committee in the Transfer Plan, the City and County have a rather extensive legal review in control of District business. Attached to this letter is an outline of those legal controls.

Sincerely,

*David A. Boggs*  
David A. Boggs  
General Manager

Sacramento Regional Transit, a Public Entity, is an Equal Opportunity Employer.  
cc: Jack Crist; RT Board of Directors



STATUTORY INVOLVEMENT OF CITY AND COUNTY  
OVER SACRAMENTO REGIONAL TRANSIT DISTRICT

The California Public Utilities Code provides the methodology by which Board members are appointed. The City Council appoints four members to the Board of Directors, which is a majority of the seven now constituting the full Board (California Public Utilities Code §102100). The remainder of the Board members are appointed by the County Board of Supervisors.

Section 102101 authorizes service on the RT Board by members of either of those elected bodies, that is, either the City Council or the Board of Supervisors could appoint their own membership to serve on the RT Board of Directors without constituting an incompatibility of office issue.

Further oversight by the City and the County contemplated by the enabling legislation occurs during the budgetary and planning process. California Public Utilities Code §102205 requires the annual submittal of the District's tentative or proposed budget to the City Council and to the Board of Supervisors in sufficient detail so as to permit the City Council or Board of Supervisors to reasonably ascertain matters relating to the service provided within its jurisdiction, such as proposed cost of service and projected revenues from taxes, fares and other sources. This budget is required to be submitted to the City Council and Board of Supervisors not less than 60 days prior to its adoption by the District. This District is required to consider any comments made by the City and the County on its budget prior to its adoption. As the Board of Directors adopts the budget, it must make an affirmative finding that the proposed level of service, reflected in the statement of proposed operation and level of service to be rendered in the City or the County in which the District is operating, is commensurate with the level of tax or financial support to be derived from each such City or County in which the District provides its service.



Section 102206 requires the District to submit to the City Council and Board of Supervisors, with its tentative or proposed budget, a statement of its proposed operations and level of service for the period covered by the budget and to call attention to any substantial or significant changes or proposed changes in operations and level of service within the jurisdiction to whom the material is submitted. Again, the statute requires the District Board to consider observations and comments made by the City or the County on the proposed operation and level of service and for the Board to consider such comments prior to adopting the budget. Similarly, Article 4, Section 102260 et seq., of the enabling legislation contemplates public involvement in development of the District plans. As a matter of practice, Regional Transit circulates its draft plans to the City and the County and SACOG prior to its adoption. Each year, the capital portion of the plan must be acted upon by SACOG in order to assure that the State and Federal funds are available to the projects which are planned. The City and County appoint representatives to the SACOG Board.

In addition to the statutory scheme, the Light Rail Assessment Report incorporates a transfer plan which contemplates an oversight committee on which the City Council and Board of Supervisors will be represented. Further, the transfer plan calls for a monthly formal presentation to the City Council and Board of Supervisors on the transit district operation and report on light rail construction progress.

The above summarizes the various ways in which the policy boards of the City and the County may become involved in transit policy through the District.





# CITY OF SACRAMENTO

## DEPARTMENT OF FINANCE

### REVENUE DIVISION

February 12, 1985  
RD:851025-ADM:MLM:ld

#### MEMORANDUM

TO: Douglas N. Pope, Councilmember - District 3

FROM: Michael L. Medema, Revenue Officer

SUBJECT: LOST REVENUE OPPORTUNITY COSTS DUE TO USE OF TAX INCREMENT FUNDING FOR LIGHT RAIL

#### SUMMARY

This report responds to your request for an analysis of the revenue lost opportunity costs due to the proposed bail out financing plan for Light Rail.

#### DISCUSSION

Two entities may experience revenue lost opportunities due to the proposed bail out financing plan for the Light Rail Project. The Sacramento Housing and Redevelopment Agency is the most likely entity to incur a loss. That entity will not gain the tax increment revenues from publicly assisted but privately owned projects deferred as a result of the bail out. The City of Sacramento could possibly incur a loss. The City might suffer future losses of sales tax, business operations tax, utility users tax, real estate transfer tax, construction tax, and various fees and charges from the deferred developments. Unfortunately, neither entity's loss is easily quantifiable or predictable.

SHRA's revenue lost opportunity costs associated with the bail out financing can be quantified in terms of \$10,000 annually for each \$1,000,000 of deferred private development. Deferred publicly owned development has no revenue lost opportunity cost. However, a proposed project designated for deferral by staff due to the Light Rail bail out may still become a reality due to private investments. The Docks Area Project falls within this category.

The City's revenue lost opportunity costs associated with the bail out financing are less readily identifiable. Since inception, the Light Rail Project has been viewed as one of the means for revitalization of the downtown area. Certainly, deferral or the total loss of the Light Rail Project would have an adverse impact on revitalization of the downtown area. Equally, deferral or loss of the other SHRA projects will have an adverse impact on revitalization of the downtown area.



After carefully considering the intangibles involved, staff has concluded insufficient data and time are available to produce a creditable comparison of the lost opportunity cost associated with either scenario. For example, six months of experienced consultant time was required to determine the cost benefits of the east end hotel project. Staff would be remiss to present a report based upon insufficient or nonexistent data. It is safe to assume that an alternative bail out financing plan which would permit the completion of the Light Rail Project and avoid deferral of SHRA's downtown development projects would result in an increased revenue flow to the City.

Examples of potential revenue flows that may be lost to the City by SHRA project deferrals include:

Sales tax	-	1% of gross sales
Business Operations Tax	-	\$25 to \$3,000 per business
Utility Users Tax	-	9% of gross utility costs
Real Estate Transfer Tax	-	.25% of each transfer at total sales price
Construction taxes	-	.8% of total construction value
Various fees and charges	-	varies upon the type of business development

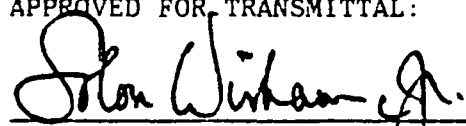
Public project development deferral would not result in any lost revenue from these sources. Publicly owned development for private purposes deferred would result in a loss of all the sources except for real estate transfer taxes and construction taxes. Privately owned development deferred would result in the loss of all the listed revenue flows. However, one must also consider the potential revenue flow loss that might occur in the event the Light Rail Project is not completed. With the exception of construction taxes, the potential losses are similar to those detailed in the event of deferral of SHRA projects.

A comprehensive and defensible determination of the lost opportunity costs associated with the proposed Light Rail bail out proposal would require months to develop and would likely be qualified with numerous uncertainties. It is safe to assume that the proposed bail out program has revenue lost opportunity costs, however, identification and definition of the loss at this time is not possible.

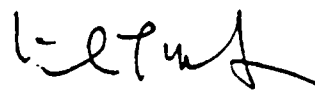
#### RECOMMENDATION

It is recommended that this report is provided to the full City Council for additional information. It does not require City Council approval.

APPROVED FOR TRANSMITTAL:

  
\_\_\_\_\_  
SOLON WISHAM, JR.  
Assistant City Manager

Respectfully submitted,

  
\_\_\_\_\_  
Michael L. Medema  
Revenue Officer

cc: Mayor and Councilmembers



SACRAMENTO LIGHT RAIL PROJECT  
TRANSFER PLAN  
SCHEDULE OF TASK MILESTONES

January 12, 1985

MONTHS 1985								
TASK	DESCRIPTION	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	COMMENTS
I.	<u>JOINT OVERSIGHT</u>							
1.	RT, City & County approve plan	—	△*					Joint Resolution
2.	Develop Admin. Mechanisms for meetings			—*	—△			Adopt process & procedure and appoint representatives
3.	Have meetings					△	△	Once monthly
II.	<u>ORGANIZATION STRUCTURE</u>							
1.	RT Board approve structure	—	△*					Feb. COTW - 2/11/85
2.	Approve job desc. & staffing							
a.	Operations		△*	-----	-----		2-----	Critical positions COTW 2/11/85 - cont. activity
b.	Capital (P&TSD)							
3.	Recruitment							
a.	Operation		△*	-----	-----		2-----	2/11/85 start recruiting critical positions
b.	Capital							
III.	<u>GRANT CONTRACTS</u>							
1.	Discuss with UMTA & amend grants as necessary	—				△		Start at 1/28 quarterly management
2.	STDA assign grant rights	—	—	—△				STDA 3/20 management



**SACRAMENTO LIGHT RAIL PROJECT  
TRANSFER PLAN  
SCHEDULE OF TASK MILESTONES**

MONTHS 1985								January 12, 1985
TASK	DESCRIPTION	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	COMMENTS
	3. RT Board accept assign.			—	△*			RT COTW 4/8/85
	4. Granting agency actions	—	—	—	△			
	5. RT approve submittal grants now in progress	—	—	△*	—	—	—	RT Board approve FY 85/86 CTC application - others as prepared
IV.	<u>STDA CONTRACTS</u>							
	1. RT legal review of assignability	—	—	—	△			
	2. STDA assignment to RT		—	—	△			STDA management 3/6
	3. Contractors OK			—	—	△		
	4. RT Board accepts assignment					—	△*	RT accept 5/20 mgt.
V.	<u>TITLE TRANSFER</u>							
	1. STDA develop audited inventory	—	—	—	△			
	2. STDA acquire title insurance for ROW	—	—	—	—	△		Would be "as of" specific day; all new items/ROW added to list
	3. STDA approve transfer of real property to RT				—	△		
	4. RT accept conveyance					—	△*	RT insurance to appropriate levels
IV.	<u>ACCOUNTING</u>							
	1. City complete documentation process	—	—	—	—	—	△	Complete 1/23; 2 updates



**SACRAMENTO LIGHT RAIL PROJECT**  
**TRANSFER PLAN**  
**SCHEDULE OF TASK MILESTONES**

January 12, 1985

MONTHS 1985							
TASK	DESCRIPTION	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE
	2. RT participates				△		△
	3. STDA audits	△ (82-83)	△ (83-84)				
	4. All transferred to RT						△
VII.	<u>POLICY COORDINATION</u>						
	1. RT legal develop policy analysis		△				
	2. RT Board take approval action						△*
VIII.	<u>OFFICE SPACE</u>						
	1. STDA evaluation		△				
	2. RT locate space			△			
	3. RT Board authorization			△*			
IX.	<u>DISSOLUTION OF STDA</u>						
	1. City, County, RT agree disband STDA					△*	
<p>Transfer complete 6/30</p> <p>STDA complete '83, '84 &amp; '85</p> <p>Transfer to RT 7/1/85</p> <p>Approved per schedule, all on/before 6/1/85</p> <p>"J", "I" &amp; Foster</p> <p>RT 2/18 Board mgt. or as necessary</p> <p>Agencies notify each other of intent to disband STDA effective 7/1/85</p>							
<p>LEGEND</p> <p>△ Activity Date</p> <p>* Requires Board Approval</p>							



Modern Transit Society to the City Council, 2-12-85, STDA Revised Budget  
As wrenching as it is for you and for us to find the "bare-bones" LRT system costing \$25 million more than originally budgeted, we recommend and commend the courage in deciding to fund the system with tax increment funds. Certainly it is apparent to the naked eye that light rail has already contributed to the revitalization of the downtown, and to the Highway 50 area.

Sacramento is not alone in choosing light rail as a way to maintain mobility and quality of life. Houston and Dallas are doing LRT, over a hundred miles apiece. San Diego, due to the acknowledged success of its starter system, plans widespread network of LRT lines. This project is a community workshop in beneficial change, a **restoration** to a sound system that was thoughtlessly destroyed, and which other cities and other countries valued and still value.

LRT saves RT \$1.64 million a year in operation costs by 1989, \$19.3 million in 1999 over the operation of a bus-only system.

Caltrans DOTP says, cities in California will find by 1990 that freeways are too expensive, or geographically or environmentally impossible. The cost comparison in Sacramento bears this out: \$8.5 million a mile, even with the overrun, for LRT including vehicles, compared to \$25 million for an urban freeway it replaces.

Senator John Garamendi chose the need for public transit in California as the theme for a recent address. We simply can't accommodate "inevitable" growth in an environmentally sensitive manner without turning to transit, he said before PCL, in announcing a year-long study his office is performing on the long-range growth issue.

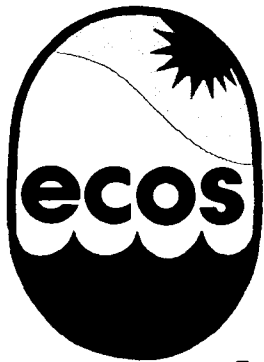
Lester C. Thurow, MIT economics professor, recently wrote \*that "some unfashionable premises. . . can be stated bluntly: Social organization matters. The most efficient forms of social organization do not automatically come forward, Societies can consciously organize themselves efficiently or inefficiently. The societies that win economically are the ones that pay attention to improving their social organization. Efficient social organization will usually beat inefficient social organization; efficient organization may often be found in Japan while inefficient organization prevails in the United States. . . from 1977 through 1983 **productivity** in American manufacturing grew one-half as fast as that as that in Germany, one-third as fast as that in France, and less than a third as fast as that in Japan. Outside of manufacturing, the American performance was even worse. "

\*NYRB 2-14-85



Thurow's points, that America needs to face the need to be more efficient and productive, are pertinent to our case in Sacramento. The light rail **will** be more productive, but we must continue to scrutinize the organization that will produce and run it, to make sure it is cost-effective and efficient. We are starting to consolidate transportation decision making in Sacramento, and our organizations will and should unfold to reflect a new reality.





## Environmental Council of Sacramento, Inc.

February 5, 1985

### STATEMENT TO CITY COUNCIL MEETING ON LAT FUNDING Mayor Rudin and Councilmembers:

#### Member Organizations


American Lung  
Association of  
Sacramento —  
Emigrant Trails  
Audubon Society  
California Native  
Plant Society,  
Sacramento  
Valley Chapter  
California Park and  
Recreation  
Society, District 11  
Capitol Bicycle  
Commuters  
Association  
League of Women Voters  
of Sacramento  
Modern Transit Society of  
Sacramento  
Planned Parenthood  
Association of  
Sacramento  
Sacramento County  
Farm Bureau  
Sacramento Old City  
Association  
Sacramento Valley  
Bicycle Advocates  
Save the American River  
Association  
Sierra Club, Mother Lode  
Chapter  
South Natomas  
Community  
Association  
Zero Population Growth

**The Environmental Council of Sacramento historically has supported the light rail line as a logical part of a clean, vibrant urban environment. Light rail makes Sacramento more marketable as a city. This project shows good planning, sound local development policy and civic pride.**

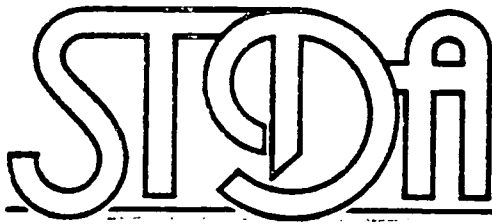
**The Sacramento light rail project, even with recent cost overruns, is a good buy for the city and the county. Compared with other rail projects underway statewide, Sacramento shows the lowest cost per mile. At \$8.5 million a mile, the \$156 million Sacramento project compares well with San Jose at \$18 million a mile, Long Beach at \$17 million a mile, Garden Grove at \$20 million a mile, and San Diego's 4.5 mile extension at \$26 million a mile. (Data from Urban Land, July, 1984)**

**The light rail investment is well worth local public funds. It brings in federal and state funds. This capital improvement will encourage private investment, create increased property values and tax increment financing for SHRA. And it will provide a more balanced transportation system to the benefit of the entire region.**

**We urge your support for the most expeditious, cost effective way to complete the project at the earliest possible date.**

  
**Judith Lamare**  
**President**





# SACRAMENTO TRANSIT DEVELOPMENT AGENCY

Executive Offices

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168

February 11, 1985

APPROVED  
BY THE CITY COUNCIL

Sacramento Transit Development Agency Board  
of Directors  
Sacramento County Board of Supervisors  
Sacramento City Council  
Redevelopment Agency of the City of Sacramento  
Sacramento Regional Transit District Board  
of Directors

FEB 13 1985

OFFICE OF THE  
CITY CLERK

APPROVED

FEB 2 1985

SACRAMENTO REDEVELOPMENT AGENCY  
CITY OF SACRAMENTO

Honorable Members in Session:

SUBJECT: Resolution Approving Final Assessment Report No. 3  
on the Sacramento Light Rail Project.

## SUMMARY

Having reviewed the Final Assessment Report No. 3, it is now in order to reach agreement on its approval. A proposed resolution regarding this matter is attached. It is recommended that the attached resolution be adopted.

## BACKGROUND

On January 18, 1985, the Final Assessment Report No. 3 on the Light Rail Project was transmitted and made public. Since that time, numerous presentations and public hearings have been conducted to review and consider the findings, conclusions, and recommendations of the report.

The recommendations of the report are that:

1. The proposed "Transfer Plan" be adopted.
2. The revised budget totaling \$155.982M be adopted.
3. The recommendations contained in the Debt Financing Plan be adopted.

## RECOMMENDATIONS

It is recommended that the attached resolution be adopted.

Respectfully submitted,

*William H. Edgar*

WILLIAM H. EDGAR  
Interim Executive Director



090-212

000

833

RECEIVED  
JUN 1 1969



# RESOLUTION

APPROVED  
BY THE CITY COUNCIL

FEB 12 1985

OFFICE OF THE  
CITY CLERK

APPROVED

FEB 2 1985

SACRAMENTO REDEVELOPMENT AGENCY  
CITY OF SACRAMENTO

## ADOPTED BY:

Sacramento Transit Development Agency  
Board of Directors

- Resolution No. \_\_\_\_\_

Sacramento County Board of Supervisors

- Resolution No. \_\_\_\_\_

Sacramento City Council

- Resolution No. 85-094

Redevelopment Agency of the City of  
Sacramento

- Resolution No. 85-012

Sacramento Regional Transit District  
Board of Directors

- Resolution No. \_\_\_\_\_

## RESOLUTION APPROVING FINAL ASSESSMENT REPORT NO. 3 ON THE SACRAMENTO LIGHT RAIL PROJECT

WHEREAS, the Sacramento Transit Development Agency (STDA) has prepared a document dated January 18, 1985, titled "Sacramento Transit Development Agency Final Assessment Report No. 3" (Report); and

WHEREAS, the Report contains an evaluation and analysis of the Sacramento Light Rail Project, including recommended actions to timely complete and implement the Project; and

WHEREAS, among other matters, the Report contains: (1) a revised Project Budget in the amount of \$155,982,000.00; (2) a Debt Financing Plan which is set forth in Appendix C to the Report; and (3) a Transfer Plan which is attached as Exhibit No. 2 to the Report under which STDA Project activities are to be transferred to Sacramento Regional Transit District (SRTD).

NOW THEREFORE, BE IT RESOLVED BY THE GOVERNING BODIES OF THE PARTIES TO THIS RESOLUTION AS FOLLOWS:



1947-1948

1949

1950

1951-1952



Section 1. That the document titled "Revised Project Budget" for the Sacramento Transit Development Agency (STDA) dated January 18, 1985, is hereby approved.

Section 2. That the STDA total project budget for the light rail starter line of One Hundred Fifty-Five Million Nine Hundred Eighty Two Thousand and No/100 Dollars (\$155,982,000.00) is hereby approved and all prior STDA budgets for this project are hereby superceded.

Section 3. That the following financing plan is hereby approved:

- (a) Issuance of a short-term debt instrument (e.g., grant anticipation notes) to fund cash flow deficits and to accrue positive interest arbitrage.
- (b) Safe Harbor Leasing of light rail vehicles and Sacramento Regional Transit District (SRTD) vehicles.
- (c) Issuance by the Redevelopment Agency of the City of Sacramento (RACS) and/or SRTD of a long-term debt instrument (e.g., Lease Revenue Bonds, Equipment Trust Certificates or Certificates of Participation) supported by tax increment funds which will generate Twenty Million Four Hundred Sixty Thousand Dollars (\$20,460,000.00) in net bond proceeds.
- (d) The STDA staff is directed to investigate and present to the City the most cost effective, consistent with prudent risks, method to implement this financing plan; which method may involve a debt instrument of RACS or SRTD secured by the general fund of the City of Sacramento.
- (e) All debt instrument proceeds and safe harbor leasing proceeds not used to complete the light rail starter line shall be paid to RACS.



Section 4. That the document titled "Transfer Plan," included as Exhibit No. 2 to the document, titled "Sacramento Transit Development Agency Final Assessment Report No. 3" (dated January 18, 1985) is hereby approved in concept.

Section 5. That the enactment of State legislation to facilitate a dedicated local source of financing for transportation purposes is hereby supported.

Section 6. That State funding sources which are subject to allocation by the California Transportation Commission will not be used to pay the cost of performing the work described as deferred or permanently eliminated in paragraph numbers 1 through 5 inclusive on pages 21, 23, and 25 of the document prepared by Wilbur Smith and Associates, titled "Sacramento Light Rail Project" and dated January 11, 1985.

Section 7. That State funding source may be used to pay the cost of items listed on Table II-7 of the document referred to in Section 6 hereof.

Section 8. This resolution shall only be effective if a resolution containing Sections 1, 2, 3, 4, 5, 6 and 7 hereof is adopted on or before February 19, 1985, by the governing bodies of each of the following entities:

1. Sacramento Transit Development Agency
2. County of Sacramento
3. City of Sacramento
4. Redevelopment Agency of the City of Sacramento
5. Sacramento Regional Transit District



PASSED AND ADOPTED this \_\_\_\_\_ day of \_\_\_\_\_, 1985, by  
the following vote of the STDA Governing Board:

AYES:

NAYS:

ABSENT:

ABSTAIN:

ATTEST:

\_\_\_\_\_  
WILLIAM H. EDGAR  
Interim Executive Director

\_\_\_\_\_  
ANNE RUDIN  
Chairperson

ON A MOTION by Supervisor \_\_\_\_\_, seconded by  
Supervisor \_\_\_\_\_, the foregoing resolution was  
passed and adopted by the Board of Supervisors of the County of  
Sacramento, State of California, this \_\_\_\_\_ day of \_\_\_\_\_,  
1985, by the following vote, to wit:

AYES:

NOES:

ABSENT:

\_\_\_\_\_  
Chairman of the Board of Supervisors of  
Sacramento County, California

ATTEST:

\_\_\_\_\_  
Clerk of the Board of Supervisors







ADOPTED by the Sacramento City Council on date of

\_\_\_\_\_ by the following vote:

AYES:

NOES:

ABSENT:

\_\_\_\_\_  
Mayor

ATTEST:

\_\_\_\_\_  
City Clerk

ADOPTED by the Redevelopment Agency of the City of Sacramento on  
date of \_\_\_\_\_ by the following vote:

AYES:

NOES:

ABSENT:

\_\_\_\_\_  
Chairperson

ATTEST:

\_\_\_\_\_  
Secretary







PASSED AND ADOPTED this \_\_\_\_ day of \_\_\_\_\_, 1985, by  
the following vote of the Sacramento Regional Transit District Board  
of Directors:

AYES:

NAYS:

ABSENT:

ATTEST:

\_\_\_\_\_  
ROGER DICKINSON, Chairman

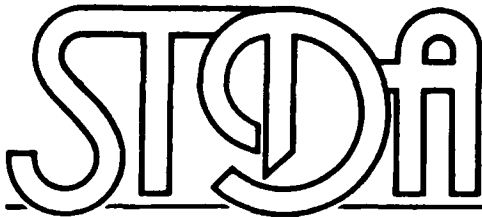
A T T E S T:

DAVID A. BOGGS, Secretary

By:

\_\_\_\_\_  
CHRIS RABICKOW  
Assistant Secretary





**SACRAMENTO TRANSIT  
DEVELOPMENT AGENCY**

RECEIVED  
CITY CLERK'S OFFICE  
CITY OF SACRAMENTO

Executive Offices

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168

February 15, 1985

*David Dixie*  
*File with meeting folder.*

Rita C. Gingerich, Clerk of the Sacramento  
Transit Development Agency Board of Directors  
Beverly A. Williams, Clerk of the Board of  
Supervisors  
Lorraine Magana, City Clerk  
Joan Roberts, Clerk of the Redevelopment Agency  
of the City of Sacramento  
Chris Rabickow, Clerk of the Sacramento Regional  
Transit District Board of Directors

Dear Meses. Gingerich, Williams, Magana, Roberts and Rabickow:

We have attached for your files an executed copy of the Joint Resolution approving the Final Assessment Report No. 3 on the Sacramento Light Rail Project.

I would like to take this opportunity to thank the staffs of STDA, County, City and Regional Transit for their help in accomplishing the assigned task.

In addition, the support and patience of the elected officials and the Regional Transit Board of Directors was also instrumental in the success of this effort.

Thanks to all of these individuals for their hard work over the last few months. Their dedication has been in the best tradition of California local self-government.

Very truly yours,

*WHE*

WILLIAM H. EDGAR  
Interim Executive Director

WHE:rg  
Attachment

cc: Master Distribution







# RESOLUTION

## ADOPTED BY:

Sacramento Transit Development Agency  
Board of Directors

- Resolution No. 85-02-01

Sacramento County Board of Supervisors

- Resolution No. 85-169

Sacramento City Council

- Resolution No. 85-094

Redevelopment Agency of the City of  
Sacramento

- Resolution No. 85-012

Sacramento Regional Transit District  
Board of Directors

- Resolution No. 85-23

## RESOLUTION APPROVING FINAL ASSESSMENT REPORT NO. 3 ON THE SACRAMENTO LIGHT RAIL PROJECT

WHEREAS, the Sacramento Transit Development Agency (STDA) has prepared a document dated January 18, 1985, titled "Sacramento Transit Development Agency Final Assessment Report No. 3" (Report); and

WHEREAS, the Report contains an evaluation and analysis of the Sacramento Light Rail Project, including recommended actions to timely complete and implement the Project; and

WHEREAS, among other matters, the Report contains: (1) a revised Project Budget in the amount of \$155,982,000.00; (2) a Debt Financing Plan which is set forth in Appendix C to the Report; and (3) a Transfer Plan which is attached as Exhibit No. 2 to the Report under which STDA Project activities are to be transferred to Sacramento Regional Transit District (SRTD).

NOW THEREFORE, BE IT RESOLVED BY THE GOVERNING BODIES OF THE PARTIES TO THIS RESOLUTION AS FOLLOWS:



Section 1. That the document titled "Revised Project Budget" for the Sacramento Transit Development Agency (STDA) dated January 18, 1985, is hereby approved.

Section 2. That the STDA total project budget for the light rail starter line of One Hundred Fifty-Five Million Nine Hundred Eighty Two Thousand and No/100 Dollars (\$155,982,000.00) is hereby approved and all prior STDA budgets for this project are hereby superceded.

Section 3. That the following financing plan is hereby approved:

- (a) : Issuance of a short-term debt instrument (e.g., grant anticipation notes) to fund cash flow deficits and to accrue positive interest arbitrage.
- (b) Safe Harbor Leasing of light rail vehicles and Sacramento Regional Transit District (SRTD) vehicles.
- (c) Issuance by the Redevelopment Agency of the City of Sacramento (RACS) and/or SRTD of a long-term debt instrument (e.g., Lease Revenue Bonds, Equipment Trust Certificates or Certificates of Participation) supported by tax increment funds which will generate Twenty Million Four Hundred Sixty Thousand Dollars (\$20,460,000.00) in net bond proceeds.
- (d) The STDA staff is directed to investigate and present to the City the most cost effective, consistent with prudent risks, method to implement this financing plan; which method may involve a debt instrument of RACS or SRTD secured by the general fund of the City of Sacramento.
- (e) All debt instrument proceeds and safe harbor leasing proceeds not used to complete the light rail starter line shall be paid to RACS.



Section 4. That the document titled "Transfer Plan," included as Exhibit No. 2 to the document, titled "Sacramento Transit Development Agency Final Assessment Report No. 3" (dated January 18, 1985) is hereby approved in concept.

Section 5. That the enactment of State legislation to facilitate a dedicated local source of financing for transportation purposes is hereby supported.

Section 6. That State funding sources which are subject to allocation by the California Transportation Commission will not be used to pay the cost of performing the work described as deferred or permanently eliminated in paragraph numbers 1 through 5 inclusive on pages 21, 23, and 25 of the document prepared by Wilbur Smith and Associates, titled "Sacramento Light Rail Project" and dated January 11, 1985.

Section 7. That State funding source may be used to pay the cost of items listed on Table II-7 of the document referred to in Section 6 hereof.

Section 8. This resolution shall only be effective if a resolution containing Sections 1, 2, 3, 4, 5, 6 and 7 hereof is adopted on or before February 19, 1985, by the governing bodies of each of the following entities:

1. Sacramento Transit Development Agency
2. County of Sacramento
3. City of Sacramento
4. Redevelopment Agency of the City of Sacramento
5. Sacramento Regional Transit District



PASSED AND ADOPTED this 13th day of February, 1985, by  
the following vote of the STDA Governing Board:

AYES: -5-  
NAYS: -0-  
ABSENT: -0-  
ABSTAIN: -0-  
ATTEST:

William H. Edgar  
WILLIAM H. EDGAR  
Interim Executive Director

Anne Rudin  
ANNE RUDIN  
Chairperson

ON A MOTION by Supervisor Johnson, seconded by  
Supervisor Bryan, the foregoing resolution was  
passed and adopted by the Board of Supervisors of the County of  
Sacramento, State of California, this 13th day of February,  
1985, by the following vote, to wit:

**FILED**

AYES: Collin, Johnson, Sheedy, Smoley, Bryan  
NOES: None  
ABSENT: None

FEB 13 1985

Benny A. Williams  
BOARD OF SUPERVISORS  
BY  
CLERK OF THE BOARD

Bill Bryan  
Chairman of the Board of Supervisors of  
Sacramento County, California

ATTEST:

Benny A. Williams  
Clerk of the Board of Supervisors

In accordance with Section 25103 of the Government  
Code of the State of California, a copy of this  
document has been delivered to the Chairman of the  
Board of Supervisors, County of Sacramento, on

FEB 13 1985

By Adrian Kenworthy  
Deputy Clerk, Board of Supervisors



ADOPTED by the Sacramento City Council on date of  
February 12, 1985 by the following vote:

AYES: Councilmembers Chinn, Johnson, Kastanis, Pope, Robie, Serna, Shore, Smallman,  
NOES: None Rudin

ABSENT: None

Carve Rudin  
Mayor

ATTEST:

Sandra Magana  
City Clerk

ADOPTED by the Redevelopment Agency of the City of Sacramento on  
date of February 12, 1985 by the following vote:

AYES: Members Chinn, Johnson, Kastanis, Pope, Robie, Serna, Shore, Smallman, Rudin

NOES: None

ABSENT: None

Carve Rudin  
Chairperson

ATTEST:

Anthony Medina  
Secretary



PASSED AND ADOPTED this 14th day of February, 1985, by  
the following vote of the Sacramento Regional Transit District Board  
of Directors:

AYES: Directors Bauer, Dickinson, Flynn, Gorman, Huff, Notley, Vasquez

NAYS: None.


ABSENT: None.

ATTEST: None.

  
\_\_\_\_\_  
ROGER DICKINSON, Chairman

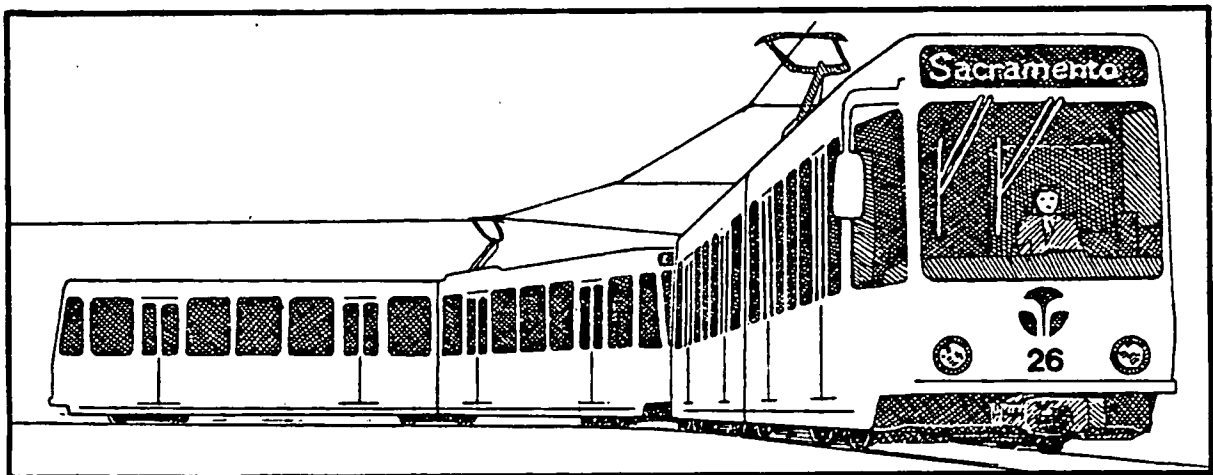
A T T E S T:

DAVID A. BOGGS, Secretary

By:   
\_\_\_\_\_  
CHRIS RABICKOW  
Assistant Secretary



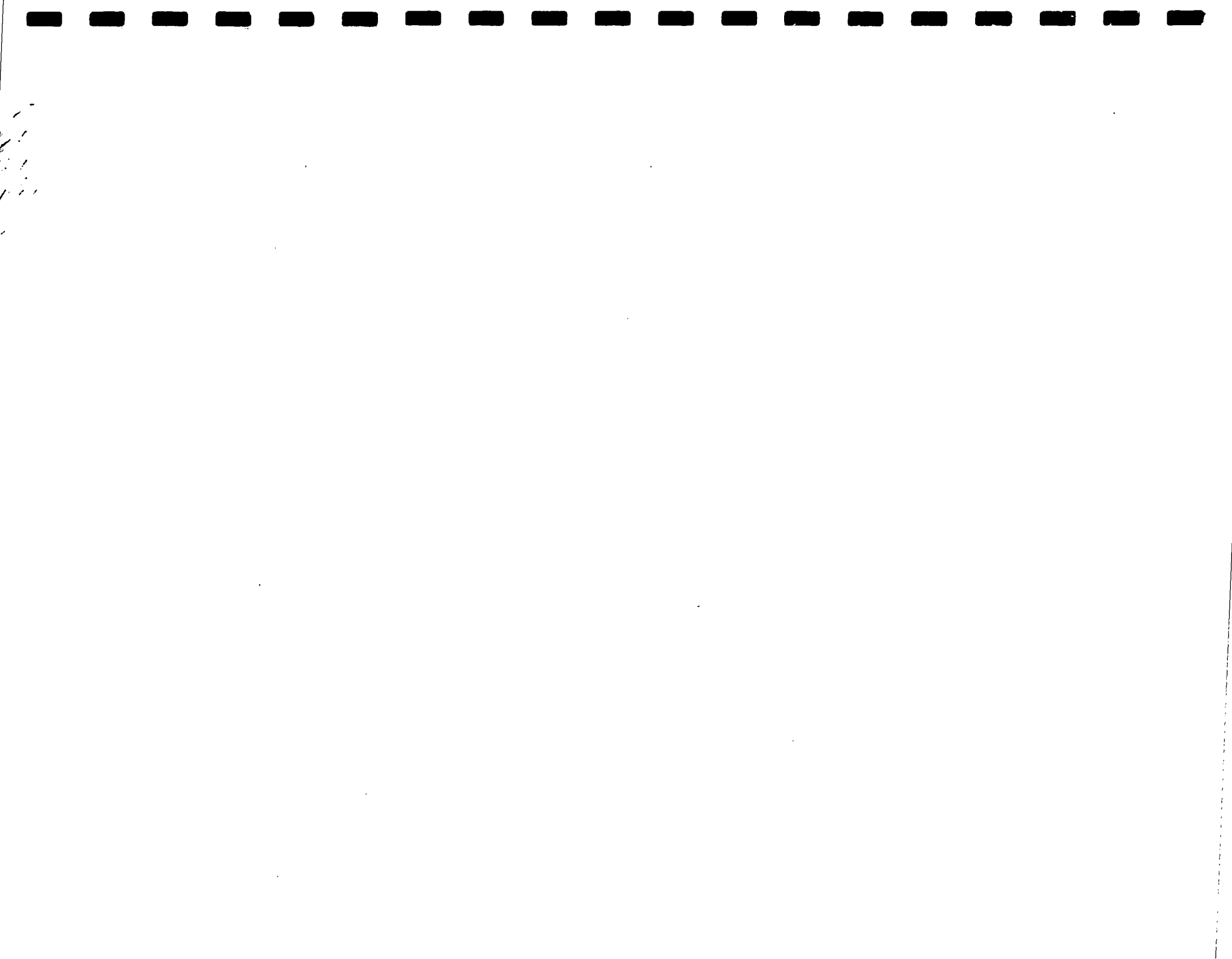
**SACRAMENTO  
TRANSIT DEVELOPMENT  
AGENCY**



**REVISED PROJECT BUDGET**

**JANUARY 1985**







**SACRAMENTO  
TRANSIT DEVELOPMENT  
AGENCY**

**REVISED PROJECT  
BUDGET**

**January 18, 1985**



SACRAMENTO TRANSIT DEVELOPMENT AGENCY  
LIGHT RAIL STARTER LINE BASELINE PROJECT BUDGET

---

GOVERNING BOARD

Anne Rudin, Chairperson, Mayor - City of Sacramento  
William Bryan, Boardmember, Supervisor - County of Sacramento  
Illa Collin, Boardmember Alternate, Supervisor - County of Sacramento  
David M. Shore, Boardmember, Councilmember - City of Sacramento  
Grantland Johnson, Boardmember Alternate, Councilmember - City of Sacramento  
Arthur E. Bauer, Boardmember, Regional Transit Boardmember  
Philip Flynn, Boardmember, Regional Transit Boardmember  
Bertha Gaffney Gorman, Boardmember Alternate, Regional Transit Boardmember

STAFF

William H. Egdar, Interim Executive Director

PREPARED BY

City Department of Finance

Jack R. Crist, Director of Finance, STDA Controller  
Betty Masuoka, Senior Management Analyst



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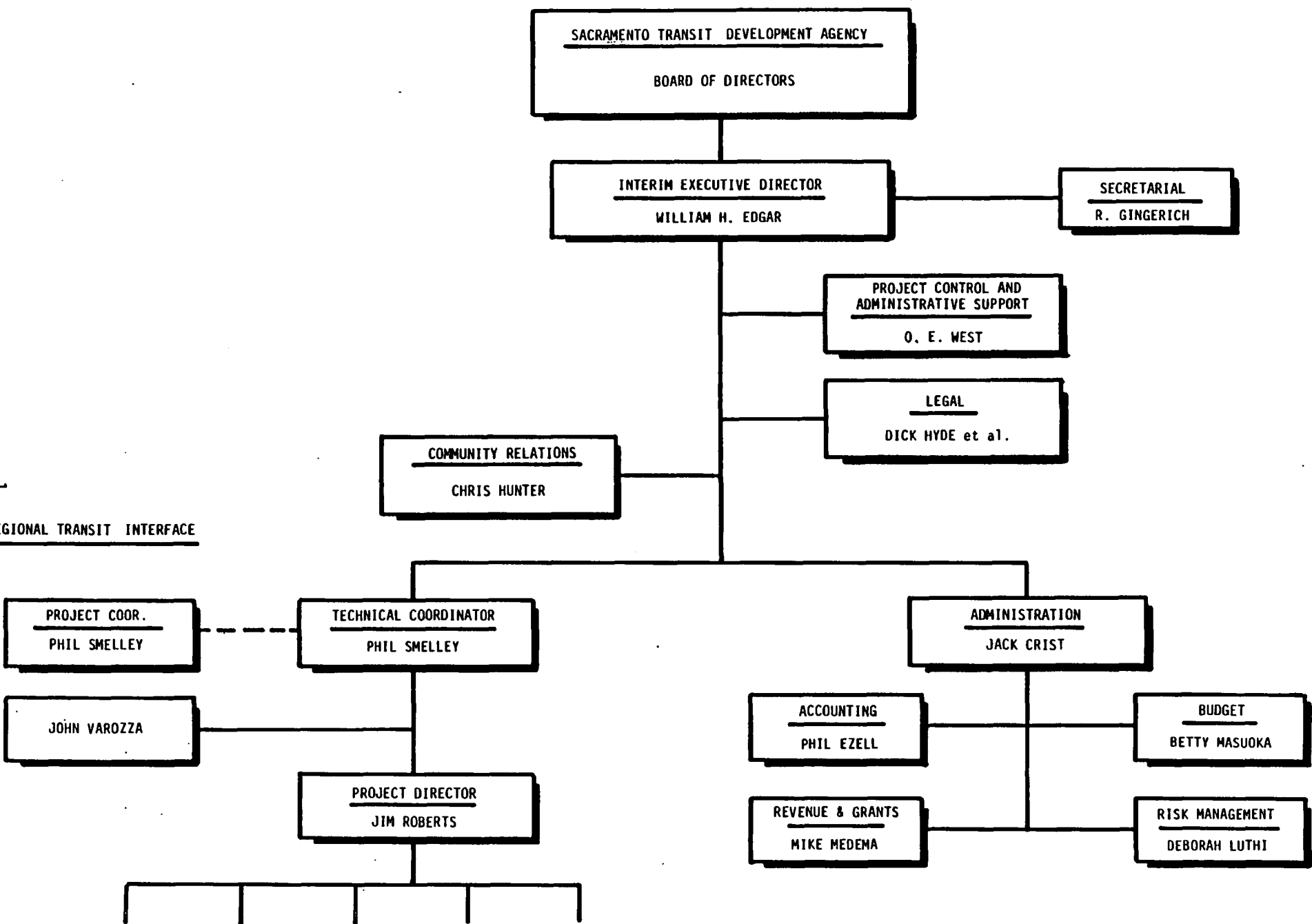


**ORGANIZATION CHART**



-1-

REGIONAL TRANSIT INTERFACE



(NO CHANGE IN EXISTING ORGANIZATION)

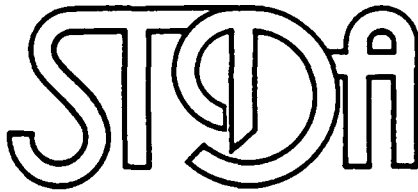






TRANSMITTAL LETTER





# MEMORANDUM

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1201 I Street, Room 205 • Sacramento 95814 • (916) 445-6519  
January 14, 1985  
FA:85029:JRC:KMF

TO: MEMBERS OF THE GOVERNING BOARD  
Sacramento Transit Development Agency

FROM: WILLIAM H. EDGAR, Interim Executive Director

RE: Revised Project Budget

## INTRODUCTION

Transmitted herein is the January revised budget for the Sacramento Light Rail starter line construction project. The purpose of this document is to amend the baseline budget which was previously adopted on December 19, 1984. At that time, the STDA Governing Board approved a baseline \$131.233 million budget. Since December, STDA staff as well as two independent consulting firms have reevaluated in detail the Light Rail project budget. These three separate efforts all concluded that the \$131.233 million budget was unrealistic and should be increased. The following table depicts the revised project cost estimates of the STDA staff, Parsons Brinckerhoff, et al, and Wilbur Smith & Associates:

TABLE 1  
LIGHT RAIL PROJECT  
COMPARISON OF REVISED PROJECT COST ESTIMATES  
STDA STAFF, PARSONS BRINCKERHOFF, AND WILBER SMITH

Firm	In Millions	
	Project Cost Estimate	Increase From Baseline Budget
Parsons Brinckerhoff, et al (PB/DMJM)	\$156.727	\$25.494
Wilbur Smith & Associates	154.291*	23.058
STDA Staff	155.982	24.749

\* Represents probable cost, worst case cost would be \$162.363.



Because the STDA Staff estimate is within the range of estimates developed by the two independent consulting firms, this budget incorporates the STDA January cost estimates as the recommended January revised project budget. If approved, the project budget will increase by \$24.749 million from \$131.233 million to \$155.982 million.

This increase of \$24.749 million is explained in Table 2 below but is basically attributable to unrealistic baseline cost estimates for Management and Engineering (\$5.076 million), Right of Way Acquisition and Utility Relocation (\$5.417 million) and Construction (\$9.388 million).

**TABLE 2**  
**COMPARISON OF BASELINE DECEMBER BUDGET TO**  
**REVISED JANUARY COST ESTIMATES**  
**FOR ALL CATEGORIES**

<u>Project Element</u>	<u>In Millions</u>		
	<u>December Baseline Budget</u>	<u>Revised January Estimate</u>	<u>Change</u>
Management & Engineering	\$20.105	\$25.181	\$ 5.076
Risk Management	1.550	1.550	-0-
Right of Way Acquisition and Utility Relocation	18.142	23.559	5.417
Light Rail Vehicles	25.570	25.559	-0-
Other Procurements	17.913	18.018	.105
Construction	47.716	57.104	9.388
Subtotal	130.996	150.982	19.986
Contingency	0.237	5.000	4.763
Total Project	\$131.233 =====	\$155.982 =====	\$24.749 =====

The 5.076 million increase in Management and Engineering is explained in Table 3 below but is basically attributable to Project Engineering (\$4.052 million) and Executive Office (\$.581 million). The \$.581 million Executive Office increase is primarily the result of \$.465 million increase to the Project Control Budget:



**TABLE 3**  
**COMPARISON OF BASELINE DECEMBER BUDGET**  
**TO REVISED JANUARY COST ESTIMATE**  
**FOR MANAGEMENT AND ENGINEERING**

<u>Project Element</u>	<u>in Millions</u>		
	<u>December Baseline Budget</u>	<u>Revised January Cost Estimate</u>	<u>Change</u>
Executive Office	\$ 1.359	\$ 1.940	\$ .581
Legal	.338	.410	.072
Appraisers	.265	.323	.058
Project Engineering	14.898	18.950	4.052
Other Consultants	-0-	.285	.285
Agencies	.296	.150	<.146>
System Start-up and support	2.949	3.123	.174
	-----	-----	-----
	\$20.105	\$25.181	\$5.076

The \$5.417 million increase in Right-Of-Way Acquisition and Utility Relocation reflect refined estimates based on current data.

The \$9.388 million increase in the Construction Budget is explained in Table 4 below but is primarily attributable to the At Grade Station-Folsom Corridor (\$1,709 million) Watt/80 Median (\$.510 million), At Grade Line Central City (\$1.063 million) and the At Grade Line-Folsom Corridor (\$4.946 million).



**TABLE 4**  
**COMPARISON OF BASELINE DECEMBER BUDGET**  
**TO REVISED JANUARY COST ESTIMATED**  
**FOR THE CONSTRUCTION BUDGET**

Project Element	in Millions		
	December Base Line Budget	Revised January Cost Estimate	Change
Mall Demolition	.360	.360	-
Construction of Facilities:			
At Grade Station-Watt/80	.870	1.600	.730
At Grade Station-NE	1.870	2.140	.270
At Grade Stations-Folsom Corridor	3.791	5.500	1.709
Station Graphics	.150	.150	--
Station Shelters	.423	.545	.122
Maintenance Building	3.963	3.963	--
Subtotal	11.067	13.898	2.831
Right of Way Construction:			
No Sac Grade Separation	6.956	6.956	--
No Sac SPRR Relocation	.000	In Above	--
At Grade Line-NE Corridor	4.071	4.073	.002
Watt/80 Median	3.790	4.300	.510
At Grade Line-Central City	8.237	9.300	1.063
Tree Procurement-K St Mall	.032	.032	--
Parking Lots-Central City	.000	.000	--
At Grade Line-Folsom Corridor	8.054	13.000	4.946
Tree Procurement-Folsom Cor.	.035	.035	--
Art Program	.222	.222	--
Yard Grading	.071	.071	--
Temp Fencing-Yard Storage Area	.008	.013	.005
Sec. Guard-Yard Storage Area	.000	.030	.030
Electrification	2.304	2.304	--
Traffic Signals	2.509	2.510	.001
Subtotal	36.289	42.846	6.557
Construction Grand Total	47.716	57.104	9.388
	=====	=====	=====

In addition, as can be seen from Table 2, the January Revised Budget proposes to increase the General Contingency Budget \$4.763 million from \$0.237 million to \$5.000 million. The \$5.000 million proposed contingency budget represents approximately 5% of the remaining unspent project budget. This \$5.000 million is in addition to \$3.948 million in Construction Contingency.

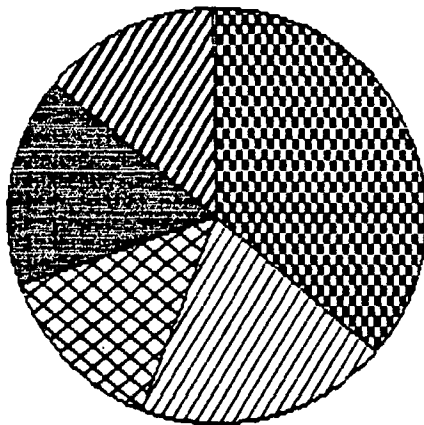


As was pointed out in the December Budget, the General Contingency is a measure of project fiscal health. With a 5% General Contingency, the project would be restored to a sound financial footing.

The following pie charts depict the functional breakdown of the Revised project Budget as compared to the Baseline Project Budget.

#### MAJOR BUDGET CATEGORIES-BASELINE BUDGET

(\$'s in millions)

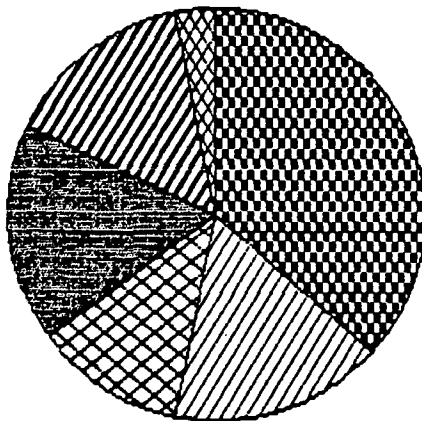


- CONSTRUCTION	47716.00 ( 36.4%)
- LIGHT RAIL VEHICLES	25570.00 ( 19.5%)
- OTHER PROCUREMENT	17913.00 ( 13.6%)
- MGMT/ENG & INSURANCE	21655.00 ( 16.5%)
- ROW AND UTIL RELOCATION	18142.00 ( 13.8%)
- CONTINGENCY	237.00 ( .2%)

TOTAL: 131233.00 (100%)

#### MAJOR BUDGET CATEGORIES-REVISED BUDGET

(\$'s in millions)



- CONSTRUCTION	57104.00 ( 36.6%)
- LIGHT RAIL VEHICLES	25570.00 ( 16.4%)
- OTHER PROCUREMENT	18018.00 ( 11.6%)
- MGMT/ENG & INSURANCE	26731.00 ( 17.1%)
- ROW AND UTIL RELOCATION	23559.00 ( 15.1%)
- CONTINGENCY	5000.00 ( 3.2%)

TOTAL: 155982.00 (100%)



#### PROPOSED FUNDING FOR BUDGET INCREASE

The proposed January revised budget of \$155.982 million would require securing additional project funding in the amount of \$24.749 million. This increase is proposed to be financed as follows:

1.	Additional Project Grants	\$	2.275
2.	Benefit from Safe Harbor Leasing		.900
3.	Other Income		1.114
4.	Long Term Lease Revenue Bonds sold by the Sacramento Housing and Redevelopment Agency		20.460
			-----
		\$	24.749
			=====

These additional sources are more fully explained in the "Light Rail Project Financing Plan" issued under separate cover and incorporated herein by reference. These additional sources can be seen on the new revised project funding source chart in the Summary Analysis of Funding by source section of the budget.

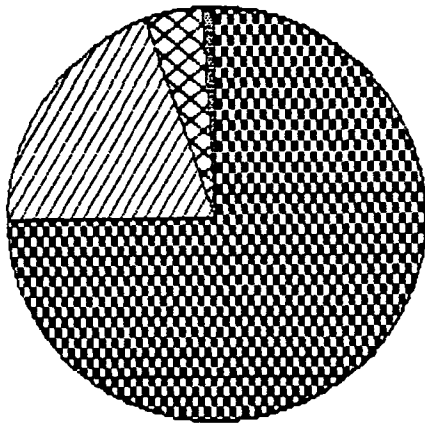
#### SUMMARY





This budget document contains summary information and funding source/grant information by grant and by contract unit. Following are two pie charts which visually display funding structure of the baseline budget (\$131.233 million) as well as the revised project budget (\$155.982 million).



### MAJOR FUNDING CATEGORIES - BASELINE BUDGET

(\$'s in millions)

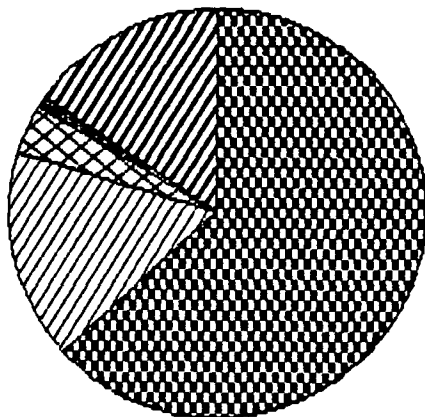







	- FEDERAL	98513.00 ( 75.1%)
	- STATE	25920.00 ( 19.8%)
	- LOCAL	5840.00 ( 4.5%)
	- PRIVATE/OTHER	960.00 ( .7%)

TOTAL: 131233.00 (100%)

### MAJOR FUNDING CATEGORIES - REVISED BUDGET

(\$'s in millions)



	- FEDERAL	98513.00 ( 63.2%)
	- STATE	26062.00 ( 16.7%)
	- LOCAL	6074.00 ( 3.9%)
	- PRIVATE/OTHER	1179.00 ( .8%)
	- ANTICIPATED	24154.00 ( 15.5%)

TOTAL: 155982.00 (100%)



As can be seen from the Summary by Contract Unit (Page 13) over half of the \$40.278 million actually expended to date has been spent on three grade separations (\$6.382 million), Management and Engineering (\$11.412 million) and Right of Way Acquisition (\$5.955). Other material expenditures include Light Rail vehicles (\$4.673 million), acquisition of track materials (\$5.057 million), Traction Power (\$1.753 million) and Utility Relocation (\$1.006 million).

#### RECOMMENDATION

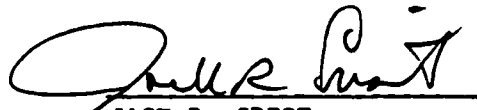
1. Formal Board adoption of the attached budget resolution which:
  - o Revised the Project Budget from the baseline \$131.233 budget (12/84) to the January Revised Budget of \$155.982.
  - o Finances the budget increase in accordance with the "Light Rail Project Financing Plan" issued under separate cover but incorporated herein by reference. Such plan proposes to fund the \$24.749 million increase by additional grants and other sources totaling \$4.289 million and a local long term debt issue for the balance of \$20.460 million.

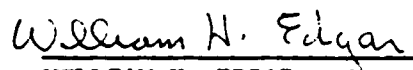
And,

2. That the STDA Board directs STDA staff to present this revised January Budget and related financing plan to the Sacramento County Board of Supervisors, the Sacramento City Council, the Sacramento Regional Transit District and the Sacramento housing and Redevelopment Commission for the concurrent adoption by these parent jurisdictions.

Finally, I would like to commend the excellent work of the City Finance Department staff in putting this budget together, especially Betty Masuoka, Senior Management Analyst; Mike Medema, Revenue Officer, Phil Ezell, Accounting Officer, and Boyd Hughes, Accountant/Auditor. In addition I would like to thank Jim Roberts, Project Director, Oz West and Gene Burkman, Consultants for their assistance.

Respectfully Submitted,

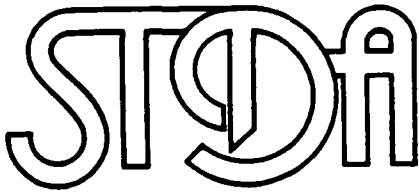
  
JACK R. CRIST  
STDA Controller

  
WILLIAM H. EDGAR  
Interim Executive Director



**BUDGET RESOLUTION**





# RESOLUTION

SACRAMENTO TRANSIT DEVELOPMENT AGENCY 926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168

## RESOLUTION \_\_\_\_\_

### RESOLUTION ADOPTING THE JANUARY 1985 REVISED BUDGET FOR THE SACRAMENTO LIGHT RAIL STARTER LINE PROJECT

#### Section 1.

- o BE IT RESOLVED by the Governing Board of the Sacramento Transit Development Agency (STDA) that the enclosed budget document totaling \$155.982 million and the "Light Rail Project Financing Plan" incorporated herein by reference is hereby approved.

Furthermore,

#### Section 2: Grant Administration.

- o STDA staff shall administer all grants in accordance with applicable grant agreements and Federal/State regulations. Accordingly, all budget changes shall be submitted to grantor agencies for concurrent approval.

#### Section 3: Budget Increases and Decreases.

- o All budget increases and decreases to the total project budget shall be approved by the STDA Governing Board.
- o Budget increases shall be supported with signed agreements from grantor agencies or private funding sources.
- o Budget decreases must be supported by written justification from the STDA staff to the Governing Board.

#### Section 4: Budget Transfers Between Project General Contingency Budget and Individual Contract Unit Budgets.

- o Budget transfers between individual contract units and General Contingency may be approved by the STDA Executive Director for



amounts up to and including \$20,000. All transfers in excess of \$20,000 require STDA Board approval.

- o For purposes of this section, STDA Governing Board approval of contract unit advertising and/or award of bids shall also constitute approval of budget transfers between the project General Contingency budget and the individual contract unit budgets.
- o Budget transfers between line items within individual contract units may be approved by the Executive Director.

#### Section 5: Budget Control Principles.

- o All budget changes in total or between contract units and General Contingency shall be supported by proper written documentation on STDA forms prescribed by the STDA Controller. Such forms, when submitted by STDA staff, shall be reviewed and approved by the Executive Director, the Project Director, Project Control, and the STDA Controller.
- o No budget transfers between individual construction or procurement contract units shall be allowed. If an individual contract unit budget is decreased, such amount shall be transferred to the General Contingency.
- o Any budget transfer, other than formal advertising and/or award of bid approval related transfers, from General Contingency to individual contract unit budgets shall be supported by an approved budget change request form.
- o No individual project contract unit shall be allowed to overrun its respective total budget. The STDA Controller is directed to withhold contractor payments until the potential total overrun is resolved by an approved budget change.
- o The STDA staff will administratively control the project budget at the detail line item level within each contract unit. However, overruns of individual contract unit line items may be permitted as long as offsetting savings are apparent in other line items and the contract unit in total will not overrun as a result.



Section 6.

- o All previous STDA approved budgets are hereby superseded.

AYES:

NAYS:

ABSENT:

ABSTAIN:

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William H. Edgar  
Interim Executive Director

---

Anne Rudin  
Chairperson



**BUDGET/EXPENDITURE SUMMARY BY CONTRACT UNIT**



LR1: CUSUM2  
1/12/85

BUDGET/EXPENDITURE SUMMARY BY CONTRACT UNIT  
(\$'s in 000's)

CU	DESCRIPTION	6/83 Eng. Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	12/84 Act Exp	% Expend. of Prop
1	No. Sac Grade Separation	6,284	6,284	6,956	6,956	6,382	91.75
1A	No. Sac SPRR Relocation	386	386	0	0	0	.00
2	At Grade Line-NE Corridor	2,980	3,924	4,071	4,073	652	16.01
2A	Watt/80 Median	800	810	3,790	4,300	0	.00
3	Maintenance Building	2,618	2,726	3,963	3,963	518	13.07
4	Mall Demolition	8,748	500	360	360	300	83.33
4A	At Grade Line-Cent City	0	6,000	8,237	9,250	0	.00
4B/C	Tree Procurement-K St	0	32	32	32	23	71.88
4D	Central City Parking Lots	0	0	0	0	0	.00
5	At Grade Line-Folsom	5,190	7,670	8,054	12,900	0	.00
6	At Grade Station-Watt/80	2,447	2,440	870	1,600	0	.00
7	At Grade Station-NE	3,503	3,500	1,870	2,140	0	.00
7A	At Grade Stations-Folsom	3,872	3,870	3,791	5,400	0	.00
7B	Tree Procurement-Suburbs	80	35	35	35	7	20.00
7C	Art Program	0	0	222	222	62	27.93
7D	Station Graphics	0	0	150	150	0	.00
7E	Station Shelters	0	0	423	545	0	.00
8	Yard Grading	46	48	71	71	71	100.00
8A	Temp Fencing-Yard Storage	0	8	8	13	5	38.46
8B	Yard Security	0	0	0	30	0	.00
9	Electrification	1,390	1,390	2,304	2,304	0	.00
10	LRT Signaling	5,760	5,760	4,147	4,148	0	.00
11	Traffic Signals	2,385	2,390	2,509	2,510	0	.00
12	Radio Procurement	280	280	280	191	0	.00
13	Equipment Security	0	0	0	89	0	.00
14A	Rail Procurement	2,740	2,731	2,731	2,731	2,731	100.00
14B	Otr Track Mat'l Procurement	1,180	1,180	1,180	1,180	1,180	100.00
14C	Direct Fixation Fasteners	0	0	0	300	0	.00
15	Tie Procurement	1,140	1,142	1,148	1,147	1,147	100.00
16	Spec Trackwork Procurement	650	643	691	691	429	62.08
17	Light Rail Vehicles	26,370	24,352	25,570	25,570	4,673	18.28
18A	Fare Vending Equip Proc.	520	520	520	520	0	.00
18B	Major Shop Equip Proc.	1,336	880	880	880	0	.00
18C	Line Maint Equip Proc.	240	240	240	240	37	15.42
19	Substation Procurement	4,150	3,473	3,473	3,528	1,753	49.69
20	Catenary System/Pole Proc	1,880	1,880	1,481	1,481	0	.00
21	Cable/Wire Procurement	1,370	1,370	1,142	1,142	871	76.27
40	Management and Engineering	14,950	18,174	17,156	22,058	12,136	55.02
45	SRTD Mgmt/System Start up	0	3,123	2,949	3,123	0	.00
50	Risk Management	0	1,550	1,550	1,550	340	21.94
60	R-O-W Acquisition	12,360	12,885	12,885	16,260	5,955	36.62
70	Utility Relocation	5,120	5,257	5,257	7,299	1,006	13.78
98	Construction Contingency	0	3,587	0	0	--	.00
99	General Contingency	10,250	0	237	5,000	--	.00
TOTALS		\$131,025	\$131,040	\$131,233	\$155,982	\$40,278	25.82



**BUDGET SUMMARY BY LINE ITEM**



LR1:ACCTSUM2  
1/12/85

SUMMARY BY LINE ITEM

City Acct	MACS Codes	Description	6/83 Eng. Est	4/84 Adopted	12/84 Baseline	1/85 Proposed
4951	N/A	Grade Separations	6,284	6,284	6,284	6,284
4952	N/A	SPRR Relocation	386	386	386	386
4953	20.01.00	Light Rail Vehicles	26,370	24,352	24,352	24,352
4954	20.02.03	LRT Signaling	5,760	5,760	3,927	3,928
4955	20.02.04	Fare Collection Equipment	520	520	520	609
4956	20.02.08	Communications	280	280	280	191
4957	20.03.01	Vehicles	240	240	240	240
4958	20.03.02	Tools and Equipment	1,336	880	880	880
4959	20.06.00	Real Estate Acquisition	12,360	12,885	12,885	16,260
4960	20.08.01	Proj Mgmt, Eng & Design	11,687	14,911	13,893	18,163
4961	20.08.02	Construction Management	2,660	2,660	2,660	3,162
4962	20.08.03	Legal Services	338	338	338	410
4963	20.08.04	Appraisal Services	265	265	265	323
4964	20.10.00	Demolition	8,748	500	343	343
4965	20.11.01	Insurance	0	1,550	1,550	1,550
4966	20.11.10	Stations w/ Parking Facilities	10,622	10,620	10,596	9,369
4967	20.11.20	Maint/Repair Facilities	2,618	2,726	3,827	3,827
4968	20.11.30	Storage Yard	46	56	79	0
4969	20.11.90	Landscaping	80	35	35	35
4970	20.13.12	Utility Relocation	5,120	5,257	5,257	7,299
4971	20.13.40	ROW Construction	11,945	21,406	24,093	34,100
4972	20.14.01	Rail	3,920	3,911	3,911	4,211
4973	20.14.02	Ties	1,140	1,142	1,148	1,147
4974	20.14.03	Special Trackwork	650	643	691	691
4975	20.14.05	Unit Substations	4,150	3,473	3,473	3,528
4976	20.14.06	Catenary System	1,880	1,880	1,481	1,481
4977	20.14.07	Cable and Wire	1,370	1,370	1,142	1,142
4978	20.15.00	Project Sponsor Force Acct	0	2,000	1,912	2,000
4979	20.16.00	Supporting Services	0	1,123	1,037	1,123
4980	32.00.01	Construction Contingency	0	3,587	3,511	3,948
4981	32.00.02	General Contingency	10,250	0	237	5,000
Totals			131,025	131,040	131,233	155,982



**SUMMARY ANALYSIS OF FUNDING BY SOURCE**



FUNDING SOURCE	BASE BUDGET 12/84	%	PROJECTED 01/85	%	INCREASE <DECREASE>	COMMENTS
ESTABLISHED FUNDING *****						
FEDERAL						
	\$		\$		\$	
CA-29-9002	500		500		0	
CA-29-9004	1960		1960		0	
CA-29-9005	5500		5500		0	
CA-29-0010	2410		2409		-1	DIFFERENCE DUE TO ROUNDING
CA-23-9001	88143		88144		1	DIFFERENCE DUE TO ROUNDING
TOTAL FEDERAL	98513	75	98513	63	0	
STATE						
FMT 81-8	120		162		42	UNREPORTED ADDITIONAL GRANT
MT 81-3	0		100		100	UNREPORTED GRANT
FMT 82-7	1400		1000		-400	COMBINED GRANT FMT82-5
FMT 82-5	0		400		400	COMBINED WITH GRANT FMT82-7
PUC 82	4200		4200		0	
FMT 82-20	1000		1000		0	
FMT 83-1	4300		4300		0	
PUC 83	2400		2400		0	
FMT 84-1	7000		2800		-4200	COMBINED GRANT MT84-4
MT 84-4	0		4200		4200	COMBINED WITH GRANT FMT84-1
FMT 85-1	5500		5500		0	
TOTAL STATE	25920	20	26062	17	142	
LOCAL						
REGIONAL TRANSIT	2530		2520		-10	REPORTED ERROR
CITY	1860		2104		244	UNREPORTED ADDITIONAL GRANT
COUNTY	1160		1160		0	
SHRA	290		290		0	
TOTAL LOCAL GOVERNMENT	5840	4	6074	4	234	
PRIVATE & OTHER SOURCES						
SOUTHERN PACIFIC TRANS CO	600		600		0	
LUMBERJACK	270		270		0	
CULLIGAN	90		90		0	
TOM HARRIS PROPERTIES	0		6		6	PREVIOUSLY UNREPORTED
RENTAL INCOME	0		12		12	PREVIOUSLY UNREPORTED
INTEREST INCOME	0		174		174	PREVIOUSLY UNREPORTED
MISCELLANEOUS	0		27		27	PREVIOUSLY UNREPORTED
TOTAL PRIVATE & OTHER SOURCES	960	1	1179	1	219	
TOTAL ESTABLISHED FUNDING	131233	100	131828	85	595	



FUNDING SOURCE	BASE BUDGET 12/84	%	PROJECTED 01/85	%	INCREASE <DECREASE>	COMMENTS
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ANTICIPATED FUNDING  
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SEE COMMENTS REGARDING  
ANTICIPATED FUNDING

FEDERAL

FAI	0		600		600	
FAU	0		1033		1033	
TOTAL FEDERAL	0	0	1633	1	1633	

STATE

RAILROAD XING PROTECTION FUND	0		500		500	
TOTAL STATE	0	0	500	0	500	

LOCAL GOVERNMENT

CITY	0		46		46	
TOTAL LOCAL GOVERNMENT	0	0	46	0	46	

PRIVATE & OTHER SOURCES	0	0	615	0	615	
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DEBT FINANCING	0	0	20460	13	20460	
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SAFE HARBOR LEASING	0	0	900	1	900	
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TOTAL ANTICIPATED FINANCING	0	0	24154	15	24154	
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TOTAL PROJECT FINANCING	\$ 131233	100	\$ 155982	100	\$ 24749	
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**FUNDING DETAIL - BASELINE BUDGET (12/84)**



DECSTOAB  
 CONTRACT UNIT FUNDING  
 DECEMBER, 1984 APPROVED BUDGET  
 (\$000 OMITTED)

		ESTABLISHED FUNDING SOURCES*****																							
		FEDERAL SOURCES*****					STATE SOURCES*****										LOCAL GOVERNMENT SOURCES*****								
CU	DESCRIPTION	9002	9004	9005	0010	9001	FMT 81-8	FMT 82-7	FMT 82-5	PUC 82	FMT 82-20	FMT 83-1	PUC 83	FMT 84-1	MT 84-4	FMT 85-1	RT	SHRA	CITY	COUNTY	SO PAC TRANS	LUMBER JACK	CULL I- IGAN	TOTAL	
1	NO. SAC GRADE SEPARATION									4061			2400									405		90	6956
2	AT GRADE LINE-NE CORRIDOR					3447						224				49	81					270		4071	
2A	WATT/80 MEDIAN					3222						468					76		24					3790	
3	MAINTENANCE BUILDING					3369										436	79		79					3963	
4	MALL DEMOLITION					306										40	7		7					360	
4A	AT GRADE LINE-CENT CITY					7001										616	165	290	165					8237	
4B/C	TREE PROCUREMENT-K ST					27										3	1				1			32	
5	AT GRADE LINE-FOLSOM					6846										886	161		161					8054	
6	AT GRADE STATION-WATT/80					740										96	17				17			870	
7	AT GRADE STATION-NE					1590										206	37				37			1870	
7A	AT GRADE STATIONS-FOLSOM					3222										417	76				76			3791	
7B	TREE PROCUREMENT-SUBURBS					30										4	1							35	
7C	ART PROGRAM					189										24	4				5			222	
7D	STATION GRAPHICS					128										16	3				3			150	
7E	STATION SHELTERS					360										47	8				8			423	
8	YARD GRADING					60										8	1				2			71	
8A	TEMP FENCING-YARD STORAGE					7										1								8	
9	ELECTRIFICATION					1958										253	46				47			2304	
10	LRT SIGNALING					3525						456					83				83			4147	
11	TRAFFIC SIGNALS					2133						276					50				50			2509	
12	RADIO PROCUREMENT					238										31	6				5			280	
14A	RAIL PROCUREMENT					2321						300					55				55			2731	
14B	OTHER TRACK MAT'L PROCUREMENT					1003						130					24				23			1180	
15	TIE PROCUREMENT					976						126					23				23			1148	
16	SPEC TRACKWORK PROCUREMENT					588						76					14				13			691	
17	LIGHT RAIL VEHICLES					21735								2800		12	557		466					25570	
18A	FARE VENDING EQUIP PROCUREMENT					442										57	10				11			520	
18B	MAJOR SHOP EQUIP PROCUREMENT					748										97	18				17			880	
18C	LINE MAINT EQUIP PROCUREMENT					204										26	5				5			240	
19	SUBSTATION PROCUREMENT					2952						383				69	69							3473	
20	CATENARY SYSTEM/POLE PROCUREMENT					1259										153	30				39			1481	
21	CABLE/WIRE PROCUREMENT					971										126	23				22			1142	
40	MANAGEMENT ENGINEERING	500	1960	5500	2410	4230	120	1000	129	139		425				315	148				85	195		17156	
45	SRTD MGT/SYSTEM START UP					2507										324	58				60			2949	
50	RISK MANAGEMENT					1318										170	31				31			1550	
60	R/O/W ACQUISITION					3822			271		1000	1436			4200	992	453		464		247			12885	
70	UTILITY RELOCATION					4468											105		494		190			5257	
99	GENERAL CONTINGENCY					201										26	5				5			237	
TOTAL		500	1960	5500	2410	88143	120	1000	400	4200	1000	4300	2400	2800	4200	5500	2530	290	1860	1160	600	270	90	131233	







**FUNDING DETAIL - REVISED BUDGET (1/85)**



JANST0AB  
 CONTROL UNIT FUNDING  
 JANUARY, 1985 APPROVED BUDGET  
 (\$000 OMITTED)

(9000 OMITTED)		ESTABLISHED FUNDING SOURCES																	ANTICIPATED FUNDING SOURCES													
		FEDERAL SOURCES					STATE SOURCES										LOCAL PRIVATE		FEDERAL		STATE		LOCAL PRIVATE/		PROJECT							
CU	DESCRIPTION	9002	9004	9005	0010	9001	81-8	81-3	82-7	82-5	82	82-20	83-1	83	84-1	84-4	85-1	SOURCES	OTHER	TOTAL	FAI	FAU	PROTECT	RGR	CITY	SOURCES	FINANCE	DEBT	SAFE	HARBOR	TOTAL	FINANCE
1	NO. SAC GRADE SEPARATION										4061								495	6956											0	6956
2	AT GRADE LINE-NE CORRIDOR					3357							274				49	81	270	3981					15		77			92	4073	
2A	WATT/BO MEDIAN					3132							468					100		3700	600									600	4300	
3	MAINTENANCE BUILDING					3369												158		3963										0	3963	
4	MALL DEMOLITION					306											40	14		360										0	360	
4A	AT GRADE LINE-CENT CITY					7001											616	620		8237		387		31			595			1013	9250	
4B/C	TREE PROCUREMENT-K ST					27											3	2		32										0	32	
5	AT GRADE LINE-FOLSOM					6846											886	322		8054		317			350		4179			4846	12900	
6	AT GRADE STATION-WATT/BO					740											96	34		870							601			730	1600	
7	AT GRADE STATION-NE					1590											206	74		1870							270			270	2140	
7A	AT GRADE STATIONS-FOLSOM					3222											417	152	6	3797					265	1338				1603	5400	
7B	TREE PROCUREMENT-SUBURBS					30											4	1		35										0	35	
7C	ART PROGRAM					189											24	9		222										0	222	
7D	STATION GRAPHICS					128											16	6		150										0	150	
7E	STATION SHELTERS					360											47	16		423							122			122	545	
8	YARD GRADING					60											8	3		71										0	71	
8A	TEMP FENCING-YARD STORAGE					7											1			8								5		5	13	
8B	SECURITY GUARD-YARD STORAGE																		0								30		30	30		
9	ELECTRIFICATION					1958											253	93		2304										0	2304	
10	LRT SIGNALING					3026							456					166		3648				500						500	4148	
11	TRAFFIC SIGNALS					1434							276					100		1810		200					500			700	2510	
12	RADIO PROCUREMENT					162											21	8		191										0	191	
13	EQUIPMENT SECURITY					76											10	3		89										0	89	
14A	RAIL PROCUREMENT					2321							300					110		2731										0	2731	
14B	OTHER TRACK MAT'L PROCUREMENT					1003							130					47		1180										0	1180	
14C	DIRECT FIXATION FASTENERS																		0								300		300	300		
15	TIE PROCUREMENT					976							126					45		1147										0	1147	
16	SPEC TRACKWORK PROCUREMENT					588							76					27		691										0	691	
17	LIGHT RAIL VEHICLES					21735											12	1023		25570										0	25570	
18A	FARE VENDING EQUIP PROCUREMENT					442											57	21		520										0	520	
18B	MAJOR SHOP EQUIP PROCUREMENT					748											97	35		880										0	880	
18C	LINE MAINT EQUIP PROCUREMENT					204											26	10		240										0	240	
19	SUBSTATION PROCUREMENT					2952							383				69	69		3473							55			55	3528	
20	CATENARY SYSTEM/POLE PROCUREMENT					1259											153	69		1481										0	1481	
21	CABLE/WIRE PROCUREMENT					971											126	45		1142										0	1142	
40	MANAGEMENT ENGINEERING	500	1960	5500	2409	5609	162	100	1000	129	139		425				315	663	408	19319							2739			2739	22058	
45	SRTD MGT/SYSTEM START UP					2507											324	118		2949							174			174	3123	
50	RISK MANAGEMENT					1318											170	62		1550										0	1550	
60	R/O/W ACQUISITION					3822				271		1000	1436			4200	992	969		12690							3570			3570	16260	
70	UTILITY RELOCATION					4468												789		5257							2042			2042	7299	
99	GENERAL CONTINGENCY					201											26	10		237							3863	900		4763	5000	
TOTAL		500	1960	5500	2409	68144	162	100	1000	400	4200	1000	4300	2400	2800	4200	5500	6074	1179	131828	600	1033	500	46	615	20460	900	24154	155982			







**BUDGET DETAIL**



The following pages constitute the basis of the revised project budget. Each of the 42 contract units is depicted on a separate page and provides the following information:

- o The generally accepted "budgeted" amounts at various key points. The only formally adopted budget amounts are those labeled "4/84 Adopted" and "12/84 Baseline". It should be noted that all dollar amounts are in thousands.
- o Applicable MACS codes and City accounting codes. The MACS codes designations are required by UMTA to be used in the accounting for Federal grants. The City codes are what are being used to track these costs in the City's accounting system. In some cases, certain contract unit costs are not eligible for UMTA funding (i.e. CU 1 and CU 1A), therefore MACS codes have not been assigned. It should also be noted that in general, for each contract unit one MACS code is assigned for the project itself and one for the construction contingency. Therefore, if a contract unit covers more than one MACS code category it is defined, for Federal reporting purposes, under the predominant MACS code.
- o A short description of the work to be done under each Contract Unit including the major contractor (if known).
- o A summary of the formal and informal budget changes which have taken place since the June 1983 engineers estimate.



# CU 1 - NORTH SACRAMENTO GRADE SEPARATION

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET:</b>							
N/A	4951	6,284	6,284	6,284	6,284	6,382	101.6%
N/A	4952	--	--	386	386	--	--%
32.00.01	4980	--	--	286	286	--	--%
<b>Total</b>		<b>\$ 6,284</b>	<b>\$ 6,284</b>	<b>\$ 6,956</b>	<b>\$ 6,956</b>	<b>\$ 6,382</b>	<b>91.7%</b>
<b>FUNDING:</b>							
<u>State</u>							
PUC-82				4,061	4,061		
PUC-83				2,400	2,400		
<u>Local</u>							
So Pac Trans				405	405		
Culligan				90	90		
<b>Total</b>				<b>\$ 6,956</b>	<b>\$ 6,956</b>		

## Contract Unit Description

This contract unit encompasses the construction of three four-lane street overpasses at Arden Way, El Camino Avenue, and Marconi Avenue. The Contract Unit also includes the relocation of portions of Southern Pacific Rail Road track made necessary by the construction of the three grade separation structures. Work includes removal and replacement of rail, ties and ballast to detour railroad movement during construction. Work done by Southern Pacific to be coordinated with the grade separation construction. The major contractor is Granite Construction Company.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$6,284		
4/84	\$6,284		
10/84	\$6,284	+ 386	Consolidate CU1A into CU1.
		+ 286	Construction contingency.
12/84	\$6,956		
1/85	\$6,956		



# CU 1A - NORTH SACRAMENTO SPRR RELOCATION

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
BUDGET							
N/A	4952	\$ 386	\$ 386	\$ -0-	\$ -0-	\$ -0-	-0-%
FUNDING							

## Contract Unit Description

Contract Unit 1A was folded into Contract Unit 1 as it is all work associated with the grade separation structures. This portion of the work includes the relocation of portions of SPRR track. The main contractor for this unit is Southern Pacific Railroad (SPRR).

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 386		
4/84	\$ 386		
10/84	\$ 386	- 386	Consolidate CU1A into CU1.
12/84	\$ -0-		
1/85	\$ -0-		



**CU2 - AT GRADE LINE - NORTHEAST CORRIDOR**

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.13.40	4971	2,980	3,924	3,964	3,965	652	16.4%
32.00.01	4980	--	--	107	108	-0-	-0%
<b>Total</b>		<b>\$ 2,980</b>	<b>\$ 3,924</b>	<b>\$ 4,071</b>	<b>\$ 4,073</b>	<b>\$ 652</b>	<b>16.0%</b>
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				3,447	3,357		
<u>State</u>							
FMT 83-1				224	224		
FMT 85-1				49	49		
<u>Local</u>							
RT				81	81		
Lumberjack				270	270		
<u>Anticipated</u>							
City				--	15		
Debt Finance				--	77		
<b>Total</b>				<b>\$ 4,071</b>	<b>\$ 4,073</b>		

**Contract Unit Description**

This contract unit covers the section of line from Arden/Del Paso to Watt/80 including grading and drainage; Arcade Creek structure; site preparation for storage yard in the Northeast Corridor; installation of ballast, rail, ties and special trackwork; foundations for signals and the overhead catenary system (OCS); leveling pads and OCS supports on bridges; and grading for approach road from Winters/Grand intersection. The boundaries for this portion of the project are the east side of Del Paso Blvd at Arden Way to the southwest end of Grand Ave OH structure, plus track work to the end terminus at Watt/80. The major contractor for this unit is Pacific Railroad Construction.



# Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 2,980		
		+ 100	Transfer from Folsom Corridor.
		+ 134	Transfer from Shop Equipment.
		+ 410	Transfer from Maintenance Bldg.
		+ 300	Transfer from Track Materials.
4/84	\$ 3,924		
		+ 40	Reestimate Based on Actual Bid
10/84	\$ 3,964		
		+ 107	Construction contingency
12/84	\$ 4,071		
		+ 1	Reestimate
		+ 1	Construction Contingency Adjustment
1/85	\$ 4,073		



**CU2A - WATT/80 MEDIAN**

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.13.40	4971	800	810	3,609	4,095	-0-	-0-%
32.00.01	4980	--	--	181	205	-0-	-0-%
<b>Total</b>		<b>\$ 800</b>	<b>\$ 810</b>	<b>\$ 3,790</b>	<b>\$ 4,300</b>	<b>\$ -0-</b>	<b>-0-%</b>
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				3,222	3,132		
<u>State</u>							
FMT 83-1				468	468		
<u>Local</u>							
RT				76	76		
City				24	24		
<u>Anticipated</u>							
FAI				--	600		
<b>Total</b>				<b>\$ 3,790</b>	<b>\$ 4,300</b>		

**Contract Unit Description**

The work in the Watt/80 median area includes erecting barriers to separate work area and freeway; cutting and removing existing concrete; grading and drainage; paving; putting in curbs and platforms; as well as related work such as the installation of lighting and landscaping. The perimeter of this work area is defined by the southwest end of Grand Ave OH structure the Watt/80 end terminus.

**Summary of Budget Changes**

Budget Date	Budget Amount	Change	Description
6/83	\$ 800		
		+ 10	Reestimate



4/84	\$ 810	+ 998	Transfer from CU 6 to achieve construction efficiencies.
		+ 871	Transfer from CU 7 to achieve construction efficiencies.
		+ 2,590	Additional landscaping irrigation and drainage as required by City Planning staff. Also includes fencing and landscaping of Grand Ave. structure per State and Federal requirements (\$300)
		- 1,640	10/5/84 Board approved reductions. See Exhibit 3
10/84	\$ 3,629	- 20	Transfer to CU7D for Station Graphics.
		+ 181	Construction contingency.
12/84	\$ 3,790	+ 486	Reinclud Winter Street Access plus other minor cost refinements.
		+ 24	Construction contingency adjustment.
1/85	\$ 4,300		



# CU3 - MAINTENANCE BUILDING

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.11.20	4967	2,618	2,726	3,827	3,827	518	13.5%
32.00.01	4980	--	--	136	136	-0-	-0-%
Total		\$ 2,618	\$ 2,726	\$ 3,963	\$ 3,963	\$ 518	13.1%

## FUNDING

### Federal

CA-23-9001

3,369

3,369

### State

FMT 85-1

436

436

### Local

RT

79

79

City

79

79

Total

\$ 3,963

\$ 3,963

## Contract Unit Description

This contract unit covers the maintenance and operations building including the structural work, paving, lighting, fencing, utilities and related work, building electrification, DC power conduit and appropriate anchors and provisions for future shop equipment installation. It also includes the track installation within the building. The major contractor for this unit is Continental Heller.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 2,618	- 410	Transfer to NE Corridor (CU2)
		+ 518	From Shop Equipment (CU18B)
4/84	\$ 2,726	+1,101	Amount needed to fund fourth track option. Transferred from General Contingency.
10/84	\$ 3,827	+ 136	Construction contingency
12/84	\$ 3,963		
1/85	\$ 3,963		



# CU4 - MALL DEMOLITION

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
BUDGET							
20.10.00	4964	8,748	500	343	343	300	87.5%
32.00.01	4980	--	--	17	17	--	--%
Total		\$ 8,748	\$ 500	\$ 360	\$ 360	\$ 300	83.3%
FUNDING							
Federal							
CA-23-9001				306	306		
State							
FMT 85-1				40	40		
Local							
RT				7	7		
City				7	7		
Total				\$ 360	\$ 360		

## Contract Unit Description

The scope of this contract unit originally included a large portion of the line construction. It was later limited to the demolition of existing structures, fountains, and pavement on the K-Street Mall. It also includes the removal of existing trees on the mall between 7th and 12th Streets.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 8,748	- 8,248	Contract redefined to include demolition of the K-Street mall only. Remaining funds transferred to CU4A and CU5.
4/84	\$ 500	- 157	Transferred to construction contingency. Adjustment based on actual contract amount.
10/84	\$ 343	+ 17	Construction contingency
12/84	\$ 360		
1/85	\$ 360		



**CU4A - AT GRADE LINE - CENTRAL CITY**

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.13.40	4971	--	6,000	7,843	8,857	-0-	-0-%
32.00.01	4980	--	--	394	443	-0-	-0-%
Cost Offset		--	--	--	(50)	--	--
Total		\$ --	\$ 6,000	\$ 8,237	\$ 9,250	\$ -0-	-0-%
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				7,001	7,001		
<u>State</u>							
FMT 85-1				616	616		
<u>Local</u>							
RT				165	165		
SHRA				290	290		
City				165	165		
<u>Anticipated</u>							
FAU				--	387		
City				--	31		
Debt Financing				--	595		
Total				\$ 8,237	\$ 9,250		

**Contract Unit Description**

This contract unit covers the section of line from 18th/R to Arden/ Del Paso. The required work includes grading and drainage; station stops; structure modification; installation of ballast, rail, ties and special trackwork; reconstruction of K-Street Mall; 12th Street and O-Street improvements; site preparation, conduit work and foundations for signals and electrification; and street repaving as needed. The boundaries of this unit are the west side of 18th Street to the east side of Del Paso Blvd at Arden Way.

The contract unit also includes the amount previously budgeted in Contract Unit 4D for the Central City Parking lots: three at Del Paso Blvd and Baxter and on the east and west sides of 12th and E Streets.



# Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ --		
		+ 6,000	Transfer from CU4 to establish the contract unit.
4/84	\$ 6,000		
		- 326	Transfer to Art Program (CU7C).
		- 150	Create new CU4D for Central City parking lots.
		+ 3,624	Reestimate based on final design and major enhancements on K St. and O St Malls.
		- 1,415	10/5/84 Board approved reductions. See Exhibit 3.
10/84	\$ 7,733		
		+ 150	Absorb CU4D.
		- 40	Transfer to CU7D for station graphics.
		+ 394	Construction contingency.
12/84	\$ 8,237		
		+ 1,014	Cost Reestimate.
		- 50	Cost offset for work to be provided by the California Conservation Corps.
		+ 49	Construction contingency adjustment.
1/85	\$ 9,250		



**CU4B/C - TREE PROCUREMENT - K STREET MALL**

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.13.40	4971	--	\$ 32	\$ 32	\$ 32	\$ 23	71.9%
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				27	27		
<u>State</u>							
FMT 85-1				3	3		
<u>Local</u>							
RT				1	1		
Country				1	1		
<b>Total</b>				\$ 32	\$ 32		

**Contract Unit Description**

This contract unit provides for the procurement of approximately 180 Sycamore, Red Oak and Red Maple trees for the K-Street Mall landscaping. The major contractors are Northwest Shade Tree and E & F Nursery.

**Summary of Budget Changes**

Budget Date	Budget Amount	Change	Description
6/83	\$ --		
		+ 32	Transfer from CU4.
4/84	\$ 32		
10/84	\$ 32		
12/84	\$ 32		
1/85	\$ 32		



# CU4D - CENTRAL CITY PARKING LOTS

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.13.40	4971	--	--	-0-	-0-	-0-	-0-%
<b>FUNDING</b>							

## Contract Unit Description

This contract unit was set up to segregate the work required for the Central City parking lots; specifically for the demolition, grading, drainage, paving, and landscaping for three parking lots at Del Paso Blvd and Baxter for 41 cars, and on the east and west sides of 12th. and E Streets for 15 and 34 cars respectively. The funding for these parking lots has since been consolidated into Contract Unit 4A and will be built as a part of that contract.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ -0-		
4/84	\$ -0-	+ 150	Transfer from CU4A to segregate parking lot construction.
10/84	\$ 150	- 150	Transfer to CU4A.
12/84	\$ -0-		
1/85	\$ -0-		



**CU5 - AT GRADE LINE - FOLSOM CORRIDOR**

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.13.40	4971	5,190	7,670	7,670	12,381	-0-	-0-%
32.00.01	4980	--	--	384	619	-0-	-0-%
Cost Offset		--	--	--	(100)	--	--
<b>Total</b>		<b>\$ 5,190</b>	<b>\$ 7,670</b>	<b>\$ 8,054</b>	<b>\$12,900</b>	<b>\$ -0-</b>	<b>-0-%</b>
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				6,846	6,846		
<u>State</u>							
FMT 85-1				886	886		
<u>Local</u>							
RT				161	161		
City				161	161		
<u>Anticipated</u>							
FAU				--	317		
Other/Private				--	350		
Debt Financing				--	4,179		
<b>Total</b>				<b>\$ 8,054</b>	<b>\$12,900</b>		

**Contract Unit Description**

This contract unit covers the section of line from 18th and R Streets to Butterfield Way and includes grading and drainage; structures including UPRR and SPRR overpasses; installation of ballast, rail, ties and special trackwork; conduit installation and foundations for signals and the overhead catenary system substation pad grading; and lining of SP Placerville Branch as required.

**Summary of Budget Changes**

Budget Date	Budget Amount	Change	Description
6/83	\$ 5,190	+ 2,480	Transferred from CU4 resulting from the redefinition of contract limit from Alhambra and R Street to 18th and R Streets.



4/84	\$ 7,670		
10/84	\$ 7,670		
		+ 384	Construction contingency.
12/84	\$ 8,054		
		+ 4,711	Cost reestimate.
		- 100	Cost offset for work to be performed by the California Conservation Corps
		+ 235	Construction contingency adjustment.
1/85	\$12,900		



**CU6 - AT GRADE STATION - WATT/80 TERMINUS**

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.11.10	4966	2,447	2,440	828	1,524	-0-	-0-%
32.00.01	4980	--	--	42	76	-0-	-0-%
<b>Total</b>		<b>\$ 2,447</b>	<b>\$ 2,440</b>	<b>\$ 870</b>	<b>\$ 1,600</b>	<b>\$ -0-</b>	<b>-0-%</b>

<b>FUNDING</b>					
<u>Federal</u>					
CA-23-9001			740	740	
<u>State</u>					
FMT 85-1			96	96	
<u>Local</u>					
RT			17	17	
County			17	17	
<u>Anticipated</u>					
FAU			--	129	
Debt Financing			--	601	
<b>Total</b>			<b>\$ 870</b>	<b>\$ 1,600</b>	

**Contract Unit Description**

The at grade station at the Watt/80 terminus includes the Watt Ave bridge modifications, elevators, stairways, crew and restroom facilities, platforms, shelters, ramps for the elderly and handicapped and related amenities.

**Summary of Budget Changes**

Budget Date	Budget Amount	Change	Description
6/83	\$ 2,447	- 7	Reestimation
4/84	\$ 2,440	- 77	Transfer to CU7C for the Art Program.
		+ 150	Addition of bridge median barrier as requested by the County Traffic Department.



		- 998	Reestimate.
		- 677	10/5/84 Board reductions. See Exhibit 3.
10/84	\$ 838	- 10	Transfer to CU7D for station graphics.
		+ 42	Construction contingency.
12/84	\$ 870	+ 696	Reinclusion of Special Shelters (see Exhibit 3) and general cost reestimate.
		+ 34	Construction contingency adjustment.
1/85	\$ 1,600		



**CU7 - AT GRADE STATION - NORTHEAST CORRIDOR**

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.11.10	4966	3,503	3,500	1,777	2,038	-0-	-0-%
32.00.01	4980	--	--	93	102	-0-	-0-%
<b>Total</b>		<b>\$ 3,503</b>	<b>\$ 3,500</b>	<b>\$ 1,870</b>	<b>\$ 2,140</b>	<b>\$ -0-</b>	<b>-0-%</b>
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				1,590	1,590		
<u>State</u>							
FMT 85-1				206	206		
<u>Local</u>							
RT				37	37		
County				37	37		
<u>Anticipated</u>							
Debt Financing				--	270		
<b>Total</b>				<b>\$ 1,870</b>	<b>\$ 2,140</b>		

**Contract Unit Description**

The work required for the at grade stations on the northeast corridor include grading drainage; construction; lighting and landscaping for the stations and park-&-ride lots; street signals associated with the stations; platforms, shelters, elderly and handicapped ramps and related amenities. The stations will be at Marconi and Arden, Swanston, Rowyal Oaks, and Arden and Del Paso.

**Summary of Budget Changes**

Budget Date	Budget Amount	Change	Description
6/83	\$ 3,503	- 3	Reestimate.
4/84	\$ 3,500	- 871	Transferred parking to CU2A.
		- 77	Transfer to CU 7C for the Art Program.



		- 695	10/5/84 Board reductions. See Exhibit 3.
10/84	\$ 1,857		
		- 80	Transfer to CU 7D for Station Graphics.
		+ 93	Construction contingency.
12/84	\$ 1,870		
		+ 261	Reinclusion of concrete and asphalt paving.
		+ 9	Construction contingency adjustment.
1/85	\$ 2,140		



**CU7A - AT GRADE STATIONS - FOLSOM CORRIDOR**

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.11.10	4966	3,872	3,870	3,607	5,238	-0-	-0-%
32.00.01	4980	--	--	184	262	-0-	-0-%
Cost Offset		--	--	--	(100)	--	--
<b>Total</b>		<b>\$ 3,872</b>	<b>\$ 3,870</b>	<b>\$ 3,791</b>	<b>\$ 5,400</b>	<b>\$ -0-</b>	<b>-0-%</b>
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				3,222	3,222		
<u>State</u>							
FMT 85-1				417	417		
<u>Local</u>							
RT				76	76		
County				76	76		
Tom Harris				--	6		
<u>Anticipated</u>							
Private/Other				--	285		
Debt Financing				--	1,338		
<b>Total</b>				<b>\$ 3,791</b>	<b>\$ 5,400</b>		

**Contract Unit Description**

The contract unit for the at grade stations on the Folsom Corridor encompasses the grading and drainage; construction; lighting and landscaping for stations and park-&-ride lots; street signals associated with the stations; platforms, shelters, elderly and handicapped ramps and related amenities. The stations will be located at 23rd Ave, 29th Ave, 59th Ave, 65th Ave, Power Inn, College Gardens, Watt and Manlove, Starfire, Tiber, and Butterfield Way.

**Summary of Budget Changes**

Budget Date	Budget Amount	Change	Description
6/83	\$ 3,872	- 2	Reestimate.
4/84	\$ 3,870	- 80	Transfer to CU 7C for the Art



			Program.
		- 183	Transfer to CU 7E for station shelters.
10/84	\$ 3,607		
		+ 184	Construction contingency.
12/84	\$ 3,791		
		+1,721	Cost reestimate.
		- 100	Cost offset for work performed by the California Conservation Corps.
		+ 78	Construction contingency adjustment.
1/85	\$ 5,400		



# CU7B - TREE PROCUREMENT - SUBURBAN STATIONS

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.13.40	4971	\$ 80	\$ 35	\$ 35	\$ 35	\$ 7	20.0%
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				30	30		
<u>State</u>							
FMT 85-1				4	4		
<u>Local</u>							
RT				1	1		
<b>Total</b>				\$ 35	35		

## Contract Unit Description

This contract unit includes the procurement of approximately 1550 trees for use in the landscaping of the Folsom Corridor. The major contractor for this unit is Bonfante.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 80	- 45	Bid under estimate.
4/84	\$ 35		
10/84	\$ 35		
12/84	\$ 35		
1/85	\$ 35		



# CU7C - ART PROGRAM

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.13.40	4971	--	--	\$ 222	\$ 222	\$ 62	27.9%
<b>PUNDING</b>							
<u>Federal</u>							
CA-23-9001				189	189		
<u>State</u>							
FMT 85-1				24	24		
<u>Local</u>							
RT				4	4		
County				5	5		
<b>Total</b>				\$ 222	\$ 222		

## Contract Unit Description

The Art Program is part of a systemwide effort to create an individual identity for each station. It includes pavement pieces, tree grates, banners, and station graphics at Power Inn Cathedral Square at 11th and K Streets, K-Street Mall, St. Rose of Lima Park at 7th and K Streets, and the Q-Street Mall between 9th and 10th Streets.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ --		
4/84	\$ --		
		+ 326	Transfer from CU4A.
		+ 77	Transfer from CU6.
		+ 77	Transfer from CU7.
		+ 80	Transfer from CU7A.
		- 338	10/31/84 Board reductions. See Exhibit 3.
10/84	\$ 222		
12/84	\$ 222		
1/85	\$ 222		



# CU7D - STATION GRAPHICS

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.11.10	4966	--	--	\$ 150	\$ 150	\$ -0-	-0-%
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				128	128		
<u>State</u>							
FMT 85-1				16	16		
<u>Local</u>							
RT				3	3		
County				3	3		
<b>Total</b>				\$ 150	\$ 150		

## Contract Unit Description

This contract unit is proposed to cover the systemwide graphics needs.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ --		
4/84	\$ --		
10/84	\$ --		
		+ 20	Transfer from CU 2A.
		+ 40	Transfer from CU 4A.
		+ 10	Transfer from CU 6.
		+ 80	Transfer from CU 7.
12/84	\$ 150		
1/85	\$ 150		



# CU7E - STATION SHELTERS

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.11.10	4966	--	--	403	519	-0-	-0-%
32.00.01	4980	--	--	20	26	-0-	-0-%
Total		\$ --	\$ --	\$ 423	\$ 545	\$ -0-	-0-%
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				360	360		
<u>State</u>							
FMT 85-1				47	47		
<u>Local</u>							
RT				8	8		
County				8	8		
Total				\$ 423	\$ 545		

## Contract Unit Description

This contract unit for systemwide shelters removes all shelters from CU2A, CU4A, CU7 and CU7A, and places them into one contract.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ --		
4/84	\$ --	+ 403	Transfer from General Contingency.
10/84	\$ 403	+ 20	Construction contingency.
12/84	\$ 423	+ 116	Cost reestimate.
1/85	\$ 545	+ 6	Construction contingency adjustment.



**CU8 - YARD GRADING**

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.13.40	4971	\$ 46	\$ 48	\$ 71	\$ 71	\$ 71	100%
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				60	60		
<u>State</u>							
FMT 85-1				8	8		
<u>Local</u>							
RT				1	1		
County				2	2		
<b>Total</b>				\$ 71	\$ 71		

**Contract Unit Description**

This contract unit includes grading of the area required for the maintenance building and temporary storage area and lighting the storage area. The major contractor for this unit is Anderson.

**Summary of Budget Changes**

Budget Date	Budget Amount	Change	Description
6/83	\$ 46		
		+ 2	Reestimate.
4/84	\$ 48		
		+ 29	Change orders/extra work including the grading of the storage yard area. Funds transferred from construction contingency.
		- 6	Transfer to General contingency based on actual cost of the contract.
10/84	\$ 71		
12/84	\$ 71		
1/85	\$ 71		



**CU8A - YARD STORAGE - TEMPORARY FENCING**

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.13.40	4971	--	\$ 8	\$ 8	\$ 13	\$ 5	38.5%
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				7	7		
<u>State</u>							
FMT 85-1				1	1		
<u>Anticipated</u>							
Debt Financing				--	5		
<b>Total</b>				\$ 8	\$ 13		

**Contract Unit Description**

This contract unit includes the rental, installation, maintenance and removal of temporary cyclone fencing for the perimeter of the storage yard area. The major contractor for this unit is Golden State.

**Summary of Budget Changes**

Budget Date	Budget Amount	Change	Description
6/83	\$ --		
4/84	\$ 8		
10/84	\$ 8		
12/84	\$ 8	+ 5	One year extension on rental contract.
1/85	\$ 13		



# CU8B - YARD STORAGE SECURITY

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.13.40	4971	--	--	--	\$ 30	\$ -0-	-0-%
<b>FUNDING</b>							
<u>Anticipated</u>							
Debt Financing				--	30		

## Contract Unit Description

This contract unit provides for security service for the storage yard located on Academy Way.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ --		
4/84	\$ --		
10/84	\$ --		
12/84	\$ --		
		+ 30	Increase from contingency.
1/85	\$ 30		



# CU9 - ELECTRIFICATION

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.13.40	4971	1,390	1,390	2,194	2,194	-0-	-0-%
32.00.01	4980	--	--	110	110	-0-	-0-%
<b>Total</b>		<b>\$ 1,390</b>	<b>\$ 1,390</b>	<b>\$ 2,304</b>	<b>\$ 2,304</b>	<b>\$ -0-</b>	<b>-0-%</b>
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				1,958	1,958		
<u>State</u>							
FMT 85-1				253	253		
<u>Local</u>							
RT				46	46		
County				47	47		
				<b>\$ 2,304</b>	<b>\$ 2,304</b>		

## Contract Unit Description

This contract unit covers the systemwide electrification installation including DC power substations, poles, conduit, and overhead catenary system (OCS) for the entire LRT line, yard and shop.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 1,390		
4/84	\$ 1,390	+ 804	Reestimate based on more definitive quantities.
10/84	\$ 2,194	+ 110	Construction contingency.
12/84	\$ 2,304		
1/85	\$ 2,304		



# CU10 - LIGHT RAIL TRANSIT SIGNALING

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.02.03	4954	5,760	5,760	3,927	3,928	-0-	-0-%
32.00.01	4980	--	--	220	220	-0-	-0-%
<b>Total</b>		<b>\$ 5,760</b>	<b>\$ 5,760</b>	<b>\$ 4,147</b>	<b>\$ 4,418</b>	<b>\$ -0-</b>	<b>-0-%</b>
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				3,525	3,026		
<u>State</u>							
FMT 83-1				456	456		
<u>Local</u>							
RT				83	83		
County				83	83		
<u>Anticipated</u>							
State RR Xing				--	500		
				<b>\$ 4,147</b>	<b>\$ 4,148</b>		

## Contract Unit Description

This contract unit includes the furnishing and installation of all wayside signaling equipment for the LRT system as well as the installation and testing of the grade crossing protection devices and switch machines.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 5,760		
4/84	\$ 5,760		
		- 485	Transfer to CU 21 to combine signal wire and power wire bid.
		- 1,348	Transfer to General contingency. Bid under estimate.
10/84	\$ 3,927		
		+ 220	Construction contingency.
12/84	\$ 4,147		
		+ 1	Change due to rounding.
1/85	\$ 4,148		



# CU11 - TRAFFIC SIGNALS

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.13.40	4971	2,385	2,390	2,390	2,390	-0-	-0-%
32.00.01	4980	--	--	119	220	-0-	-0-%
<b>Total</b>		<b>\$ 2,385</b>	<b>\$ 2,390</b>	<b>\$ 2,509</b>	<b>\$ 2,510</b>	<b>\$ -0-</b>	<b>-0-%</b>
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				2,133	1,434		
<u>State</u>							
FMT 83-1				276	276		
<u>Local</u>							
RT				50	50		
County				50	50		
<u>Anticipated</u>							
FAU				--	200		
Debt Financing				--	500		
<b>Total</b>				<b>\$ 2,509</b>	<b>\$ 2,510</b>		

## Contract Unit Description

This contract unit includes furnishing and installing all city street traffic signal equipment as well as the installation and test modifications to existing street signals (except for those street signals covered in CU7 and CU7A).

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 2,385		
		+ 5	Reestimate.
4/84	\$ 2,390		
10/84	\$ 2,390		
		+ 119	Construction contingency.
12/84	\$ 2,509		
		+ 1	Construction contingency change due to rounding.
1/85	\$ 2,510		



# CU12 - RADIO PROCUREMENT

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.02.08	4956	\$ 280	\$ 280	\$ 280	\$ 191	\$ -0-	-0-%
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				238	162		
<u>State</u>							
FMT 85-1				31	21		
<u>Local</u>							
RT				6	4		
County				5	4		
<b>Total</b>				\$ 280	\$ 191		

## Contract Unit Description

This contract unit includes the procurement and installation of mobile radios in the Light Rail Vehicles and service vehicles and modifications to the existing base station equipment. The major contractor is Motorola.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 280		
4/84	\$ 280		
10/84	\$ 280		
12/84	\$ 280	- 89	Installation of electronic fare vending surveillance devices transferred to CU13.
1/85	\$ 191		



# CU13 - SECURITY EQUIPMENT

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.02.04	4955	--	--	--	\$ 89	\$ -0-	-0-%
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				--	76		
<u>State</u>							
FMT 85-1				--	10		
<u>Local</u>							
RT				--	2		
County				--	1		
Total				--	\$ 89		

## Contract Unit Description

This contract unit provides for the installation of electronic fare vending surveillance devices at the stations.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	--		
4/84	--		
10/84	--		
12/84	--		
		+ 89	Transferred from CU 12.
1/85	\$ 89		



# CU14A - RAIL PROCUREMENT

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.14.01	4972	\$ 2,740	\$ 2,731	\$ 2,731	\$ 2,731	\$ 2,731	100%
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				2,321	2,321		
<u>State</u>							
FMT 83-1				300	300		
<u>Local</u>							
RT				55	55		
County				55	55		
<b>Total</b>				\$ 2,731	\$ 2,731		

## Contract Unit Description

This contract unit covers the procurement of 5,750 tons of 115lb. RE rail. The major contractor is CF&I Steel.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/3	\$ 2,740	- 9	Bid under estimate.
4/84	\$ 2,731		
10/84	\$ 2,371		
12/84	\$ 2,371		
1/85	\$ 2,371		



# CU14B - OTHER TRACK MATERIAL PROCUREMENT

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.14.01	4972	\$ 1,180	\$ 1,180	\$ 1,180	\$ 1,180	\$ 1,180	100%
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				1,003	1,003		
<u>State</u>							
FMT 83-1				130	130		
<u>Local</u>							
RT				24	24		
County				23	23		
<b>Total</b>				\$ 1,180	\$ 1,180		

## Contract Unit Description

Other Track Material which must be purchased includes plates, bars, spikes, anchors, and tie pads. The major contractor is A&K RR Materials, Inc.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 1,180		
4/84	\$ 1,180		
10/84	\$ 1,180		
12/84	\$ 1,180		
1/85	\$ 1,180		



# **CU14C - DIRECT FIXATION FASTENERS**

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.14.01	4972	--	--	--	\$ 300	\$ -0-	-0-%
<b>FUNDING</b>							
<u>Anticipated</u>							
Debt Financing				--	\$ 300		

## **Contract Unit Description**

Direct fixation fasteners are required to affix rail lines on the American River, North Sacramento Viaduct, WPRR/LRT Separation and SPRR/LRT Separation bridges because of restricted clearances and steep grades. The fastener holds the rail in place and isolates the bridge from vibration and stray electrical current.

## **Summary of Budget Changes**

Budget Date	Budget Amount	Change	Description
6/83	--		
4/84	--		
10/84	--		
12/84	--		
		+ 300	Transfer from CU4A and CU5.
1/85	\$ 300		



# CU15 - TIE PROCUREMENT

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.14.02	4973	\$ 1,140	\$ 1,142	\$ 1,148	\$ 1,147	\$ 1,147	100%
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				976	976		
<u>State</u>							
FMT 83-1				126	126		
<u>Local</u>							
RT				23	23		
County				23	23		
<b>Total</b>				\$ 1,148	\$ 1,148		

## Contract Unit Description

This contract unit includes the procurement of 69,000 crossties and 3,000 switch timbers. The major contractor is Niedermeyer-Martin.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 1,140		
		+ 2	Bid over estimate.
4/84	\$ 1,142		
		+ 6	Transfer from General Contingency. Bid over estimate.
10/84	\$ 1,148		
12/84	\$ 1,148		
		- 1	Change due to rounding.
1/85	\$ 1,147		



**CU16 - SPECIAL TRACKWORK PROCUREMENT**

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.14.03	4974	\$ 650	\$ 643	\$ 691	\$ 691	\$ 429	62.1%
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				588	588		
<u>State</u>							
FMT 83-1				76	76		
<u>Local</u>							
RT				14	14		
County				13	12		
<b>Total</b>				<b>\$ 691</b>	<b>\$ 691</b>		

**Contract Unit Description**

This contract unit includes the procurement of 45 turnouts and special hardware. The major contractor is L.B. Foster.

**Summary of Budget Changes**

Budget Date	Budget Amount	Change	Description
6/83	\$ 650		
		- 7	Reestimate.
4/84	\$ 643		
		+ 48	Contract adjustment. Transferred from contingency.
10/84	\$ 691		
12/84	\$ 691		
1/85	\$ 691		



# CU17 - LIGHT RAIL VEHICLES

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.01.00	4953	26,370	24,352	24,352	24,352	4,673	19.2%
32.00.01	4980	--	--	1,218	1,218	-0-	-0%
<b>Total</b>		<b>\$26,370</b>	<b>\$24,352</b>	<b>\$24,352</b>	<b>\$25,570</b>	<b>\$ 4,673</b>	<b>18.3%</b>
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				21,735	21,735		
<u>State</u>							
FMT 84-1				2,800	2,800		
FMT 85-1				12	12		
<u>Local</u>							
RT				557	557		
City				466	466		
<b>Total</b>				<b>\$25,570</b>	<b>\$25,570</b>		

## Contract Unit Description

This contract unit covers the procurement of 26 light rail vehicles plus spare parts and components. The major contractor is Siemens-Allis.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$26,370		
		- 2,018	Bid under estimate.
4/84	\$24,352		
10/84	\$24,352		
		+ 1,218	Contingency.
12/84	\$25,570		
1/85	\$25,570		



# **CU18A - FARE VENDING EQUIPMENT PROCUREMENT**

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.02.04	4955	\$ 520	\$ 520	\$ 520	\$ 520	\$ -0-	-0-%
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				442	442		
<u>State</u>							
FMT 85-1				57	57		
<u>Local</u>							
RT				10	10		
County				11	11		
<b>Total</b>				\$ 520	\$ 520		

## **Contract Unit Description**

This contract unit covers the procurement of 42 fare vending machines for installation by others. It also includes monitors and annunciator panels. (Excluded are the phone wires from the stations to RT operations center.)

## **Summary of Budget Changes**

Budget Date	Budget Amount	Change	Description
6/83	\$ 520		
4/84	\$ 520		
10/84	\$ 520		
12/84	\$ 520		
1/85	\$ 520		



# CU18B - MAJOR SHOP EQUIPMENT PROCUREMENT

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.03.02	4958	\$ 1,336	\$ 880	\$ 880	\$ 880	\$ -0-	-0-%
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				748	748		
<u>State</u>							
FMT 85-1				97	97		
<u>Local</u>							
RT				18	18		
County				17	17		
<b>Total</b>				\$ 880	\$ 880		

## Contract Unit Description

This contract unit covers the procurement of the major shop equipment: wheel-truing machine, fork lifts, electric portable jacks, and body stands.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 1,336		
		+ 62	Reestimate.
		- 518	Transfer to CU3.
4/84	\$ 880		
10/84	\$ 880		
12/84	\$ 880		
1/85	\$ 880		



# CU18C - LINE MAINTENANCE EQUIPMENT PROCUREMENT

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.03.01	4957	\$ 240	\$ 240	\$ 240	\$ 240	\$ 37	15.4%
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				204	204		
<u>State</u>							
FMT 85-1				26	26		
<u>Local</u>							
RT				5	5		
County				5	5		
<b>Total</b>				\$ 240	\$ 240		

## Contract Unit Description

This contract unit covers the procurement of line maintenance equipment: sedans, pick-up trucks, boom truck, and auxiliary workcarts.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 240		
4/84	\$ 240		
10/84	\$ 240		
12/84	\$ 240		
1/85	\$ 240		



# CU19 - SUBSTATION PROCUREMENT

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.14.05	4975	\$ 4,150	\$ 3,473	\$ 3,473	\$ 3,528	\$ 1,753	49.7%
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				2,952	2,952		
<u>State</u>							
FMT 83-1				383	383		
FMT 85-1				69	69		
<u>Local</u>							
RT				69	69		
<u>Anticipated</u>							
Debt Financing				--	55		
<b>Total</b>				\$ 3,473	\$ 3,528		

## Contract Unit Description

This contract unit covers the procurement of 14 one-megawatt traction power substations and associated special tools. The major contractor is Controlled Power Corporation.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 4,150		
		- 677	Bid under estimate.
4/84	\$ 3,473		
10/84	\$ 3,473		
12/84	\$ 3,473		
		+ 55	Change orders.
1/85	\$ 3,528		



**CU20 - CATENARY SYSTEM AND POLE PROCUREMENT**

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.14.06	4976	\$ 1,880	\$ 1,880	\$ 1,481	\$ 1,481	\$ -0-	-0-%
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				1,259	1,259		
<u>State</u>							
FMT 85-1				153	153		
<u>Local</u>							
RT				30	30		
County				39	39		
Total				\$ 1,481	\$ 1,481		

**Contract Unit Description**

This contract unit covers the procurement of all the overhead catenary system components and poles (pole foundations, cable, and wire not included). The major contractor is Ohio Brass.

**Summary of Budget Changes**

Budget Date	Budget Amount	Change	Description
6/83	\$ 1,880		
4/84	\$ 1,880		
		- 399	Transferred to General contingency due to lower actual contract amount
10/84	\$ 1,481		
12/84	\$ 1,481		
1/85	\$ 1,481		



# CU21 - CABLE AND WIRE PROCUREMENT

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.14.07	4977	\$ 1,370	\$ 1,370	\$ 1,142	\$ 1,142	\$ 871	76.3%
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				971	971		
<u>State</u>							
FMT 85-1				126	126		
<u>Local</u>							
RT				23	23		
County				22	22		
<b>Total</b>				\$ 1,142	\$ 1,142		

## Contract Unit Description

This contract unit covers the procurement of all feeder cable, contact wire, steel cable and signal wire used in traction power and signaling installations. The major contractor is Anaconda Steel.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 1,370		
4/84	\$ 1,370	+ 484	Transferred procurement of cable and wire from CU10.
		- 719	Transferred to General contingency based on actual contract amount.
		+ 7	Transferred from General contingency to cover change orders.
10/84	\$ 1,142		
12/84	\$ 1,142		
1/85	\$ 1,142		



**CU40 - MANAGEMENT AND ENGINEERING**

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.08.01	4960	11,687	14,911	13,893	18,713	11,680	62.4%
20.08.02	4961	2,660	2,660	2,660	3,162	429	13.6%
20.08.03	4962	338	338	338	410	-0-	-0%
20.08.04	4963	265	265	265	323	27	8.4%
Cost Offset		--	--	--	(550)	--	--
<b>Total</b>		<b>\$14,950</b>	<b>\$18,174</b>	<b>\$17,156</b>	<b>\$22,058</b>	<b>\$12,136</b>	<b>55.0%</b>
<b>FUNDING</b>							
<u>Federal</u>							
CA-29-9002				500	500		
CA-29-9004				1,960	1,960		
CA-29-9005				5,500	5,500		
CA-29-0010				2,410	2,409		
CA-23-9001				4,230	5,609		
<u>State</u>							
FMT 81-8				120	162		
FMT 81-3				--	100		
FMT 82-7				1,000	1,000		
FMT 82-5				129	129		
PUC 82				139	139		
FMT 83-1				425	425		
FMT 85-1				315	315		
<u>Local</u>							
RT				148	333		
City				--	244		
County				85	86		
So Pac Trans				195	195		
Rental Income				--	12		
Interest Income				--	174		
Misc.				--	27		
<u>Anticipated</u>							
Debt Financing				--	2,739		
<b>Total</b>				<b>\$17,156</b>	<b>\$22,058</b>		

**Contract Unit Description**

This contract unit covers the project management and engineering functions required to plan, design, control, and manage construction. It also includes the Executive Office, Legal Services, CalTrans Engineering, Agency Coordination and Consultants.



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Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
-----	-----	-----	-----
6/83	\$14,950		
		- 1,550	Transferred to CU45 for Risk Management.
		+ 4,774	Transferred from General contingency.
4/84	\$18,174		
		- 1,018	Transferred to General contingency. Reduce CalTrans budget.
10/84	\$17,156		
12/84	\$17,156		
		+ 5,452	See detail for specific changes.
		- 550	Cost offset for in-kind labor contribution from the City of Sacramento.
1/85	\$22,058		



ITEM	Baseline	Revised
EXECUTIVE OFFICE		
Salaries	654	654
Community Relations	53	63
Program Control	160	625
Other Prof Services	163	445
Expenses	329	153
	-----	-----
Total Executive Office	\$1,359	\$1,940
LEGAL		
R.H. Hyde	275	410
Other	63	0
	-----	-----
	\$338	\$410
APPRAISERS		
	\$265	\$323
PROJECT ENGINEERING		
CalTrans	10,073	13,210
Foster (System Interface)	850	950
Foster (Construction Management)	2,000	2,500
IECO (Design)	500	500
IECO (Construction Management)	50	52
PSG Waters (Design)	25	25
PSG Waters (Construction Management)	75	75
CHNMB	350	350
Stecher Ainsworth	140	140
Comstock	160	230
Klauder (Design)	175	288
Klauder (Construction Management)	500	500
Gallardo (Contract Admin)	0	130
	-----	-----
Total Project Office	\$14,898	\$18,950
OTHER CONSULTANTS		
PB/DMJM	0	202
Peer Review	0	25
John Varozza	0	13
Paine Webber	0	10
Price Waterhouse	0	35
	-----	-----
	\$0	\$285
AGENCIES		
Regional Transit	--	--
City of Sacramento	--	550*
County	--	100
SACOG	--	50
	-----	-----
	\$296	\$700
TOTAL MANAGEMENT AND ENGINEERING		
	\$17,156	\$22,608
* less: Cost Offset for in-kind work performed by the City of Sacramento	0	-550
	-----	-----
	\$17,156	\$22,058



**CU45 - SRTD MANAGEMENT AND SYSTEM START-UP**

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.15.00	4978	--	2,000	1,912	2,000	-0-	-0-%
20.16.00	4979	--	1,123	1,037	1,123	-0-	-0-%
<b>Total</b>		\$ --	\$ 3,123	\$ 2,949	\$ 3,123	\$ -0-	-0-%
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				2,507	2,507		
<u>State</u>							
FMT 85-1				324	324		
<u>Local</u>							
RT				58	58		
County				60	60		
<u>Anticipated</u>							
Debt Financing				--	174		
<b>Total</b>				\$ 2,949	\$ 3,123		

**Contract Unit Description**

This contract unit covers the costs of project coordination maintenance and operations planning, grant administration and system start-up support services by Regional Transit personnel.

**Summary of Budget Changes**

Budget Date	Budget Amount	Change	Description
6/83	\$ --		
		+ 3,123	Transferred from General Contingency
4/84	\$ 3,123		
		- 88	Transfer to General contingency for reduction to Force Account.
		- 86	Transfer to General contingency for reduction to supporting services.
10/84	\$ 2,949		
12/84	\$ 2,949		
		+ 174	Cost reestimate.
1/85	\$ 3,123		



# CU50 - RISK MANAGEMENT

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.11.01	4965	--	\$ 1,550	\$ 1,550	\$ 1,550	\$ 340	21.9%
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				1,318	1,318		
<u>State</u>							
FMT 85-1				170	170		
<u>Local</u>							
RT				31	31		
County				31	31		
<b>Total</b>				\$ 1,550	\$ 1,550		

## Contract Unit Description

This contract unit covers the administrative and premium requirements of the risk management program. It also provides for self-insured loss reserves.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ --		
		+ 1,550	Transferred from CU 40.
4/84	\$ 1,550		
10/84	\$ 1,550		
12/84	\$ 1,550		
1/85	\$ 1,550		



**CU60 - RIGHT OF WAY ACQUISITION**

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.06.00	4959	\$12,360	\$12,885	\$12,885	\$16,260	\$ 5,955	36.6 %
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				3,822	3,822		
<u>State</u>							
FMT 82-5				271	271		
FMT 82-20				1,000	1,000		
FMT 83-1				1,436	1,436		
MT 84-4				4,200	4,200		
FMT 85-1				992	992		
<u>Local</u>							
RT				453	258		
City				464	464		
County				247	247		
<u>Anticipated</u>							
Debt Financing				--	3,570		
<b>Total</b>				<b>\$12,885</b>	<b>\$16,260</b>		

**Contract Unit Description**

This contract provides for the acquisition of required right-of-way parcels for the Light Rail main lines, stations, shop and yard, and other facilities.

**Summary of Budget Changes**

Budget Date	Budget Amount	Change	Description
6/83	\$12,360		
4/84	\$12,885		
10/84	\$12,885		
12/84	\$12,885		
		+3,375	Includes additional parcels, cost reestimates and contingency.
1/85	\$16,260		



# CU70 - UTILITY RELOCATION

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
20.13.12	4970	\$ 5,120	\$ 5,257	\$ 5,257	\$ 7,299	\$ 1,006	13.8%
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				4,468	4,468		
<u>Local</u>							
RT				105	105		
County				190	190		
<u>Anticipated</u>							
Debt Financing				--	2,042		
<b>Total</b>				\$ 5,257	\$ 7,299		

## Contract Unit Description

This contract unit covers the relocation of utilites in areas affected by transit construction.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 5,120		
		+ 137	Reestimate.
4/84	\$ 5,257		
10/84	\$ 5,257		
12/84	\$ 5,257		
		+2,042	Higher estimates by SP Pipeline and SMUD.
1/85	\$ 7,299		



# CU98 - CONSTRUCTION CONTINGENCY

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
32.00.01	4980	--	\$ 3,587	--	--	--	--
<b>FUNDING</b>				--	--		

## Contract Unit Description

This contract unit was originally established to provide a 5% contingency for all construction contracts and the light rail vehicle procurement contract to cover change orders. The proposed budget distributes the contingency amounts to the main contract units.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ --		
		+ 3,587	Transfer from General Contingency
4/84	\$ 3,587		
		- 76	Various changes, see attached detail analysis.
10/84	\$ 3,511		
		- 3,511	Contingency amounts distributed to relevant contracts.
12/84	\$ --		Distributed throughout.
1/85	\$ --		Distributed throughout.



LRT1:CU98D  
1/15/85

# LIGHT RAIL CONSTRUCTION CONTINGENCY DETAIL

NOTE	CU 1	CU 2	CU 2A	CU 3	CU 4	CU 4A	CU 4D	CU 5	CU 6	CU 7	CU 7A	CU7E	CU 9	CU 10	CU 11	CU 17	TOTALS
A	321	195	41	136	25	300		384	122	175	193		70	288	119	1218	3587
B	-6																3581
C					157												3738
D	-29																3709
E					-165												3544
F		-40															3504
G		-48															3456
H														-68			3388
I			140														3528
J						-8	8										3528
K						94			-80	-82							3460
L											-9	20					3471
M																	3471
N													40				3511
O						8	-8										3511
P		7	24			49		235	34	9	78	6					
Tot.	286	114	205	136	17	443	0	619	76	102	262	26	110	220	119	1218	3953

- A - Estimated budget as of 4/84.
- B - 4/23/84 - Transfer to CU 15. (Budget Adjustment 1)
- C - 5/17/84 - Transfer from CU 4. (Budget Adjustment 3)
- D - - Transfer to CU 8. (Budget Adjustment 5)
- E - - Transfer to General Contingency (Budget Adjustment 12)
- F - 7/25/84 - Transfer to CU 13. (Budget Adjustment 13)
- G - 7/30/84 - Transfer to CU 16. (Budget Adjustment 16)
- H - 8/10/84 - Transfer to General Contingency. (Budget Adjustment 18)
- I - 10/5/84 - Transfer from General Contingency based on Deductive Opt. Rpt. (Budget Adjustment 21)
- J - - Undocumented. Transfer to create contingency to CU40.
- K - 10/5/84 - Transfers based on Deductive Option Report. (Budget Adjustments 22-24)
- L - 10/10/84- Transfer to General Contingency do to removal of Station Shelters. (Budget Adjustment 25)
- M - 10/10/84- Transfer from General Contingency to create Station Shelter Contingency. (Budget Adjustment 26)
- N - 10/10/84- Transfer from General Contingency due to increase in Engineering Estimate. (Budget Adjustment 27)
- O - 11/7/84 - Transfer to CU4A Contingency for Parking lots. (Budget Adjustment 29)
- P - 1/15/85 - Increases incorporated into Revised Budget



# CU99 - GENERAL CONTINGENCY

MACS Code	City Code	6/83 Eng Est	4/84 Adopted	12/84 Baseline	1/85 Proposed	Act Exp to 12/28/84	% Exp of 1/85 Bud
Grant Code							
<b>BUDGET</b>							
32.00.02	4981	\$10,250	\$ -0-	\$ 237	\$ 5,000	--	--
* Expenditures are not made directly from contingency. They are first transferred to the appropriate contract unit and expended from there.							
<b>FUNDING</b>							
<u>Federal</u>							
CA-23-9001				201	201		
<u>State</u>							
FMT 85-1				26	26		
<u>Local</u>							
RT				5	5		
County				5	5		
<u>Anticipated</u>							
Debt Financing				--	3,863		
Safe Harbor				--	900		
<b>Total</b>				\$ 237	\$ 5,000		

## Contract Unit Description

This contract unit represents the budgeted contingency reserve at the project level.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$10,250	- 10,250	Various changes. See attached detail for analysis.
4/84	\$ -0-	+ 237	Various changes. See attached detail for analysis.
10/84	\$ 237		
12/84	\$ 237	+ 4,763	Increase needed to bring contingency to approximately 5% of unexpended budget.
1/85	\$ 5,000		



10 LRT1:99D  
11/26/84

# General Contingency Detail

-----  
6/83 Eng. Est      \$10,250

-4,774	Transfer to CU40; Management and Engineering
-3,123	Transfer to CU45; SRTD Start-up
10	Additional Sec 9A funds
1,224	Actual/estimated projected savings
-3,587	Transfer to CU98; Construction Contingency

-----

4/84 Adopted      \$0

1,018	From CU40; Management and Engineering
88	From CU45; Start-up
86	From CU45; Start-up
165	From CU4; Mall Demolition
719	From CU21; Wire Procurement
6	From CU8; Yard Grading
193	Additional Funding - SHRA
-1,101	To CU3; Maintenance Building
-7	To CU21; Wire Procurement
1,416	From CU10; Signaling
400	From CU20; Catenary System
-2,819	To CU2A; Watt/80
-140	To CU2A Contingency
1,525	From CU6; Watt Station
80	From CU6 Contingency
-2,209	To CU4A; Central City
-94	To CU4A Contingency
1,566	From CU7; NE Corridor
82	From CU7 Contingency
183	From CU7A for Station Shelters
9	From CU7A Contingency
-403	To CU7E; Station Shelters
-20	To CU7E Contingency
-804	To CU9; Electrification
-40	To CU9 Contingency
338	From CU7C; Art Program

-----

10/84 Staff Est      \$237

12/84 Baseline      \$237

4,763      Increase in contingency

-----  
\$5,000



**EXHIBIT 1**

**Conversion of MACS Codes to City Account Codes**



# Conversion of MACS Codes to City Account Codes

City Acct	MACS Codes	Description
4951	N/A *	Grade Separations
4952	N/A *	SPRR Relocation
4953	20.01.00	Light Rail Vehicles
4954	20.02.03	LRT Signaling
4955	20.02.04	Fare Collection Equipment
4956	20.02.08	Communications
4957	20.03.01	Vehicles
4958	20.03.02	Tools and Equipment
4959	20.06.00	Real Estate Acquisition
4960	20.08.01	Proj Mgmt, Eng & Design
4961	20.08.02	Construction Management
4962	20.08.03	Legal Services
4963	20.08.04	Appraisal Services
4964	20.10.00	Demolition
4965	20.11.01	Insurance
4966	20.11.10	Stations w/ Parking Facilities
4967	20.11.20	Maint/Repair Facilities
4968	20.11.30	Storage Yard
4969	20.11.90	Landscaping
4970	20.13.12	Utility Relocation
4971	20.13.40	ROW Construction
4972	20.14.01	Rail
4973	20.14.02	Ties
4974	20.14.03	Special Trackwork
4975	20.14.05	Unit Substations
4976	20.14.06	Catenary System
4977	20.14.07	Cable and Wire
4978	20.15.00	Project Sponsor Force Acct
4979	20.16.00	Supporting Services
4980	32.00.01	Construction Contingency
4981	32.00.02	General Contingency

\* The Grade Separations do not fall under the UMTA grant scope of work, therefore it does not have an assigned MACS Code. If it did, however, it would be categorized under 20.13.40



**EXHIBIT 2**

**Definition of MACS Codes**



## SACRAMENTO LIGHT RAIL PROJECT

### Scope of Work

This project scope and definition is designed as a general guideline and description of the project. It is recognized that the document will evolve and that certain changes, additions and deletions will occur over time. It is anticipated that the document will be amended at certain future points. This document is also designed to be a general working document. Minor changes in scope are subject to STDA's discretion. Any major or substantive changes shall be incorporated into future amendments and receive advance UMTA approval.

#### MACS CODE

##### 20.01.00: Purchase of Transit Vehicles

Covers the purchase of 26 articulated Light Rail Vehicles including spare parts and special tools required for these vehicles. This also covers the manufacturer's training of operating, servicing and maintenance staff, warranties and technical field service support.

##### 20.02.00: Purchase and Installation of Support Equipment

20.02.04 Fare Collection - Includes ticket issuing machines at stations for Self-Service Fare System being introduced on the LRT System.

20.02.08 Communications - Includes two-way radio communication sets for the light rail vehicles and control dispatch yards (transportation) control vehicle and maintenance of way crews and light rail road supervision. The light rail radio system will be compatible with SRTD's bus radio system to the greatest extent feasible.

##### 20.03.00: Purchase and Installation of Service and Maintenance Equipment

20.03.01 Vehicles - Includes both rail-borne and off-rail equipment for inspection and repair work, cranes, "cherry-picker" high-lift truck, personnel trucks or vans, automobiles, maintenance of way work cars and/or trucks. Other vehicles and precise quantities to be determined during final engineering.

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Source: Attachment 1 from UMTA Grant CA-23-9001.



20.03.02 Tools and Equipment - Includes miscellaneous shop tools, equipment and testing apparatus, wheel shop equipment, body and paint equipment, hoists, forklifts, and the like. Other tools and equipment and precise quantities to be determined during final engineering.

20.03.03 Car Washer and Cleaning Equipment - Includes car wash equipment and other cleaning equipment. Precise quantities to be determined during Final Engineering.

20.06.00 Real Estate Acquisition

These acquisitions will be done by the STDA. This item includes all costs of administration, negotiations, condemnations (as necessary) and closing costs, and will meet all Federal requirements.

20.06.10 Right-of-Way - Includes the easements and, or acquisitions of right-of-way for the Light Rail Line between Watt Avenue/I-880, downtown Sacramento and Folsom Boulevard/Butterfield Way. The properties to be acquired are identified in Attachment 4.

20.06.40 Parking Facilities for Transit Patrons - Park & Ride lot sites at Watt/I-880, Watt West, Roseville Road, Marconi/Arcade, Swanston, Howe/Power Inn, Watt/Manlove and Butterfield Way stations. Others may still be identified and would be subject to environmental requirements and UMTA concurrence.

20.06.90 Other Facilities - Land for an off-street bus transfer station at 65th Street (budgeted in MACS Code 20.06.40).

20.08.00 Professional Services Contracts (Budgeted in UMTA Grant CA-39-9005)

20.08.01 Engineering and Design - Includes all costs of final design and contract document preparation and review, subconsultant services and construction supervision and management services during procurement and construction of the Project. Also includes professional services for administering the insurance program. This work covers that done by Caltrans staff for construction elements described in 20.11.00 and 20.13.00. It also includes work of Caltrans, International Engineering Company, L. K. Comstock Engineering, L. T. Klauder and Associates, Foster Engineering, Inc. and all other consultants to the Project and various sub-consultants as required from time to time.

20.08.03 Legal Services - Includes necessary costs of professional legal services engaged or involved on this Project.

20.08.04 Appraisal Services - Includes the costs of special reports and appraisals for properties and easements required to determine fair and proper evaluations, conforming to State and



Federal requirements.

20.08.05 Relocation Expenses - Includes costs to establish and provide reasonable costs of relocation assistance and preparation of relocation plan in conformity with State and Federal relocation and property acquisition regulations and procedures. (Budgeted in MACS Code 20.06.00).

20.10.00 Demolition

Covers the demolition of structures and rough restoring to safe conditions of right-of-way and other properties required before construction. Costs are included within items listed under 20.13.00.

20.11.00 Construction of Facilities

20.11.01 Insurance - Covers the costs of insurance coverage for workers' compensation, general liability, errors and omissions and all-risk construction through completion of the contracts administered by STDA and Grantee.

STDA will require contractors to provide insurance coverage in contracts administered by STDA.

20.11.10 Stations - Includes all costs involved in the provision of 27 stations of relatively simple function and design for sidewalk level boarding and alighting of Light Rail passengers, and interconnecting pedestrian and bus transfer facilities. Passenger shelters will be provided at most stations (at several stations, shelters are not appropriate relative to anticipated passenger waiting numbers or to nearby building facades). Lighting, landscaping, telephones, information signs, benches and other furnishings will be provided, as determined in final design. The Watt/880 station will be served with elevators as well as stairways. Includes the project Art in Public Places program.

20.11.20 Maintenance and Repair Facilities - Includes maintenance, servicing and repair shops between El Camino and Marconi Avenues; and will include facilities for cleaning, inspecting, storing and complete maintenance and repairing of the fleet of Light Rail Vehicles for the Northeast Sacramento Line. Includes provision for storage facilities for maintenance-of-way equipment and supplies. Space for operating administration and vehicle maintenance staff is included. The building will contain approximately 54,000 square feet of floor space in a ground floor and partial second floor.

20.11.30 Storage Yards - Includes yard trackage for storage and circulation of the Light Rail Vehicle Fleet in conjunction with the Maintenance Shops. Yard lighting, drainage, utilities, paving of service lanes, landscaping, fencing and outside storage for track materials are included. Employee and visitor parking spaces are also included. Also includes a small midday car storage yard in the vicinity of 12th and K Streets.



20.11.40 Parking Facilities - (For Transit Patrons) - Includes paved, landscaped and lighted parking facilities for park-and-ride patrons in the total amount for approximately 3,500 to 4,500 automobile spaces at Watt/80, Watt West, Roseville Road, Marconi/Arcade Swanston, Howe/Power Inn, Watt/Manlove and Butterfield Way stations. Others may be determined during final design work (subject to environmental requirements and UMTA concurrence).

20.11.90 Landscaping - Includes all landscaping at passenger stations, at the storage and maintenance facility and along the right-of-way. Precise details and quantities to be determined during final engineering.

20.13.00 Right-of Way Construction, Including Environmental Mitigation Measures

Includes all construction elements necessary for the operation of the 18.3 mile Northeast Sacramento Light Rail Transit Line as follows:

20.13.12 Utility Relocation - Relocation of utilities for trackway or other construction; power lines of Sacramento Municipal Utility District and Pacific Telephone Company; water and sewer lines of the City of Sacramento, County of Sacramento; and such others as may be subsequently determined in final engineering.

20.13.40 Construction -

A. Highway relocation and transit work is as follows:

Produce contract drawing specifications, bid and contract documents and advertise for bid proposals.

Award contracts, manage and provide construction engineering support and inspection during the construction stages for STDA Northeast Sacramento Project Civil Engineering section.

B. Light rail line construction includes:

1. Construction of the Light Rail trackage and special trackwork, supporting roadbed and structures;
2. Construction of the Light Rail electrification system including both catenary and simple trolley overhead lines, power feeders, approximately 14 traction power substations of approximately 1 megawatt capacity each to supply nominal 750 Volt Direct Current traction power including circuit breakers and line disconnects and all necessary electrical cabling;
3. Procurement and installation of automatic train protection, interlocking and block occupancy indicator



signalling in the single track segments;

4. Procurement and installation of train detection and pre-emption equipment for certain of the regular traffic control signals;
  5. Provision of traffic control signals or crossing gates at certain locations determined during final engineering;
  6. The costs of temporary traffic control and other miscellaneous expenses during construction.
- C. Such other associated construction as determined during final design and engineering to construct the Light Rail line subject to approval by UMTA.

20.14.00 Purchase of Long Lead Items

20.14.01 Rail - Includes approximately 5,750 tons of 115 pound, RE standard carbon control cooled rail and appropriate quantities of other track material (track spikes, tie plates, rail anchors, insulated joint bar kits and tie pads).

20.14.02 Ties - Includes 6" x 8" x 8' - 0" cross ties, approximately 60,000 drilled and 9,000 not drilled, and 2,800 switch timbers of varying lengths.

20.14.03 Special Trackwork - Includes 44 turnouts and crossovers of varying frog angles, Nos. 6, 8, 10, 16 and 20, rail to be 115 pound RE section.

20.14.04 Switch Machines - Includes approximately 15 electric switch machines for turnouts indicated on the Track Plan to be power operated.

20.14.05 Unit Substations - Includes 14 unit rectifier substations of 1 megawatt capacity and all appropriate accessories.

20.14.06 Catenary System - Includes all catenary support poles, hardware and fittings, except cable and wire.

20.14.07 Cable and Wire - Includes all cable and wire for the traction power distribution system plus the major trunk cable for the wayside signal system.

20.15.00 Project Sponsor Force Account Work (Budgeted in UMTA Grant CA-29-9005)

Includes acceptance testing, training and new vehicles and other activities as approved by UMTA.

20.16.00 Supporting Services - Cost Allocation Plan (Budgeted in UMTA Grant CA-29-9005)



Includes all SRTD and STDA direct, fringe and approved administrative and overhead costs associated with the management, direction and overall supervision of the design, procurement, construction, and installation of the Sacramento Light Rail Transit Project under an UMTA approved cost allocation plan.

32.00.00 Contingencies

Allowance of 10% on all items except project management and engineering (MACS Codes 20.08.00, 20.15.00 and 20.16.00).

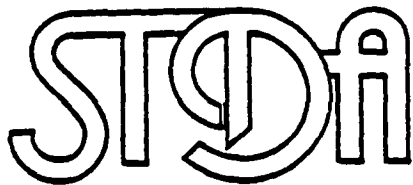
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**EXHIBIT 3**

**Cost Reduction Memo to the Board**





# MEMORANDUM

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1201 I Street, Room 205 • Sacramento 95814 • (916) 445-6519

October 1, 1984

TO: Members of the Governing Board  
FROM: J. E. Roberts  
SUBJECT: Cost Reduction Efforts, NE Corridor and Central City

## ISSUE

Should the Board authorize staff to proceed with construction contract advertising for the Northeast and Central City portions of the project?

## PROPOSED ACTION

Continue to advertise the contract units for the Northeast Corridor and Central City as they are value engineered by staff and approved individually by the Board.

## FISCAL IMPACT

The combined cost reduction efforts on the contracts necessary to complete the operational segment from Watt Avenue/I.S. 80 to 18th and R Streets have resulted in an aggregate cost estimate that is within the project budget. The general contingency reserve would be reduced to \$100,000 if all staff recommended reductions are adopted by the Board. If none of the reductions are adopted, the project will cost \$4,300,000 over budget.

## DISCUSSION

Staff has evaluated and value engineered each contract unit in the NE Corridor and downtown segments of the project. The resulting proposed contracts retain the scope of the original UMTA grant and the operational system approved by this Board at the conclusion of Preliminary Engineering in 1983 as the project baseline documents. This cost reduction analysis is limited to the \$131.234 million budget. Additional funds being pursued by staff but not currently committed were not considered.



Page Two  
Memorandum

TO: Governing Board  
FROM: J. E. Roberts

SUBJECT: Cost Reduction Efforts, NE Corridor and Central City

A Budget and Estimate Comparison and Contingency Analysis are included as Attachments No. 1 and No. 2. A summary sheet of proposed cost reduction actions for each contract unit which staff has analyzed is included as Attachment No. 3.

Each contract unit was analyzed for three types of cost reduction efforts.

- (1) Eliminate -- These items have been permanently eliminated from the contract as a result of value engineering analyses. These items represent true cost savings and will reduce the construction cost estimate and overall project estimate.
- (2) Reduce -- These items are long-term deferrals. They constitute items which will be needed in the future and can be added after LRT operations begin and as funding can be identified.
- (3) Deductive Option -- These items are not needed for a functional system but are deemed necessary by many groups as required for public acceptance of the system. This category of items can be added back to the system as funding can be identified and staff has attempted to prioritize these items for Board consideration. As funds become available for project specific items, they can be added without regard to the priority list. As general additional funds are identified, the Board can utilize the priority list for authorizing additions to the project.

Recommended Eliminations amount to \$1,670,000. (This reduces the worst case project estimate to \$145,300,000 and the \$18 million overrun to \$14.3 million.)

Recommended Reductions amount to \$479,000. (This reduces the worst case project estimate to \$144,820,000 and the overrun to \$13.8 million.)

Recommended Deductive Options amount to \$2,228,580. (It is staff recommendation that additional funds be pursued to restore these options to the project.)

Attachments

JER:cr



NOTES FOR REVISED ATTACHMENT NO. 1 TO J.E. ROBERTS MEMO OF 10/2/84

In our previous review of the Cost Reduction efforts, it was requested that Attachment No. 1, Budget/Estimate Comparison, be modified to show the related Construction Contingency.

This attachment compares the budgeted amounts with estimates for the two contracts that have been awarded, and for the contracts yet to be bid to construct the Northeast corridor and Central City lines. It further shows the effect on estimated costs of the approved reductions for Contract Unit #2A, and the reductions proposed for Contract Unit #'s 6, 7 and 4A. The five percent (5%) Construction Contingency relating to each of the estimated costs is also shown.

It is noted that the reductions in estimated costs result in a directly proportional reduction in the Construction Contingency in each case. Also, as the result of bidding Contract Unit #'s 2 and 3 and the approved and proposed reductions, the overall estimate changes from \$32.488 million to \$26,835 million, drawing closer to the aggregate budgeted amount for these Contract Units of \$23.180 million.



**PROJECT DEVELOPMENT & FINANCIAL ISSUES**

**BUDGET/ESTIMATE COMPARISON**

**NORTHEAST CORRIDOR AND CENTRAL CITY**

Item	Contract Unit	Approved Budget 4/84	Estimate	Constrtn Contngcy 5%	Reductions	Constrtn Contngcy 5%	Estimate With Reductions	Reduced Const. Cont. 5%
<b>Contracts Awarded</b>								
1.	12, NE Corridor	\$3.924	\$4.543				\$3.964 (Bid)	
2.	13, Maintenance Bldg	2.726	4.474				3.827 (Bid)	
3.	SUBTOTAL (1&2)	6.650	9.017				7.791	
<b>Contracts Yet to Bid</b>								
4.	12A, Watt/80 Median	0.810	5.269	.263	1.640	.082	3.629	.181
5.	16, Watt/80 Terminus	2.440	1.515	.076	.677	.034	.838	.042
6.	17, NE Corridor Sts.	3.500	2.552	.128	.695	.035	1.857	.093
7.	14A, Central City	6.000	9.148	.457	1.415	.071	7.333	.386
8.	19, Electrification*	1.390	2.194	.110	0	0	2.194	.110
9.	11, Traffic Signals*	2.390	2.390	.119	0	0	2.390	.119
10.	17E, Shelters*	0.000	.403	.020	0	0	.403	.020
11.	SUBTOTAL (4 Thru 10)	\$16.530	\$23.471	1.173	4.427	.222	19.044	.951
<b>TOTALS (3+11)</b>		<b>\$23.180</b>	<b>\$32.488</b>				<b>\$26.835**</b>	

NOTES: All Costs Shown in Millions of Dollars

\* For 18.3 Miles Systemwide

\*\* Original Estimates of \$32.488 less Reductions of \$4.427 Less Difference between Estimate (\$9.017) and Bid (\$7.791) Equals Estimate with Reductions \$26.835.

ATTACHMENT NO. 1  
(Rev. 10/10/84)



PROJECT DEVELOPMENT & FINANCIAL ISSUES

CONTINGENCY ANALYSIS

NORTHEAST CORRIDOR & CENTRAL CITY

<u>Item</u>	<u>Contract Unit</u>	<u>Budget w/Cont.</u>	<u>Project Costs (\$Mil)</u>		<u>Contingency</u>	
			<u>Estimate</u>	<u>Estimate/5%</u>	<u>±</u>	<u>Cumulative</u>
1.	#2, NE Corridor Ln.	\$3.965/.107	Bid	\$3.965/.107	-	-
2.	#3, Maintenance Bld.	3.827/.136	Bid	3.827/.136	-	-
(General Contingency taking into account previous contract actions)						\$2.983
3.	#2A, Watt/80 Median	.810/.041	3.629	3.629/.181	-2.959	.024
4.	#6, Watt/80 Terminus	2.363/.122	0.838	0.838/.042	+1.752	1.776
5.	#7, NE Corridor Sts.	3.423/.175	1.857	1.857/.093	+1.902	3.678
6.	#4A, Central City	5.524/.293	7.733	7.733/.387	-2.303	1.365
7.	#9, Electrification*	1.390/.070	2.194	2.194/.110	-.844	.521
8.	#11, Traffic Signals*	2.390/.119	2.390	2.390/.119	.000	.521
9.	#7E, Shelters*	-	0.403	0.403/.020	-.423	.098
(General Contingency Remaining)						.098

\*For 18.3 miles, systemwide



COST REDUCTION PROPOSALS  
NE Corridor and Downtown

SUMMARY

<u>Contract Unit</u>	<u>Deductive Option</u>	<u>Reduce</u>	<u>Eliminate</u>
2A	\$ 273,000	\$ 20,000	\$1,348,000
6	614,000	21,000	43,000
7	159,000	346,000	190,000
4A	<u>1,232,580</u>	<u>92,000</u>	<u>90,000</u>
Subtotal	<u>\$2,278,580</u>	<u>\$479,000</u>	<u>\$1,670,000</u>
		Total	\$4,427,580

Detail sheets attached.



CU#2A-WATT/80 MEDIAN STATIONS

Item	Deductive Option	Reduce	Eliminate	Remarks
<u>Winter Street Access</u>				
Lighting, Signals, and Roadway	\$100,000*		\$199,000*	Provide Del Paso Hgts access at Marconi/ Arcade Station.
Landscaping			48,000*	
<u>Watt/80 West Station</u>				
Civil, Drainage, Roadwork			\$440,000	Remove station entire and provide some over flow parking spaces.
Platform			159,000	
Lighting			200,000	
Landscaping			202,000	
<u>Overall</u>				
Nonfunctional Planting	\$273,000			Shrubs, etc.
Roseville Road Shelter		\$20,000		Future separate contr
	<u>\$373,000*</u>	<u>\$20,000</u>	<u>\$1,248,000*</u>	

			(\$Mil)
<u>Budget</u>	Original Budget 4/84		.810
	Adjusted Budget		.810
	Construction Contingency		<u>.040</u>
	Total Budget		\$0.850
-----			
<u>Estimate</u>	Current Estimate		5.269
	Deductive Options, Reductions and Eliminations		1.640
	Estimated Cost		3.629
	Construction contingency (5%)		<u>.181</u>
	Total Estimate		\$3.810
Needed from General Contingency			\$2.960

\*Revised per 10/10/84 Board Action.



Revised

CU#4A-CENTRAL CITY

Item	Deductive Option	Reduce	Eliminate	Remarks
K Street mall	\$ 765,365 *	\$ 0 *	\$ 0	See Exhibit A
O Street mall	465,215 *	\$ 0 *	0	See Exhibit B

GENERAL

Shelters (Tot 4)	84,000			Future Separate Contract
Non-functional Planting		10,000		
N. 12th Street Open Track			11,000	
Landscape G-K Streets			29,000	
Paving 7th, 8th, 12th Streets			50,000	
	<u>\$1,314,580 *</u>	<u>\$10,000 *</u>	<u>\$90,000</u>	
	<b>TOTAL</b>		<u><b>\$1,414,580</b></u>	

<u>Budget</u>	Original Budget (4/84)	\$6.000
	Adjusted Budget	5.524M
	Construction Contingency (5%)	<u>0.293</u>
	<b>Total Budget</b>	<b>\$5.817</b>

<u>Estimate</u>	Current Estimate (9/84)	9.148
	Deductive Options, Reductions and Eliminations	1.415
	Estimated Cost	7.733
	Construction Contingency (5%)	<u>.387</u>
	<b>Total Estimate</b>	<b>\$8.120M</b>

Needed from General Contingency **\$2.303M**

\*Revised per 10/10/84 Board Action.



CU#4A-K Street Mall (Exhibit A)

Item	Deductive Option	Reduce	Eliminate	Remarks
Track Area	\$152,250	\$	\$	Place AC in lieu of pavers.
Remove Pavers	117,230			<u>No</u> work outside track area.
Remove New Concrete	62,070			<u>No</u> work outside track area.
<u>Planters</u>				
Large	22,000			
Small	19,800			
<u>Benches</u>				
Type A	37,500			
Type B	137,500			
Trees	21,600			
Grates	4,375			
Leaning Rail	31,500			
Light Pole With Banner	56,000*			
Planting (Other than Trees)	21,210			
Irrigation	38,130			
<u>Miscellaneous</u>				
Telephone Kiosk	22,000			
Drinking Fountain	5,400			
Trash Receptacle	13,300			
Bike Rack	1,250			
News Rack Rail	2,250			
	\$ 765,365*	\$ 0*	\$ 0	
		<u>TOTAL</u>		\$765,365

Note: These items are not listed in any priority or order.

\*Revised per 10/10/84 Board Action.



Revised

CU#4A-O STREET MALL (Exhibit B)

Items	Deductive Options	Reduce	Eliminate	Remarks
Track Area	\$157,040	\$	\$	Place AC in lieu of pavers
Remove Pavers	138,800			No work outside track area
Remove New Concrete	42,870			No work outside track area
<u>Planters</u>				
Large	6,000			
Small	5,400			
Benches (Type A)	30,000			
Trees	2,100			Cost is shipping and installation only
Light Pole With Banner	26,000*	0*		Retain minimum lightin only
Planting (Other than trees)	9,200			
Irrigation	29,680			
<u>Miscellaneous</u>				
Telephone Kiosk	8,800			
Drinking Fountain	1,800			
Trash Receptacle	6,650			
Bike Rack	500			
News Rack Rail	375			
	\$465,215*	\$ 0*	\$ 0	
			TOTAL:	<u>\$465,215</u>

Note: These items are not listed in any priority or order.

\*Revised per 10/10/84 Board Action.



CU#6 - WATT/80 TERMINUS

<u>Item</u>	<u>Deduc- tive Option</u>	<u>Reduce</u>	<u>Elimi- nate</u>	<u>Remarks</u>
Shelters (Upper)	\$135,000	\$	\$	Include as a deductive alternative
Shelters (Lower)	250,000			
Bridge Median Barrier	150,000			Seeking FAU funds for this item
RT Utility Space		20,000		
Windscreen on Top and Stairways	58,000			
Landscape Planters	21,000			
Lighting Reduction		1,000		
Custom Phones			4,000	
Benches			9,000	
Elevator Enclosures			20,000	
Future Escalator Footings			9,000	
	<u>\$614,000</u>	<u>\$21,000</u>	<u>\$42,000</u>	
	<b>TOTAL</b>			<u><b>\$677,000</b></u>

<u>Budget</u>	Original Budget (4/84)	(\$mil) \$2.440
	Adjusted Budget	2.363
	Construction Contingency (5%)	<u>.122</u>
	Total Budget	\$2.485
<u>Estimate</u>	Current Estimate (9/84)	1.515
	Deductive Options, Reductions and Eliminations	<u>- .677</u>
	Estimated Cost	<u>.838</u>
	Construction Contingency (5%)	<u>+ .042</u>
	Total Estimate	.880
Transfer to General Contingency		\$1.605



CU#7 - Northeast Corridor Stations

<u>Item</u>	<u>Deductive Option</u>	<u>Reduce</u>	<u>Eliminate</u>	<u>Remarks</u>
180 Parking (Reduce <sup>140</sup> 100 spaces at Marconi and 150 spaces at Swanston Stations)	\$	\$265,000	\$	Include as a deductive alternate
Street Improvements	75,000			Seeking City funds for this work
Concrete Bus Apron (Swanston Station)			130,000	
Construction/Traffic Control Signs			40,000	
Shelters	84,000			Future separate contract
Nonfunctional Planting		81,000		
*Landscape along Arden Way			20,000	Place irrigation only (\$13K)
	\$159,000	\$346,000	\$190,000	
		<b>TOTAL</b>		<b>\$695,000</b>

\*Working with North Sacramento groups; recommend we do irrigation and ~~they~~ do the planting.

*others*

		(\$mil)
<u>Budget</u>	Original Budget (4/84)	\$3.500
	Adjusted Budget	3.423
	Construction Contingency (5%)	.175
	Total Budget	<u>\$3.598</u>
<u>Estimate</u>	Current Estimate (9/84)	\$2.552
	Deductive Options, Reductions and Eliminations	.695
	Estimated Cost	<u>1.857</u>
	Construction Contingency (5%)	.093
	Total Estimate	<u>1.950</u>
Transfer to General Contingency		<u>\$1.648</u>



**EXHIBIT 4**

**Comparison of Schumann 7/84 Cost Estimate with January Revised Budget**



# EXHIBIT 4

## COMPARISON OF SCHUMANN 7/84 COST ESTIMATE WITH JANUARY REVISED BUDGET

The following table summarizes the budget estimate which was made by John Schumann in July 1984 in which an \$18 million project deficit was identified and compares it to the Revised January Budget.

TABLE 1

### COMPARISON OF SCHUMANN 7/84 ESTIMATE AND JANUARY REVISED BUDGET (\$ in 000's)

Category	Schumann 7/84	Proposed 1/85	Difference	
			\$	%
Mgmt Eng & Risk Mgmt	20,774	23,608	2,834	13.6
R-O-W & Util. Reloc.	22,772	23,559	787	3.5
URV Procurement	25,410	25,570	160	0.6
Other Procurement	14,363	14,120	(243)	(1.7)
Construction	51,829	54,046	2,217	4.3
No. Sac Grade Sep.	6,707	6,956	249	3.7
RT Start-Up	2,980	3,123	143	4.8
Contingencies	4,197	5,000	803	19.1
	\$149,032	\$155,982	\$ 6,950	4.7%

The differences by major category are explained below:

Management, Engineering & Risk Management. The \$2,834,000 increase in this category is predominately due to an increase in the Caltrans budget and the addition of several large consultant service contracts.

R-O-W and Utility Relocation. The 3.5 percent increase in this category is the net effect of a lower Right of Way estimate and a higher utility relocation estimate by SP Pipeline and SMUD.

LRV Procurement. Basically no change in this category. Proposed budget amount based on actual contract.

Other Procurement. Minor reduction (\$-243,000) due to Catenary System coming in under estimate.

Construction. Increase of \$2,217,000 is the net of October cost reductions and higher current cost estimates.

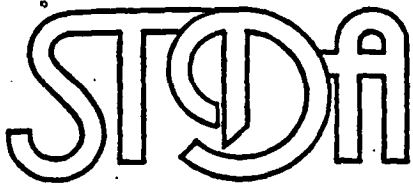
North Sacramento Grade Separations. The \$249,000 increase due to cost estimate refinements. No change in contract baseline.



RT Start-Up. Increase of \$143,000 due to cost estimate refinements and the assumption that project management is transferred to RT in June 1985 instead of at the completion of construction.

Contingencies. Increase of \$803,000 represents amount needed to bring the project contingency up to a reasonable level -- approximately 5% of unexpended budget.





# MEMORANDUM

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1201 I Street, Room 205 • Sacramento 95814 • (916) 445-6519

July 30, 1984 (Rev. 07/31/84)

TO: Members of the Governing Board  
FROM: J. W. Schumann *[Signature]*  
RE: Report on Cost Reviews; Analysis of Project Budget

## ISSUE

What measures should be taken to balance estimated project costs and revenues, including allowances for uncertainties?

## PROPOSED ACTION

Review and evaluate cost reduction and revenue enhancement options discussed below. Set policy for further action:

- o Implement cost reduction options
- o Secure additional funding
- o Some combination of the above

In addition, Executive Office/Project Control staff should be directed to formalize budget risk evaluation in the monthly progress reporting process to improve budget forecasting and the contingency management strategy.

## FISCAL IMPACT

The Sacramento LRT Project continues to be "budget limited". This is not a new circumstance, as the project budget always has been tight.

Recent re-estimates of major construction contract costs, coupled with uncertainties remaining relative to right-of-way acquisition and vehicle procurement, indicate potential final project costs as follows (details in Table 1):

Approved Budget (April 1984).....	\$131.040 mil.
Add: Estimated Construction Increases	10.726 mil.
Add: Other Uncertainties.....	7.266 mil.
Potential Final Costs.....	<u>\$149.032 mil.</u>



### DISCUSSION

As directed by the Governing Board on June 28, 1984, staff reviewed the scope, schedule, budget and design of each contract package remaining to be bid, and reported back via my July 17 memorandum. This memorandum constitutes a further report on these issues.

#### How did we get here?

My July 17 memorandum focused only on the impacts of increases in construction estimates: \$10.726 million.

Other uncertainties also must be considered now to provide a sound basis for further action to balance costs and funding. Essentially, these are:

- o Higher management and engineering costs if the project timetable is lengthened further,
- o Potential R-O-W condemnation suit settlements in excess of estimates,
- o Potential increase in LRV procurement costs depending on outcome of a claim submitted by the car builder, and
- o Higher Construction Contingencies needed to maintain a 5% allowance (a function of the estimates).

These uncertainties potentially add another \$7.226 million to project costs and, together with the increases in construction estimates, lead to the \$149.032 estimate of potential total project costs. This should be considered an outside limit.

#### What can we do now?

The Governing Board and staff should focus their attention on containing the costs of the remaining LRT construction contracts. These include line segments (grading, structures, trackwork, streetwork and malls) and LRT stations (including parking lots). A process of monthly budget evaluation and forecasting and a contingency management strategy will provide the information needed to closely monitor and act to resolve issues relative to the other uncertainties listed above.

Specifically, reductions in the scope of work to be done can be made to bring the construction plans back in line with the LRT Design Principles enunciated in Section 1.1.2 of the



Design Criteria and with the system demand requirements contained in the Final Environmental Impact Statement. Decisions on which scope deferrals are to be implemented are policy issues which will require specific Governing Board action. To the extent deferrals will impact the UMTA grant scope, RT Board action will be needed to amend the grant.

What were the key design principles?

The Design Criteria stated four key design principles which were to form the basis for all project development work:

- o Using available rights-of-way,
- o Limiting the investment in facilities to what is really needed,
- o Employing proven off-the-shelf equipment, and
- o Operating on an efficient, no frills basis.

Because the project always has been budget limited, system designers also were "specifically cautioned to avoid costly features that may be construed as 'gold plating'". It was understood that only by adhering to all the principles would it be possible to build the project with available funding.

Have the Design Principles been followed?

In large measure, yes. Existing rights-of-way are being used virtually throughout the alignment. Procurements have specified proven, off-the-shelf equipment. Only two major new structures are contemplated (LRT overcrossings above UP and SP main lines at 19th & R and Brighton), and these are being designed to limit costs. The LRT operating plan using 15-minute headways and a combination of single and double track is efficient and without frills.

Some problems exist, however, which have driven facility plans (and as a result, cost estimates) beyond the limits imposed by the four design principles. These may be attributed to design embellishments desired or required by STDA and consultant staffs and by representatives of outside public entities and private interest groups:

- o Highway and street improvements required by other agencies "beyond what is really needed",
- o Parking lot capacity greater than initial demand indicated in the FEIS (see Table 2),
- o Station shelters of unique, rather than off-the-shelf design,



- o Station platform dimensions and material in excess of "what is really needed",
- o Landscaping in excess of that contemplated in the original budget development, and
- o Embellishment of the K Street Mall design beyond "what is really needed",
- o Elaboration of O Street from a "transit street" to second full "transit/pedestrian mall",
- o Maintenance building designed more elaborately and with more equipment than originally anticipated.

Why weren't the construction elements designed to budget?

Project staff and consultants worked long and hard with other agency and interest group representatives to develop the designs of facilities. As a result of these efforts, it seemed inevitable that the design embellishments summarized above would have to be added to the project.

Unfortunately, STDA's engineers did not maintain a running estimate of the work. As I noted in my July 17 memorandum, the large jump in LRT construction cost estimates between April and July 1984 could have been better anticipated (and contained) had engineering staff kept a running estimate of project costs. Establishing budget risk evaluation by the Executive Office/Project Control staff as part of the monthly progress reporting process will allow STDA to improve its budget forecasting and contingency management.

What are the options for reducing costs?

Table 3 lists potential cost reduction measures for the remaining LRT construction contracts totalling:

- |                                       |                      |
|---------------------------------------|----------------------|
| o Scope cuts with 18.3-mile line..... | \$ 6.762 mil.        |
| o Shortening Folsom Line to Watt..... | <u>4.591 mil.</u>    |
| Total cost reductions.....            | <u>\$11.353 mil.</u> |

Note that the total of both cost reduction categories is slightly less than the increase in LRT construction cost estimates between April and July.

Should the project scope be reduced?

There is little choice but to make all the scope reductions identified in Table 3, unless additional funding can be found. None of the cost reduction options is pleasant to contemplate. However, almost all are for improvements that could be deferred, then added to the system later as the community desires and funds become available.



At the same time, the Agency must proceed cautiously in addressing the other uncertainties outlined above to limit their impact on total project costs.

Can additional contributions from other sources be justified?

It should be noted several of the potential cost reductions are items added to the project scope at the request (or insistence) of other agencies' representatives. These items are culled and listed in Table 4, which traces the growth of estimated LRT Construction costs from the 04/84 "Approved" estimate to the 07/84 "Potential" estimate:

- o \$1.521 million added for roadwork STDA staff believes is not required,
- o \$1.151 million in extra costs for K and O Street mall design embellishments,
- o \$3.088 million in extra station and parking costs,
- o \$0.560 million for Art in Public Places,
- o \$0.392 million in other identified costs, and
- o \$4.014 million in changes due to general design refinements and re-estimates.

Table 5 indicates amounts by beneficiary agency as a guide to where additional funds might logically be sought:

o FHWA.....	\$0.750 mil.
o Caltrans Hwy Funds.....	1.030 "
o City of Sacramento.....	1.796 "
o County of Sacramento.....	0.265 "
o Regional Transit.....	0.386 "
o SHRA.....	0.965 "
o CADA/Calif Genl Svcs Dept.....	0.440 "
Total.....	<u>\$5.632 "</u>

Note that this sum - \$5.632 million - is not substantially more than the \$4.014 million "gap" between identifiable excess costs of \$6.712 million and the total April-July LRT Construction increase of \$10.726 million. This indicates the inevitability of making all or most of the cost reductions and either finding more revenues or cutting the Folsom Line to Watt Avenue.

Recommendation

It is recommended that staff be directed to take the following actions to balance estimated project expenses with anticipated funding:



Governing Board  
July 30, 1984  
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- o Prepare a detailed list of cost reduction measures (based on Table 3) for Governing Board consideration and adoption during August 1984.
- o Negotiate with agencies named above for supplemental funding to cover the extra costs of design embellishments requested by the same agencies.
- o Work through Regional Transit to issue Grant Anticipation Notes founded on UMTA Grant CA-23-9001.
- o Continue to contribute to statewide litigation to determine transit agency and utility responsibilities for paying the costs of relocations.

It is necessary that the Governing Board act to implement cost reductions to control increases in estimated project costs while seeking increased funds to cover items added to the project scope. The goal must be to achieve a final project cost, balanced with funding, consistent with the current approved budget of \$131.040 million plus whatever other funds may become available.

Attchmnts (5)

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memo 7/30.1/FUNDIN



Table 1

SACRAMENTO LIGHT RAIL TRANSIT PROJECT  
ACTUAL AND POTENTIAL CHANGES IN PROJECT BUDGET  
AND ESTIMATED COSTS

<u>Cost Item</u>	<u>Prl Eng</u> <u>06/83</u> <u>(\$ Mil)</u>	<u>Approvd</u> <u>04/84</u> <u>(\$ Mil)</u>	<u>Potentl</u> <u>07/84</u> <u>(\$ Mil)</u>	<u>Diff 84</u> <u>07 V 04</u> <u>(\$ Mil)</u>
Mgt, Eng & Risk Mgt	14.950	19.724	20.774	1.050
R-O-W Acqstn & Util Rl	17.480	18.142	22.772	4.630
Lt Rail Veh Procurmnt	26.370	24.352	25.410	1.058
Other Procurements	15.530	14.339	14.363	0.024
LRT Construction	39.780	41.103	51.829	10.726
No Sac Grd Separatns	6.670	6.670	6.707	0.037
Contingencies	<u>10.250</u>	<u>3.587</u>	<u>4.197</u>	<u>0.610</u>
STDA Total	131.030	127.917	146.052	18.135
RT Admin & Start-Up	-	<u>3.123</u>	<u>2.980</u>	<u>- 0.143</u>
Total Project Costs	<u>131.030</u>	<u>131.040</u>	<u>149.032</u>	<u>17.992</u>

Notes:

"Potential 07/84" estimated costs are based on:

Smelley, "Risk Analysis", 6/84: Mgt, Eng & Risk Mgt; R-O-W Acqstn & Util Relo (reduced by \$1.5 mil. re SMUD hook-up charges); RT Admin & Start-Up.

Contract Value + portion of submitted claim not covered by Contingencies: Lt Rail Veh Procurement.

Revised Estimates from project engineers: Other Procurements; LRT Construction.

Contract Values: No Sac Grd Separatns (including SP work)

5% of LRV Procurement, LRT Construction & No Sac Grd Separatns: Contingencies

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Table 2

SACRAMENTO LIGHT RAIL TRANSIT PROJECT  
PARKING SPACES PLANNED VS. ESTIMATED DEMAND

<u>Station</u>	<u>No. Planned</u> (a)	<u>FEIS Demand</u> (b)	<u>% Diff</u> (c)
Watt/80	1,100	(d)	N/A
Watt/80 West	600	(d)	N/A
Subtotal, Two Stops	1,700	1,960	-13%
Roseville Road	500	280	79%
Subtotal, I-80 Median	2,200	2,240	- 2%
Marconi/Arcade	500	200	150%
Swanston	500	240	108%
Subtotal, Northeast Ln	3,200	2,680	19%
Butterfield Way	800	650	23%
Watt/Manlove	500	220	127%
Power Inn Road	500	240	108%
Subtotal, Folsom Line	1,800	1,110	62%
Total System	5,000	3,790	32%

a - FEIS, Exhibit 2-2; b - FEIS, page 2-33;  
c - Planned vs. demand; d - Not estimated separately.

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ST. SACRAMENTO LIGHT RAIL PROJECT  
COST REDUCTION MEASURES BY CONTRACT UNIT

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ITEM	REDUCTION	BUDGET	REMARKS
CU#2-NE Corridor Construction		\$3.965	
Landscaping	\$0.025	-0.025	Defer Arden Way fence & planting
Adjusted Budget		<u>\$3.940</u>	
CU#2A-I80 Median		\$5.269	
Accel. Ln., Bus. 80-Madison	\$0.750		Defer Until Hwy. Funds Available Hwy
Trees & Planting, 3 Stations	0.480		Defer Due Planting Difficulty
Roseville Road Parking	0.950		Limit Parking to Existing Concrete
Roseville Road Landscaping	0.080		Defer Until Station Completion Funds Avail City/Cnty
Grand Ave Connector	0.500		Defer roadway & bridgework
Shelter Dsgn. Change	0.036		Use Std. Bus Shlters @ \$7k Vs \$25k; Two Pltfrms
Sum: Cost Reduction Options		-2.796	
Adjusted Budget		<u>\$2.473</u>	
CU#3-Maintenance Building		\$4.193	Low Bid
4th Track-Body Work & Paint	\$0.366	-0.366	Deduct Per Low Bid
Adjusted Budget (a)		<u>\$3.827</u>	
CU#4A-Central City Constr.		\$9.515	
O St. Mall	\$0.210		Pavers (0.155), Benches (0.030), Planters (0.011),
K St. Mall	0.410		Plants (0.004) & Phone Booths (0.010) - Net (b) GSD-State
Globe	0.100		Pavers (0.160), Benches (0.175), Planters (0.040)
Lower 12th Landscaping	0.029		Plants (0.020) & Phone Booths (0.015) - Net (b) City/SDA
Shelter	0.125		Defer lightly used stop
No. 12th Track	0.011		Defer Tree wells - G to L
Northgate On-Ramp	0.080		Defer All Shlters in CU#4A (Globe - 15/16)
Del Paso Blvd. Barrier	0.075		Open Track Constr Instead Paved
Sproule St. Water Line	0.015		Defer Reconstruction Hwy
K & O St. Drains	0.531		Reduce Constr Barrier Allwnc - Not All Needed City
Sum: Cost Reduction Options		-1.586	
Adjusted Budget		<u>\$7.929</u>	

Table 3

a - Per Bid: \$4.193 - \$0.366 = \$3.827; b - Aggregate Paving in Lieu Interlocking Pavers; Delete All Benches, Planters & Phone Booths.



ST SACRAMENTO LIGHT RAIL PROJECT  
COST REDUCTION MEASURES BY CONTRACT UNIT

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ITEM	REDUCTION	BUDGET	REMARKS
CU#5-Folsom Corridor Construction		\$9.987	
Cut Folsom Line to Watt	\$2.000	-2.000	
Adjusted Budget, Watt Only		<u>\$7.987</u>	
CU#6-Watt/80 Terminal		\$0.885	
Middle Shelter	\$0.050		Defer
Shelter Design Change	0.072		Use Two Std. Bus Shltrs @ \$14k Vs \$50k; Two
Modify Upstairs Roofs	0.040		East Side Watt (Lighter Use)
Lower Level Dsgn. Changes	<u>0.020</u>		Utility Rms, Planters & Islands RT
Sum: Cost Reduction Options		-0.182	
Adjusted Budget		<u>\$0.703</u>	
CU#7-NE Stations		\$2.290	
Sht CS/1 & Constr Tfc Control (c)	\$0.041		JER(CS/1 = Constr Signs @ \$0.011 + Tfc Control
			System @ \$0.30)
Sht TCS/1: POC on Bus Pltfm	0.130		JER
Shelter Design Change	0.072		Use Std Bus Shltrs @ 7k Vs \$25k; 4 Pltfms
Parking Spaces	0.289		Reduce by 104 @ Marconi & 169 @ Swanston
			@ \$1,060 each
Paving-Kathleen & Lexington	0.075		Defer Until City Funds Available City
Parking Spaces	<u>0.050</u>		Reduce Marconi by 64 More Less Drainage
			= \$67,840 - \$17,840(±)
Sum: Cost Reduction Options		-0.657	
Adjusted Budget		<u>\$1.633</u>	

c - Eliminate Except During Actual Paving Operations.



SACRAMENTO LIGHT RAIL PROJECT  
COST REDUCTION MEASURES BY CONTRACT UNIT

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ITEM	REDUCTION	BUDGET	REMARKS
CU#7A-Folsom Stations		\$4.143	
Parking Spaces	\$0.424		Reduce by 250 @ Pwr. Inn & 150 @ Watt @ \$1,060 ea.
Shelter Design Change	0.216		Use Std. Bus Shltrs. @ \$7k V. \$25k; 12 Locations (±)
Starfire & Tiber	0.265		Defer lightly used stops
Sum: Cost Reduction Options		-0.905	
Adjusted Budget		\$3.238	Line to Butterfield
Cut Folsom Line to Watt	1.788	-1.778	Restore 150 Spaces at Watt; Defer BF Way
Adjusted Budget, Watt Only		\$1.460	Line to Watt
CU#7D-Art Program		\$0.560	
Defer Artworks	\$0.225		Defer 11/K plaza art (\$125k), 9-10/K (\$50k), 9-10/O (\$50k)
Defer Banners	0.020		Defer all suburban station banners; leave K & O St banners in
Sum: Cost Reduction Options		-0.245	
Adjusted Budget		\$0.315	
CU#9-Electrification Installatn		\$2.194	
Cut Folsom Line to Watt	\$0.223	-0.223	Based on Route Miles (1.86/18.3)
Adjusted Budget, Watt Only		\$1.971	
CU#10-LRT Signals		\$5.800	
Cut Folsom Line to Watt	\$0.590	-0.590	Based on Route Miles (1.86/18.3)
Adjusted Budget, Watt Only		\$5.210	
CU#11-Tfc. Signals	\$2.390	-	
Adjusted Budget, Watt Only		\$2.390	

Summary of Reduction Options:

o Scope Cuts, 18.3-Mile Line.....	\$ 6.762
o Cut Folsom Line to Watt/Manlove.....	4.591
Total Reduction Options.....	<u>\$11.353</u>

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cost reduc meas/IBM784



Table 4

LRT CONSTRUCTION COSTS  
DESIGN CHANGES UNDERLYING INCREASES IN ESTIMATES

<u>Item</u>	<u>Itm Incrs</u> <u>(\$ Mil)</u>	<u>Total Est</u> <u>(\$ Mil)</u>
Approved 04/84 Budget.....		41.103
Net Impacts of Design Embellishments Listed in Table 3:		
Acceleration Lane, I-80 to Madison Ave.	0.750	
Northgate On-Ramp Reconstruction.....	0.080	
Grand Ave Connector.....	0.500	
Excess Station Access Street Repaving..	0.075	
Excess Construction Barriers.....	0.116	
Subtotal - Roadwork.....		1.521
K St Pavers, Planters, Benches, Phones.	0.410	
O St Pavers, Planters, Benches, Phones.	0.210	
K & O St Trench Drains(a).....	0.531	
Subtotal - Malls.....		1.151
Station Parking in Excess of FEIS.....	0.763	
I-80 Median Design(b).....	0.950	
Station Landscaping Policy.....	0.614	
Non-standard Waiting Shelters.....	0.396	
Shelters at Central City Stops.....	0.125	
Other Station Design Elaborations.....	0.240	
Subtotal - Stations & Parking.....		3.088
Fourth Track in Shop.....	0.366	
North 12th Street Track Paving.....	0.011	
Sproule St Water Line Betterment.....	0.015	
Subtotal - Other Items.....		0.392
Art in Public Places Program.....		0.560
Other Misc. Design Changes & Re-estimates		4.014
Potential 07/84 Estimate.....		51.829

a - Instead of area drains; b - Roseville Road parking costs as surrogate for general over-design of I-80 median (CU#2A).

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Table 5

SACRAMENTO LRT PROJECT  
POTENTIAL FUNDING SOURCES FOR SELECTED COST REDUCTION ITEMS

(Defer Items If Alternate Funds Not Provided)

<u>Item</u>	<u>Amounts</u> <u>(\$ Mil)</u>
Federal Highway Administration (FHWA):	
Acceleration Lane, I-80 to Madison Ave.....	0.750
Caltrans Highway Funds:	
Northgate On-Ramp Reconstruction.....	0.080
I-80 Median Design (a).....	0.950
Total Caltrans.....	<u>1.030</u>
City of Sacramento:	
Excess Station Access Street Repaving.....	0.075
Sproule St Water Line Betterment.....	0.015
Grand Ave Connector.....	0.500
Globe Station.....	0.100
Station Landscaping Policy (b).....	0.585
Non-standard Waiting Shelters (c).....	0.396
Shelters at Central City Stops (c).....	0.125
Total City of Sacramento.....	<u>1.796</u>
Sacramento Housing & Redevelopment Agency:	
K Street Mall Pavers, etc.....	0.410
K Street Trench Drains.....	0.351
K St Art (11th & K; 9-10th on K).....	0.175
12th St Landscaping.....	0.029
Total SHRA.....	<u>0.965</u>
Capital Area Redevelopment Authority &/or California	
General Services Department:	
O Street Mall Pavers, etc.....	0.210
O Street Trench Drains.....	0.180
O St Art (9-10th on O).....	0.050
Total CADA/GSD.....	<u>0.440</u>
County of Sacramento:	
Starfire & Tiber Stations.....	0.265
Total County.....	<u>0.265</u>
Regional Transit:	
4th Track in Shop.....	0.366
Banners (suburban stations) (c).....	0.020
Total RT.....	<u>0.386</u>
Total Potential Alternate Funding.....	<u>5.632</u>

a - Incremental cost due to over-design by Caltrans for STDA;  
b - Re shading and groundcover requirements; c - Re Dsgn Rvw &  
Preservation Bd non-binding mandate; c - K & O St banners to  
stay in project.

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**EXHIBIT 5**

**Description of Funding Sources**







SACRAMENTO TRANSIT DEVELOPMENT AGENCY  
BUDGETED FUNDING SOURCES  
JANUARY 16, 1985  
(000's omitted)

Established Funding

<u>STDA No.</u>	<u>Grantor No.</u>	<u>Source</u>	<u>Purpose</u>	<u>Amount</u>
FF01	CA-29-9002	UMTA	Define scope, resolution of planning issues and preliminary engineering	\$ 500
FF02	CA-29-9004	UMTA	Preliminary engineering/preparation of final environmental impact statement	1.960
FF03	CA-29-9005	UMTA	Final engineering	5.500
FF04	CA-90-0010	UMTA	Final engineering/construction management and inspection of NE light rail project	2.409
FF05	CA-23-9001	UMTA	Construction/purchase of equipment/project management	88.144
<b>Total Federal Funding</b>				<u>98.513</u>
SF-01	FMT-81-8	XIX Guideway Funds	Determine alternatives for I-80 Bypass	162
	FMT-81-3	XIX Guideway Funds	I-80 Bypass	100
SF-02	FMT-82-7	XIX Guideway Funds	Preliminary engineering NE Corridor	1.000
SF-02	MT-82-5	Trans Planning & Development	Preliminary engineering NE Corridor	400
SF-03	PUC '82	CPUC Grade Separation Account	Arden & Marconi overcrossings	4.200
SF-04	FMT-82-20	XIX Guideway Funds	Right of way purchase	1.000
SF-05	FMT-83-1	XIX Guideway Funds	Final engineering, ROW & construction material NE Corridor	4.300
SF-06	PUC '83	CPUC Grade Separation Account	Arden & Marconi overcrossings	2.400
SF-07	FMT-84-1	XIX Guideway Funds	Purchase vehicles	2.800
SF-07	MT-84-4	Trans Planning & Development	Final engineering, ROW & construction material NE Corridor	4.200

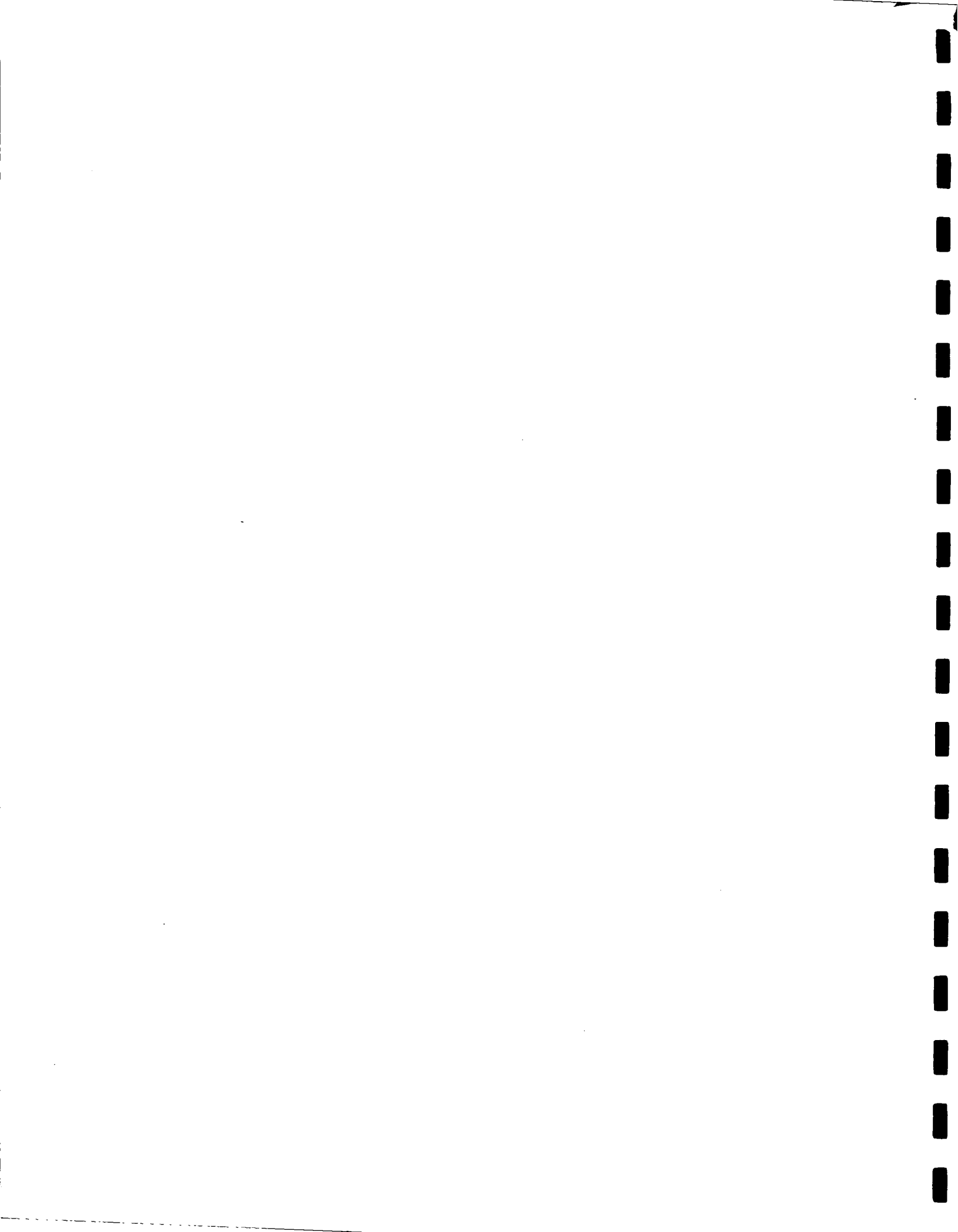


<u>STDA No.</u>	<u>Grantor No.</u>	<u>Source</u>	<u>Purpose</u>	<u>Amount</u>
SF-08	FMT-85-1	XIX Guideway Funds	Construction (match for Federal and Local \$)	\$ 5,500
Total State Funding				<u>28,062</u>
		Regional Transit	Design/construction	2,520
		City	Design/construction	2,104
		County	Design/construction	1,180
		SHRA	12th St. Capital Improvement	290
Total Local Funding				<u>6,074</u>
		So. Pacific Transportation Co.	5% of costs of El Camino/ Arden Way and Marconi overcrossings	600
		Lumberjack	Sale of excess property	270
		Culligan	Cost of retaining wall	90
		Tom Harris Properties	23rd & R Street Station	6
		Rental Income	Design/construction	12
		Interest Income	Design/construction	174
		Miscellaneous	Design/construction	27
Total Private & Other Sources				<u>1,179</u>
Total Established Funding				<u>131,828</u>
<u>Anticipated Funding</u>				
		Federal Aid Interstate	Watt Avenue Station	600
		Federal Aid Urban	Various crossings & traffic signals	1,033
		State Railroad Crossing Protection Fund	Various crossings	300
		City of Sacramento	12th St. drainage pumping / Spruce St. alignment	46
		Sacramento Bee	Agreement pending	350
		County/private	Starfire & Timber stations	265



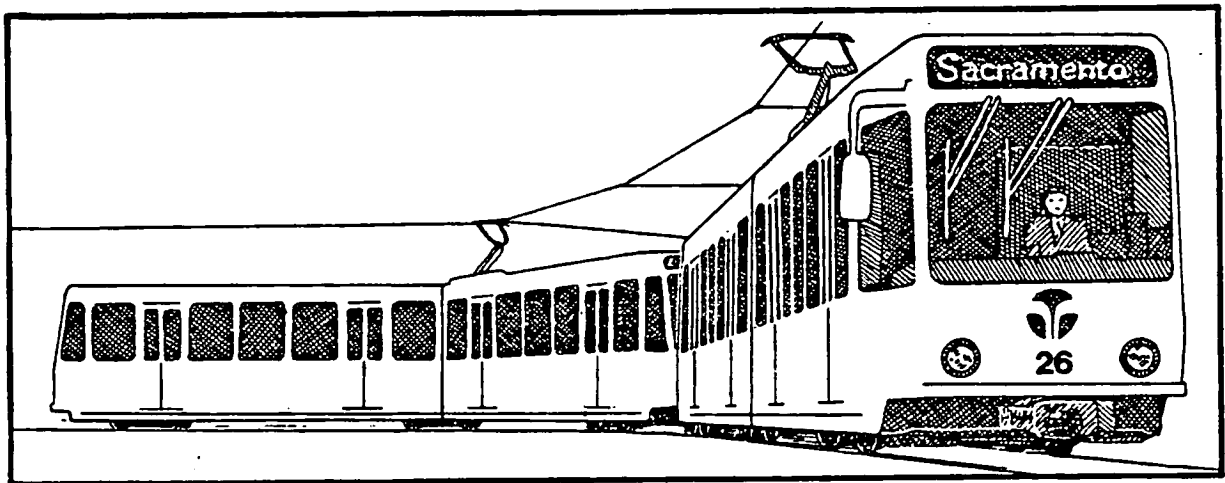
<u>STDA No.</u>	<u>Grantor No.</u>	<u>Source</u>	<u>Purpose</u>	<u>Amount</u>
		Long Term Debt Financing	Design/construction	\$ 20,460
		Safe Harbor Leasing	Design/construction	900
Total Anticipated Funding				<u>24,154</u>
Total Project Financing				<u>\$155,982</u> -----







**SACRAMENTO  
TRANSIT DEVELOPMENT  
AGENCY**



**PROGRESS STATEMENT  
REPORT No. 2**



**SACRAMENTO  
TRANSIT DEVELOPMENT  
AGENCY**

**PROGRESS STATEMENT REPORT No. 2**

**December 12, 1984**



December 12, 1984

Sacramento Transit Development Agency  
Board of Supervisors of the County of  
Sacramento  
City Council of the City of Sacramento  
Board of Directors of the Sacramento  
Regional Transit District  
Honorable Members in Session:

SUBJECT: Progress Statement - Report No. 2

SUMMARY

Transmitted herein is the Agency's Progress Statement (Report No. 2) on Sacramento's Light Rail Project. This report provides the Sacramento Transit Development Agency, the Board of Supervisors, the City Council, and the Regional Transit Board of Directors with an update on the status of the implementation of our Preliminary Assessment (Report No. 1) and a preview of our final report.

After the Preliminary Assessment was adopted by the Sacramento Transit Development Agency (STDA) Board of Directors on November 14, 1984, more specific analysis was undertaken in several areas.

In general, these areas were:

- (a) Legal Authority, Organization, and Management
- (b) Budgeting, Accounting, and Auditing
- (c) Project Financing
- (d) Project Master Schedule
- (e) Project Scope and Design Criteria
- (f) Start-up and Operations Plan
- (g) Future Extensions

At this point, we have completed an initial review and analysis of the alternative organizational and management structures necessary to complete the project in a timely fashion and begin the transition to operations. A more detailed "Transfer Plan" is under development by the Regional Transit District (RT), and will be included in our Final Assessment (Report No. 3)

In addition, we have completed our review and analysis of the budgeting and accounting systems and are recommending that the current budget of the agency be readopted, and that the recommended systems be put in place to control the budget. We are confident that this will provide a solid base from which our budget can be monitored and our forecast can be made. The forecast will be included in our Final Assessment of the project.



The analysis regarding alternative project financing is being completed now and a report and recommendation will also be included in our Final Assessment.

The revised Project Master Schedule has been completed and has been included with this report. A design audit and technical assistance project has been implemented to perform a variety of tasks related to the review and analysis of the project scope and design criteria. Appropriate portions of this work will be ready for our Final Assessment, while others will be completed by the spring of 1985.

The Sacramento Regional Transit District is currently reviewing its Start-up and Operations Plan. This updated analysis will be included in our Final Assessment.

Finally, the Sacramento Council of Governments is pursuing the "Sacramento LRT Extension Study" in accordance with their Work Plan. A brief status report of the study has been included as a reference document. At this point, we are participating as members of the Policy and Technical committees.

Since the justification for the above-mentioned conclusions and/or recommendations have been included in the report, there is no need to detail them again here.

#### RECOMMENDATION

The staff recommends that the Sacramento Transit Development Agency approve the Progress Statement (Report No. 2) and authorize the Interim Executive Director to implement the specific recommendations included in the report.

Respectfully submitted,

*William H. Edgar*

WILLIAM H. EDGAR  
Interim Executive Director

WHE:rg



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## **CONCLUSIONS AND RECOMMENDATIONS**



## I. CONCLUSIONS AND RECOMMENDATIONS

The following are the conclusions and recommendations of this report:

### Conclusions

It is concluded that:

1. The current legal, organizational, and management structure of the Sacramento Transit Development Agency designed around a turnkey concept is not efficient or effective and must be changed.
2. The proposed transitional organization must firmly affix implementational responsibilities and provide for a smooth transition to operations.
3. The least amount of disruptive change to the current structure will be the most advantageous to the expeditious completion of the light rail capital project and its start up.
4. Other issues and priorities related to public transit, such as integrating transit and land use planning, must be subordinated to the current priority of completing the light rail starter line.
5. The current baseline budget should be readopted to reflect necessary minor adjustments and to serve as a basis for preparation of the forecast next month.
6. The current Master Project Schedule is outdated and needs revision.

### Recommendations

It is recommended that:

1. The Sacramento Transit Development Agency be gradually phased out and that the Regional Transit District be phased in as the responsible agency for completing and operating the light rail system.
2. The transition period for the above-mentioned transfer of responsibility be three (3) to six (6) months.
3. The Regional Transit District be requested to prepare and coordinate a "Transfer Plan" for inclusion in our Final Assessment.
4. The current baseline budget, transmitted under separate cover, be readopted by STDA to reflect minor changes and to provide a basis for the forecast next month.
5. The revised Project Master Schedule, included in this report, be adopted.



**BACKGROUND**



## II. BACKGROUND

### A. Preliminary Assessment

On November 14, 1984, the STDA Board of Directors approved our Preliminary Assessment (Report No. 1). The approval of that report authorized the Interim Executive Director to:

1. Review alternative legal, organizational, and administrative structures to properly manage the capital project to completion as well as transition the project to an effective operating agency.
2. Take the following steps to improve staff functions:
  - a. Utilize the general contingency as a source of budget transfers to and from contract units.
  - b. Formalize and coordinate the budgeting and accounting responsibilities within the Controller's Office and require that the processing of all financial transactions be the responsibility of that office.
  - c. Formalize and coordinate the overall activity of grants management for the entire project similar to the process now being used by Regional Transit for their grants.
  - d. Assign a full-time accountant to the project for the purpose of implementing the above recommendations.
  - e. Schedule and conduct an overall grant compliance audit.
3. Take the following steps to improve the management and control of the project:
  - a. Increase project management staffing capacity in the areas of contract administration, quality assurance, configuration and interface management.
  - b. Document, in a detailed way, all the changes to the original scope and design of the project. Then compare these changes to the original funding documents and FEIS. Finalize a report reflecting the design, budget and schedule evaluation of the project to serve as a base for an ongoing change control program.
4. Update the Start-up and Operations Plan to reflect



the above-mentioned changes to the scope and design of the capital project.

The purpose of this Progress Statement (Report No. 2) is to provide a status report of the implementation of our specific recommendations relating to the three (3) objectives of the interim administrative procedure. In addition, we have attempted to refine certain findings and make additional recommendations in specific activity areas of the project.

B. Specific Areas of Concern

The Preliminary Assessment stated that more specific analysis and recommendations were required in the following areas:

1. Legal Authority, Organization, and Management
2. Budgeting, Accounting, and Auditing
3. Project Financing
4. Project Master Schedule
5. Project Scope and Design Criteria
6. Start-up and Operations Plan
7. Future Extensions

These areas have been addressed in detail in this report, and the conclusions and recommendations are included as part of the study.



## **IMPLEMENTATION AND FINDINGS**



### III. IMPLEMENTATION AND FINDINGS

#### A. Further Actions to Date

As you recall, Objective No. 1 of the interim administration has been "to keep the activities of the agency operating on an ongoing basis as efficiently and effectively as possible."

Since the adoption of the Preliminary Assessment, there have been numerous policies, procedures, and practices which have been initiated and/or modified to carry out this objective. The following is a summary of the most important ones:

##### 1. Project Policy for Use of Grant Funds

A Board policy regarding the priority for the use of funds was adopted on November 21, 1984. This policy is now being used to guide the staff in the design and packaging of bidding documents. In addition, the adoption of the policy has resolved the Board's position regarding the priority use of project funds which, in turn, has put other agencies and the community at large on notice of the public policy in this area. This policy has been attached as Exhibit No. 1 of this report.

##### 2. Bid Protest Policy and Procedures

After numerous revisions and negotiations, a bid protest policy and procedure was adopted on November 28, 1984. This policy, as part of the Agency's contract administration, provides procedures for the formal protest of certain staff decisions regarding specifications, contract awards, and bids by third-party contractors in response to an invitation to bid. This policy has been attached as Exhibit No. 2 of this report.

##### 3. Cost Reduction Efforts

As with the first month of the of the interim administration, cost reduction efforts continued and were a major priority of the management team.

For example, on October 31, 1984, the Board approved a staff recommendation related to the cost reduction efforts of the Light Rail Art Program. In summary, the recommendation set forth a policy and procedure for implementing the Art Program gradually as funds become available.

In addition, on November 7, 1984, the Board approved a staff recommendation to reject all bids for



Contract Unit No. 4D (Off Street Parking Lots) because the low bid was 18.7% over the engineer's estimate. After much discussion, it was decided to combine this work with the larger construction contract which will, hopefully, result in better bids.

Finally, on November 14, 1984, the Board approved an agreement with the Florin Fire Protection District for the purpose of burning two (2) substandard surplus structures as a fire suppression training exercise rather than spending \$3,500 for demolition.

These, of course, are only a few examples of the ongoing effort to reduce costs while remaining within the current scope of the project. These efforts will be continued.

#### 4. Technical Briefings

As mentioned in the Preliminary Assessment, technical briefings were initiated with the Board on a weekly basis.

Since that time the following technical briefings have been presented to the Board:

<u>Subject</u>	<u>Date</u>
o Engineering Design Status	10/31/84
o Vehicle Status	11/14/84
o Traffic Signals	11/21/84
o Maintenance Facility	11/21/84
o Signals and Communications	11/28/84
o Traction Power System	12/05/84

These briefings have helped considerably to increase the involvement of the Board in the project while bringing them up-to-date on the status of changes to the initial design criteria. It is our opinion that this greater involvement will ultimately improve the daily operation of the Agency.

#### 5. Security Services

Resulting from a recommendation from the Police Department, the Interim Executive Director retained security services for the track materials storage yard for a period of twelve (12) weeks at a total cost not to exceed \$10,000.

During this period, the STDA Board authorized the staff to formally solicit bids for security services after the initial twelve (12) week period.



## 6. Consultant Services

Additional consulting services were retained in three (3) specific areas by the staff and Board of Directors to increase project management capacity with transit expertise in critical project areas.

The staff retained the services of Paine Webber, Inc., for financing consultant services. These services will involve direct assistance to the staff financing committee to assess all possible financing alternatives which are potentially available to the Sacramento Light Rail Project. The cost of this contract will not exceed \$10,000.

In addition, the staff has executed a small contract with the former city public works director to assist in pursuing local funds for the project, as well as to serve as a liaison to the City and County governments in those areas where joint participation and cooperation is required for the efficient and effective implementation of the project. The cost of this contract will not exceed \$10,000.

Finally, the Board approved the retention of a joint venture of Parsons, Brinckerhoff, Quade, and Douglas (PBQ&D) and Daniel, Mann, Johnson, and Mendenhall (DMJM) and Associates to review and update the project's baseline documents as well as to provide other technical staff support.

The schedule for the work has required that the analysis and recommendations be submitted prior to the end of the year. Therefore, the selections of these consultants were on a sole source basis. As a result, the effort must be funded from non-federal match funds.

## B. Further Analysis and Findings

Objective No. 2 of the interim administration has been "to conduct a thorough and complete analysis and evaluation of the Sacramento Light Rail Project."

Since the adoption of the Preliminary Assessment, the management team has narrowed the focus of the analysis to several key areas. These areas and the related findings and conclusions are summarized below:

1. Legal Authority, Organization, and Management  
Further research into the legal authority, organization, and management of the Agency has been completed by the legal staff. The research analyzes the following three (3) alternative structures that



were listed in the Preliminary Assessment:

- a. Status Quo - This alternative would not change the Joint Powers Agency, and would require that the project be completed and turned over to the Regional Transit District as a "turnkey" project.
- b. Assumption of the Project by an Existing Jurisdiction - This alternative would require that one (1) of the parent jurisdictions assume the responsibility for the project now and insure its completion. The obvious choice under this alternative would be the Regional Transit District, but it is theoretically possible for one of the other jurisdictions to also assume this responsibility.
- c. New Structure - This alternative would envision a new legal and organizational structure that would attempt to resolve the problems related to political and administrative accountability.

The research also identifies the specific legal authority for each of the above-mentioned alternatives as well as the advantages and disadvantages of each. In addition, examples of each alternative structure are mentioned as well as the legal authority supporting the recommendations.

A copy of the Agency Counsel's report regarding this matter is attached as Exhibit No. 3 of this report.

As mentioned in our Preliminary Assessment, the current legal, organizational, and management structure is such that everyone is involved in the project but no one is accountable or responsible. This is an obviously intolerable situation and must be changed in order that the project is able to be completed efficiently and effectively with a smooth transition to start up and operations.

Another factor which must be considered is the disruption that would inevitably arise if radical changes were to occur in the structure and organization. It seems to us that the least amount of disruption to the structure and organization, and the fewer number of volatile issues that are raised at this time, the greater the chance of success in completing the project quickly.

In addition to the issue of completing the project quickly and efficiently, there is the issue of elevating the issue of transit planning to a higher policy level in our community. This is obviously a



legitimate and important issue to be debated by the policy makers and may require a new structure and organization to accommodate the desires of the elected officials. However, it is our opinion that this issue is subordinate to the main priority of completing the starter project. It seems to us that the policy makers need to concentrate on establishing an organization to implement our first priority and defer the other issues until later when the project is under control.

Reviewing these issues, as well as the intolerable situation that now exists, it seems to us that the most effective and most logical approach to completing the project quickly and efficiently is to begin the transfer of the project to the future operating agency now which is the Sacramento Regional Transit District.

In addition, in order to satisfy the concerns of all the policy makers that this recommendation is well thought out and detailed, we suggest that the Regional Transit District be requested to prepare a "Transfer Plan" which will be included in our Final Assessment and be considered with the Financing Plan for the project, as well as all of the final recommendations next month.

## 2. Budgeting, Accounting and Auditing

### a. Budgeting

During the month of November, the STDA Controller devoted significant staff resources to the light rail project.

A senior management analyst spent the month working with project engineers and accountants to develop a comprehensive project budget by contract unit. The budget document, which is transmitted under separate cover, includes expenditure detail, funding source detail, and budget control principles. The STDA Governing Board will be asked to adopt a resolution on December 19 which approves the project detail budget of \$131.233 million. This action effectively reaffirms previous Board budget actions in a formalized budget document. This document is the baseline from which the December cost projections will be made. Also, during December, budget staff will be allocating funding sources to each specific contract unit. These funding source allocations, plus the December cost projections, will be incorporated into a



revised budget document which will be presented to the Board in early January.

b. Accounting/Billing

Acting as a financial management coordinator, the STDA Controller is utilizing the resources of O.E. West, as well as City Accounting, Revenue and Treasury staff. November project activities included the following:

- o Served as Project Fiscal Agent paying invoices, billing grantor agencies and maintaining project ledgers.
- o Coordinated financing alternatives committee efforts which finally resulted in the hiring of Paine Webber as financial consultant to the project.
- o Performed fiscal analysis and reconciliation of records between Project Control, City Accounting records, and Regional Transit. This will be an ongoing endeavor.
- o Performed financial analysis of individual project funding sources and established internal record keeping system necessary to assure that all costs incurred are billed to the appropriate grantor agencies.
- o Researched and obtained proper supporting documentation for all right-of-way acquisitions actually acquired to date.
- o Met with Caltrans accounting personnel to facilitate payment of Caltrans invoices and drawdown of CTC grants.
- o Began a formal review of the existing account code structure with the objective of implementing improvements in January.
- o Performed numerous administrative tasks at the request of the Executive Director (i.e., obtained security services for material storage yard, developed policy on "Use of Funds," etc.).
- o Assigned an accountant to the project on a full-time basis as recommended in the November Preliminary Assessment Report No. 1.

This area of project support and control will



continue to be reviewed and upgraded as we proceed with the implementation of the recommendations contained in the Preliminary Assessment.

c. Auditing

During the time since the STDA Board adopted the Preliminary Assessment, the following tasks relating to the general area of auditing were or are now being accomplished:

- o Regional Transit's external auditors completed their compliance review of the UMTA grants in November. STDA, as well as RT staff, are currently reviewing the auditors' draft findings. This report will be transmitted to the Board shortly.
- o Price Waterhouse, as part of the City's normal audit contract, is also auditing the books of STDA. The financial statement audit from inception to June 30, 1983, is nearing completion and will be transmitted to the Board in early 1985. The audit report for fiscal 1983-84 will follow shortly thereafter, as this audit is also currently in process.

3. Project Financing

As indicated above, the Interim Executive Director has obtained the consulting services of Paine Webber. This firm is drafting a "Financing Alternatives" report which will be received in mid-December. Assuming the December cost projections reaffirm a project funding shortfall, the Paine Webber report will be utilized in developing recommendations for Board action in January.

4. Project Master Schedule

The Project Master Schedule presented to the Governing Board in April 1984 planned for full revenue service in the Northeast Corridor and Central City in April 1986, followed by full service in the Folsom Corridor in September 1986, at the earliest. The revised Project Master Schedule now projects a six months' slippage in initial full service operation in the Northeast Corridor and Central City areas, to October 1986, and in the Folsom Corridor to January 1987, at the earliest. The revised schedule takes into account progress made to date and future projections as known at this time.



Some of the assumptions made and points recognized include:

- o Cost reduction efforts and resulting repackaging has prolonged architectural and engineering design and the design review process.
- o Drawings and specs are 99% complete and ready to print at the design review stage.
- o SMUD will be allowed to work the 'K' Street Mall during the holiday period. Our contractors will shut down during this period.
- o Right-of-Way will be available approximately one month before going to the Board for approval to advertise.
- o All remaining contract durations will be specified in calendar days.
- o Non-working days have been allowed for bad weather on contracts already underway which were specified in working days.
- o The contractor on Contract Unit #4A, Central City Line, will have trackway completed to 12th and 'K' streets by October 1985.
- o A three-month period has been allowed for "System Check-Out and Start-Up" prior to start of revenue service for each segment.
- o Vehicle Schedule is based on the contractors' schedule dated October 15, 1984, which is unapproved at this time.
- o The wheel truing machine will not be available by the time the first vehicles arrive. Other arrangements to maintain wheel profiles during the initial three or four months of vehicle acceptance testing will have to be made.
- o The critical path of the project now runs through Contract Units #2, Northeast Corridor Line, #3, Maintenance Building, #4A, Central City Line, #9, Electrification, and completion of #10, LRT Signaling. Any slippage in these contracts will result in a delay in revenue service unless remaining work is shortened or overlapped.
- o The uncertainties relating to the Folsom Corridor at the time the April 1984 Project Master Schedule was produced still remain. The design and



construction schedule for the Folsom line remains essentially unchanged and therefore all dependencies and constraints are near-critical for that segment.

Appended hereto as Exhibit No. 4 is a graphic presentation of the new Project Master Schedule dated November 30, 1984. Evident in the schedule is a concurrent construction effort in 1985 continuing into 1986, followed by check out, testing and start-up of the system in the latter half of 1986.

5. Project Scope and Design Criteria

As highlighted in the Preliminary Assessment Report, the design that has evolved over the two years since the establishment of the preliminary "design criteria" and scope is different from the baseline upon which the schedule and budget were based for grant commitments. The evolution of the project baseline as the project progresses through the preliminary design, final design and construction and procurement phases is a normal part of project development.

These changes are usually controlled through the interface and configuration management elements of the management and Control Plan. The management controls normally assume that changes resulting from the design development process are compatible with the design philosophy, budget and schedule. The controls also assume the changes are properly coordinated, formally incorporated in the baseline documents and their impact documented through the change control process.

Budget constraints have resulted in the application of insufficient project management resources with transit experience to adequately control and document changes during project development. As a consequence, we are faced with a rather massive effort in determining where we are from a scope, budget and schedule standpoint and the pressing need to document the changes from the original baseline.

The scope of the effort includes the review and update of the project baseline documents ("design criteria"), project management and administration, peer review preparation, value engineering and review of the system operability, maintainability and reliability. The scope of the effort, the schedule for the effort and a list of deliverables is attached as Exhibit No. 5. A summary of the effort is as follows:



- o Update Project Design Criteria.....12/28/84
- o Update Project Scope.....12/28/84
- o Update Project Estimates and Budgets.....01/04/85
- o Review Final FEIS.....04/04/85
- o Review Contract Administration  
Procedures.....01/04/85
- o Review and Finalize Quality Assurance  
Plan and Program.....12/28/84
- o Review and Finalize the Configuration  
Management Plan.....01/04/85
- o Review and Finalize the Construction  
Management Manual.....12/28/84
- o Conduct Peer Reviews on:
  - Start-Up and Operations.....01/25/85
  - Safety and System Assurance.....02/08/85
  - Management and Control.....02/22/85
- o Complete Value Engineering.....01/08/85
- o Complete Operations, Maintenance and  
Reliability Evaluation.....02/01/85

Under the interim management structure, the staff is taxed to the limit in keeping the project moving forward while accomplishing this effort. As a consequence, the Board at their 12/5/84 meeting, based on the staff's recommendation, authorized the execution of a contract with Parsons, Brinckerhoff, Quade, and Douglas (PBQ&D) and Daniel, Mann, Johnson and Mendenhall (DMJM) and Associates to provide the staff support while accomplishing the design audit and technical update.

The initial meeting for this effort was held on December 6, 1984. At the meeting a staff member(s) and consultant(s) were assigned to each of the task elements, the scope and product expected discussed and a delivery schedule established. The CTC and UMTA representatives have been included on the task force to review the progress of the study.

The product of the effort will be an updated set of baseline documents--ironclad documentations of the changes from the original baseline and an accurate and reliable projection of the schedule and cost required to complete the project. The product of this effort will be used to gain/continue the support of the CTC and UMTA, serve as the basis for our financing strategy and as an instrument to continue/restore the public's confidence and commitment to the project.

In addition, the format and schedule for presenting technical briefings to the Board on the status of the major system components have been established and initiated. These have been referred to earlier. The



following technical briefings are scheduled through February 1985.

Direct Fixation Materials.....	12/12/84
Northeast Corridor Stations.....	12/19/84
Status of Right-of-Way (ES).....	12/19/84
Operations Planning and Start-Up.....	01/16/85
Folsom Line Stations.....	01/30/85

6. Start-up and Operations Plan

The approach that will be taken in updating the Operations Plan has been finalized and the appropriate task force of RT, STDA, Foster Engineering, L.T. Klauder and PBQ&D/DMJM is working. The effort will be completed and documented by December 28, 1984. Impacts on the "design criteria," scope, budget, schedule and operating cost will be quantified and included in the Final Report.

The development of the Master Start-Up Plan is proceeding on schedule. RT Board authorization to hire the staff for five key LRT Operations positions is on the December 19, 1984 Board agenda. In addition, the staffing and Recruitment Plan, the Rule Book and the Emergency Procedures have been drafted and reviewed with the Board. The updated Operations Milestone Schedule from the Master Start-Up Plan is attached as Exhibit No. 6.

7. Future Extensions

The Sacramento Area Council of Governments (SACOG) is currently completing the LRT Extension Study. We have included a status report of their progress to date as Exhibit No. 7 of this report.

The Executive Director reports that the draft report for phase 1 analyzed 19 possible extensions, and suggested a fewer number for long-range consideration. A consultant will review the alternatives and make priority recommendations. The policy committee will review the report on December 20, 1984.

C. Future Course of Action

Objective No. 3 of the interim administration has been "to propose a course of action and achieve a consensus for completing and implementing the project in a timely fashion."

As stated in the Preliminary Assessment, it would be premature to address this part of the threefold objective of the management study. This is because the analysis and evaluation has not yet been completed in sufficient



detail to enable us to reach a final conclusion and make recommendations. This will, of course, be completed next month and recommendations will be included in our Final Assessment.

The Final Assessment is meant to provide a suggested future direction for the agency to complete the capital project and to turn it over to the designated operating agency.



**PREVIEW OF FINAL REPORT**



#### IV. PREVIEW OF FINAL REPORT

##### A. Preliminary Assessment and Progress Statement

Although it has been stated many times, it is important to underscore the specific objectives of the Preliminary Assessment and this Progress Statement.

It was the purpose of the Preliminary Assessment to initially review the project and make some preliminary findings that would be reviewed and refined later. More specifically, the Preliminary Assessment documented the actions to date of the interim administration, identified the major issues to be addressed and resolved during the ninety (90) day period, presented some analysis of the existing systems, drew some conclusions, and proposed some recommendations for immediate or short-term problem resolution.

It has been the purpose of this report to indicate that progress has been made on the various objectives of the interim administration, and to state the findings of our further analysis in specific areas of activity which required further investigation.

Again, these areas were:

1. Legal Authority, Organization, and Management
2. Budgeting, Accounting, and Auditing
3. Project Financing
4. Project Master Schedule
5. Project Scope and Design Criteria
6. Start-up and Operations Plan
7. Future Extensions

In addition, as part of the Progress Statement, the Agency's Controller compiled and documented the April 11, 1984, Baseline Budget for the project. The STDA Board is being asked to readopt this budget which contains detail for each contract unit. We will then use this document as the basis to forecast the cost to complete the project and recommend the adoption of the forecast as the revised Project Budget which will be adopted next month.

##### B. Final Assessment Objectives

In the final assessment of the project several areas need to be addressed and acted upon by STDA and its parent bodies, which will allow the project to proceed to completion efficiently and effectively. These areas are as follows:



1. Final determination of the organizational and management structure to complete the project and begin start-up operation.
2. Approval of the updated scope and design criteria of the project.
3. Adoption of the forecast as the updated project budget.
4. Approval of the proposed financing plan.
5. Participation in the phase-out/phase-in period described below.

C. Phase-Out/Phase-In Period

During the last two (2) months, it has become obvious to the members of the interim administration that there is a need for a phase-out/phase-in period in which the interim team is phased out of the agency and the permanent team is phased in.

The timing of the Final Assessment (mid-January 1985) is such that it will be released at the time at which the interim team is to be dismissed. There would be no time to ensure that the recommendations are implemented properly and solidified over a period of time. Also, there would be no time for the interim team to make the adjustments necessary to effect the smooth implementation of the approved recommendations. Finally, there would be no time to gradually transition the interim team with the new permanent staff.

Therefore, in order to insure that the approved recommendations are implemented and solidified properly over several months, and, that there is an adequate transition period between the interim team and the permanent staff, we are recommending a phase-out/phase-in period of three (3) to six (6) months. We believe that when the Final Assessment is released, the selection of the permanent staff should begin.

The approval of this recommendation will ensure the smooth implementation of the proposals and should help to guarantee the success of the interim administration's assignment.



**EXHIBITS**



LIST OF EXHIBITS

Exhibit No. 1 - Project Policy for the Use of Grant Funds

Exhibit No. 2 - Bid Protest Policy and Procedures

Exhibit No. 3 - Alternative Organizational Structures

Exhibit No. 4 - Project Master Schedule

Exhibit No. 5 - Scope for the Design Audit and Technical  
Support Services

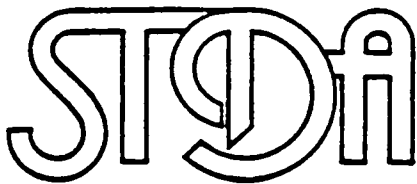
Exhibit No. 6 - Master Start-Up Plan Milestone Schedule

Exhibit No. 7 - Status Report of LRT Extension Study



EXHIBIT NO. 1  
PROJECT POLICY FOR THE  
USE OF GRANT FUNDS





Policy Number 16; Page 1 of 1

Subject: Project Priority for Use of  
Grant Funds

SACRAMENTO TRANSIT DEVELOPMENT AGENCY 926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168

POLICY:

The STDA shall give priority in its use of project grant funds to completion of the basic components of the 18.3 mile Light Rail starter line. Priority basic components are those minimally required to make the full 18.3 mile system function and include such things as right-of-way, utility relocation, basic civil track construction, stations, signaling, propulsion power, vehicles, support equipment and a maintenance facility.

Only after the funding is assured for the minimum components of the starter system shall funding and contracts be released for items of an enhancement and/or embellishment nature. Enhancements/embellishments include such things as art in public places, mall pavers, benches, planters, and non-functional landscaping.

An exception to the above policy would be where additional new project revenue sources are obtained and these revenue sources are committed to specific aspects of the project without regard to funding priority.

GUIDELINES:

The STDA Executive Director shall identify and prioritize those contract units or portions thereof which are not included in and functionally necessary for the basic Light Rail starter line. Items so identified shall be communicated to the STDA Board for review and approval.

The priority list shall also be communicated to other interested parties.

Recommended:

Approved:

*William H. Edgar*

WILLIAM H. EDGAR  
Interim Executive Director

*Anne Rudin*

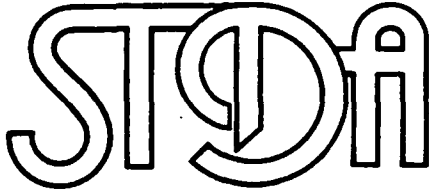
ANNE RUDIN  
Chairperson

Adopted 11/21/84



EXHIBIT NO. 2  
BID PROTEST POLICY  
AND PROCEDURES





SACRAMENTO TRANSIT DEVELOPMENT AGENCY 926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168

POLICY:

As part of its contract administration, STDA shall provide procedures for formal protest of certain staff decisions regarding specifications, contract awards and bids by third party contractors in response to a STDA invitation for bids. In addition, STDA specifications normally provide an informal procedure to address questions regarding interpretation of the specifications and bid procedures. If time permits, interested parties are encouraged to first use this informal procedure prior to submission of a formal protest pursuant to this Policy.

PROCEDURE:

A. General

1. This Policy specifies procedures for the protest by bidders of the following staff actions:
  - (a) a written notice by the Project Director denying a bidders request for a change in a specification requirement;
  - (b) a written recommendation to the Governing Board or decision by the Project Director or Executive Director to disqualify a bidder or subcontractor;
  - (c) a written recommendation by the Project Director or Executive Director to the Governing Board to award a contract to a particular bidder.
2. This Policy does not govern any STDA staff decision not listed in I-A or any decision by the Governing Board. Nothing in this Policy shall preclude or otherwise restrict the challenge procedure specified in the STDA Disadvantaged Business Enterprise Program.
3. A bidder must file a protest in accordance with this Policy and the Governing Board must deny that protest before a bidder may seek review by the Urban Mass Transportation Administration (UMTA) if otherwise permitted by UMTA C. 4220.1A, and/or by a court of competent jurisdiction. All Governing Board decisions, including but not limited to a decision on a protest, are final and therefore appealable to UMTA and in a court if jurisdiction in those forums exists.



Subject: Bid Protest Policy and Procedures

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4. When a protest has been properly filed prior to contract award, the Governing Board shall not award the contract prior to deciding the protest. When a protest has been properly filed before the opening of bids, bids shall not be opened prior to a Governing Board decision on the protest.
5. Materials submitted as a part of the protest resolution process will be available to the public except to the extent that:
  - (a) the withholding of information is permitted or required by law or regulation; and
  - (b) the information is designated proprietary by the person submitting the information to STDA. If the person submitting material to STDA considers that the material contains proprietary material which should be withheld, a statement advising of this fact shall be affixed to the front page of the material submitted and the alleged proprietary information must be specifically identified in the body of the materials wherever it appears.

**B. Filing of a Protest**

1. Protests may be filed only by interested parties. Interested parties are defined as prospective bidders on a STDA contract and subcontractors or suppliers at any tier who have a substantial economic interest in an award, a provision of the specifications, or a bid submitted to STDA by a prime contractor, or in the interpretation of the provisions of such documents.
2. Protests to a specification requirement (See I-A-(1) above) must be filed at least ten (10) working days prior to bid opening. Protests to the staff actions described in I-A-(2) and I-A-(3) above must be filed within five (5) working days of receipt by the bidder of written notice of the staff action from the Executive Director or Project Manager.
3. Protests must be addressed to the STDA Executive Director, 926 J Street, Suite 611, Sacramento, California 95814.
4. Protests must be in writing and contain a statement of the ground(s) for protest. At least ten (10) copies of the protest must be submitted by the protestor in the time and manner specified in this Section II.



Subject: Bid Protest Policy and Procedures

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5. The Executive Director shall provide notice, by telephone or by letter, to all bidders known to STDA on the contract which is the subject of the protest. Such notice shall state that a protest has been filed with STDA and identify the name of the protestor. The notice shall be given not more than five (5) working days after receipt of a properly filed protest. The notice shall state that bidders will receive further information relative to the protest only by submitting a written request for further information to the Executive Director.
6. Any protest, together with all supporting information submitted with the protest, shall be forwarded by the Executive Director to the RT General Manager, the City Manager, the County Executive, and all Governing Boardmembers within 48 hours of receipt by the Executive Director of a properly filed protest.

C. STDA Preliminary Response to a Protest; Meeting with Staff to Attempt Early Resolution of the Protest

1. Not more than ten (10) working days after receipt of a properly filed protest, the Executive Director shall prepare and distribute to the protestor and all persons specified in II E and II F above:
  - (a) a written preliminary response to the protest. This response shall include a brief explanation of the reasons why the protested staff action is justified; and
  - (b) the time, date and place of the meeting described in III B below.
2. The Executive Director and/or appropriate STDA staff shall meet with the protestor to discuss and attempt to resolve the protest. Any person who submitted a written request pursuant to II-E above may attend this meeting.
3. After the meeting, the protestor shall, within five (5) working days, give the Executive Director written notice that either the protest is withdrawn or, alternatively, that the protestor requests further consideration of the protest. In the event that the protestor fails to file this notice at the office of the Executive Director within five (5) working days after the meeting, the protest shall be deemed withdrawn.



Subject: Bid Protest Policy and Procedures

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D. Further Investigation

1. If a protest is not withdrawn pursuant to III-C above, the Executive Director shall further investigate the protest with the assistance of STDA staff.
2. The Executive Director may contract for third-party consulting services when necessary to investigate a protest. The Executive Director may negotiate with the protestor and other interested parties the sharing of the cost of such consulting services.
3. As part of the investigation, the Executive Director shall establish reasonable times in which STDA, the protestor, and other interested parties shall exchange all documents and arguments relevant to the protest.

E. Intended Decision; Comments by Protestor and Other Parties

1. Following investigation, the Executive Director shall prepare and distribute to the protestor and all persons specified in II E and II F above:
  - (a) an intended decision recommending actions which the Executive Director believes the Governing Board should take to resolve the protest and specifying the reasons for the recommended Governing Board actions;
  - (b) a statement of the date within which the protestor and other persons must submit written comments with respect to the intended decision. Such date shall allow a reasonable period for rebuttal and shall vary according to the complexity of the particular protest; and
  - (c) notice of the time, date and place of the Governing Board hearing at which the protest will be considered.
2. The following materials shall be included in the agenda package sent to Governing Board members prior to a protest hearing and shall be available to any person at the STDA Executive Office at least five (5) working days before the hearing:
  - (a) the intended decision described in V-A-(1).



Subject: Bid Protest Policy and Procedures

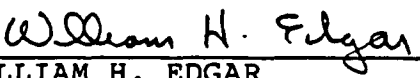
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- (b) all written comments received within the submittal period described in V-A-(2).
- (c) if the Executive Director has revised his/her intended decision since its distribution pursuant to V-A-(1), a written description of the new intended decision and the reasons for revision.

F. Governing Board Consideration

1. At the hearing, staff and any person may present evidence relating to the protest. At the beginning of the hearing, the Chair of the Governing Board may announce time limits on testimony and any other procedural rules which, in the opinion of the Chair, are reasonably necessary to preclude repetitious or irrelevant testimony.
2. The Governing Board may elect to defer its decision and direct staff to:
  - (a) further investigate the protest, or
  - (b) hire an impartial hearing officer to conduct a hearing and prepare a written recommended decision, including findings of fact.
3. In rendering its decision on the protest, the Governing Board may adopt the intended decision recommended by the Executive Director, adopt the written recommendation and findings of fact prepared by a hearing officer, or adopt a separate decision.

RECOMMENDED:

  
WILLIAM H. EDGAR  
Interim Executive Director

APPROVED:

  
ANNE RUDIN  
Chairperson



EXHIBIT NO. 3

ALTERNATIVE ORGANIZATIONAL STRUCTURES



LAW OFFICES OF  
**HYDE, MILLER & SAVAGE**

TIMOTHY E. AINSWORTH  
JEFFREY A. DELAND  
RICHARD H. HYDE\*  
NANCY C. MILLER  
CHRISTINA PRIM  
LEE SAVAGE  
\*A PROFESSIONAL CORPORATION

428 J STREET, SUITE 400  
SACRAMENTO, CALIFORNIA 95814  
(916) 447-7933

December 5, 1984

TO: William H. Edgar  
Interim Executive Director

FROM: Christina Prim

SUBJECT: Alternative Organizational Structures

INTRODUCTION

This memorandum responds to your request for a (1) legal description of each of the three alternative organizational structures discussed in your November 7, 1984 Preliminary Assessment Report to the STDA Governing Board; (2) a description of the organizational structures which currently exist elsewhere in California to construct and operate light rail systems; and (3) a list of the policy considerations relevant to selection of the appropriate light rail organizational structure in Sacramento.

It is my understanding that you will use this memorandum in preparing your recommendation to the Board relative to the most effective and efficient organization to complete and operate the Sacramento light rail system.

I. ALTERNATIVE I: STATUS QUO

The existing Joint Powers Agreement (JPA) delegates to STDA the task of designing and constructing the 18.3 mile starter line project. JPA Section 2. The current JPA provides for the automatic termination of STDA one year after completion of the project. JPA Section 3. Upon completion of the project, it is currently agreed that the light rail facility will be solely owned and operated by RT. JPA Section 14.

The existing JPA must be amended, with the concurrence of each of STDA's parent entities, to:

- A. Shorten or extend the life of STDA to a time different than the automatic sunset date specified in the JPA;
- B. Give STDA authority to plan or construct extensions of the initial 18.3 mile project;



- C. Confer to an entity other than RT the ultimate ownership of the starter line system or the responsibility to operate the initial system;
- D. Change any other provision in the JPA.

## II. ALTERNATIVE II: ASSUMPTION OF THE PROJECT BY STDA PARENT ENTITY JURISDICTION

Under this alternative, one of STDA's parent entities would assume responsibility in the immediate future for completion of the construction phase of the project and then operate the completed light rail system.

As was discussed in Section I above, sunsetting STDA prior to one year after starter line completion and designating a public entity other than STDA as the lead agency for completion of construction would require mutual agreement by the City, County and RT Governing Boards to amend or terminate the JPA.

RT currently has all requisite statutory power to construct the initial light rail system, plan and construct light rail extensions, and to operate the system within the territorial limits of the RT District. California Public Utilities Code §102002; 102280; 102283. The RT District includes the Cities of Davis, Folsom, Roseville, Sacramento and Woodland, and a significant portion of land within the unincorporated portions of Sacramento and Yolo Counties. California Public Utilities Code § 102051.

RT is the grantee of the UMTA Full-Funding Agreement and, as such, is obligated to insure that all grant construction conditions are satisfied and that the capital items purchased in whole or in part by UMTA grant funds are used in accordance with the terms of the grant. RT assumption of construction responsibility would be consistent with its UMTA grantee duties and would eliminate the need either to (a) change the UMTA grantee to another entity; or (b) create a cooperative agreement between RT and another entity to enable RT to satisfy its grant monitoring duties.

The City and County have the power to construct and operate the light rail system within each of their respective jurisdictional boundaries. However, unlike RT, neither the City nor the County is statutorily authorized to construct or operate a multi-jurisdictional system. Indeed, California Government Code §26002 expressly requires a County desirous of constructing and operating a public transit system in a city or in a established transit district area to first obtain the consent of such city and/or transit district.



Due to the absence of clear multi-jurisdictional authority, the City or County would need to enter into a new JPA which could designate either the City Council or the County Board of Supervisors as the governing body for the construction of the starter line, system expansion, and/or operation of the system. California Government Code §6506.

Additionally, if the City or County were delegated responsibility for constructing or operating the initial starter system, the UMTA grant monitoring duties currently borne by RT would have to be either assumed by the City or County, or, alternatively, RT and the City or County would need to enter into a cooperative agreement, similar to that which currently exists between RT and STDA, to assure that RT could monitor and control UMTA grant compliance.

### III. ALTERNATIVE III: NEW STRUCTURE

This alternative envisions the creation of one or more new entities to complete construction of the starter system, design and construct system extensions, and/or operate the light rail system.

There are many options under this alternative. A single new entity could be charged with both construction and operational responsibilities, or, alternatively, two entities could be created -- one responsible solely for construction, and the other responsible for operation and maintenance.

The new entity or entities could be created by agreement (JPA) between the City, County, and/or RT. State legislation could also create a new public entity. If created by a JPA, the new entity could be given multi-jurisdictional power; however, it could not be given a type of power not possessed by any one of its parent entities. Accordingly, a new JPA entity could not be given the power to raise revenue by a sales tax increase approved by a majority of voters; instead, a JPA created entity would be subject to the 2/3 voter approval requirement imposed by the first Jarvis legislation (California Constitution Article XIII) on special taxes raised by entities with property taxation powers. Because RT, the City and County have property tax powers and are subject to the 2/3 vote approval requirement, a joint powers agency created by these parent entities would also be subject to the 2/3 requirement. In contrast, a entity created by State legislation, such as the Los Angeles Transportation Commission, is not authorized to levy property tax and therefore can and did raise substantial revenue for transit by mere majority voter approval of a sales tax increase. See LA County Transportation Commission v Richmond 31 Cal 3d 197 (1982).<sup>1</sup>

1

State legislation could be sought to repeal RT's currently unused statutory property tax power and thereby enable RT to collect



Either the State legislation or the JPA creating the new entity would set forth and limit the precise powers possessed by the new entity. By specifying the qualifications and manner of appointing the governing boardmembers of the new entity, the enabling legislation or JPA would further control the powers of the new entity and promote either interface or independence of the new entity from other existing public agencies. To promote inter-jurisdictional communication, transit governing bodies are typically composed of elected officials of numerous public agencies in the vicinity. However, a transition from an elected official Board to an appointed-citizen Board is now being considered in San Diego for the entity charged with policy-making responsibility for the maintenance and operation of the San Diego trolley. Advocates of this proposed change in Board composition believe it will facilitate more frequent meetings, better attendance, and generally render decision-making less subject to partisan politics.

The form of the new entity could be a non-profit corporation, rather than a public agency. PARATRANSIT is a local example of a non-profit corporation which provides transit services. Similar to a JPA, the articles of incorporation creating the non-profit entity would specify the membership of its governing board, its powers, and restrictions limiting exercise of power by the non-profit corporation.

Unlike a public entity, a non-profit corporation cannot be given any tax-levying power. However, non-profit corporations can be given tax monies raised by other public entities, charge fees for services rendered, and apply for many types of public funding.

#### IV. EXAMPLES OF ORGANIZATIONAL STRUCTURES FOR THE DEVELOPMENT AND OPERATION OF LIGHT RAIL TRANSIT SYSTEMS IN CALIFORNIA

##### San Diego

The initial system was designed and constructed by the Metropolitan Transit Development Board (MTDB). MTDB is currently in the process of planning and constructing extensions to the initial system. MTDB is the grantee of almost all local, state and federal grants used to construct and operate the San Diego light rail system.

MTDB was created by state legislation (California Public Utilities Code Section 120000 et. seq.). Its governing boardmembers are all elected officials of the cities and counties within MTDB territorial boundaries. The initial enabling legi-

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sales tax with majority, rather than 2/3, voter approval.



station limited MTDB powers to fixed guideway rail transit development and operation. Subsequent state legislation has expanded MTDB powers to allow MTDB to own and operate a bus network and to regulate interfacing bus systems currently owned and/or operated by private and public entities in the San Diego metropolitan area.

Several years prior to San Diego light rail construction, the only bus system in the area - a privately owned entity on the verge of bankruptcy - was purchased by the City of San Diego. Rather than expand city staff, the City of San Diego created a non-profit corporation to maintain and operate the bus system. Following the non-profit corporation operational precedent established by the City for bus transit, MTDB also created its own non-profit corporation to operate the light rail system. The governing board of this light rail non-profit corporation is currently the same as MTDB - that is, all elected officials of the cities and county within MTDB's jurisdiction. According to legal counsel for MTDB, however, there is a substantial possibility that a current proposal will soon be adopted which will change board membership to citizens appointed by elected officials.

MTDB is now in the process of acquiring from the City of San Diego ownership of the bus system and responsibility to oversee the non-profit corporation which operates the bus system.

#### Santa Clara

Development responsibilities are shared by three entities. The first entity is a Board created by a JPA between CalTrans, the City of Santa Clara, the City of San Jose, and the Santa Clara County Transit District. With the exception of the CalTrans appointed Boardmember, JPA boardmembers are all elected officials of the parent entities. The JPA Board has broad system-wide policy-making responsibility for planning and design. However, the JPA provides that the City of San Jose is the responsible lead agency for the construction of the downtown San Jose Transit Mall portion of the system, and that the County of Santa Clara is the responsible lead agency for construction of other parts of the system.

Santa Clara light rail will be operated and maintained by the Santa Clara County Transit District whose governing board is the County Board of Supervisors. The Transit District also operates the bus system; its statutory powers are nearly identical to those possessed by the Sacramento RT District.



V. POLICY CONSIDERATIONS RELEVANT TO SELECTION OF THE APPROPRIATE LIGHT RAIL ORGANIZATION STRUCTURE IN SACRAMENTO

A. UMTA Grant Compliance

Another entity could be substituted for RT as the starter line UMTA grantee or RT could enter into a cooperative agreement with another entity charged with light rail construction to insure that RT could fulfill its current duty to monitor grant compliance. However, this second alternative is administratively awkward, time-consuming, and costly due to the need for coordination between two separate entities.

The wisdom of the first alternative is also questionable. The only local entity with many years of staff-level experience in dealing with UMTA -- the primary federal funding entity for public transit (bus as well as light rail) -- is RT. The task of documenting UMTA grant compliance requires substantial technical expertise and is improved if the local individuals involved in grant negotiation during the procurement and construction phases of a project have a long-term tie with Sacramento -- i.e. they are Grantee employees rather than short term consultants.

B. Interface With The Bus System

The importance of having a single entity charged with the power and responsibility to coordinate the light rail and feeder bus system is obvious. In San Diego and Santa Clara, a single entity coordinates bus and light rail operations.

By JPA or statute a new "umbrella" public agency could be created and given power over RT bus operation and light rail operation by another entity. Alternatively, RT could be given responsibility for both the light rail and bus systems. Absent a compelling reason for the first alternative, RT assumption of the light rail system is the most direct organizational mechanism to insure bus and light rail interface.

C. Public Funds For Completion Of The Starter Line, Starter Line Extensions, And Operational Costs

As was discussed in A above, RT has the most experience in capturing federal grants from UMTA.

RT, however, unlike the City and County, has no current funding source analogous to the revenue sources possessed by the City and County (for example, property taxes) -- the generation of which is solely within the control of RT. Instead, RT must regularly and repeatedly seek all of its public funding from the City, County, State, and federal government.



D. Need For Clear Lines Of Authority And Responsibility In Internal Management

You have outlined the difficulties inherent in the current STDA organizational structure in your November 7, 1984 Preliminary Assessment Report.

There must be a clearly defined organizational chart with supervisorial layers ultimately responsible to a Chief Executive Officer who, in turn, is responsible to the policy-making Board.

The parent entities have such management hierarchies in place. If a new entity is created, this essential hierarchy should be established in a manner which improves on the current JPA.



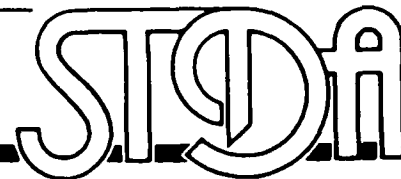
EXHIBIT NO. 4

PROJECT MASTER SCHEDULE



# PROJECT SUMMARY SCHEDULE

LEGEND			PS&E		STATUS AS OF: 11/30/84																																			
<div></div> SCHEDULE	<div></div> CRITICAL PATH		ADVERTISE	<div></div>	1984				1985				1986				1987																							
<div></div> PROGRESS TO DATE	<div></div> FORCAST COMPLETION		BID OPENING	<div></div>	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J		
1&1A NORTH SAC. GRADE SEPERATION STRUCTURES																																								
2 AT GRADE LINE-NORTHEAST CORRIDOR																																								
2A WATT/80 MEDIAN																																								
3 MAINTENANCE BUILDING																																								
4 MALL DEMOLITION					CONTRACT COMPLETE																																			
4A AT GRADE LINE-CENTRAL CITY																																								
4B&C TREE PROCUREMENT-K ST. MALL																																								
5 AT GRADE LINE-FOLSOM CORRIDOR																																								
6 AT GRADE STATION-WATT/80 TERMINUS																																								
7 AT GRADE STATIONS-NORTHEAST CORRIDOR																																								
7A AT GRADE STATIONS-FOLSOM CORRIDOR																																								
7B TREE PROCUREMENT-FOLSOM CORRIDOR																																								
7C ART PROGRAM					NO SCHEDULE																																			
7D GRAPHICS					NO SCHEDULE																																			
7E SHELTERS					NO SCHEDULE																																			
8 YARD GRADING					CONTRACT COMPLETE																																			
8A TEMPORARY FENCING-YARD STORAGE AREA																																								
9 ELECTRIFICATION																																								
10 LRT SIGNALING																																								
11 TRAFFIC SIGNALS																																								
12 COMMUNICATIONS RADIO PROCUREMENT																																								
13 EQUIPMENT INSTALLATION					NO SCHEDULE																																			
14A RAIL PROCUREMENT					CONTRACT COMPLETE																																			
14B OTHER TRACK MATERIAL PROCUREMENT					CONTRACT COMPLETE																																			
15 TIE PROCUREMENT					CONTRACT COMPLETE																																			
16 SPECIAL TRACKWORK PROCUREMENT																																								
17 LIGHT RAIL VEHICLES																																								
18A FARE VENDING EQUIPMENT PROCUREMENT																																								
18B MAJOR SHOP EQUIPMENT PROCUREMENT																																								
18C LINE MAINTENANCE EQUIPMENT PROCUREMENT					NO SCHEDULE																																			
19 SUBSTATION PROCUREMENT																																								
20 CATENARY SYSTEM/POLE PROCUREMENT																																								
21 CABLE/WIRE PROCUREMENT																																								



**Sacramento Transit  
Development Agency**

THIS SCHEDULE DOES NOT REFLECT EXISTING CONTRACT OBLIGATIONS TO STDA BASED ON THE EARLIER SCHEDULE AND WHICH REMAYN IN EFFECT REGARDLESS OF THE CHANGES REFLECTED HERE.





EXHIBIT NO. 5

SCOPE FOR THE DESIGN AUDIT  
AND TECHNICAL SUPPORT SERVICES



**SACRAMENTO TRANSIT DEVELOPMENT AGENCY  
DESIGN AUDIT AND TECHNICAL SUPPORT**

**ATTACHMENT A  
DRAFT SCOPE OF WORK**

**PARSONS BRINCKERHOFF QUADE & DOUGLAS  
DANIEL MANN JOHNSON & MENDENHALL  
DON TODD ASSOCIATES  
MYRA L. FRANK AND ASSOCIATES**

**December 1984**



**SACRAMENTO TRANSIT DEVELOPMENT AGENCY**

**DESIGN AUDIT AND TECHNICAL SUPPORT**

**DRAFT SCOPE OF WORK**

**TASK GROUP 100      REVIEW AND UPDATE PROJECT BASELINE DOCUMENTS**

**TASK 110              Update Project Design Criteria**

Review and update the design criteria for the project documenting changes that have occurred since the original issuance in December 1982. Include in the review consideration of the deliverables described in Exhibit 13 of the Preliminary Assessment Report.

**Work Products:** Revised Project Design Criteria.  
Memorandum Report to the STDA Board.

**TASK 120              Update Project Scope Definition**

Review and update the project scope definition for the 32 contract units. Document for each contract unit the evolution of its scope since the Final Environmental Impact Statement.

**Work Products:** Updated Scope Definitions.  
Memorandum Report to the STDA Board.

**TASK 130              Update Project Estimates and Budgets**

Rearrange the Baseline Project Estimate into the current contract unit structure and categories such as engineering and design, project management, etc. Use the UMTA MAC's code format.

Using the revised project scope definition from TASK 120 review and prepare a detailed estimate of the project's cost for the current contract units and categories. Use the cost listing to date plus estimates of costs to complete in base year and in inflated dollars.

Make a detailed reconciliation of the baseline, estimate to the updated estimate and document all changes.

**Work Products:** Report on rearranged Baseline Estimates, Current Estimates and their reconciliation.



**TASK 140**

**Review the Final EIS**

Review the FEIS for the project and compare it with current scope definitions and design. Identify and document changes in the project which have occurred and categorize each change as an option exercised, minor clarification or major change requiring FEIS revision.

**Work Product:** Memorandum Report on modifications to the project since the FEIS.

**TASK GROUP 200**

**PROJECT ADMINISTRATION**

**TASK 210**

**Review Contract Administration**

Define and evaluate procedures being used for the administration of procurement and construction contracts. Recommend modifications, if any, for procedures and/or staffing of these activities.

**Work Product:** Memorandum Report on findings and recommendations for contract administration.

**TASK 220**

**Quality Assurance**

Review and assist in the finalization of a quality assurance plan and program for design, procurement and construction.

**Work Products:** QA plan and program documentation.  
Memorandum to STDA Board on QA.

**TASK 230**

**Configuration Management**

Review and assist in the completion of configuration management and change control procedures for the project.

**Work Products:** Configuration and change control procedure document.  
Memorandum Report to the STDA Board on configuration management.

**TASK 240**

**Construction Management Manual**

Review the project's Construction Management Manual. Revise and complete the manual for issue to appropriate project personnel.

**Work Products:** Revised Construction Management Manual.  
Memorandum Report to the STDA Board on the CM Manual.



**TASK GROUP 300      PEER REVIEWS**

**TASK 310              Start-Up Operations**

**Input:** Start-up and operating plans from RT.

Identify and assemble three to five specialists in light rail system start-up and operations. Organize and conduct a two-day workshop in Sacramento of the project's plans for operations and start-up. This work includes scoping, scheduling, staffing, materials distribution, moderation and technical support at workshops and documentation of the proceedings and results. Documentation will include recommendations for action during design, construction, start-up and operations.

**Work Product:** Record of the workshops.

**TASK 320              System Safety and Security**

**Input:** Operating plan, selected design documents.

Identify and assemble three to five specialists in light rail system safety and security. Organize and conduct a two-day workshop in Sacramento of the project's safety and security. This work includes scoping, scheduling, staffing, material distribution, moderation and technical support at workshops and documentation of the proceedings and findings. Documentation will include recommendations for action during design, construction, start-up and operations.

**Work Products:** Record of the workshops.  
Report of findings and recommendations.  
Summary Report to the STDA Board on the system safety and security peer review.

**TASK 330              Project Management and Control**

Identify and assemble three to five specialists in light rail project management and control. Organize and conduct a two-day workshop in Sacramento of the project's management and control. This work includes scoping, scheduling, staffing, material distribution, moderation and technical support at workshops and documentation of the proceedings and findings. Documentation will include recommendations for action during design and construction.

**Work Products:** Record of the workshops.  
Report of findings and recommendations.  
Summary Report to the STDA Board on the project's management and control.



**TASK GROUP 400      TECHNICAL EVALUATIONS**

**TASK 410              Value Engineering Reviews**

Review the design of the Folsom Line (Contract Unit 5) and Stations (Contract Unit 7A) for potential cost savings. Review the balance of the project where practicable for potential cost savings. Report recommendations for cost savings to the project team.

**Work Products:** Memorandum Report on potential cost savings for each contract unit reviewed.

**TASK 420              Operations, Maintenance and Reliability Evaluation**

Review the project design and planned operations in terms of reliability and of operations, maintenance procedures and costs. Recommend for further evaluation, design modifications which may reduce or facilitate operations, maintenance and reliability.

**Work Product:** Report on Operations, Maintainability and Reliability.



SACRAMENTO TRANSIT DEVELOPMENT AGENCY  
DESIGN AUDIT AND TECHNICAL SUPPORT

ATTACHMENT B  
SCHEDULE

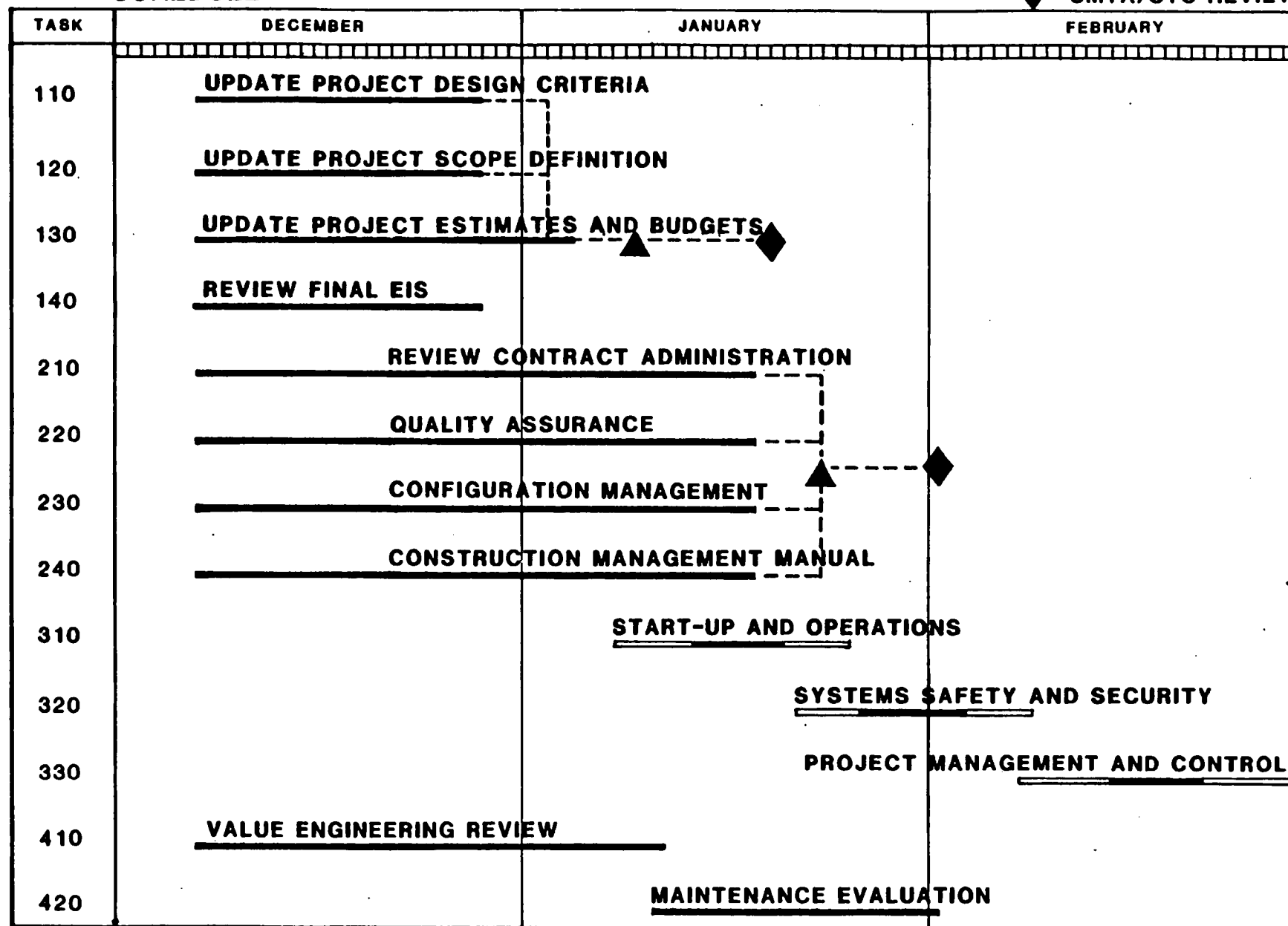
PARSONS BRINCKERHOFF QUADE & DOUGLAS  
DANIEL MANN JOHNSON & MENDENHALL  
DON TODD ASSOCIATES  
MYRA L. FRANK AND ASSOCIATES

December 1984



# SCHEDULE

▲ --- BOARD REVIEW  
◆ - UMTA/CTC REVIEW



DECEMBER 4, 1984

Parsons  
Brinckerhoff

DESIGN AUDIT AND TECHNICAL SUPPORT  
SACRAMENTO TRANSIT DEVELOPMENT AGENCY



**SACRAMENTO TRANSIT DEVELOPMENT AGENCY  
DESIGN AUDIT AND TECHNICAL SUPPORT**

**ATTACHMENT C  
DRAFT LIST OF WORK PRODUCTS**

**PARSONS BRINCKERHOFF QUADE & DOUGLAS  
DANIEL MANN JOHNSON & MENDENHALL  
DON TODD ASSOCIATES  
MYRA L. FRANK AND ASSOCIATES**

**December 1984**



<u>Task No.</u>	<u>Product</u>	<u>Draft Due Date</u>
320	<ul style="list-style-type: none"><li>o Record of the Workshops</li><li>o Report on Findings and Recommendations</li><li>o Summary Report to the STDA on the System Safety and Security Peer Review.</li></ul>	February 8, 1985
330	<ul style="list-style-type: none"><li>o Record of Workshops</li><li>o Report of Findings and Recommendations</li><li>o Summary Report to the STDA Board on the Project's Management and Control</li></ul>	February 22, 1985
410	<ul style="list-style-type: none"><li>o Memorandum Report on Potential Cost Savings for Each Control Unit Reviewed</li></ul>	January 8, 1985
420	<ul style="list-style-type: none"><li>o Report on Operability, Maintainability and Reliability</li></ul>	February 1, 1985



SACRAMENTO TRANSIT DEVELOPMENT AGENCY

DESIGN AUDIT AND TECHNICAL SUPPORT

PRELIMINARY STAFFING

PRINCIPAL IN CHARGE: W.H. Lathrop

PROJECT MANAGER: V. Eckland, III

SENIOR ADVISORS: D.G. Hammond  
J.L. Lammie

TASK 110 - Update Project Design Criteria

Leader: W.M. Michelutti

Specialists:	Car	- T. Andrisan
	Clearances	- W.M. Michelutti
	Track	- D.A. Shoff
	Traction Power	- S.D. Stoilov
	Civil	- D.A. Shoff (DMJM)
	Structural	- W.M. Michelutti
	Station Design	- E.A. Gibbons
	Landscaping	- E.A. Gibbons
	Signals	- E. Hornbuckle/L. Grant
	Communications	- L. Sharnberg
	Shop and Yard	- D.A. Shoff
	Fare Collection	- PB

TASK 120 - Update Project Scope Definition

Leader: G.P. Cauthen  
J. Yuke  
DMJM Participation

TASK 130 - Update Project Estimate and Budgets

Leader: G.H. Stoddard  
Don Todd & Associates

TASK 140 - Review the Final EIS

Leader: Myra L. Frank & Associates

TASK 210 - Review Contract Administration

Leader: G.H. Stoddard  
DT&A



- TASK 220 - Quality Assurance  
Leader: M.A. Denowitz
- TASK 230 - Configuration Management  
Leader: R.B. Shender
- TASK 240 - Construction Management Manual  
Leader: G.H. Stoddard  
DT&A
- TASK 310 - Peer Review of Start-Up and Operations  
Coordinator: V. Eckland, III  
Panel: Joe Mundo (Pittsburgh)  
Others from: Calgary?  
Edmonton?  
Buffalo?  
San Diego?
- TASK 320 - Peer Review of System Safety and Security  
Coordinator: V. Eckland, III  
S.M. Sarro?  
Panel: Lloyd Murphy (UMTA)  
M.A. Denowitz  
Others t.b.d.
- TASK 330 - Peer Review Project Management and Control  
Coordinator: V. Eckland, III  
Panel: R. Preston  
Others t.b.d.
- TASK 410 - Value Engineering Reviews  
Leader: D.A. Shoff  
Contract Unit 5: D.A. Shoff  
Control Unit 7A: E.A. Gibbons
- TASK 420 - Operations, Maintenance and Reliability Evaluation  
Leader: G.M. Durante  
M.A. Denowitz



EXHIBIT NO. 6

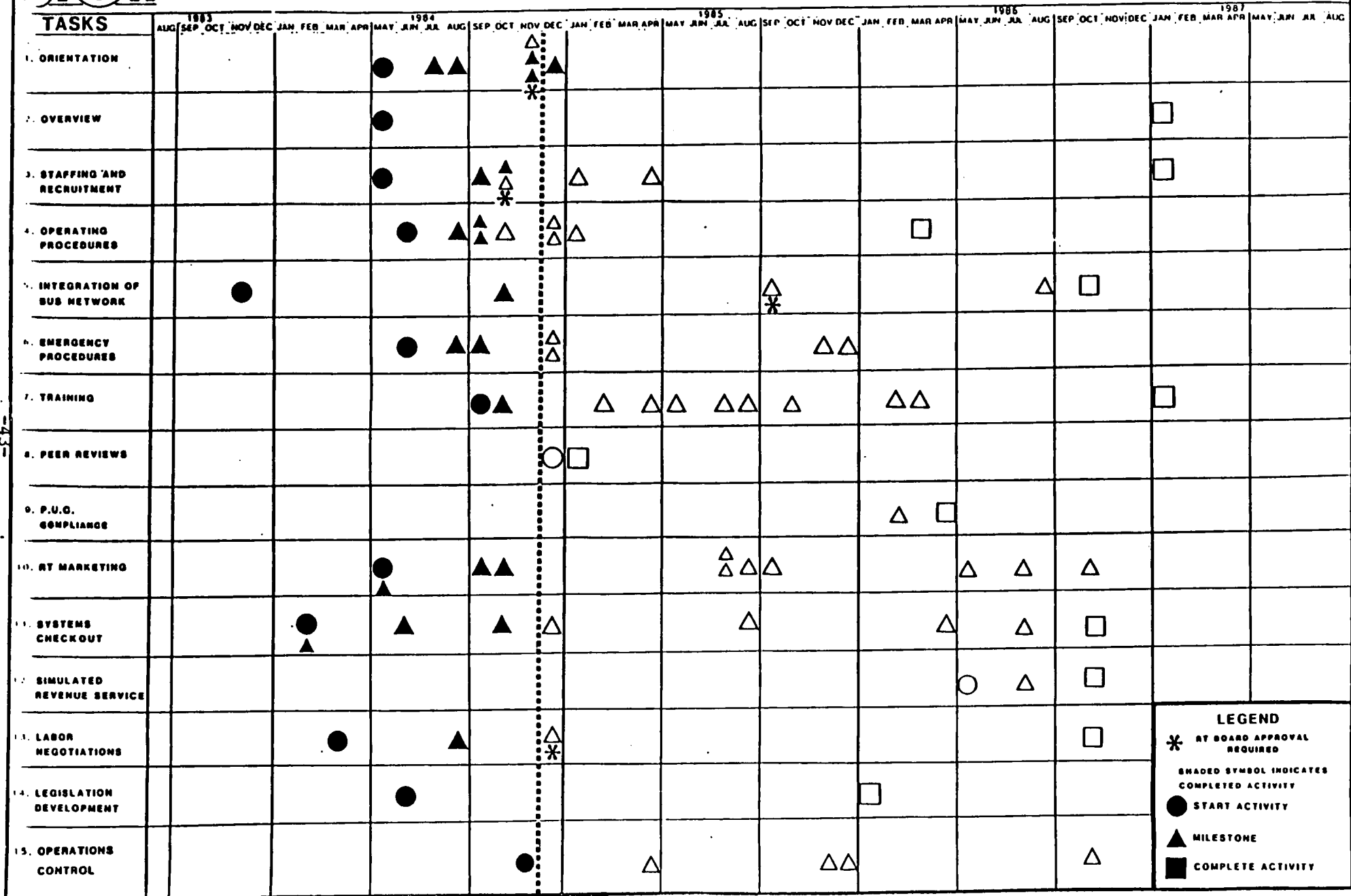
MASTER START-UP PLAN

MILESTONE SCHEDULE





SACRAMENTO LIGHT RAIL TRANSIT PROJECT  
LRT OPERATIONS AND INTEGRATION WORK PROGRAM









# LRT OPERATIONS AND INTEGRATION WORK PROGRAM

TASK	PERSONS/DEPTS. INVOLVED	ACTIVITY START DATE	ACTIVITY END DATE
1. Orientation	Blymyer* LRT Project Dev. Team LRT PCO	5/84	8/84
The preparation and presentation of an informative program dealing with the progress and development of the light rail project (internal and external).			
2. Overview	Smelley* Senior Staff STDA	5/84	Completion
A comprehensive review of the tasks outlined in the light rail start-up process by senior staff at major milestones.			
3. Staffing and Recruitment Plan	Beach* Personnel	5/84	7/84 First Milestone to Completion
The development of various job classifications: defining tasks, requirements, pay grades and recommendations, and the selection of personnel needed for positions in the LRT Department.			
4. Operating Procedures	Beach* LRT PCO LRT Project Dev. Team Foster Engineering MIS Accounting Risk Management AGM - Operations	6/84	9/84
The implementation of the rules, policies and performance required for the routine operation of the LRT system.			
5. Integration of Bus Network	Lonergan* LRT Project Dev. Team Scheduling Transportation Planning	In Progress	10/84 Ready for Public Process
The development, coordination, and implementation of a viable bus network designed to operate in conjunction with the light rail system.			
6. Emergency Procedures	Beach* Risk Management	6/84	9/84 First Milestone



## Foster Engineering

Develop and maintain an extensive, coordinated plan which deals with operation and testing of the light rail system under emergency conditions.

- |    |          |   |      |  |
|----|----------|---|------|--|
| 7. | Training | Blevins* (11/7/84)<br>Risk Management<br>LRT Project Dev.<br>Team | 9/84 | 3/85 First<br>Milestone<br>to Completion |
|----|----------|---|------|--|

Establish criteria and perform the necessary training required for the development of LRT personnel.

- |    |              |  |      |      |
|----|--------------|--|------|------|
| 8. | Peer Reviews | Smelley*<br>STDA<br>LRT Project Dev.<br>Team | 7/84 | 8/85 |
|----|--------------|--|------|------|

Coordination of the evaluation process performed by outside agencies reviewing RT's engineering and operation plan for the light rail project.

- |    |                      |                |       |            |
|----|----------------------|----------------|-------|------------|
| 9. | P.U.C.<br>Compliance | Beach*<br>STDA | 12/85 | Completion |
|----|----------------------|----------------|-------|------------|

The process of working with the P.U.C. during various stages of development and the final application for approval of the LRT system.

- |     |                         |                               |      |            |
|-----|-------------------------|-------------------------------|------|------------|
| 10. | RT Marketing<br>Efforts | Blymyer*<br>Marketing<br>STDA | 5/84 | Completion |
|-----|-------------------------|-------------------------------|------|------------|

Develop and implement a marketing program by RT's marketing department designed toward the transition of LRT into RT's operating bus network and coordinate with Regional Transit's current and ongoing marketing programs.

- |     |                  |                       |      |                    |
|-----|------------------|-----------------------|------|--------------------|
| 11. | Systems Checkout | Beach*<br>LRT<br>STDA | 2/85 | 4/86 to Completion |
|-----|------------------|-----------------------|------|--------------------|

Evaluation and problem solving phase designed to test all components of the LRT system and correct all deficiencies resulting from non-compliance with the design specifications.

- |     |                              |  |      |                    |
|-----|------------------------------|--|------|--------------------|
| 12. | Simulated Revenue<br>Service | Beach*<br>LRT<br>Risk Management<br>Accounting | 4/85 | 4/86 to Completion |
|-----|------------------------------|--|------|--------------------|

The process in which the start-up and implementation tasks are completed and the LRT system is operational. Actual revenue service is duplicated to insure that service will be provided in a proficient manner.



13.	Labor Negotiations	Beach* Labor Negotiating Team Legal	5/84	12/84 First Milestone to to Completion
-----	--------------------	--	------	--

The process in which an agreement is finalized dealing with the labor conditions of the LRT system.

14.	Legislation Dev.	Beach* Legal Senior Staff	6/84	4/20/86
-----	------------------	---------------------------------	------	---------

Initiate and seek approval for the necessary legislation required for the operation of the LRT system.

15.	Operation Control	Smelley* LRT Project Dev. Team Foster Engineering
-----	-------------------	---

Development of a vehicle maintenance and operation MIS system, system monitoring program, operating and maintenance cost and equipment list.

Revised: 10/24/84

\* Designated Project Development Team Coordinator



## TASKFORCE MILESTONE AND ACTIVITY DATES

### 1. Orientation (Blymyer)

- A. 5/84 Start activity
- B. 7/84 Present to Task Force
- C. 8/84 Present to Senior Staff
- D. 11/84 Orientation approval by RT Board (10/25/84) \*
- E. 11/84 Present to Labor organizations (10/25/84)
- F. 11/84 Start public presentations (10/25/84)
- G. 12/84 Complete RT orientation

### 2. Overview (Smelley)

- A. 5/84 Start process
- B. 1/87 Complete process

### 3. Staffing and Recruitment (Beach)

- A. 5/84 Start activity
- B. 9/84 Review final staffing plan
- C. 10/84 Staffing approval by RT Board \*
- D. 10/84 Start ATU & IBEW negotiations
- E. 1/85 Start non-union recruiting process
- F. 4/85 Union & Management Agreement
- G. 1/87 Complete staffing process

### 4. Operating Procedures (Beach)

- A. 6/84 Start activity
- B. 8/84 Draft operating rules
- C. 9/84 Develop operating plan
- D. 9/84 Start meetings with public safety agencies
- E. 10/84 Review rule book (11/7/84)
- F. 12/84 Finalize operating plan (10/23/84)
- G. 12/84 Complete peer reviews
- H. 1/85 Complete system start-up schedule (10/23/84)
- I. 3/86 Finalize agreement with public safety agencies

### 5. Integration of Bus Network (Loneragan)

- A. 11/83 Start activity
- B. 10/84 Complete preparation for public process
- C. 9/85 Network approved by RT Board \*
- D. 8/86 Complete sign-up preparation (11/27/84)
- E. 10/86 Implement bus network (11/27/84)

### 6. Emergency Procedures (Beach)

- A. 6/84 Start activity
- B. 8/84 Draft emergency procedures
- C. 9/84 Start meetings with public safety agencies
- D. 12/84 Develop system safety plan (10/23/84)
- E. 12/84 Complete peer review



- F. 11/85 Adopt emergency procedures
  - G. 12/85 Commence emergency simulation
7. Training (Blevins) (11/7/84)
- A. 9/84 Start activity
  - B. 10/84 Start negotiations for classes (coordinate with Luthi)
  - C. 2/85 Schedule classes
  - D. 4/85 Start Electro Mechanic training (Management)
  - E. 5/85 Operations trainer qualified
  - F. 7/85 Start operations training
  - G. 8/85 Car delivery (testing)
  - H. 10/85 Start Electro Mechanic training (Mechanics) (11/27/84)
  - I. 2/86 Emergency simulation (testing)
  - J. 3/86 Power, signal & track repair, complete operator training
  - K. 1/87 Revenue service (11/27/84)
8. Peer Review (Smelley)
- A. 12/84 System safety and assurance
  - B. 1/85 Operations and start-up
9. P.U.C. Compliance (Beach)
- A. 2/86 File for final certification (11/27/84)
  - B. 4/86 Complete certification (11/27/84)
10. Marketing (Blymyer/Cain)
- A. 5/84 Start activity
  - B. 5/84 Provide general information to public
  - C. 9/84 Establish specific goals with Marketing
  - D. 10/84 Start public orientation (coordinate with Marketing)
  - E. 8/85 P/R - receive first LRV
  - F. 7/85 P/R - receive fare vending equipment
  - G. 7/85 Start preparation for K St. Mall ceremony
  - H. 9/85 P/R - K St. Mall ceremony
  - I. 5/86 Complete preparation for simulated revenue service (11/27/84)
  - J. 7/86 Simulated revenue service (open house) (11/27/84)
  - K. 10/86 I-80 revenue service (inauguration) (11/27/84)
11. System Checkout (Beach)
- A. 2/84 Start activity
  - B. 2/84 First vehicle design review
  - C. 6/84 Second vehicle design review
  - D. 10/84 Substation test review
  - E. 12/84 Start buff strength design review
  - F. 8/85 Start vehicle testing



- G. 4/86 Start system checkout process (11/27/84)
- H. 7/86 Simulated revenue service (11/27/84)
- I. 10/86 Revenue service (11/27/84)

12. Simulated Revenue Service (Beach)

- A. 5/86 Start activity (11/27/84)
- B. 7/86 Start simulated revenue service (11/27/84)
- C. 10/86 Complete activity (11/27/84)

13. Labor Negotiations (Beach)

- A. 3/84 Start activity
- B. 8/84 Establish negotiating guidelines
- C. 12/84 Approval of negotiating guidelines by RT Board (10/25/84) \*
- D. 10/86 Complete activity (11/27/84)

14. Legislation Development (Beach)

- A. 6/84 Start activity
- B. 1/86 Complete activity

15. Operation Control (10/22/84) (Smelley)

- A. 11/84 Start vehicle maintenance and operating M.I.S. development
- B. 4/85 Complete equipment list
- C. 11/85 Finalize operating and maintenance cost
- D. 12/85 Develop operation monitoring criteria
- E. 4/86 Start operation monitoring

\* Activity requiring Board approval



EXHIBIT NO. 7  
STATUS REPORT OF  
LRT EXTENSION STUDY





RECEIVED

DEC 4 1984

S.T.O.A.

**Sacramento Area  
Council of Governments**

Suite 300, 800 "H" Street  
Sacramento, California 95814  
(916) 441-5930

Mailing Address:  
P.O. Box 808  
Sacramento, California 95804

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City of Woodland  
Yuba County  
City of Marysville  
City of Wheatland

December 4, 1984

Mr. William H. Edgar  
Interim Executive Director  
Sacramento Transit Development Agency  
926 J Street, Suite 611  
Sacramento, CA 95814


Dear Bill:

SACOG has recently distributed a draft report for phase I of the LRT Extension Study. The report analyzes 19 possible extensions, suggests a smaller system for long range consideration, and recommends additional consultant study and eventual priority ranking for an even smaller system. The draft report will be reviewed by the Technical Committee on December 6th and by the Policy Committee on Thursday December 20th. RT staff has requested approximately 30 days to review the report. The RT Operations Committee will be briefed on December 10.

The three enclosed maps depict the contents of the report. Map 1 shows the 19 possible extensions that were identified by the committees and at the November 15 public meeting. Map 2 contains those extensions we are recommending for the eventual expanded system. Map 3 shows those extensions that have high priority if additional funds were to become available. In phase II, a consultant will analyze these routes in far greater detail.

If you have any questions, please contact Gary Stonehouse or Dave Young of my staff.

Sincerely,

  
JAMES E. WILLIAMS  
Executive Director




JEW:GLS:bb

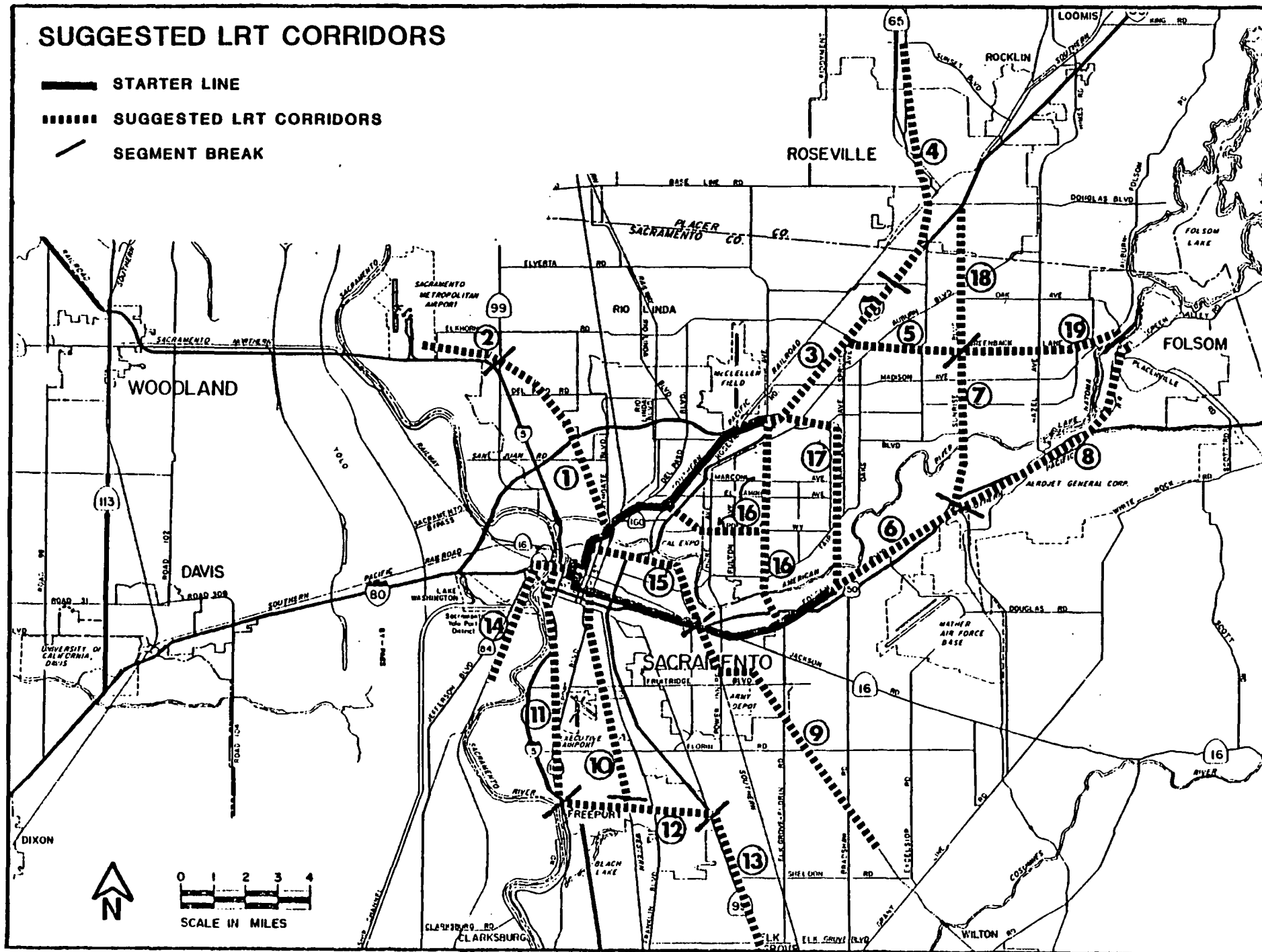
Enclosures



MAP 1

# SUGGESTED LRT CORRIDORS

-  STARTER LINE
-  SUGGESTED LRT CORRIDORS
-  SEGMENT BREAK





SACRAMENTO TRANSIT DEVELOPMENT AGENCY  
 DESIGN AUDIT AND TECHNICAL SUPPORT  
DRAFT LIST OF WORK PRODUCTS

<u>Task No.</u>	<u>Product</u>	<u>Draft Due Date</u>
110	o Revised Project Design Criteria o Memorandum Report to STDA Board	December 28, 1984
120	o Updated Scope Definition o Memorandum Report to STDA Board	December 28, 1984
130	o Report on Rearranged Baseline Estimates, Current Estimates and their Reconciliation	January 4, 1985
140	o Memorandum Report on Modifications to the Project since FEIS	December 28, 1984
210	o Memorandum Report on Findings and Recommendations for Contract Administration	January 4, 1985
220	o Quality Assurance Plan and Program o Memorandum to STDA Board	December 28, 1984
230	o Configuration and Change Control Procedure Document o Memorandum Report to the STDA Board on Configuration Management	January 4, 1985
240	o Revised Construction Management Manual o Memorandum Report to STDA Board on the CM Manual	December 28, 1984
310	o Record of the Workshops o Report on Findings and Recommendations o Summary Report to the STDA Board on the Start-Up and Operations Peer Review	January 25, 1985

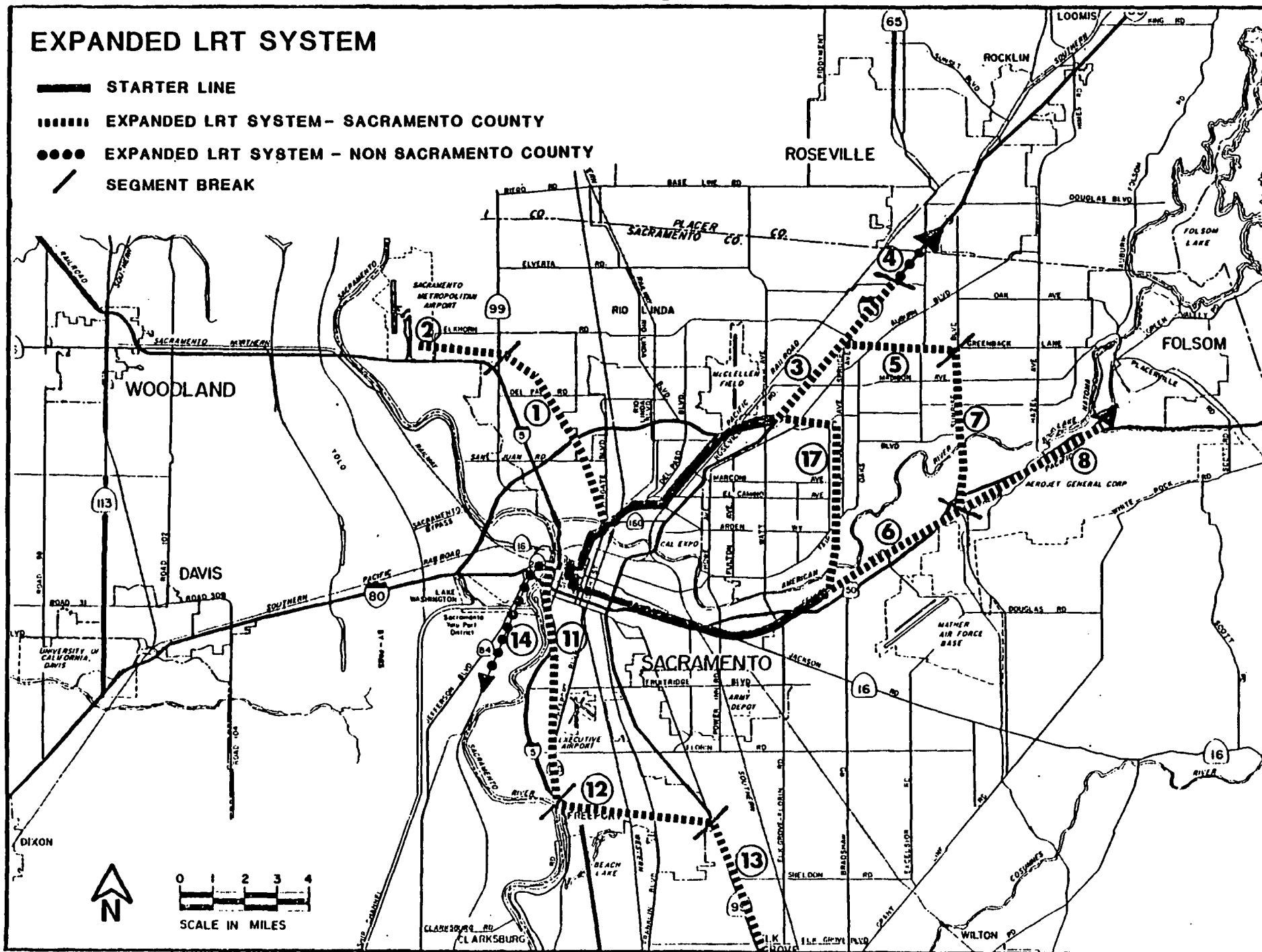


**STARTER LINE**

EXPANDED LRT SYSTEM- SACRAMENTO COUNTY

●●●● EXPANDED LRT SYSTEM - NON SACRAMENTO COUNTY

**SEGMENT BREAK**



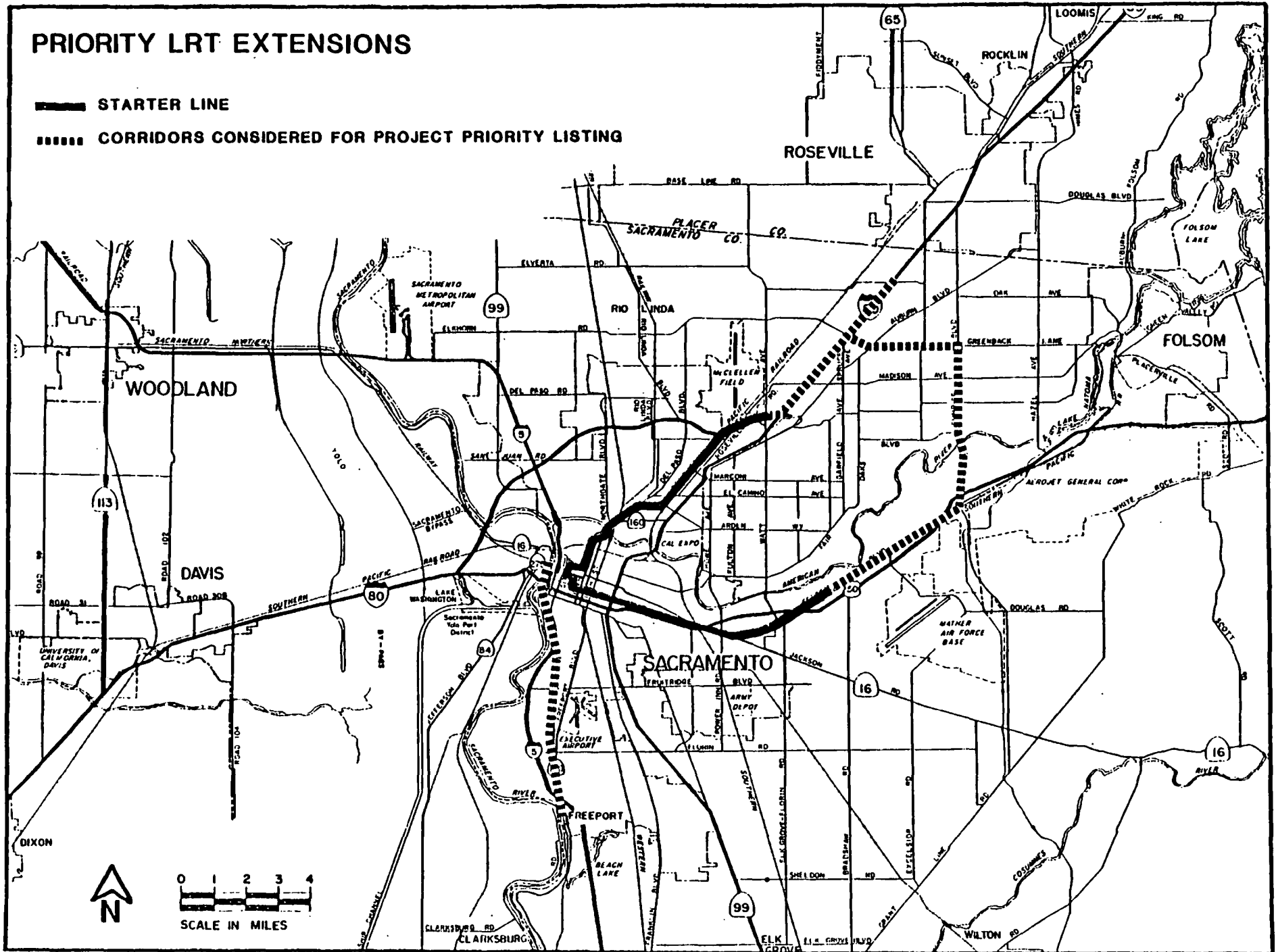


MAP 3

# PRIORITY LRT EXTENSIONS

**STARTER LINE**

**CORRIDORS CONSIDERED FOR PROJECT PRIORITY LISTING**

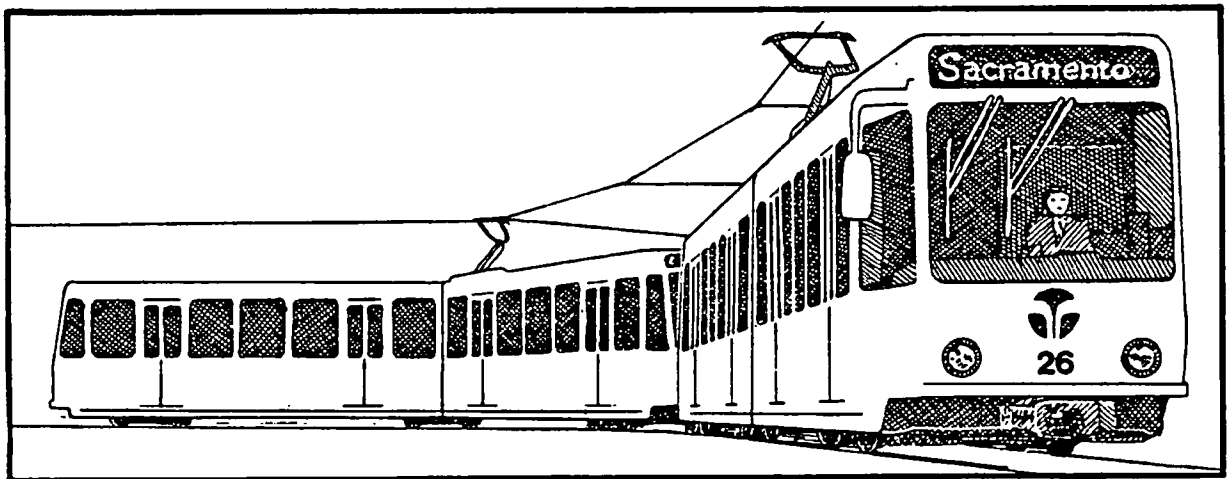








**SACRAMENTO  
TRANSIT DEVELOPMENT  
AGENCY**



**CURRENT BASELINE  
BUDGET**



**SACRAMENTO  
TRANSIT DEVELOPMENT  
AGENCY**

**CURRENT BASELINE  
BUDGET**

**December 12, 1984**



SACRAMENTO TRANSIT DEVELOPMENT AGENCY  
LIGHT RAIL STARTER LINE BASELINE PROJECT BUDGET

---

GOVERNING BOARD

Anne Rudin, Chairperson, Mayor - City of Sacramento  
William Bryan, Boardmember, Supervisor - County of Sacramento  
Illa Collin, Boardmember Alternate, Supervisor - County of Sacramento  
David M. Shore, Boardmember, Councilmember - City of Sacramento  
Grantland Johnson, Boardmember Alternate, Councilmember - City of Sacramento  
Arthur E. Bauer, Boardmember, Regional Transit Boardmember  
Philip Flynn, Boardmember, Regional Transit Boardmember  
Bertha Gaffney Gorman, Boardmember Alternate, Regional Transit Boardmember

STAFF

William H. Egdar, Interim Executive Director

PREPARED BY

City Department of Finance

Jack R. Crist, Director of Finance, STDA Controller  
Betty Masuoka, Senior Management Analyst



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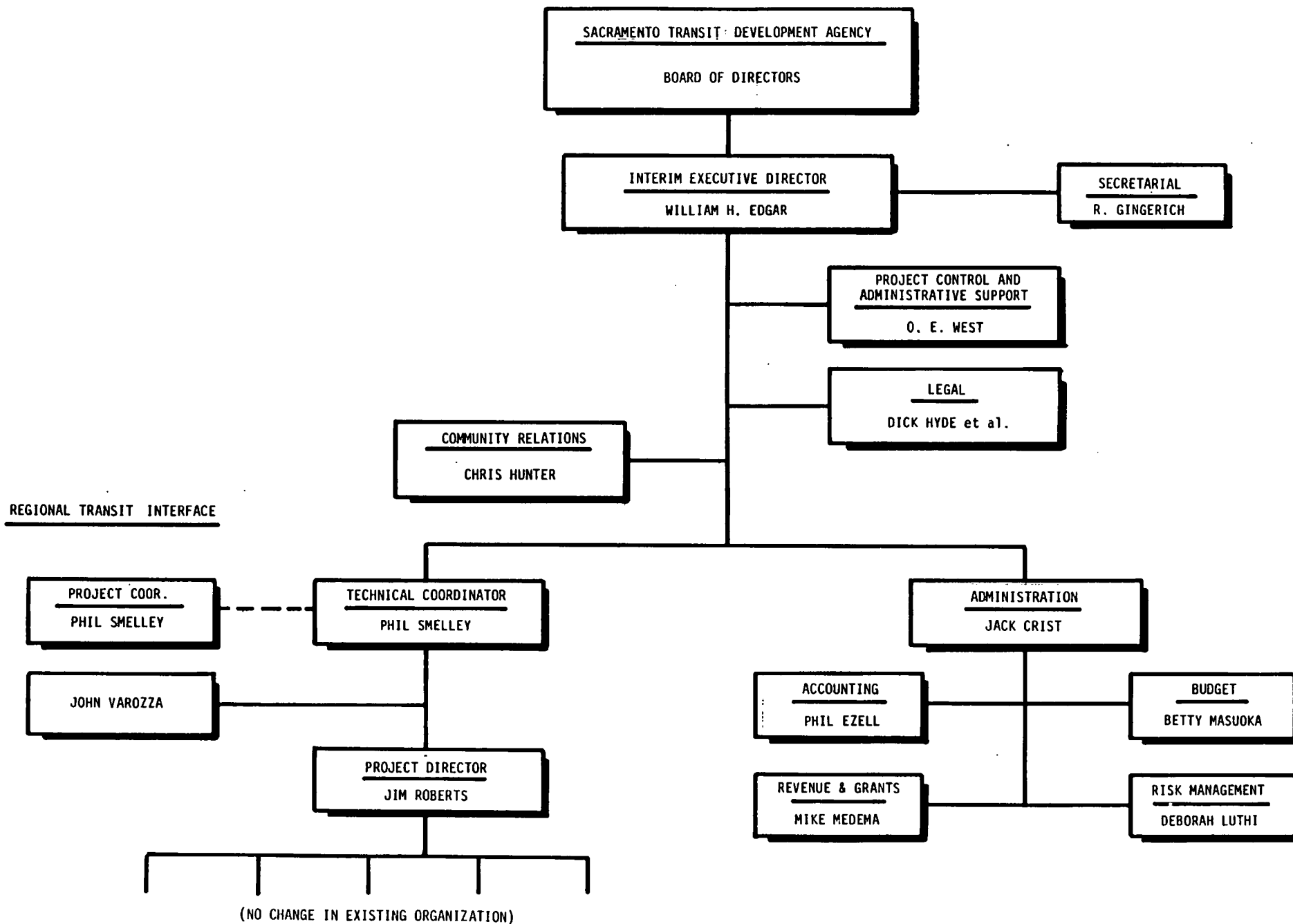
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ORGANIZATION CHART





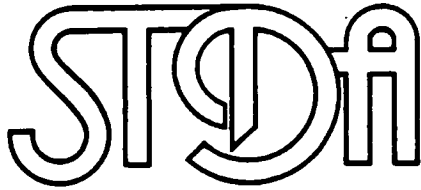






TRANSMITTAL LETTER





# MEMORANDUM

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1201 I Street, Room 205 • Sacramento 95814 • (916) 445-6519

December 12, 1984

To: Members of the Governing Board  
Sacramento Transit Development Agency

From: William H. Edgar, Interim Executive Director

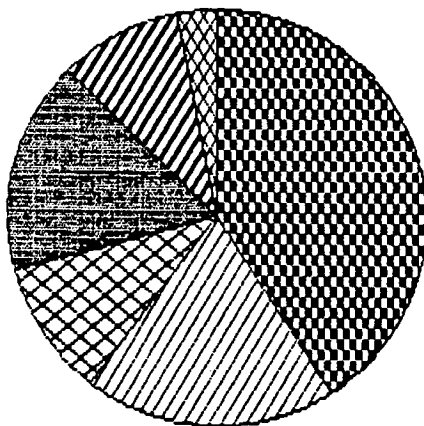
Re: Current Baseline Budget







## INTRODUCTION

Transmitted herein is the budget for the Sacramento Light Rail Starter Line construction project. The purpose of this document is to amend the budget which was previously adopted on April 11, 1984. At that time, the Governing Board approved a \$131.040 million budget. Since April, the budget has increased from \$131.040 million to \$131.233 million. This increase of \$0.193 million is attributable to an additional funding commitment received from the Sacramento Housing and Redevelopment Agency (SHRA). The following pie chart depicts the functional breakdown of the proposed project budget.

## MAJOR BUDGET CATEGORIES

(\$'s in millions)



	- Construction	53542.00 ( 40.8%)
	- Light Rail Vehicles	25570.00 ( 19.5%)
	- Other Procurement	13833.00 ( 10.5%)
	- Mgt/Eng & Insurance	21655.00 ( 16.5%)
	- ROW Acquisition	12885.00 ( 9.8%)
	- Const & Gen Contingency	3748.00 ( 2.9%)

TOTAL: 131233.00 (100%)



As can be seen from the above, the project contingency is \$3.748 million or 2.9% of the total budget. Of this amount, \$3.511 million has been allocated to the various construction contract units as Construction Contingency to be used to support change orders. The remaining \$.237 million has been set aside as a General Contingency to be used to fund contracts which come in higher than estimate as well as to absorb other cost overruns. In other words, the General Contingency is the barometer of the fiscal health of the project. With a General Contingency of \$.237 million (or virtually no contingency) it is apparent that there is cause for some financial concern. A full evaluation of this situation, encompassing updated cost and revenue projections, will be included in the final assessment report.

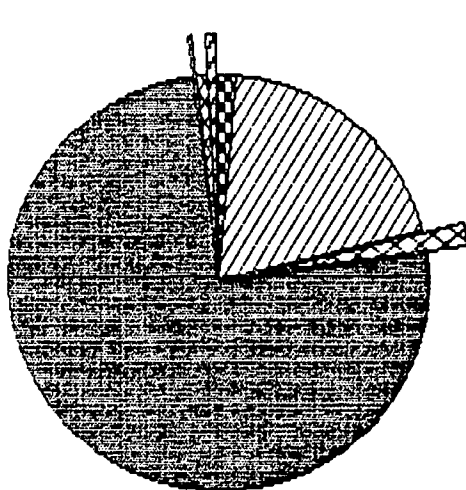
#### SUMMARY

The major purpose of this budget document is to redistribute the April 11, 1984 Board adopted budget as amended to include the October cost reduction measures to correspond with the UMTA required MACS codes as well as to the City's account code system. These distributions will then be utilized to control actual project expenditures during the remaining life of the project. In this regard, the Governing Board is also being asked to adopt the attached proposed resolution outlining the "Budget Control Principles" which shall then be followed by the project staff while administering the budget. The resolution also formalizes the procedure for changing the budget.

The budget document also contains budget summary information and funding source and grant information. Following are three pie charts which visually display the nature of the project's funding sources:

#### Budgeted Funding Sources

(\$'s in millions)

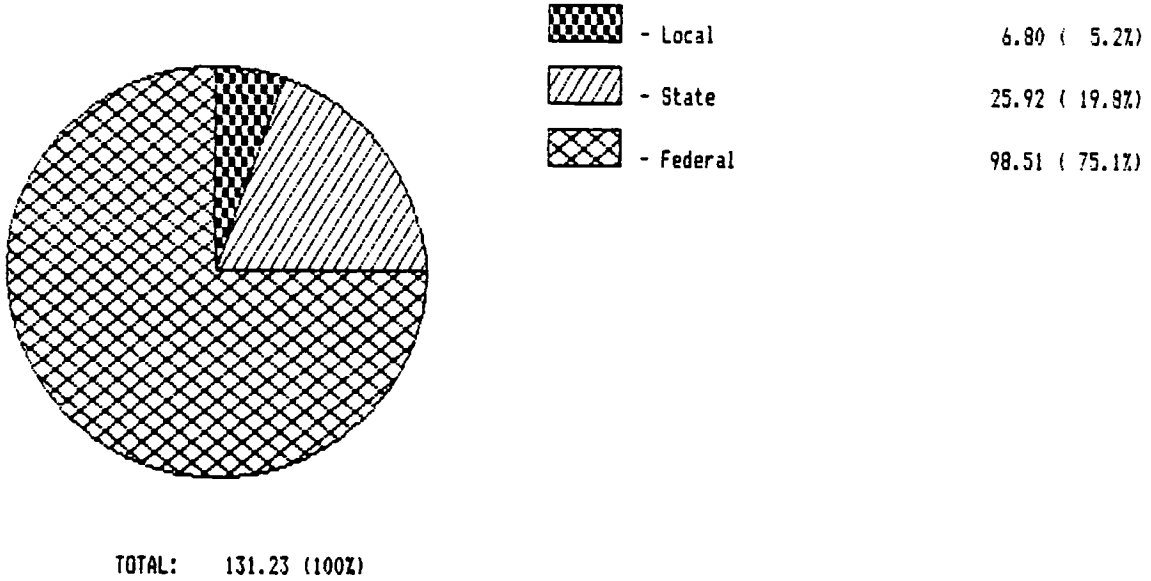


TOTAL: 131.23 (100%)



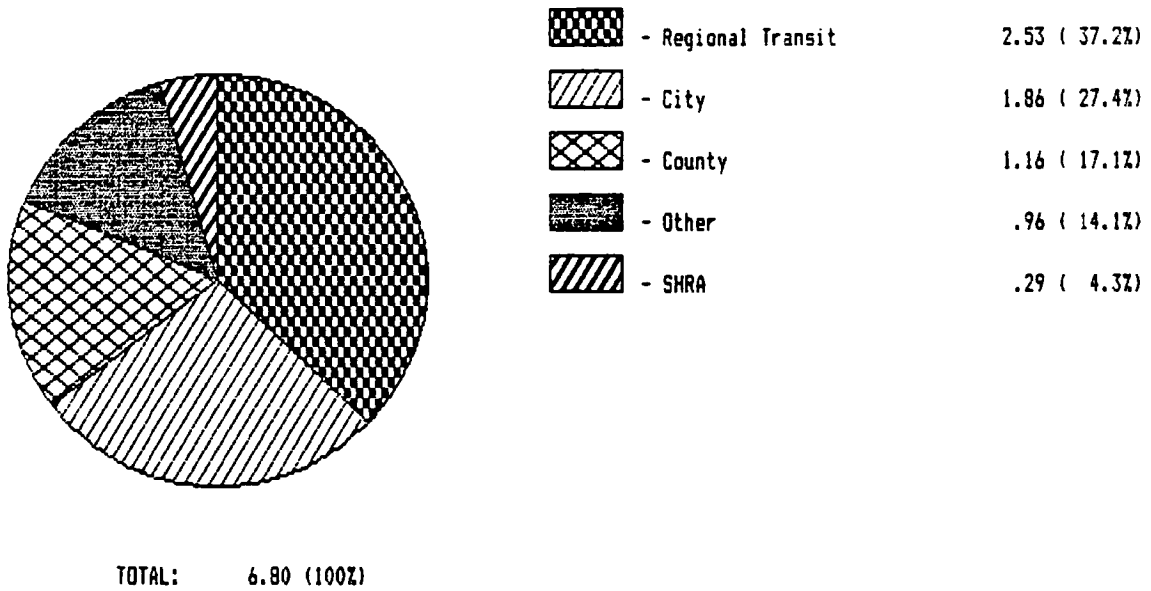
### Budgeted Funding Sources

(\$'s in millions)



### Local Funding Sources

(\$'s in millions)





As can be seen from the Summary by Contract Unit (page 10), over half of the \$30.495 million actually expended to date has been spent on three North Sacramento Grade Separations (\$6.117 million) and Managment and Engineering (\$9.054 million). Other material expenditures include the Northeast Corridor Right-of-Way Acquisition (\$5.578 million), Light Rail Vehicle progress payments (\$2.726 million) and acquisition of Track Materials (\$4.952 million).

During the month of December, the project financial staff will be working closely with project management to develop refined cost projections and to identify additional funding sources if these December cost projections are in excess of the current \$131.233 million budget. In January, the Governing Board can expect a revised budget document to be submitted for approval based on the December project cost/revenue refinements.

#### CONCLUSIONS AND RECOMMENDATIONS

In summary, this document traces the budget history of the project from June 1983 to today. Other recommended changes encompassed in this document are:

- o Formal adoption of the \$0.193 million funding from SHRA thereby bringing the baseline project budget total to \$131.233 million.
- o Contract Unit 98 - Construction Contingency has been eliminated as a formal contract unit with its budget of \$3.511 million distributed to the appropriate construction/procurement contract unit.
- o Contract Unit 1A - North Sacramento SPRR Relocation, has been folded back into Contract Unit 1 - North Sacramento Grade Separations. This has been done because the relocation work is an integral part of the grade separation as is its funding.
- o Contract Unit 7D - Station Graphics - has been added in order to account for the systemwide graphics needs. Funding for this contract unit has been provided by reducing various contract units by the amounts that were budgeted for this purpose.
- o The budget control principles proposed in this document establish a system which will allow the tracking of all budget changes and will ensure that budget overruns at the contract unit level will not be allowed in that Board action will be required to rectify all such situations.

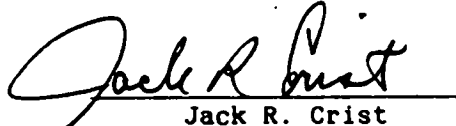



The major budget issues which are as yet unresolved but which will be addressed in the revised budget to be presented to the Board in January include:

- Update on expenditures and encumbrances to date by contract unit.
- Update on cost projections by contract unit.
- Update on revenue projections by funding source and a cash flow analysis.
- A match between funding source and contract unit.

Finally, I would like to commend the excellent work of the City Finance Department staff in putting this budget together, especially Betty Masuoka, Senior Management Analyst; Mike Medema, Revenue Officer; Phil Ezell, Accounting Officer; and Boyd Hughes, Accountant/Auditor. In addition I would like to thank Jim Roberts, Project Director for his assistance in recreating the budget histories.

Respectfully Submitted,

  
Jack R. Crist  
STDA Controller

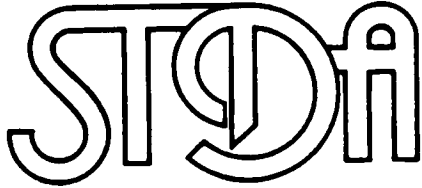
  
William H. Edgar  
Interim Executive Director



BUDGET RESOLUTION







# RESOLUTION

SACRAMENTO TRANSIT DEVELOPMENT AGENCY 926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168

ADOPTED BY THE SACRAMENTO TRANSIT  
DEVELOPMENT AGENCY ON \_\_\_\_\_

RESOLUTION ADOPTING THE CURRENT BASELINE BUDGET FOR THE  
SACRAMENTO LIGHT RAIL STARTER LINE PROJECT

Section 1.

- BE IT RESOLVED by the Governing Board of the Sacramento Transit Development Agency (STDA) that the enclosed budget document totaling \$131.233 million and incorporated herein by reference is hereby approved.

Furthermore,

Section 2: Grant Administration.

- STDA staff shall administer all grants in accordance with applicable grant agreements and Federal/State regulations. Accordingly, all budget changes shall be submitted to grantor agencies for concurrent approval.

Section 3: Budget Increases and Decreases.

- All budget increases and decreases to the total project budget shall be approved by the STDA Governing Board.
- Budget increases shall be supported with signed agreements from grantor agencies or private funding sources.
- Budget decreases must be supported by written justification from the STDA staff to the Governing Board.

Section 4: Budget Transfers Between Project General Contingency Budget and Individual Contract Unit Budgets.

- Budget transfers between individual contract units and General Contingency may be approved by the STDA Executive Director for



amounts up to and including \$20,000. All transfers in excess of \$20,000 require STDA Board approval.

- For purposes of this section, STDA Governing Board approval of contract unit advertising and/or award of bids shall also constitute approval of budget transfers between the project General Contingency budget and the individual contract unit budgets.
- Budget transfers between line items within individual contract units may be approved by the Executive Director.

#### Section 5: Budget Control Principles.

- All budget changes in total or between contract units and General Contingency shall be supported by proper written documentation on STDA forms prescribed by the STDA Controller. Such forms, when submitted by STDA staff, shall be reviewed and approved by the Executive Director, the Project Director, Project Control, and the STDA Controller.
- No budget transfers between individual construction or procurement contract units shall be allowed. If an individual contract unit budget is decreased, such amount shall be transferred to the General Contingency.
- Any budget transfer, other than formal advertising and/or award of bid approval related transfers, from General Contingency to individual contract unit budgets shall be supported by an approved budget change request form.
- No individual project contract unit shall be allowed to overrun its respective total budget. The STDA Controller is directed to withhold contractor payments until the potential total overrun is resolved by an approved budget change.
- The STDA staff will administratively control the project budget at the detail line item level within each contract unit. However, overruns of individual contract unit line items may be permitted as long as offsetting savings are apparent in other line items and the contract unit in total will not overrun as a result.



Section 6.

- All previous STDA approved budgets are hereby superseded.

AYES:

NAYS:

ABSENT:

ABSTAIN:

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William H. Edgar  
Interim Executive Director

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Anne Rudin  
Chairperson



BUDGET/EXPENDITURE SUMMARY BY CONTRACT UNIT



LR1:CUSUM  
12/02/84

BUDGET/EXPENDITURE SUMMARY BY CONTRACT UNIT  
(\$'s in 000's)

CU	DESCRIPTION	6/83 Eng. Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	10/84 Act Exp	% Expend. of Prop
1	No. Sac Grade Separation	6,284	6,284	6,284	6,956	6,117	87.94
1A	No. Sac SPRR Relocation	386	386	386	0	0	.00
2	At Grade Line-NE Corridor	2,980	3,924	3,964	4,071	28	.69
2A	Watt/80 Median	800	810	3,629	3,790	0	.00
3	Maintenance Building	2,618	2,726	3,827	3,963	103	2.60
4	Mall Demolition	8,748	500	343	360	277	76.94
4A	At Grade Line-Cent City	0	6,000	7,733	8,237	0	.00
4B/C	Tree Procurement-K St	0	32	32	32	23	71.88
4D	Central City Parking Lots	0	0	150	0	0	.00
5	At Grade Line-Folsom	5,190	7,670	7,670	8,054	0	.00
6	At Grade Station-Watt/80	2,447	2,440	838	870	0	.00
7	At Grade Station-NE	3,503	3,500	1,857	1,870	0	.00
7A	At Grade Stations-Folsom	3,872	3,870	3,607	3,791	0	.00
7B	Tree Procurement-Suburbs	80	35	35	35	7	20.00
7C	Art Program	0	0	222	222	33	14.86
7D	Station Graphics	0	0	0	150	0	.00
7E	Station Shelters	0	0	403	423	0	.00
8	Yard Grading	46	48	71	71	71	100.00
8A	Temp Fencing-Yard Storage	0	8	8	8	5	62.50
9	Electrification	1,390	1,390	2,194	2,304	0	.00
10	LRT Signaling	5,760	5,760	3,927	4,147	0	.00
11	Traffic Signals	2,385	2,390	2,390	2,509	0	.00
12	Radio Procurement	280	280	280	280	0	.00
14A	Rail Procurement	2,740	2,731	2,731	2,731	2,731	100.00
14B	Otr Track Mat'l Procurement	1,180	1,180	1,180	1,180	1,074	91.02
15	Tie Procurement	1,140	1,142	1,148	1,148	1,147	99.91
16	Spec Trackwork Procurement	650	643	691	691	0	.00
17	Light Rail Vehicles	26,370	24,352	24,352	25,570	2,726	10.66
18A	Fare Vending Equip Proc.	520	520	520	520	0	.00
18B	Major Shop Equip Proc.	1,336	880	880	880	0	.00
18C	Line Maint Equip Proc.	240	240	240	240	37	15.42
19	Substation Procurement	4,150	3,473	3,473	3,473	482	13.88
20	Catenary System/Pole Proc	1,880	1,880	1,481	1,481	0	.00
21	Cable/Wire Procurement	1,370	1,370	1,142	1,142	84	7.36
40	Management and Engineering	14,950	18,174	17,156	17,156	9,054	52.77
45	SRTD Mgmt/System Start up	0	3,123	2,949	2,949	0	.00
50	Risk Management	0	1,550	1,550	1,550	333	21.48
60	R-O-W Acquisition	12,360	12,885	12,885	12,885	5,578	43.29
70	Utility Relocation	5,120	5,257	5,257	5,257	585	11.13
98	Construction Contingency	0	3,587	3,511	0	--	.00
99	General Contingency	10,250	0	237	237	--	.00
TOTALS		\$131,025	\$131,040	\$131,233	\$131,233	\$30,495	23.24



### BUDGET SUMMARY BY LINE ITEM



LR1:ACCTSUM2  
12/06/84

SUMMARY BY LINE ITEM  
(\$'s in 000's)

City Acct	MACS Codes	Description	6/83 Eng. Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed
4951	N/A	Grade Separations	6,284	6,284	6,284	6,284
4952	N/A	SPRR Relocation	386	386	386	386
4953	20.01.00	Light Rail Vehicles	26,370	24,352	24,352	24,352
4954	20.02.03	LRT Signaling	5,760	5,760	3,927	3,927
4955	20.02.04	Fare Collection Equipment	520	520	520	520
4956	20.02.08	Communications	280	280	280	280
4957	20.03.01	Vehicles	240	240	240	240
4958	20.03.02	Tools and Equipment	1,336	880	880	880
4959	20.06.00	Real Estate Acquisition	12,360	12,885	12,885	12,885
4960	20.08.01	Proj Mgmt, Eng & Design	11,687	14,911	13,893	13,893
4961	20.08.02	Construction Management	2,660	2,660	2,660	2,660
4962	20.08.03	Legal Services	338	338	338	338
4963	20.08.04	Appraisal Services	265	265	265	265
4964	20.10.00	Demolition	8,748	500	343	343
4965	20.11.01	Insurance	0	1,550	1,550	1,550
4966	20.11.10	Stations w/ Parking Facilities	10,622	10,620	10,556	10,596
4967	20.11.20	Maint/Repair Facilities	2,618	2,726	3,827	3,827
4968	20.11.30	Storage Yard	46	56	79	79
4969	20.11.90	Landscaping	80	35	35	35
4970	20.13.12	Utility Relocation	5,120	5,257	5,257	5,257
4971	20.13.40	ROW Construction	11,945	21,406	24,133	24,093
4972	20.14.01	Rail	3,920	3,911	3,911	3,911
4973	20.14.02	Ties	1,140	1,142	1,148	1,148
4974	20.14.03	Special Trackwork	650	643	691	691
4975	20.14.05	Unit Substations	4,150	3,473	3,473	3,473
4976	20.14.06	Catenary System	1,880	1,880	1,481	1,481
4977	20.14.07	Cable and Wire	1,370	1,370	1,142	1,142
4978	20.15.00	Project Sponsor Force Acct	0	2,000	1,912	1,912
4979	20.16.00	Supporting Services	0	1,123	1,037	1,037
4980	32.00.01	Construction Contingency	0	3,587	3,511	3,511
4981	32.00.02	General Contingency	10,250	0	237	237
Totals			131,025	131,040	131,233	131,233



Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099
1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	



## Funding Detail

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The following pages identify the current sources of funding for the Light Rail project. Each source of funds is identified by grantor, grantor account number, STDA account number, and intended use for the funds. Summarized below is a history of the funding source changes since April 1983.

### Summary of Funding Changes

(\$'s in millions)

Date	Source	Amount	Comment
	Federal	98.51	
	State	25.92	
	Local	6.60	
		131.03	
6/83			
	Federal	.01	Additional Section 9 Funds.
		131.04	
4/84			
	Local	.19	Additional SHRA funds for
		131.233	Alkalai Flat Parking Lots.
12/84			



SACRAMENTO TRANSIT DEVELOPEMENT AGENCY

BUDGETED FUNDING SOURCES

AS OF DECEMBER 1, 1984

(\$ Mil)

<u>STDA No.</u>	<u>Grantor No.</u>	<u>Source</u>	<u>Purpose</u>	<u>Amount</u>
FF01	CA-29-9002	UMTA	Define scope, resolution of planning issues and preliminary engineering	\$ .50
FF02	CA-29-9004	UMTA	Preliminary engineering/preparation of final environmental impact statement	1.96
FF03	CA-29-9005	UMTA	Final engineering	5.50
FF04	CA-90-0010	UMTA	Final engineering/construction management and inspection of NE light rail project	2.41
FF05	CA-23-9001	UMTA	Construction/purchase of equipment/project management	88.14
Total Federal Funding				<u>98.51</u>
SF-01	FMT-81-8	XIX Guideway Funds	Determine alternatives for I-80 By-Pass	.12
SF-02	FMT-82-7	XIX Guideway Funds Trans Planning & Development	Preliminary engineering NE Corridor	1.40
SF-03	PUC '82	CPUC Grade Separation Account	Arden & Marconi overcrossings	4.20
SF-04	FMT-82-20	XIX Guideway Funds	Right of way purchase	1.00
SF-05	FMT-83-1	XIX Guideway Funds	Final engineering, ROW & construction material NE Corridor	4.30
SF-06	PUC '83	CPUC Grade Separation Account	Arden & Marconi overcrossings	2.40
SF-07	FMT-84-1 MT-84-4	XIX Guideway Funds Trans Planning & Development	Final engineering, ROW & construction material NE Corridor; purchase vehicles	7.00



<u>STDA No.</u>	<u>Grantor No.</u>	<u>Source</u>	<u>Purpose</u>	<u>Amount</u>
SF-08	FMT-85-1	XIX Guideway Funds	Construction (match for Federal and Local \$)	5.50
Total State Funding				<u>25.92</u>
LF-01	1981	RT	Design/construction	.12
LF-02	1982	RT	Design/construction	.35
LF-03		SHRA (City match)	12th St. Capital Improvement	.02
LF-04		City	Grade separation at El Camino	.70
LF-05		So. Pacific Transportation Co.	5% of costs of El Camino / Arden Way & Marconi overpasses	.60
LF-06		Lumberjack	Sale of excess property	.27
LF-07		Culligan	Cost of retaining wall	.09
LF-08	1983	RT	Design/construction	1.00
LF-09		City	Not designated	.38
LF-10		County	Not designated	.58
LF-11		SHRA (City match)	12th St. Capital Improvement Program (ROW)	.27
LF-12	1984	RT	Design/construction	1.06
LF-13		City	Not designated	.78
LF-14		County	Not designated	.58
LF-15		Sacramento Bee	Agreement pending	(A)
LF-16		Tom Harris Properties	23rd & R Street station	(B)
Total Local Funding				<u>6.80</u>
TOTAL FUNDING				<u>\$131.23</u> =====

(A) Estimated funding total is \$ .35 Mil

(B) \$.006 Mil contributed in lieu of City parking requirements



## BUDGET DETAIL



The following pages constitute the basis of the current baseline budget. Each of the 42 contract units is depicted on a separate page and provides the following information:

- o The generally accepted "budgeted" amounts at various key points. The only formally adopted budget amounts are those labeled "4/84 Adopted". It should be noted that all dollar amounts are in thousands.
- o Applicable MACS codes and City accounting codes. The MACS codes designations are required by UMTA to be used in the accounting for Federal grants. The City codes are what are being used to track these costs in the City's accounting system. In some cases, certain contract unit costs are not eligible for UMTA funding (i.e. CU 1 and CU 1A), therefore MACS codes have not been assigned. It should also be noted that in general, for each contract unit one MACS code is assigned for the project itself and one for the construction contingency. Therefore, if a contract unit covers more than one MACS code category it is defined, for Federal reporting purposes, under the predominante MACS code.
- o A short description of the work to be done under each Contract Unit including the major contractor (if known).
- o A summary of the formal and informal budget changes which have taken place since the June 1983 engineers estimate.



# CU 1 - NORTH SACRAMENTO GRADE SEPARATION

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
N/A	4951	6,284	6,284	6,284	6,284	6,117	91.72 %
N/A	4952	--	--	--	386	-0-	-0- %
32.00.01	4980	--	--	--	286	-0-	-0- %
		-----	-----	-----	-----	-----	-----
Total		\$ 6,284	\$ 6,284	\$ 6,284	\$ 6,956	\$ 6,117	87.94 %

## Contract Unit Description

This contract unit encompasses the construction of three four-lane street overpasses at Arden Way, El Camino Avenue, and Marconi Avenue. The Proposed Budget also includes the relocation of portions of Southern Pacific Rail Road track made necessary by the construction of the three grade separation structures. Work includes removal and replacement of rail, ties and ballast to detour railroad movement during construction. Work done by Southern Pacific to be coordinated with the grade separation construction. The major contractor is Granite Construction Company.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$6,284		
4/84	\$6,284		
10/84	\$6,284	+ 386	Consolidate CU1A into CU1.
		+ 286	Construction contingency.
12/84	\$6,956		



# CU 1A - NORTH SACRAMENTO SPRR RELOCATION

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
N/A	4952	386	386	386	-0-	-0-	-0- %

## Contract Unit Description

Contract Unit 1A is proposed to be folded into Contract Unit 1 as it is all work associated with the grade separation structures. This portion of the work includes the relocation of portions of SPRR track. The main contractor for this unit is SPRR.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 386		
4/84	\$ 386		
10/84	\$ 386	- 386	Consolidate CU1A into CU1.
12/84	\$ -0-		



**CU2 - AT GRADE LINE - NORTHEAST CORRIDOR**

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.13.40	4971	2,980	3,924	3,964	3,964	28	0.71 %
32.00.01	4980	--	--	--	107	-0-	-0- %
Total		\$ 2,980	\$ 3,924	\$ 3,964	\$ 4,071	\$ 28	0.69 %

**Contract Unit Description**

This contract unit covers the section of line from Arden/Del Paso to Watt/80 including grading and drainage; Arcade Creek structure; site preparation for storage yard; installation of ballast, rail, ties and special trackwork; foundations for signals and the overhead catenary system (OCS); leveling pads and OCS supports on bridges; and grading for approach road from Winters/Grand intersection. The boundaries for this portion of the project are the east side of Del Paso Blvd at Arden Way to the southwest end of Grand Ave OH, plus track work to the end terminus at Watt/80. The major contractor for this unit is Pacific Railroad Construction.

**Summary of Budget Changes**

Budget Date	Budget Amount	Change	Description
6/83	\$ 2,980		
		+ 100	Transfer from Folsom Corridor.
		+ 134	Transfer from Shop Equipment.
		+ 410	Transfer from Maintenance Bldg.
		+ 300	Transfer from Track Materials.
4/84	\$ 3,924		
		+ 40	Reestimate
10/84	\$ 3,964		
		+ 107	Construction contingency
12/84	\$ 4,071		



## CU2A - WATT/80 MEDIAN

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.13.40	4971	800	810	3,629	3,609	-0-	-0- %
32.00.01	4980	--	--	--	181	-0-	-0- %
Total		\$ 800	\$ 810	\$ 3,629	\$ 3,790	\$ -0-	-0- %

## Contract Unit Description

The work in the Watt/80 median area includes erecting barriers to separate work area and freeway; cutting and removing existing concrete; grading and drainage; paving; putting in curbs and platforms; as well as related work such as the installation of lighting and landscaping. The perimeter of this work area is defined by the southwest end of Grand Ave OH to the Watt/80 end terminus.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 800		
		+ 10	Reestimate
4/84	\$ 810		
		+ 4,459	Expansion of contract unit scope.
		- 1,640	10/5/84 Board approved reductions.
10/84	\$ 3,629		
		- 20	Transfer to CU7D for Station Graphics.
		+ 181	Construction contingency.
12/84	\$ 3,790		



# CU3 - MAINTENANCE BUILDING

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.11.20	4967	2,618	2,726	3,827	3,827	103	2.69 %
32.00.01	4980	--	--	--	136	-0-	-0- %
Total		\$ 2,618	\$ 2,726	\$ 3,827	\$ 3,963	\$ 103	2.60 %

## Contract Unit Description

This contract unit covers the maintenance and operations building including the structural work, paving, lighting, fencing, utilities and related work, building electrification, DC power conduit and appropriate anchors and provisions for future shop equipment installation. It also includes the track installation within the building. The major contractor for this unit is Continental Heller.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 2,618	- 410	Transferto NE Corridor (CU2)
		+ 518	From Shop Equipment (CU18B)
4/84	\$ 2,726	+1,101	Amount needed to fund fourth track option. Transferred from General Contingency.
10/84	\$ 3,827	+ 136	Construction contingency
12/84	\$ 3,963		



# CU4 - MALL DEMOLITION

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.10.00	4964	8,748	500	343	343	277	80.76 %
32.00.01	4980	--	--	--	17	-0-	-0- %
Total		\$ 8,748	\$ 500	\$ 343	\$ 360	\$ 277	76.94 %

## Contract Unit Description

The scope of this contract unit originally included a large portion of the line construction. It was later limited to the demolition of existing structures, fountains, and pavement on the K-Street Mall. It also includes the removal of existing trees on the mall between 7th and 12th Streets.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 8,748	- 8,248	Contract redefined to include demolition of the K-Street mall only. Remaining funds transfered to CU4A and CU5.
4/84	\$ 500	- 157	Transfered to construction contingency. Adjustment based on actual contract amount.
10/84	\$ 343	+ 17	Construction contingency
12/84	\$ 360		



**CU4A - AT GRADE LINE - CENTRAL CITY**

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.13.40	4971	--	6,000	7,733	7,843	-0-	-0- %
32.00.01	4980	--	--	--	394	-0-	-0- %
Total		\$ --	\$ 6,000	\$ 7,733	\$ 8,237	\$ -0-	-0- %

**Contract Unit Description**

This contract unit covers the section of line from 18th/R to Arden/ Del Paso. The required work includes grading and drainage; station stops; structure modification; installation of ballast, rail, ties and special trackwork; reconstruction of K-Street Mall; 12th Street and O-Street improvements; site preparation, conduit work and foundations for signals and electrification; and street repaving as needed. The boundries of this unit are the west side of 18th Street to the east side of Del Paso Blvd at Arden Way.

The proposed budget also includes the amount previously budgeted in Contract Unit 4D for the Central City Parking lots: three at Del Paso Blvd and Baxter and on the east and west sides of 12th and E Streets.

**Summary of Budget Changes**

Budget Date	Budget Amount	Change	Description
6/83	\$ --	+ 6,000	Transfer from CU4 to establish the contract unit.
4/84	\$ 6,000	- 326	Transfer to Art Program (CU7C).
		- 150	Create new CU4D for Central City parking lots.
		+ 3,624	Reestimate.
		- 1,415	10/5/84 Board approved reductions.
10/84	\$ 7,733	+ 150	Absorb CU4D.
		- 40	Transfer to CU7E for station graphics.
		+ 394	Construction contingency.
12/84	\$ 8,237		



**CU4B/C - TREE PROCUREMENT - K STREET MALL**

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.13.40	4971	--	32	32	32	23*	71.88 %

\* To date, \$2.6 has been expended on CU4B and \$20.5 on CU4C.

**Contract Unit Description**

This contract unit provides for the procurement of approximately 180 Sycamore, Red Oak and Red Maple trees for the K-Street Mall landscaping. The major contractors are Northwest Shade Tree and E & F Nursery.

**Summary of Budget Changes**

Budget Date	Budget Amount	Change	Description
6/83	\$ --	+ 32	Transfer from CU4.
4/84	\$ 32		
10/84	\$ 32		
12/84	\$ 32		



# CU4D - CENTRAL CITY PARKING LOTS

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.13.40	4971	--	--	150	-0-	-0-	-0- %

## Contract Unit Description

This contract unit was set up to segregate the work required for the Central City parking lots; specifically for the demolition, grading, drainage, paving, and landscaping for three parking lots at Del Paso Blvd and Baxter for 41 cars, and on the east and west sides of 12th and E Streets for 15 and 34 cars respectively. The funding for these parking lots has since been consolidated into Contract Unit 4A and will be built as a part of that contract.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ -0-		
4/84	\$ -0-	+ 150	Transfer from CU4A to segregate parking lot construction.
10/84	\$ 150	- 150	Transfer to CU4A.
12/84	\$ -0-		



**CU5 - AT GRADE LINE - FOLSOM CORRIDOR**

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.13.40	4971	5,190	7,670	7,670	7,670	-0-	-0- %
32.00.01	4980	--	--	--	384	-0-	-0- %
Total		\$ 5,190	\$ 7,670	\$ 7,670	\$ 8,054	\$ -0-	-0- %

**Contract Unit Description**

This contract unit covers the section of line from 18th and R Streets to Butterfield Way and includes grading and drainage; structures including UPRR and SPRR overpasses; installation of ballast, rail, ties and special trackwork; conduit installation and foundations for signals and the overhead catenary system substation pad grading; and lining of SP Placerville Branch as required.

**Summary of Budget Changes**

Budget Date	Budget Amount	Change	Description
6/83	\$ 5,190		
		+ 2,480	Transferred from CU4 as part of the redefinition of contract scopes.
4/84	\$ 7,670		
10/84	\$ 7,670		
		+ 384	Construction contingency.
12/84	\$ 8,054		



**CU6 - AT GRADE STATION - WATT/80 TERMINUS**

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.11.10	4966	2,447	2,440	838	828	-0-	-0- %
32.00.01	4980	--	--	--	42	-0-	-0- %
Total		\$ 2,447	\$ 2,440	\$ 838	\$ 870	\$ -0-	-0- %

**Contract Unit Description**

The at grade station at the Watt/80 terminus includes the Watt Ave bridge modifications, elevators, stairways, crew and restroom facilities, platforms, shelters, ramps for the elderly and handicapped and related amenities.

**Summary of Budget Changes**

Budget Date	Budget Amount	Change	Description
6/83	\$ 2,447	- 7	Reestimation
4/84	\$ 2,440	- 77	Transfer to CU7C for the Art Program.
		+ 150	Addition of bridge median barrier.
		- 998	Reestimate.
		- 677	10/5/84 Board reductions.
10/84	\$ 838	- 10	Transfer to CU7D for station graphics.
		+ 42	Construction contingency.
12/84	\$ 870		



**CU7 - AT GRADE STATION - NORTHEAST CORRIDOR**

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.11.10	4966	3,503	3,500	1,857	1,777	-0-	-0- %
32.00.01	4980	--	--	--	93	-0-	-0- %
Total		\$ 3,503	\$ 3,500	\$ 1,857	\$ 1,870	\$ -0-	-0- %

**Contract Unit Description**

The work required for the at grade stations on the northeast corridor include grading drainage; construction; lighting and landscaping for the stations and park-&-ride lots; street signals associated with the stations; platforms, shelters, elderly and handicapped ramps and related amenities. The stations will be at Marconi and Arden, Swanston, Rowyal Oaks, and Arden and Del Paso.

**Summary of Budget Changes**

Budget Date	Budget Amount	Change	Description
6/83	\$ 3,503	- 3	Reestimate.
4/84	\$ 3,500	- 871	Reestimate.
		- 77	Transfer to CU 7C for the Art Program.
		- 695	10/5/84 Board reductions.
10/84	\$ 1,857	- 80	Transfer to CU 7D for Station Graphics.
		+ 93	Construction contingency.
12/84	\$ 1,870		



# CU7A - AT GRADE STATIONS - FOLSOM CORRIDOR

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.11.10	4966	3,872	3,870	3,607	3,607	-0-	-0- %
32.00.01	4980	--	--	--	184	-0-	-0- %
Total		\$ 3,872	\$ 3,870	\$ 3,607	\$ 3,791	-0-	-0- %

## Contract Unit Description

The contract unit for the at grade stations on the Folsom Corridor encompasses the grading and drainage; construction; lighting and landscaping for stations and park-&-ride lots; street signals associated with the stations; platforms, shelters, elderly and handicapped ramps and related amenities. The stations will be located at 23rd Ave, 29th Ave, 59th Ave, 65th Ave, Power Inn, College Gardens, Watt and Manlove, Starfire, Tiber, and Butterfield Way.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 3,872	- 2	Reestimate.
4/84	\$ 3,870	- 80	Transfer to CU 7C for the Art Program.
		- 183	Transfer to CU 7E for station shelters.
10/84	\$ 3,607	+ 184	Construction contingency.
12/84	\$ 3,791		



# CU7B - TREE PROCUREMENT - SUBURBAN STATIONS

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.13.40	4971	80	35	35	35	7	20.00 %

## Contract Unit Description

This contract unit includes the procurement of approximately 1550 trees for use in the landscaping of the suburban stations. The major contractor for this unit is Bonfante.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 80	- 45	Reestimate.
4/84	\$ 35		
10/84	\$ 35		
12/84	\$ 35		



# CU7C - ART PROGRAM

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.13.40	4971	--	--	222	222	33	14.86 %

## Contract Unit Description

The Art Program will be part of a systemwide effort to create an individual identity for each station. It will include pavement pieces, tree grates, banners, and station graphics at Power In Cathedral Square at 11th and K Streets, K-Street Mall, St. Rose of Lima Park at 7th and K Streets, and the Q-Street Mall between 9th and 10th Streets.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ --		
4/84	\$ --		
		+ 326	Transfer from CU4A.
		+ 77	Transfer from CU6.
		+ 77	Transfer from CU7.
		+ 80	Transfer from CU7A.
		- 338	10/31/84 Board reductions.
10/84	\$ 222		
12/84	\$ 222		



# CU7D - STATION GRAPHICS

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.11.10	4966	--	--	--	150	-0-	-0- %

## Contract Unit Description

This contract unit is proposed to cover the systemwide graphics needs.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ --		
4/84	\$ --		
10/84	\$ --		
		+ 20	Transfer from CU 2A.
		+ 40	Transfer from CU 4A.
		+ 10	Transfer from CU 6.
		+ 80	Transfer from CU 7.
12/84	\$ 150		



# CU7E - STATION SHELTERS

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.11.10	4966	--	--	403	403	-0-	-0- %
32.00.01	4980	--	--	--	20	-0-	-0- %
Total		\$ --	\$ --	\$ 403	\$ 423	\$ -0-	-0- %

## Contract Unit Description

This contract unit for systemwide shelters removes all shelters from CU2A, CU4A, CU7 and CU7A, and places them into one contract.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ --		
4/84	\$ --	+ 403	Transfer from General Contingency.
10/84	\$ 403	+ 20	Construction contingency.
12/84	\$ 423		



# CU8 - YARD GRADING

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.13.40	4971	46	48	71	71	71	100.00%

## Contract Unit Description

This contract unit includes grading of the area required for the maintenance building and temporary storage area and lighting the storage area. The major contractor for this unit is Anderson.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 46		
		+ 2	Reestimate.
4/84	\$ 48		
		+ 29	Change orders/extra work. Funds transferred from construction contingency.
		- 6	Transfer to General contingency based on actual cost of the contract.
10/84	\$ 71		
12/84	\$ 71		



# CU8A - YARD STORAGE - TEMPORARY FENCING

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.13.40	4971	--	8	8	8	5	62.50 %

## Contract Unit Description

This contract unit includes the rental, installation, maintenance and removal of temporary cyclone fencing for the perimeter of the storage yard area. The major contractor for this unit is Golden State.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ --		
4/84	\$ 8		
10/84	\$ 8		
12/84	\$ 8		



# CU9 - ELECTRIFICATION

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.13.40	4971	1,390	1,390	2,194	2,194	-0-	-0- %
32.00.01	4980	--	--	--	110	-0-	-0- %
Total		\$ 1,390	\$ 1,390	\$ 2,194	\$ 2,304	\$ -0-	-0- %

## Contract Unit Description

This contract unit covers the systemwide electrification installation including DC power substations, poles, conduit, and overhead catenary system (OCS) for the entire LRT line, yard and shop.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 1,390		
4/84	\$ 1,390	+ 804	Reestimate.
10/84	\$ 2,194	+ 110	Construction contingency.
12/84	\$ 2,304		



# CU10 - LIGHT RAIL TRANSIT SIGNALING

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.02.03	4954	5,760	5,760	3,927	3,927	-0-	-0- %
32.00.01	4980	--	--	--	220	-0-	-0- %
Total		\$ 5,760	\$ 5,760	\$ 3,927	\$ 4,147	\$ -0-	-0- %

## Contract Unit Description

This contract unit includes the furnishing and installation of all wayside signaling equipment for the LRT system as well as the installation and testing of the grade crossing protection devices and switch machines.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 5,760		
4/84	\$ 5,760	- 485	Transfer to CU 21.
		- 1,348	Transfer to General contingency.
10/84	\$ 3,927	+ 220	Construction contingency.
12/84	\$ 4,147		



# CU11 - TRAFFIC SIGNALS

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.13.40	4971	2,385	2,390	2,390	2,390	-0-	-0- %
32.00.01	4980	--	--	--	119	-0-	-0- %
Total		\$ 2,385	\$ 2,390	\$ 2,390	\$ 2,509	\$ -0-	-0- %

## Contract Unit Description

This contract unit includes furnishing and installing all city street traffic signal equipment as well as the installation and test modifications to existing street signals (except for those street signals covered in CU7 and CU7A).

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 2,385	+ 5	Reestimate.
4/84	\$ 2,390		
10/84	\$ 2,390	+ 119	Construction contingency.
12/84	\$ 2,509		



# CU12 - RADIO PROCUREMENT

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.02.08	4956	280	280	280	280	-0-	-0- %

## Contract Unit Description

This contract unit includes the procurement and installation of mobile radios in the Light Rail Vehicles and service vehicles and modifications to the existing base station equipment. The major contractor is Motorola.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 280		
4/84	\$ 280		
10/84	\$ 280		
12/84	\$ 280		



# CU14A - RAIL PROCUREMENT

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.14.01	4972	2,740	2,731	2,731	2,731	2,731	100.00%

## Contract Unit Description

This contract unit covers the procurement of 5,750 tons of 115lb. RE rail. The major contractor is CF&I Steel.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/3	\$ 2,740	- 9	Reestimate.
4/84	\$ 2,731		
10/84	\$ 2,371		
12/84	\$ 2,371		



# CU14B - OTHER TRACK MATERIAL PROCUREMENT

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.14.01	4972	1,180	1,180	1,180	1,180	1,074	91.02 %

## Contract Unit Description

Other Track Material which must be purchased includes plates, bars, spikes, anchors, and tie pads. The major contractor is A&K RR Materials, Inc.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 1,180		
4/84	\$ 1,180		
10/84	\$ 1,180		
12/84	\$ 1,180		



# CU15 - TIE PROCUREMENT

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.14.02	4973	1,140	1,142	1,148	1,148	1,147	99.91 %

## Contract Unit Description

This contract unit includes the procurement of 69,000 crossties and 3,000 switch timbers. The major contractor is Niedermeyer-Martin.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 1,140		
		+ 2	Reestimate.
4/84	\$ 1,142		
		+ 6	Transfer from General Contingency.
10/84	\$ 1,148		
12/84	\$ 1,148		



# CU16 - SPECIAL TRACKWORK PROCUREMENT

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.14.03	4974	650	643	691	691	-0-	-0- %

## Contract Unit Description

This contract unit includes the procurement of 45 turnouts and special hardware. The major contractor is L.B. Foster.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 650		
		- 7	Reestimate.
4/84	\$ 643		
		+ 48	Contract adjustment. Transferred from contingency.
10/84	\$ 691		
12/84	\$ 691		



# CU17 - LIGHT RAIL VEHICLES

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.01.00	4953	26,370	24,352	24,352	24,352	2,726	11.19 %
32.00.01	4980	--	--	--	1,218	-0-	-0- %
Total		\$26,370	\$24,352	\$24,352	\$25,570	\$ 2,726	10.66 %

## Contract Unit Description

This contract unit covers the procurement of 26 light rail vehicles plus spare parts and components. The major contractor is Siemens-Allis.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$26,370		
		- 2,018	Reestimate.
4/84	\$24,352		
10/84	\$24,352		
		+ 1,218	Contingency.
12/84	\$25,570		



# CU18A - FARE VENDING EQUIPMENT PROCUREMENT

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.02.04	4955	520	520	520	520	-0-	-0- %

## Contract Unit Description

This contract unit covers the procurement of 42 fare vending machines for installation by others. It also includes monitors and annunciator panels. (Excluded are the phone wires from the stations to RT operations center.)

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 520		
4/84	\$ 520		
10/84	\$ 520		
12/84	\$ 520		



# CU18B - MAJOR SHOP EQUIPMENT PROCUREMENT

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.03.02	4958	1,336	880	880	880	-0-	-0- %

## Contract Unit Description

This contract unit covers the procurement of the major shop equipment: wheel-truing machine, fork lifts, electric portable jacks, and body stands.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 1,336		
		+ 62	Reestimate.
		- 518	Transfer to CU3.
4/84	\$ 880		
10/84	\$ 880		
12/84	\$ 880		



# CU18C - LINE MAINTENANCE EQUIPMENT PROCUREMENT

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.03.01	4957	240	240	240	240	37	15.42 %

## Contract Unit Description

This contract unit covers the procurement of line maintenance equipment: sedans, pick-up trucks, boom truck, and auxilary workcarts.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 240		
4/84	\$ 240		
10/84	\$ 240		
12/84	\$ 240		



# CU19 - SUBSTATION PROCUREMENT

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.14.05	4975	4,150	3,473	3,473	3,473	482	13.88 %

## Contract Unit Description

This contract unit covers the procurement of 14 one-megawatt traction power substations and associated special tools. The major contractor is Controlled Power Corporation.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 4,150		
		- 677	Reestimate.
4/84	\$ 3,473		
10/84	\$ 3,473		
12/84	\$ 3,473		



# CU20 - CATENARY SYSTEM AND POLE PROCUREMENT

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.14.06	4976	1,880	1,880	1,481	1,481	-0-	-0- %

## Contract Unit Description

This contract unit covers the procurement of all the overhead catenary system components and poles (pole foundations, cable, and wire not included). The major contractor is Ohio Brass.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 1,880		
4/84	\$ 1,880		
		- 399	Transferred to General contingency due to lower actual contract amount
10/84	\$ 1,481		
12/84	\$ 1,481		



# CU21 - CABLE AND WIRE PROCUREMENT

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.14.07	4977	1,370	1,370	1,142	1,142	84	7.36 %

## Contract Unit Description

This contract unit covers the procurement of all feeder cable, contact wire, steel cable and signal wire used in traction power and signaling installations. The major contractor is Anaconda Steel.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 1,370		
4/84	\$ 1,370		
		+ 484	Transferred from CU2
		- 719	Transferred to General contingency based on actual contract amount.
		+ 7	Transferred from General contingency to cover change orders.
10/84	\$ 1,142		
12/84	\$ 1,142		



# CU40 - MANAGEMENT AND ENGINEERING

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.08.01	4960	11,687	14,911	13,893	13,893	9,054*	65.17 %
20.08.02	4961	2,660	2,660	2,660	2,660	*	-0-
20.08.03	4962	338	338	338	338	-0-	-0-
20.08.04	4963	265	265	265	265	-0-	-0-
Total		\$14,950	\$18,174	\$17,156	\$17,156	\$ 9,054	52.77 %

## Contract Unit Description

This contract unit covers the project management and engineering functions required to plan, design, control, and manage construction. It also includes the Executive Office, Legal Services, CalTrans Engineering, Agency Coordination and Consultants.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$14,950		
		- 1,550	Transferred to CU45 for Risk Management.
		+ 4,774	Transferred from General contingency.
4/84	\$18,174		
		- 1,018	Transferred to General contingency. Reduce CalTrans budget.
10/84	\$17,156		
12/84	\$17,156		

\* Of the \$9,054, approximately \$8,540 represents CalTrans billings to STDA. The project staff estimates that actual CalTrans charges incurred to date are \$13,190. In other words there is about \$4,650 in unbilled CalTrans charges.



LR1:40D  
11/25/84

CU 40 - MANAGEMENT AND ENGINEERING BUDGET DETAIL  
(dollars in 000's)

ITEM	81-82	83-83	83-84	84-85	85-86	86-87	TOTALS
<b>EXECUTIVE OFFICE</b>							
Salaries	61	93	112	120	129	139	654
Community Relations	0	0	12	17	17	7	53
Program Control	0	0	60	50	50	0	160
Other Prof Services	0	51	28	28	28	28	163
Expenses	39	32	60	63	66	69	329
							-----
							\$1,359
<b>LEGAL</b>							
R.H. Hyde	13	35	77	50	50	50	275
Other	0	0	18	30	15	0	63
							-----
							\$338
<b>APPRAISERS</b>							
	0	101	164	0	0	0	\$265
<b>PROJECT ENGINEERING</b>							
CalTrans	1,621	3,581	3,654	780	257	180	10,073
Foster	0	240	222	1,169	610	609	2,850
IECO	0	373	157	20	0	0	550
PSG Waters	0	9	26	25	20	20	100
CHNMB	0	50	120	90	90	0	350
Stecher-Ainsworth	0	35	105	0	0	0	140
Comstock	0	62	98	0	0	0	160
Klauder	0	124	76	250	225	0	675
							-----
							\$14,898
<b>RT/City/County</b>							
	0	91	65	65	50	25	\$296
							-----
							\$17,156
							=====

DETAIL: PROJECT ENGINEERING

	Eng/Design	Const Mgmt	Totals
CalTrans	10,038	35	10,073
Foster	850	2,000	2,850
IECO	500	50	550
PSG Waters	25	75	100
CHNMB	350	0	350
Stecher-Ainsworth	140	0	140
Comstock	160	0	160
Klauder	175	500	675
	-----	-----	-----
	12,238	2,660	14,898



# CU45 - SRTD MANAGEMENT AND SYSTEM START-UP

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.15.00	4978	--	2,000	1,912	1,912	-0-	-0- %
20.16.00	4979	--	1,123	1,037	1,037	-0-	-0- %
Total		\$ --	\$ 3,123	\$ 2,949	\$ 2,949	\$ -0-	-0- %

## Contract Unit Description

This contract unit covers the costs of project coordination maintenance and operations planning, grant administration and system start-up support services by Regional Transit personnel.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ --		
		+ 3,123	Transferred from General Contingency
4/84	\$ 3,123		
		- 88	Transfer to General contingency for reduction to Force Account.
		- 86	Transfer to General contingency for reduction to supporting services.
10/84	\$ 2,949		
12/84	\$ 2,949		



# CU50 - RISK MANAGEMENT

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.11.01	4965	--	1,550	1,550	1,550	333	21.48 %

## Contract Unit Description

This contract unit covers the administrative and premium requirements of the risk management program. It also provides for self-insured loss reserves.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ --		
		+ 1,550	Transferred from CU 40.
4/84	\$ 1,550		
10/84	\$ 1,550		
12/84	\$ 1,550		



LR1:50D  
11/26/84

CU 50 - RISK MANAGEMENT DETAIL  
(dollars in 000's)

ITEM	82-83	83-84	85-86	86-87+	TOTALS
Administration					
Fred S. James	35	51	54	30	170
RT	0	16	36	38	90
Insurance Premium	128	257	284	167	836
Loss Reserves	0	25	150	279	454
TOTALS	<u>\$163</u>	<u>\$349</u>	<u>\$524</u>	<u>\$514</u>	<u>\$1,550</u>



# CU60 - RIGHT OF WAY ACQUISITION

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.06.00	4959	12,360	12,885	12,885	12,885	5,578	43.29 %

## Contract Unit Description

This contract provides for the acquisition of required right-of-way parcels for the Light Rail main lines, stations, shop and yard, and other facilities.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$12,360		
		+ 525	Reestimate.
4/84	\$12,885		
10/84	\$12,885		
12/84	\$12,885		



APPROVED BASELINE BUDGET

REAL ESTATE ACQUISITION

CU#2, Northeast Corridor

I-80 Bypass R-O-W	\$ 0
Marconi Station	1,620
Ben Ali Spur Easement	46,700
Lumberjack Bypass	350,000
Sacramento Northern R-O-W	250
Royal Oaks Station	94,100
Subtotal	<u>\$ 492,670</u>

CU#4A, Central City

Del Paso & Acoma R-O-W	6,890
Baxter Avenue Parking	58,500
12th and North B R-O-W	67,000
SP 12th Street UP R-O-W	12,800
Alkali Flat Station	537,000
Alkali Flat Parking	265,000
12th and 'O' Curve	9,800
Q/R Alley and 12th R-O-W	650
Q/R Alley Track	1,120,000
Subtotal	<u>\$ 2,077,640</u>

CU#5, Folsom Corridor

Placerville Branch R-O-W	
Alhambra-65th	1,750,100
65th Street-Butterfield	2,379,738
65th Street Station	580,000
Howe/Power Inn Station	1,500,000
Power Inn Road	1,000
Watt/Manlove Station	1,628,400
Watt/Manlove Station	296,000
Butterfield Way Station	1,900,161
County Easement	250,000
CSUS Underpass	29,000
Subtotal	<u>\$10,314,399</u>

TOTAL: R-O-W Acquisition	\$12,884,709
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TOTAL: REAL ESTATE ACQUISITION BUDGET	\$12,885,000
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# CU70 - UTILITY RELOCATION

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
20.13.12	4970	5,120	5,257	5,257	5,257	585	11.13 %

## Contract Unit Description

This contract unit covers the relocation of utilites in areas affected by transit construction.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ 5,120		
		+ 137	Reestimate.
4/84	\$ 5,257		
10/84	\$ 5,257		
12/84	\$ 5,257		



APPROVED BASELINE BUDGET

UTILITY RELOCATION

PG&E	
Northeast Corridor	\$ 130,000
Central City	235,000
Folsom Corridor	100,000
PT&T	
Northeast Corridor	300,000
Central City	571,000
Folsom Corridor	100,000
SMUD	
Northeast Corridor	55,000
Central City	2,717,000
Folsom Corridor	200,000
Southern Pacific Railroad	
Folsom Corridor	2,000
Southern Pacific Pipeline	
Gas Pipeline Relocation	792,000
Union Pacific Railroad	
Folsom Corridor	5,000
City (Engineering)	<u>50,000</u>
TOTAL: UTILITY RELOCATION BUDGET	\$5,257,000



# CU98 - CONSTRUCTION CONTINGENCY

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
32.00.01	4980	--	3,587	3,511	-0-	--*	--

\* Expenditures are not made directly from contingency. The funds are transferred to the appropriate contract unit and from there they are expended.

## Contract Unit Description

This contract unit was originally established to provide a 5% contingency for all construction contracts and the light rail vehicle procurement contract to cover change orders. The proposed budget distributes the contingency amounts to the main contract units.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$ --		
		+ 3,587	Transfer from General Contingency
4/84	\$ 3,587		
		- 76	Various changes, see attached detail analysis.
10/84	\$ 3,511		
		- 3,511	Contingency amounts distributed to relevant contracts.
12/84	\$ -0-		



LRT1:CU98D  
11/26/84

LIGHT RAIL CONSTRUCTION CONTINGENCY DETAIL

NOTE	CU 1	CU 2	CU 2A	CU 3	CU 4	CU 4A	CU 4D	CU 5	CU 6	CU 7	CU 7A	CU7E	CU 9	CU 10	CU 11	CU 17	TOTALS
A	321	195	41	136	25	300		384	122	175	193		70	288	119	1218	3587
B	-6																3581
C					157												3738
D	-29																3709
E					-165												3544
F		-40															3504
G		-48															3456
H																-68	3388
I			140														3528
J						-8	8										3528
K						94			-80	-82							3460
L											-9	20					3471
M																	3471
N													40				3511
O						8	-8										3511
Tot.	286	107	181	136	17	394	0	384	42	93	184	20	110	220	119	1218	3511

- A - Estimated budget as of 4/84.  
 B - 4/23/84 - Transfer to CU 15. (Budget Adjustment 1)  
 C - 5/17/84 - Transfer from CU 4. (Budget Adjustment 3)  
 D - - Transfer to CU 8. (Budget Adjustment 5)  
 E - - Transfer to General Contingency (Budget Adjustment 12)  
 F - 7/25/84 - Transfer to CU 13. (Budget Adjustment 13)  
 G - 7/30/84 - Transfer to CU 16. (Budget Adjustment 16)  
 H - 8/10/84 - Transfer to General Contingency. (Budget Adjustment 18)  
 I - 10/5/84 - Transfer from General Contingency based on Deductive Opt. Rpt. (Budget Adjustment 21)  
 J - - Undocumented. Transfer to create contingency for CU4D.  
 K - 10/5/84 - Transfers based on Deductive Option Report. (Budget Adjustments 22-24)  
 L - 10/10/84- Transfer to General Contingency due to removal of Station Shelters. (Budget Adjustment 25)  
 M - 10/10/84- Transfer from General Contingency to create Station Shelter Contingency. (Budget Adjustment 26)  
 N - 10/10/84- Transfer from General Contingency due to increase in Engineering Estimate. (Budget Adjustment 27)  
 O - 11/7/84 - Transfer to CU4A Contingency for Parking lots. (Budget Adjustment 29)



# CU99 - GENERAL CONTINGENCY

MACS Code	City Acct	6/83 Eng Est	4/84 Adopted	10/84 Staff Est	12/84 Proposed	Act Exp to 11/2/84	% Exp of 12/84 Bud
32.00.02	4981	10,250	-0-	237	237	--*	--

\* Expenditures are not made directly from contingency. They are first transferred to the appropriate contract unit and expended from there.

## Contract Unit Description

This contract unit represents the budgeted contingency reserve at the project level.

## Summary of Budget Changes

Budget Date	Budget Amount	Change	Description
6/83	\$10,250	- 10,250	Various changes. See attached detail for analysis.
4/84	\$ -0-	+ 237	Various changes. See attached detail for analysis.
10/84	\$ 237		
12/84	\$ 237		



LRT1:99D  
11/26/84

General Contingency Detail

-----  
6/83 Eng. Est        \$10,250

-4,774	Transfer to CU40; Management and Engineering
-3,123	Transfer to CU45; SRTD Start-up
10	Additional Sec 9A funds
1,224	Actual/estimated projected savings
-3,587	Transfer to CU98; Construction Contingency

-----

4/84 Adopted        \$0

1,018	From CU40; Management and Engineering
88	From CU45; Start-up
86	From CU45; Start-up
165	From CU4; Mall Demolition
719	From CU21; Wire Procurement
6	From CU8; Yard Grading
193	Additional Funding - SHRA
-1,101	To CU3; Maintenance Building
-7	To CU21; Wire Procurement
1,416	From CU10; Signaling
400	From CU20; Catenary System
-2,819	To CU2A; Watt/80
-140	To CU2A Contingency
1,525	From CU6; Watt Station
80	From CU6 Contingency
-2,209	To CU4A; Central City
-94	To CU4A Contingency
1,566	From CU7; NE Corridor
82	From CU7 Contingency
183	From CU7A for Station Shelters
9	From CU7A Contingency
-403	To CU7E; Station Shelters
-20	To CU7E Contingency
-804	To CU9; Electrification
-40	To CU9 Contingency
338	From CU7C; Art Program

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10/84 Staff Est        \$237



**EXHIBITS**



**EXHIBIT 1**

**Conversion of MACS Codes to City Account Codes**



# Conversion of MACS Codes to City Account Codes

City Acct	MACS Codes	Description
4951	N/A *	Grade Separations
4952	N/A *	SPRR Relocation
4953	20.01.00	Light Rail Vehicles
4954	20.02.03	LRT Signaling
4955	20.02.04	Fare Collection Equipment
4956	20.02.08	Communications
4957	20.03.01	Vehicles
4958	20.03.02	Tools and Equipment
4959	20.06.00	Real Estate Acquisition
4960	20.08.01	Proj Mgmt, Eng & Design
4961	20.08.02	Construction Management
4962	20.08.03	Legal Services
4963	20.08.04	Appraisal Services
4964	20.10.00	Demolition
4965	20.11.01	Insurance
4966	20.11.10	Stations w/ Parking Facilities
4967	20.11.20	Maint/Repair Facilities
4968	20.11.30	Storage Yard
4969	20.11.90	Landscaping
4970	20.13.12	Utility Relocation
4971	20.13.40	ROW Construction
4972	20.14.01	Rail
4973	20.14.02	Ties
4974	20.14.03	Special Trackwork
4975	20.14.05	Unit Substations
4976	20.14.06	Catenary System
4977	20.14.07	Cable and Wire
4978	20.15.00	Project Sponsor Force Acct
4979	20.16.00	Supporting Services
4980	32.00.01	Construction Contingency
4981	32.00.02	General Contingency

\* The Grade Separations do not fall under the UMTA grant scope of work, therefore it does not have an assigned MACS Code. If it did, however, it would be categorized under 20.13.40



**EXHIBIT 2**

**Definition of MACS Codes**



## SACRAMENTO LIGHT RAIL PROJECT

### Scope of Work

This project scope and definition is designed as a general guideline and description of the project. It is recognized that the document will evolve and that certain changes, additions and deletions will occur over time. It is anticipated that the document will be amended at certain future points. This document is also designed to be a general working document. Minor changes in scope are subject to STDA's discretion. Any major or substantive changes shall be incorporated into future amendments and receive advance UMTA approval.

#### MACS CODE

##### 20.01.00: Purchase of Transit Vehicles

Covers the purchase of 26 articulated Light Rail Vehicles including spare parts and special tools required for these vehicles. This also covers the manufacturer's training of operating, servicing and maintenance staff, warranties and technical field service support.

##### 20.02.00: Purchase and Installation of Support Equipment

20.02.04 Fare Collection - Includes ticket issuing machines at stations for Self-Service Fare System being introduced on the LRT System.

20.02.08 Communications - Includes two-way radio communication sets for the light rail vehicles and control dispatch yards (transportation) control vehicle and maintenance of way crews and light rail road supervision. The light rail radio system will be compatible with SRTD's bus radio system to the greatest extent feasible.

##### 20.03.00: Purchase and Installation of Service and Maintenance Equipment

20.03.01 Vehicles - Includes both rail-borne and off-rail equipment for inspection and repair work, cranes, "cherry-picker" high-lift truck, personnel trucks or vans, automobiles, maintenance of way work cars and/or trucks. Other vehicles and precise quantities to be determined during final engineering.

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Source: Attachment 1 from UMTA Grant CA-23-9001.



20.03.02 Tools and Equipment - Includes miscellaneous shop tools, equipment and testing apparatus, wheel shop equipment, body and paint equipment, hoists, forklifts, and the like. Other tools and equipment and precise quantities to be determined during final engineering.

20.03.03 Car Washer and Cleaning Equipment - Includes car wash equipment and other cleaning equipment. Precise quantities to be determined during Final Engineering.

20.06.00 Real Estate Acquisition

These acquisitions will be done by the STDA. This item includes all costs of administration, negotiations, condemnations (as necessary) and closing costs, and will meet all Federal requirements.

20.06.10 Right-of-Way - Includes the easements and, or acquisitions of right-of-way for the Light Rail Line between Watt Avenue/I-880, downtown Sacramento and Folsom Boulevard/Butterfield Way. The properties to be acquired are identified in Attachment 4.

20.06.40 Parking Facilities for Transit Patrons - Park & Ride lot sites at Watt/I-880, Watt West, Roseville Road, Marconi/Arcade, Swanston, Howe/Power Inn, Watt/Manlove and Butterfield Way stations. Others may still be identified and would be subject to environmental requirements and UMTA concurrence.

20.06.90 Other Facilities - Land for an off-street bus transfer station at 65th Street (budgeted in MACS Code 20.06.40).

20.08.00 Professional Services Contracts (Budgeted in UMTA Grant CA-39-9005)

20.08.01 Engineering and Design - Includes all costs of final design and contract document preparation and review, subconsultant services and construction supervision and management services during procurement and construction of the Project. Also includes professional services for administering the insurance program. This work covers that done by Caltrans staff for construction elements described in 20.11.00 and 20.13.00. It also includes work of Caltrans, International Engineering Company, L. K. Comstock Engineering, L. T. Klauder and Associates, Foster Engineering, Inc. and all other consultants to the Project and various sub-consultants as required from time to time.

20.08.03 Legal Services - Includes necessary costs of professional legal services engaged or involved on this Project.

20.08.04 Appraisal Services - Includes the costs of special reports and appraisals for properties and easements required to determine fair and proper evaluations, conforming to State and



Federal requirements.

20.08.05 Relocation Expenses - Includes costs to establish and provide reasonable costs of relocation assistance and preparation of relocation plan in conformity with State and Federal relocation and property acquisition regulations and procedures. (Budgeted in MACS Code 20.06.00).

20.10.00 Demolition

Covers the demolition of structures and rough restoring to safe conditions of right-of-way and other properties required before construction. Costs are included within items listed under 20.13.00.

20.11.00 Construction of Facilities

20.11.01 Insurance - Covers the costs of insurance coverage for workers' compensation, general liability, errors and omissions and all-risk construction through completion of the contracts administered by STDA and Grantee.

STDA will require contractors to provide insurance coverage in contracts administered by STDA.

20.11.10 Stations - Includes all costs involved in the provision of 27 stations of relatively simple function and design for sidewalk level boarding and alighting of Light Rail passengers, and interconnecting pedestrian and bus transfer facilities. Passenger shelters will be provided at most stations (at several stations, shelters are not appropriate relative to anticipated passenger waiting numbers or to nearby building facades). Lighting, landscaping, telephones, information signs, benches and other furnishings will be provided, as determined in final design. The Watt/880 station will be served with elevators as well as stairways. Includes the project Art in Public Places program.

20.11.20 Maintenance and Repair Facilities - Includes maintenance, servicing and repair shops between El Camino and Marconi Avenues; and will include facilities for cleaning, inspecting, storing and complete maintenance and repairing of the fleet of Light Rail Vehicles for the Northeast Sacramento Line. Includes provision for storage facilities for maintenance-of-way equipment and supplies. Space for operating administration and vehicle maintenance staff is included. The building will contain approximately 54,000 square feet of floor space in a ground floor and partial second floor.

20.11.30 Storage Yards - Includes yard trackage for storage and circulation of the Light Rail Vehicle Fleet in conjunction with the Maintenance Shops. Yard lighting, drainage, utilities, paving of service lanes, landscaping, fencing and outside storage for track materials are included. Employee and visitor parking spaces are also included. Also includes a small midday car storage yard in the vicinity of 12th and K Streets.



20.11.40 Parking Facilities - (For Transit Patrons) - Includes paved, landscaped and lighted parking facilities for park-and-ride patrons in the total amount for approximately 3,500 to 4,500 automobile spaces at Watt/80, Watt West, Roseville Road, Marconi/Arcade Swanston, Howe/Power Inn, Watt/Manlove and Butterfield Way stations. Others may be determined during final design work (subject to environmental requirements and UMTA concurrence).

20.11.90 Landscaping - Includes all landscaping at passenger stations, at the storage and maintenance facility and along the right-of-way. Precise details and quantities to be determined during final engineering.

20.13.00 Right-of Way Construction. Including Environmental Mitigation Measures

Includes all construction elements necessary for the operation of the 18.3 mile Northeast Sacramento Light Rail Transit Line as follows:

20.13.12 Utility Relocation - Relocation of utilities for trackway or other construction; power lines of Sacramento Municipal Utility District and Pacific Telephone Company; water and sewer lines of the City of Sacramento, County of Sacramento; and such others as may be subsequently determined in final engineering.

20.13.40 Construction -

A. Highway relocation and transit work is as follows:

Produce contract drawing specifications, bid and contract documents and advertise for bid proposals.

Award contracts, manage and provide construction engineering support and inspection during the construction stages for STDA Northeast Sacramento Project Civil Engineering section.

B. Light rail line construction includes:

1. Construction of the Light Rail trackage and special trackwork, supporting roadbed and structures;
2. Construction of the Light Rail electrification system including both catenary and simple trolley overhead lines, power feeders, approximately 14 traction power substations of approximately 1 megawatt capacity each to supply nominal 750 Volt Direct Current traction power including circuit breakers and line disconnects and all necessary electrical cabling;
3. Procurement and installation of automatic train protection, interlocking and block occupancy indicator



signalling in the single track segments;

4. Procurement and installation of train detection and pre-emption equipment for certain of the regular traffic control signals;
  5. Provision of traffic control signals or crossing gates at certain locations determined during final engineering;
  6. The costs of temporary traffic control and other miscellaneous expenses during construction.
- C. Such other associated construction as determined during final design and engineering to construct the Light Rail line subject to approval by UMTA.

20.14.00 Purchase of Long Lead Items

20.14.01 Rail - Includes approximately 5,750 tons of 115 pound, RE standard carbon control cooled rail and appropriate quantities of other track material (track spikes, tie plates, rail anchors, insulated joint bar kits and tie pads).

20.14.02 Ties - Includes 6" x 8" x 8' - 0" cross ties, approximately 60,000 drilled and 9,000 not drilled, and 2,800 switch timbers of varying lengths.

20.14.03 Special Trackwork - Includes 44 turnouts and crossovers of varying frog angles, Nos. 6, 8, 10, 16 and 20, rail to be 115 pound RE section.

20.14.04 Switch Machines - Includes approximately 15 electric switch machines for turnouts indicated on the Track Plan to be power operated.

20.14.05 Unit Substations - Includes 14 unit rectifier substations of 1 megawatt capacity and all appropriate accessories.

20.14.06 Catenary System - Includes all catenary support poles, hardware and fittings, except cable and wire.

20.14.07 Cable and Wire - Includes all cable and wire for the traction power distribution system plus the major trunk cable for the wayside signal system.

20.15.00 Project Sponsor Force Account Work (Budgeted in UMTA Grant CA-29-9005)

Includes acceptance testing, training and new vehicles and other activities as approved by UMTA.

20.16.00 Supporting Services - Cost Allocation Plan (Budgeted in UMTA Grant CA-29-9005)



Includes all SRTD and STDA direct, fringe and approved administrative and overhead costs associated with the management, direction and overall supervision of the design, procurement, construction, and installation of the Sacramento Light Rail Transit Project under an UMTA approved cost allocation plan.

32.00.00 Contingencies

Allowance of 10% on all items except project management and engineering (MACS Codes 20.08.00, 20.15.00 and 20.16.00).

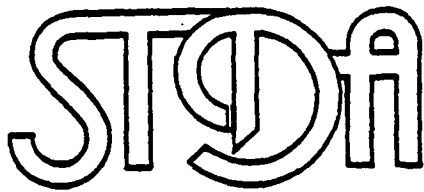
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**EXHIBIT 3**

**Cost Reduction Memo to the Board (10/5/84)**





# MEMORANDUM

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1201 I Street, Room 205 • Sacramento 95814 • (916) 445-6519

October 1, 1984

TO: Members of the Governing Board  
FROM: J. E. Roberts  
SUBJECT: Cost Reduction Efforts, NE Corridor and Central City

## ISSUE

Should the Board authorize staff to proceed with construction contract advertising for the Northeast and Central City portions of the project?

## PROPOSED ACTION

Continue to advertise the contract units for the Northeast Corridor and Central City as they are value engineered by staff and approved individually by the Board.

## FISCAL IMPACT

The combined cost reduction efforts on the contracts necessary to complete the operational segment from Watt Avenue/I.S. 80 to 18th and R Streets have resulted in an aggregate cost estimate that is within the project budget. The general contingency reserve would be reduced to \$100,000 if all staff recommended reductions are adopted by the Board. If none of the reductions are adopted, the project will cost \$4,300,000 over budget.

## DISCUSSION

Staff has evaluated and value engineered each contract unit in the NE Corridor and downtown segments of the project. The resulting proposed contracts retain the scope of the original UMTA grant and the operational system approved by this Board at the conclusion of Preliminary Engineering in 1983 as the project baseline documents. This cost reduction analysis is limited to the \$131.234 million budget. Additional funds being pursued by staff but not currently committed were not considered.



Page Two  
Memorandum

TO: Governing Board  
FROM: J. E. Roberts

SUBJECT: Cost Reduction Efforts, NE Corridor and Central City

A Budget and Estimate Comparison and Contingency Analysis are included as Attachments No. 1 and No. 2. A summary sheet of proposed cost reduction actions for each contract unit which staff has analyzed is included as Attachment No. 3.

Each contract unit was analyzed for three types of cost reduction efforts.

- (1) Eliminate — These items have been permanently eliminated from the contract as a result of value engineering analyses. These items represent true cost savings and will reduce the construction cost estimate and overall project estimate.
- (2) Reduce — These items are long-term deferrals. They constitute items which will be needed in the future and can be added after LRT operations begin and as funding can be identified.
- (3) Deductive Option — These items are not needed for a functional system but are deemed necessary by many groups as required for public acceptance of the system. This category of items can be added back to the system as funding can be identified and staff has attempted to prioritize these items for Board consideration. As funds become available for project specific items, they can be added without regard to the priority list. As general additional funds are identified, the Board can utilize the priority list for authorizing additions to the project.

Recommended Eliminations amount to \$1,670,000. (This reduces the worst case project estimate to \$145,300,000 and the \$18 million overrun to \$14.3 million.)

Recommended Reductions amount to \$479,000. (This reduces the worst case project estimate to \$144,820,000 and the overrun to \$13.8 million.)

Recommended Deductive Options amount to \$2,228,580. (It is staff recommendation that additional funds be pursued to restore these options to the project.)

Attachments

JER:cr



NOTES FOR REVISED ATTACHMENT NO. 1 TO J.E. ROBERTS MEMO OF 10/2/84

In our previous review of the Cost Reduction efforts, it was requested that Attachment No. 1, Budget/Estimate Comparison, be modified to show the related Construction Contingency.

This attachment compares the budgeted amounts with estimates for the two contracts that have been awarded, and for the contracts yet to be bid to construct the Northeast corridor and Central City lines. It further shows the effect on estimated costs of the approved reductions for Contract Unit #2A, and the reductions proposed for Contract Unit #'s 6, 7 and 4A. The five percent (5%) Construction Contingency relating to each of the estimated costs is also shown.

It is noted that the reductions in estimated costs result in a directly proportional reduction in the Construction Contingency in each case. Also, as the result of bidding Contract Unit #'s 2 and 3 and the approved and proposed reductions, the overall estimate changes from \$32.488 million to \$26,835 million, drawing closer to the aggregate budgeted amount for these Contract Units of \$23.180 million.



**PROJECT DEVELOPMENT & FINANCIAL ISSUES**

**BUDGET/ESTIMATE COMPARISON**

**NORTHEAST CORRIDOR AND CENTRAL CITY**

Item	Contract Unit	Approved Budget 4/84	Estimate	Constrtn Contngcy 5%	Reductions	Constrtn Contngcy 5%	Estimate With Reductions	Reduced Const. Cont. 5%
<b>Contracts Awarded</b>								
1.	12, NE Corridor	\$3.924	\$4.543				\$3.964 (Bid)	
2.	13, Maintenance Bldg	2.726	4.474				3.827 (Bid)	
3.	SUBTOTAL (1&2)	6.650	9.017				7.791	
<b>Contracts Yet to Bid</b>								
4.	12A, Watt/80 Median	0.810	5.269	.263	1.640	.082	3.629	.181
5.	16, Watt/80 Terminus	2.440	1.515	.076	.677	.034	.838	.042
6.	17, NE Corridor Sts.	3.500	2.552	.128	.695	.035	1.857	.093
7.	14A, Central City	6.000	9.148	.457	1.415	.071	7.333	.386
8.	19, Electrification*	1.390	2.194	.110	0	0	2.194	.110
9.	11, Traffic Signals*	2.390	2.390	.119	0	0	2.390	.119
10.	17E, Shelters*	0.000	.403	.020	0	0	.403	.020
11.	SUBTOTAL (4 Thru 10)	\$16.530	\$23.471	1.173	4.427	.222	19.044	.951
<b>TOTALS (3+11)</b>		<b>\$23.180</b>	<b>\$32.488</b>				<b>\$26.835**</b>	

NOTES: All Costs Shown in Millions of Dollars

\* For 18.3 Miles Systemwide

\*\* Original Estimates of \$32.488 less Reductions of \$4.427 Less Difference between Estimate (\$9.017) and Bid (\$7.791) Equals Estimate with Reductions \$26.835.



PROJECT DEVELOPMENT & FINANCIAL ISSUES

CONTINGENCY ANALYSIS

NORTHEAST CORRIDOR & CENTRAL CITY

Item	Contract Unit	Budget w/Cont.	Project Costs (\$Mil)		Contingency	
			Estimate	Estimate/5%	±	Cumulative
1.	#2, NE Corridor Ln.	\$3.965/.107	Bid	\$3.965/.107	-	-
2.	#3, Maintenance Bld.	3.827/.136	Bid	3.827/.136	-	-
(General Contingency taking into account previous contract actions)						\$2.983
3.	#2A, Watt/80 Median	.810/.041	3.629	3.629/.181	-2.959	.024
4.	#6, Watt/80 Terminus	2.363/.122	0.838	0.838/.042	+1.752	1.776
5.	#7, NE Corridor Sts.	3.423/.175	1.857	1.857/.093	+1.902	3.678
6.	#4A, Central City	5.524/.293	7.733	7.733/.387	-2.303	1.365
7.	#9, Electrification*	1.390/.070	2.194	2.194/.110	- .844	.521
8.	#11, Traffic Signals*	2.390/.119	2.390	2.390/.119	.000	.521
9.	#7E, Shelters*	-	0.403	0.403/.020	- .423	.098
(General Contingency Remaining)						.098

\*For 18.3 miles, systemwide



COST REDUCTION PROPOSALS  
NE Corridor and Downtown

SUMMARY

<u>Contract Unit</u>	<u>Deductive Option</u>	<u>Reduce</u>	<u>Eliminate</u>
2A	\$ 273,000	\$ 20,000	\$1,348,000
6	614,000	21,000	43,000
7	159,000	346,000	190,000
4A	<u>1,232,580</u>	<u>92,000</u>	<u>90,000</u>
Subtotal	<u>\$2,278,580</u>	<u>\$479,000</u>	<u>\$1,670,000</u>
		Total	\$4,427,580

Detail sheets attached.



CU#2A-WATT/80 MEDIAN STATIONS

Item	Deductive Option	Reduce	Eliminate	Remarks
<u>Winter Street Access</u>				
Lighting, Signals, and Roadway	\$100,000*		\$199,000*	Provide Del Paso Hgts access at Marconi/ Arcade Station.
Landscaping			48,000*	
<u>Watt/80 West Station</u>				
Civil, Drainage, Roadwork			\$440,000	Remove station entire and provide some over flow parking spaces.
Platform			159,000	
Lighting			200,000	
Landscaping			202,000	
<u>Overall</u>				
Nonfunctional Planting	\$273,000			Shrubs, etc.
Roseville Road Shelter		\$20,000		Future separate contr
	<u>\$373,000*</u>	<u>\$20,000</u>	<u>\$1,248,000*</u>	

		(\$Mil)
<u>Budget</u>	Original Budget 4/84	.810
	Adjusted Budget	.810
	Construction Contingency	<u>.040</u>
	Total Budget	\$0.850
<u>Estimate</u>	Current Estimate	5.269
	Deductive Options, Reductions and Eliminations	1.640
	Estimated Cost	3.629
	Construction contingency (5%)	<u>.181</u>
	Total Estimate	\$3.810

Needed from General Contingency \$2.960

\*Revised per 10/10/84 Board Action.



Revised

CU#4A-CENTRAL CITY

Item	Deductive Option	Reduce	Eliminate	Remarks
K Street mall	\$ 765,365*	\$ 0*	\$ 0	See Exhibit A
O Street mall	465,215*	\$ 0*	0	See Exhibit B
<u>GENERAL</u>				
Shelters (Tot 4)	84,000			Future Separate Contract
Non-functional Planting		10,000		
N. 12th Street Open Track			11,000	
Landscape G-K Streets			29,000	
Paving 7th, 8th, 12th Streets			50,000	
	<u>\$1,314,580*</u>	<u>\$10,000*</u>	<u>\$90,000</u>	

## TOTAL

\$1,414,580

<u>Budget</u>	Original Budget (4/84)	\$6.000
	Adjusted Budget	5.524M
	Construction Contingency (5%)	<u>0.293</u>
	Total Budget	\$5.817
<u>Estimate</u>	Current Estimate (9/84)	9.148
	Deductive Options, Reductions and Eliminations	1.415
	Estimated Cost	7.733
	Construction Contingency (5%)	<u>.387</u>
	Total Estimate	\$8.120M

Needed from General Contingency	\$2.303M
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\*Revised per 10/10/84 Board Action.



Revised

CU#4A-K Street Mall (Exhibit A)

Item	Deductive Option	Reduce	Eliminate	Remarks
Track Area	\$152,250	\$	\$	Place AC in lieu of pavers.
Remove Pavers	117,230			<u>No</u> work outside track area.
Remove New Concrete	62,070			<u>No</u> work outside track area.
<u>Planters</u>				
Large	22,000			
Small	19,800			
<u>Benches</u>				
Type A	37,500			
Type B	137,500			
Trees	21,600			
Grates	4,375			
Leaning Rail	31,500			
Light Pole With Banner	56,000*			
Planting (Other than Trees)	21,210			
Irrigation	38,130			
<u>Miscellaneous</u>				
Telephone Kiosk	22,000			
Drinking Fountain	5,400			
Trash Receptacle	13,300			
Bike Rack	1,250			
News Rack Rail	2,250			
	\$ 765,365*	\$ 0*	\$ 0	
		<u>TOTAL</u>		\$765,365

Note: These items are not listed in any priority or order.

\*Revised per 10/10/84 Ecard Action.



Revised

CU#4A-O STREET MALL (Exhibit B)

Items	Deductive Options	Reduce	Eliminate	Remarks
Track Area	\$157,040	\$	\$	Place AC in lieu of pavers
Remove Pavers	138,800			<u>No</u> work outside track area
Remove New Concrete	42,870			<u>No</u> work outside track area
<u>Planters</u>				
Large	6,000			
Small	5,400			
Benches (Type A)	30,000			
Trees	2,100			Cost is shipping and installation only
Light Pole With Banner	26,000*	0*		Retain minimum lighting only
Planting (Other than trees)	9,200			
Irrigation	29,680			
<u>Miscellaneous</u>				
Telephone Kiosk	8,800			
Drinking Fountain	1,800			
Trash Receptacle	6,650			
Bike Rack	500			
News Rack Rail	375			
	<u>\$465,215*</u>	<u>\$ 0*</u>	<u>\$ 0</u>	
		TOTAL:	<u>\$465,215</u>	

Note: These items are not listed in any priority or order.

\*Revised per 10/10/84 Board Action.



CU#6 - WATT/80 TERMINUS

<u>Item</u>	<u>Deduc- tive Option</u>	<u>Reduce</u>	<u>Elimi- rate</u>	<u>Remarks</u>
Shelters (Upper)	\$135,000	\$	\$	Include as a deductive alternative
Shelters (Lower)	250,000			
Bridge Median Barrier	150,000			Seeking FAU funds for this item
RT Utility Space		20,000		
Windscreen on Top and Stairways	58,000			
Landscape Planters	21,000			
Lighting Reduction		1,000		
Custom Phones			4,000	
Benches			9,000	
Elevator Enclosures			20,000	
Future Escalator Footings			9,000	
	<u>\$614,000</u>	<u>\$21,000</u>	<u>\$42,000</u>	
	<u>TOTAL</u>			<u>\$677,000</u>

<u>Budget</u>	Original Budget (4/84)	(\$mil) \$2.440
	Adjusted Budget	2.363
	Construction Contingency (5%)	.122
	Total Budget	<u>\$2.485</u>
<u>Estimate</u>	Current Estimate (9/84)	1.515
	Deductive Options, Reductions and Eliminations	- .677
	Estimated Cost	.838
	Construction Contingency (5%)	<u>+ .042</u>
	Total Estimate	.880
Transfer to General Contingency		\$1.605



CU#7 - Northeast Corridor Stations

<u>Item</u>	<u>Deductive Option</u>	<u>Reduce</u>	<u>Eliminate</u>	<u>Remarks</u>
180 Parking (Reduce <sup>140</sup> 100 spaces at Marconi and 150 spaces at Swanston Stations)	\$	\$265,000	\$	Include as a deductive alternate
Street Improvements	75,000			Seeking City funds for this work
Concrete Bus Apron (Swanston Station)			130,000	
Construction/Traffic Control Signs			40,000	
Shelters	84,000			Future separate contract
Nonfunctional Planting		81,000		
*Landscape along Arden Way			20,000	Place irrigation only (\$13K)
	<u>\$159,000</u>	<u>\$346,000</u>	<u>\$190,000</u>	
		<u>TOTAL</u>		<u>\$695,000</u>

\*Working with North Sacramento groups; recommend we do irrigation and ~~they~~ do the planting.

*others* -----

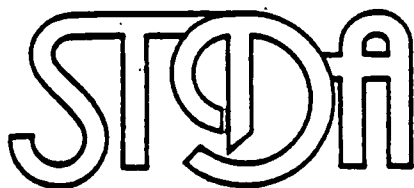
		(\$mil)
<u>Budget</u>	Original Budget (4/84)	\$3.500
	Adjusted Budget	3.423
	Construction Contingency (5%)	.175
	Total Budget	<u>\$3.598</u>
<u>Estimate</u>	Current Estimate (9/84)	\$2.552
	Deductive Options, Reductions and Eliminations	.695
	Estimated Cost	<u>1.857</u>
	Construction Contingency (5%)	.093
	Total Estimate	<u>1.950</u>
Transfer to General Contingency		<u>\$1.648</u>



**EXHIBIT 4**

**Art Program Reduction Memo to the Board**





# MEMORANDUM

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1201 I Street, Room 205 • Sacramento 95814 • (916) 445-6519  
Transmittal Date: October 26, 1984  
Meeting Date: October 31, 1984

TO: Member of the Governing Board

FROM: William H. Edgar, Interim Executive Director

SUBJECT: Cost Reduction Efforts, Light Rail Art Program

## SUMMARY

This memorandum sets forth a proposed policy and procedure for implementing the light rail art program as funds become available. In light of current budget uncertainties, I propose some eliminations of artworks from the system; phased implementation of "integral" art contracts; postponement of art contracts unrelated to the opening of the LRT system; and the adoption of fundraising strategies.

It is recommended that the Board adopt the revised policy and procedure for completing the light rail art program.

## BACKGROUND

On November 22, 1983 STDA executed a \$560,000<sup>1</sup> contract with the Sacramento Metropolitan Arts Commission (SMAC) to develop and implement an integral art program suited to the needs of Sacramento's light rail transit system. The art program is part of the UMTA-approved original scope of the project as delineated in the EIS and is intended to add visual interest to the stations, foster system ridership and provide an invaluable marketing tool for Regional Transit.

Consistent with the STDA-SMAC agreement, 28 out of a total of 29 artists and their proposals have been selected. Selection of art proposals was based, in part, on criteria that artwork be safe and economically maintained. Artists selected for the light rail art program meet STDA's DBE goal of 15% and exceed the WBE goal of 3%; women owned businesses will constitute 23% of all art contracts. The next step in the administration of the art program is for STDA to enter into contracts with selected artists.

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<sup>1</sup> Light Rail Arts Program Budget, as amended May, 1984:

Artwork	- \$472,000
Contingency	- 21,525
Administration	- 66,475
Total	- \$560,000

<sup>2</sup> See sample CONTRACT TO PURCHASE ARTWORK, attached as Exhibit A. Also attached as Exhibit B is a July 20, 1984 memorandum on the Selection Process for Light Rail Art Program.



## ISSUES

Current funding uncertainties require a re-evaluation of how we implement the art program, consistent with the Governing Board's policy to eliminate, reduce and postpone implementation of system enhancements until funding becomes available.

Like other government entities which are cooperating with STDA to re-evaluate and reduce LRT construction costs, SMAC has agreed to some eliminations from the program, a phased implementation strategy based on construction timing, and fundraising strategies, outlined below:

### I. PROPOSED ELIMINATIONS

The following artworks are proposed for elimination from the light rail art program:

	Budget
All Suburban Station Banners	\$ 46,000
Watt 80 West Mural (Station eliminated)	8,200
Total	<u>\$ 54,200</u>

### II. PROPOSED PHASED IMPLEMENTATION

#### A. ARTWORK INSTALLED CONCURRENT WITH CONSTRUCTION

<u>Station Pavement Pieces</u>	<u>Contract #</u>	<u>Approx. Art Contract Date</u>	<u>Budget</u>
Swanston	7	4/85	8,700
Del Paso	7	4/85	8,000
Globe	4A	12/85	6,100
16th Street	4A	3/85	7,600
Starfire	7A	6/85	7,600
Butterfield	7A	6/85	9,000
59th Street	7A	6/85	7,600
		Subtotal	<u>\$54,600</u>
<u>All Tree Grates, Systemwide</u>			7,000
		Total	<u>\$61,600</u>

#### B. ARTWORK INSTALLED AFTER CONSTRUCTION BUT BEFORE OPENING

<u>Station Pavement Pieces</u>	<u>Contract #</u>	<u>Approx. Art Contract Date</u>	<u>Budget</u>
Watt 80	6	12/85	9,000
Roseville Rd.	2A	12/85	7,600
Marconi Arcade	7	12/85	8,200
Royal Oaks	7	12/85	7,600
12th St.	4A	12/85	7,600
		Subtotal	<u>\$40,000</u>

<sup>3</sup> See October 25, 1984 Background Report on the Sacramento Light Rail Art Program, attached as Exhibit C.



<u>Station Pavement Pieces</u>	<u>Contract #</u>	<u>Approx. Art Contract Date</u>	<u>Budget</u>
23rd St.	7A	2/86	7,600
29th St.	7A	2/86	7,600
65th St.	7A	2/86	9,000
Power Inn	7A	2/86	6,100
College Green	7A	2/86	6,100
Watt/Manlove	7A	2/86	7,600
Tiber	7A	2/86	6,500
		Subtotal	\$50,500

Total	\$90,500
TOTAL (A + B)	\$152,100

C. ARTWORK THAT MAY BE INSTALLED AFTER CONSTRUCTION AND AFTER  
OPENING OF SYSTEM

	<u>Budget</u>
Alkalai Mural	7,600
Watt/80 Mural	8,000
Banners (K and O St.)	28,000
Total	\$43,600

III. ARTWORKS FOR WHICH MATCHING FUNDS WILL BE SOUGHT

<u>Location</u>	<u>Approx. Art Contract Date</u>	<u>Revenue Source</u>	<u>Budget</u>
K Street Mall	10/85	SHRA \$25,000 NEA 25,000	\$ 50,000
Cathedral Square	10/85	SHRA \$62,500 NEA 62,500	125,000
O Street	10/85	State 30,000 Gen. Svc. NEA 30,000	60,000
		Total	\$ 235,000

STDA/SMAC must secure local/state commitments to provide matching funds for an application to be submitted to the National Endowment for the Arts (NEA) in December 1984.

IV. OTHER FUNDING STRATEGIES

Efforts to secure private sector funding of specific artworks should also be undertaken. One possible vehicle for such fundraising might be the Mayor's Citizens' Advisory Committee on Light Rail Funding, tentatively scheduled to reconvene in November.



## POLICY IMPLICATIONS

Consistent with the Governing Board's previous policy of considering cost reduction measures, the proposed framework for eliminating, postponing and seeking outside funding for artwork, outlined above, gives the Board and staff time to generate hard data on construction costs and time to raise revenues.

Implicit in the above outline is an STDA policy to reserve \$152,100 to fund integral artworks listed in II A & B; set aside an artwork contingency of \$3,042; and meet STDA's contractual obligation to SMAC to cover administrative costs of \$66,475--totaling \$221,617 for STDA's Art Program reserve fund.

There is an additional policy implication that none of the Art Program reserve fund will be committed until each relevant construction contract (2A, 4A, 6, 7 and 7A) is sufficiently funded to build the basic LRT line, consistent with previous policies set by the Board.

## FINANCIAL DATA

Approved May 1984 Artwork Budget.....	\$ 560,000
SMAC Art Program Administrative Budget.....	-66,475
Artwork Funding Reserve (A & B).....	-152,100
Artwork Contingency.....	-3,042
TOTAL ART PROGRAM RESERVE \$-221,617	
RETURN TO GENERAL CONTINGENCY \$ 338,383	

## RECOMMENDATION

Staff recommends that the Governing Board:

- 1) Eliminate all Suburban Station Banners and the Watt/80 West Mural, budgeted at \$54,000;
- 2) Reserve \$221,617 to fund artwork (II A & B), contingency and administrative costs outlined above;
- 3) Return \$338,383 to General Contingency;
- 4) Approve in concept Contract to Purchase Artwork (Exhibit A);
- 5) Express conceptual support for the six art elements outlined in II C and III on page 3;
- 6) Direct staff to take appropriate measures to secure outside public and private funding for the six art elements outlined in II C and III on page 3.

Respectfully Submitted,

*William H. Edgar*

WILLIAM H. EDGAR  
Interim Executive Director

WHE:rg  
Attachments



**DRAFT**CONTRACT TO PURCHASE ARTWORK

THIS AGREEMENT is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 1984, by and between the SACRAMENTO TRANSIT DEVELOPMENT AGENCY, a joint powers agency, hereinafter referred to as "STDA", and \_\_\_\_\_, hereinafter referred to as "Artist".

WITNESSETH:

WHEREAS, STDA is engaged in planning and constructing a light rail project within Sacramento County;

WHEREAS, STDA desires to procure artwork for incorporation into the light rail system;

WHEREAS, STDA has delegated to the Sacramento Metropolitan Arts Commission certain administrative responsibilities relative to the procurement of artwork for the light rail system; and

WHEREAS, Artist has proposed to provide artwork in accordance with the terms set forth herein.

NOW, THEREFORE, in consideration of the mutual promises hereinafter set forth, STDA and Artist agree as follows:

I. SCOPE OF WORK

Subject to the terms and conditions set forth in this Agreement, Artist shall:

A. Purchase on Artist's account all labor, supplies, materials and equipment required to furnish to STDA a \_\_\_\_\_ (hereinafter referred to as the "Work"), and fabricate, deliver and install to the satisfaction of STDA the Work, substantially as described in Artist's proposal, a true and correct copy of which is attached hereto marked Exhibit A.

B. Install to the satisfaction of STDA the Work in the manner described in Exhibit A and in the Specifications of Work attached hereto as Exhibit B. To the extent that Exhibits A and C are inconsistent, Exhibit B shall supersede.

C. Provide STDA with a complete and reasonable schedule, as outlined in Exhibit B, for the maintenance of the Work subsequent to its acceptance by STDA. Said schedule shall be provided prior to final payment.

The specifications and details contained in the aforementioned exhibits are of the essence to this Agreement.



**DRAFT**

**II. PAYMENT**

STDA shall pay Artist a firm fixed price of \$ \_\_\_\_\_. It is agreed that STDA has no obligations regarding commissions or any agreements with galleries or agents with whom Artist may have contracted. Payments to Artist shall be made as set forth in Exhibit C.

**III. COMPLETION DATE**

Artist shall dedicate such time and effort as is necessary to fulfill Artist's obligations to completely finish and install the Work pursuant to the Agreement on or before \_\_\_\_\_. Time and strict punctual performance are of the essence to this Agreement.

**IV. SITE RESTORATION**

Within 30 days after the date specified for completion of the Work, Artist shall restore the project site (including the entire area affected by the fabrication and installation of the Work) to a state and condition that is substantially identical to that which existed when the project was begun taking into the account the Work. Within 30 days of the date specified for completion of the Work, Artist shall repair or replace, as is determined necessary by STDA, all property (real, personal, or otherwise), which has been damaged, injured or otherwise adversely affected by the acts or omissions of Artist, Artist's agents, contractors, or employees. Artist shall be solely responsible for all expenses and costs which may be necessary to comply with the requirements of this paragraph, and STDA shall have no responsibility or liability therefor. Artist shall accomplish said restoration before final payment.

**V. WARRANTIES**

A. Artist warrants that the Work is original and the product of Artist's own creative efforts and does not infringe the rights of any person. Artist also warrants that, unless otherwise stipulated in writing, the Work is an edition of one (1), and that Artist shall not sell, license, perform or reproduce a substantially identical copy of the Work, without the prior consent of STDA.

B. Artist shall warrant and maintain the Work free from all faults or defects in material and workmanship for a period of one year after installation.

C. Artist agrees to fabricate and install the Work in conformance with all applicable laws, including without limitation the Uniform Building Code as amended by either the City of Sacramento (if the Work will be located in the City) or the County of Sacramento (if the Work will be located in the County).



## VI. ASSIGNMENT AND SUBCONTRACTING

A. Artist's obligation imposed by this Agreement are not assignable or transferable without first obtaining the written consent of STDA.

B. Artist agrees not to subcontract any work pursuant to this Agreement in any amount over \$ \_\_\_\_\_ without the prior written approval of STDA.

## VII. RISK OF LOSS

Regardless of any payment STDA may make to Artist prior to the completion of the Work, title to the Work shall be in Artist until STDA shall certify that the Work is completed and installed to the satisfaction of STDA. When STDA has so certified, title shall transfer to STDA. Artist shall bear all risk of loss to the Work during the time Artist has title.

## VIII. INSURANCE

A. In the event STDA desires to do so, Artist shall cooperate with STDA to obtain life and accidental dismemberment insurance on Artist naming STDA as beneficiary to the extent required to protect STDA's interest in any payments made prior to completion of the Work. Any premiums for any such insurance shall be paid by STDA.

B. In the event that Artist employs any person to perform work contemplated by this Agreement, Artist shall maintain statutory workers' compensation insurance covering any and all such employees. Coverage shall include: (1) STDA, its member entities and all governing boards, directors, officers, agents and employees of STDA and its members entities as additional insureds, or a waiver of subrogation; and (2) a cross liability clause providing that the insurance applies separately to each insured except with respect to the limits of liability.

## IX. DISABILITY

In the event it shall become impossible for Artist to complete the Work because of illness, death or injury, this Agreement may be terminated at the sole discretion of STDA, and in such event, all completed work, materials, and supplies related to the Work shall be delivered to STDA and shall, along with the Exhibit A proposal, become the sole property of STDA. In the event of such termination, STDA may take such action as may appear to STDA appropriate in the circumstances then prevailing, including, without limitation, commissioning another artist to complete Work. In the event that STDA completes the Work or arranges to have it completed, Artist's name shall be publicly displayed at, on, or near the Work unless Artist gives written notice that such not be done. The name of the artist who completes the Work shall be displayed in a manner equal to the display of the original Artist unless the original Artist requests that his or her name not be displayed. The term



# DRAFT

"equal" shall mean similar, not identical, and shall not mandate any preference of position or size or location.

## X. ACCEPTANCE OF WORK

A. STDA agrees to accept the completed Work unless it can show:

(1) that the Work was not executed substantially in accordance with Exhibit A or B; or

(2) that the Work as completed, or any portion thereof, does not conform to a reasonable standard of artistic or technical quality. In the event that STDA refuses to accept the Work on the grounds stated in this subparagraph (2), and the Artist disputes STDA's refusal, the matter will be submitted to the Arbitration Service of the Bay Area Lawyers for the Arts for determination, and such determination shall be binding upon STDA and Artist and neither shall have any further recourse or cause of action regarding that matter only.

B. In the event STDA refuses to accept the Work according to the provisions of this paragraph it must notify Artist in writing specifying the reasons for such refusal within ten (10) days of tender of the Work for acceptance by Artist. No prior payment to Artist shall be deemed to waive the right of STDA to refuse to accept Work.

C. In the event the refusal of STDA to accept the Work is either accepted by Artist or determined to be correct according to subparagraph A(2) above, STDA shall have the right either to have Artist correct the deficiencies in the Work within a reasonable time and then accept the Work, or to terminate this Agreement and recover all sums previously paid to the Artist. Each such remedy shall be independent and shall be cumulative and in addition to any other or further remedy of STDA at law or equity. Enforcement of one such remedy shall not be exclusive nor shall it be deemed an election of such remedy to the exclusion of any other or further remedy.

## XI. STDA DUTIES RELATIVE TO THE WORK

A. STDA agrees that it will not intentionally destroy, damage, alter, modify or change the Work in any way except after notice as required by the law of California. If an alteration should occur, either intentionally or unintentionally, then the Work will no longer be represented as the work of the Artist without his or her written permission. STDA agrees to reasonably assure that the work is properly maintained and protected. This does not preclude STDA's right to move the Work or remove it from display.



B. Insofar as is practical, in the event repair of the Work is required, STDA shall give Artist the opportunity to so repair for a reasonable fee. In the case of disagreement between STDA and Artist as to what constitutes a reasonable fee, the fee determined by an independent conservator selected by STDA shall be considered a reasonable fee. In the event Artist refuses to make the repair for such fee, STDA may proceed to arrange for such repair by a person qualified to accomplish the restoration. When emergency repairs are necessary in order to prevent the loss of or further damage to the Work, such repairs shall be undertaken or arranged by STDA without advance notice to Artist, and such repairs shall not be deemed to constitute an artistic alteration.

C. In the event it becomes necessary to alter the placement of the Work, STDA shall confer with Artist concerning placement of the Work.

D. Artist shall retain the right to claim authorship of the Work. STDA shall assure that the Artist's name shall be publically displayed on, at or near the Work. In the event the Work is substantially damaged or artistically altered in a substantial manner, STDA shall no longer represent the Work to be the Work of the Artist if Artist gives written notice to STDA that it is the position of Artist that Artist has the right to deny authorship on the grounds stated in this paragraph. In the event STDA disputes the right of Artist to deny authorship, the matter shall be submitted to the Arbitration Service of the Bay Area Lawyers for the Arts which shall determine the issue of whether the Work is substantially damaged or artistically altered in a substantial manner. Such determination shall be binding upon STDA and Artist as to that matter only, and neither shall have any further recourse or cause of action regarding such determination.

## XII. CLAIMS BY EMPLOYEES OR SUPPLIERS OF ARTIST

In the event Artist hires or contracts with employees or materialmen suppliers of materials, Artist shall make payment to said employees or supplies.

Before payment may be made pursuant to paragraph II of this Agreement for completion of a phase, Artist shall demonstrate to the satisfaction of STDA that all employees or suppliers who provided labor or materials for the prior phase have been paid.

In the case of any claim or action alleging the underpayment or nonpayment of wages and other amounts due employees or suppliers hired by or contracted with Artist for the Work, STDA may withhold from Artist out of payments due, or to become due, a sum sufficient to pay such persons the difference between the wages or amounts required to be paid pursuant to their agreement with Artist and the wages or amounts actually paid such persons by Artist.



## XIII. INDEMNITY AND HOLD HARMLESS

Artist shall assume the defense of, and indemnify and save harmless, STDA, its member entities, all officers, employees, and agents of STDA or its member entities, and each and every one of them, from and against all actions, damages, costs, liability, claims, losses and expenses of every type and description to which any or all of them may be subjected, by reason or, or resulting from, directly or indirectly, the performance of this Agreement by Artist; provided that such action, damage, claim, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to, or destruction of property, including the loss of use thereof, and is caused in whole or in part by an omission, negligent act or greater degree of culpability by Artist whether or not it is caused in part by a party indemnified hereunder. The foregoing shall include, but not be limited to, any attorney fees reasonably incurred by STDA.

## XIV. INDEPENDENT CONTRACTOR

Artist is not an employee of STDA but is an independent contractor. STDA shall not have the right to direct the manner in which Artist accomplishes the Work but only to assess the results or compliance with this Agreement and to determine such things as acknowledgement of progress according to the phases by virtue of which payments are to be made. Artist represents and warrants to STDA that Artist possess all required licenses, insurance and other entitlements of whatever nature to legally pursue Artist's occupation and that Artist shall maintain all such licenses, insurance and other entitlements in full force and effect during the time of this Agreement.

## XV. COPYRIGHT

Artist expressly reserves every right available to him under the Federal Copyright Act to control the making and dissemination of copies or reproduction of the Work except as those rights are limited by this Agreement. Artist agrees to give a credit substantially in the following form: "Original owned by Sacramento Transit Development Agency" in any public showing of reproductions of the Work. Artist authorizes STDA and its assigns to make photographs, drawings, and other two dimensional reproductions of the Work without prior consent of Artist if used solely for non-commercial purpose, advertising, descriptive brochures, and similar purposes. All reproductions by STDA shall contain a copyright notice substantially in the following form: "Copyright ", Artist's name, date".

## XVI. BREACH OF CONTRACT

A. In the event Artist believes that STDA has failed to faithfully perform this Agreement, Artist shall notify the STDA in writing of such failure. Such notice shall specify in detail each and every failure of STDA and the reason why failure is deemed by Artist to be a breach of the Agreement.



B. If any matter is to be submitted to a third party for resolution, all fees, expenses, and costs connected therewith shall be borne by the party who loses on the issue. Each and every obligation under this Agreement to submit any matter to a third party for resolution is conditioned upon the foregoing provision of this paragraph. If any matter is to be submitted to the Arbitration Service of the Bay Area Lawyers for the Arts for resolution pursuant to the Agreement, and if, at the time such submission is called for, the Arbitration Service of the Bay Area Lawyers for the Arts is not in existence or is not able or willing to provide such resolution service, then the matter shall be submitted for resolution to the American Arbitration Association in accordance with its procedures then prevailing. No party who submits an issue for arbitration shall be bound by the determination by the arbitration of any other issue.

## XVII. ACCESS TO RECORDS

Artist shall maintain books, records, documents, and other evidence directly pertinent to work under this Agreement in accordance with generally accepted accounting principles and practices consistently applied. STDA, the United States Urban Mass Transit Authority, the Comptroller General or the United States or any of their duly authorized representatives, shall have, with reasonable notice, access to such books, papers, records, documents, and other evidence for the purpose of making inspection, audit, transcription and copying.

## XVIII. EMPLOYMENT PRACTICES

In the performance of this agreement, Artist will not discriminate against any employee or applicant for employment because of race, color, religion, ancestry, sex, age, national origin or physical handicap. Artist shall in all respects in the performance of this Agreement, comply with the Executive Order 11246, as amended by Executive Order 11375, and as supplemented by Department of Labor Regulations (41 CFR Part 60). Artist shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to race, color, religion, ancestry, sex, age, national origin or physical handicap. Such action shall include, but not be limited to: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Artist shall, in all solicitation or advertisements for employees placed by or on behalf of the Artist, state that all qualified applicants will receive consideration for employment without regard to race, religion, ancestry, sex, age, national origin or physical handicap. Artist will permit access to its records of employment, advertisements applications forms, and other pertinent data and records by the State Fair Employment Practices and Housing Commission, STDA, or any other agency of the State of California designated by STDA for the purpose of investigation to ascertain compliance with this section.



**XIX. DISADVANTAGED AND WOMEN-OWNED BUSINESS ENTERPRISES**

A. It is the policy of the Department of Transportation (DOT) that disadvantaged and women-owned business enterprises (DBEs and WBEs) as defined in 49 CFR Part 23, shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with Federal funds under this agreement. Consequently, the requirement of 49 CFR Part 23 apply to this agreement.

B. Prior to the execution by all parties of this Amendment, Consultant shall submit in writing to the STDA Project Manager (who is also the STDA DBE liaison officer) a description of the type of work which may be subcontracted and an estimate of the cumulative cost of all subcontracts.

C. Artist agrees to ensure that disadvantaged and women-owned business enterprises as defined in 49 CFR Part 23 shall have the maximum opportunity to participate in the performance of any subcontracts let by Artist pursuant to this Agreement. In this regard, Artist shall take all necessary and reasonable steps in accordance with 49 CFR Part 23 to ensure that disadvantaged and women-owned business enterprises have the maximum opportunity to compete for and perform any subcontracts let by Artist pursuant to this Agreement. In the award and performance of DOT funded subcontracts, let in furtherance of this agreement, STDA and Artist shall not discriminate on the basis of race, color, national origin or sex.

D. The provisions of subparagraphs A and C shall be contained in each subcontract let by Artist. Failure to carry out the provisions set forth in subparagraphs A and C shall constitute a breach of contract, and after notification to the Department of Transportation, may result in termination of the contract by STDA or such other remedy as STDA deems appropriate.

**XX. ENERGY REGULATIONS**

Artist shall comply with mandatory standards and policies relating to energy efficiency which are contained in the State of California's energy conservation plan issued in compliance with the Energy Policy and Conservation Act (P.R. 94-163).

**XXI. CONFLICT OF INTEREST**

A. No member of or delegate to the Congress of the United States of America, or no Resident Commissioner, shall be permitted to any share or part hereof or to any benefit to arise herefrom.

B. No member of STDA shall participate in any decision to this contract, which affects his personal interest, in which he is directly or indirectly interest; nor shall any member, officer, agent, or employee of STDA have any interest direct or indirect in this contract or the proceeds thereof.



**DRAFT**

**XXII. NOTICES**

A. Any notice required or desired to be given pursuant to this Agreement shall be deemed given when it is personally served or forty-eight (48) hours after it is deposited in the United States mail, postage pre-paid, certified mail, return receipt requested, addressed as follows:

STDA: STDA  
c/o Sacramento Metropolitan Arts Commission  
1221 J Street  
Sacramento, CA 95814

ARTIST:

B. Artist shall notify the STDA of any change of address and failure to do so shall constitute a waiver of Artist's rights pursuant to this Agreement during the time such omission prevails. Any notice required or desired to be sent to Artist shall be sent certified mail, return receipt requested, to the Artist at the latest address given the Metropolitan Arts Commission. In the event such notice is returned refused or addressee unknown, then such attempt shall fulfill all obligations of STDA to locate Artist or to give notice, whether required by this Agreement or by law.

**XXIII. SUCCESSOR**

All rights covered and obligations imposed by this agreement shall benefit and bind any successor of STDA.

**XXIV. ENTIRE AGREEMENT**

This Agreement is the entire Agreement of the parties and supersedes all prior negotiations and agreements whether written or oral. This Agreement may be amended only by written agreement and no purported oral amendment to this Agreement shall be valid.

IN WITNESS WHEREOF, the parties have executed this Agreement the date and year first above written.

STDA

APPROVED AS TO FORM AND LEGALITY:

BY: \_\_\_\_\_  
Christina Prim, Attorney  
Sacramento Transit Development Agency

Date \_\_\_\_\_



**DRAFT**

RECOMMENDED and APPROVED:

BY: \_\_\_\_\_

John W. Schumann, Executive Director  
Sacramento Transit Development Agency

\*APPROVED:

BY: \_\_\_\_\_

Anne Rudin, Chairperson  
Sacramento Transit Development Agency

**ARTIST**

APPROVED:

BY: \_\_\_\_\_

\*Execution by STDA Chairperson required only if contract exceeds  
\$10,000.



EXHIBIT A

Artist's Proposal



EXHIBIT B

Specifications of Work

1. Dimensions, Size, Color and Weight:

2. Materials and Finishes

The following is a complete list of the materials and finishes which will be used to fabricate the Work. The list of materials and finishes includes raw materials, tiles, paints, primers, metals, clays, adhesives, epoxys, grouts, etc. Please be detailed since this list will be kept on file and referred to for repairs and maintenance in the future.

1.

2.

3.

4.

5.

6.



3. Studio Fabrication/Field Fabrication

The following is a description of the aspects of the Work which will be studio and field fabricated:

a) Studio Fabrication:

b) Field Fabrication:

c) Please list here your proposed sub-contractors/employees and the work you anticipate they will be doing:

4. Schedule for Completion of Work

The following fabrication schedule shall be adhered to in the performance of the work:

a) Start Date: \_\_\_\_\_

b) Phase I (description) \_\_\_\_\_ finished by \_\_\_\_\_

c) Phase II (description) \_\_\_\_\_ finished by \_\_\_\_\_

d) Phase III (description) \_\_\_\_\_ finished by \_\_\_\_\_

e) Phase IV (description) \_\_\_\_\_ finished by \_\_\_\_\_

f) Phase V (description) \_\_\_\_\_ finished by \_\_\_\_\_

5. Installation

Following are detailed plans for the installation of the Work, including precise location, description of all fixtures, support, etc. and any preparatory work needed to be done at the site prior to installation:



6. Maintenance and Cleaning Provisions

The following are design provisions and instructions for the maintenance and cleaning of the Work upon final acceptance by STDA:

a) Special design features for maintenance by STDA:

b) Special cleaning instructions:

c) Maintenance and repair instructions (match color, spare parts, etc.)



EXHIBIT C  
Payment Schedule

- (a) At the execution of this Agreement \$\_\_\_\_\_.
- (b) At the time the following Phases of Work, as defined in Exhibit B, are completed to the satisfaction of STDA:

Phase I     \$ \_\_\_\_\_

Phase II    \$ \_\_\_\_\_

Phase III. \$ \_\_\_\_\_

Phase IV    \$ \_\_\_\_\_

Phase V     \$ \_\_\_\_\_

(c) At the time the Work is completed and installed to the satisfaction of STDA, STDA shall so certify and \$\_\_\_\_\_ (final payment) paid no later than the 35th day after said certification, provided, however, that no payment shall be made when Artist shall be in default of this Agreement. STDA shall be the sole determiner of when the Work has been completed during its various phases.





## CITY OF SACRAMENTO

 DEPARTMENT OF COMMUNITY SERVICES  
 METROPOLITAN ARTS DIVISION

 1221 J STREET  
 TELEPHONE (916) 449-5320

SACRAMENTO, CA 95814

BILL MOSKIN

EXECUTIVE DIRECTOR

July 20, 1984

MEMORANDUM

TO: BOB KERSHAW, STDA

FROM: JENNIFER DOWLEY, COORDINATOR *JD*  
 ART IN PUBLIC PLACES PROGRAM

RE: Selection Process for Light Rail Art Program

In response to Board Member Arthur Bauer's request for clarification of the Light Rail Art Program's selection process, I submit the following. If you need any additional material, please do not hesitate to ask me.

<u>Activity</u>	<u>Responsible Parties</u>	<u>Timetable</u>
Planning & development of program and artist selection process	STDA & SMAC staff	August 1982 - August 1983
Review of program and artist selection process	RT Board	March 15, 1983
Approval of program and artist selection process	SMAC STDA Board	February 1, 1983 March 25, 1983
Approval of contract for SMAC to implement Light Rail art program	STDA Board	March 25, 1983
Notice to proceed with art program	STDA staff to SMAC staff	November 23, 1983
Distribution of RFP to artists (4,000 nationwide)	SMAC staff	December 1983 - January 1984



Memorandum  
 Bob Kershaw  
 page 2

<u>Activity</u>	<u>Responsible Parties</u>	<u>Timetable</u>
Panels of arts professionals with technical advisory committee convene to review slides from 600 artists	SMAC staff	January 25, 30 & February 1, 1984
46 artists under contract to develop proposals	SMAC staff	February - May 1984
Panels reconvene to review & select proposals: -18 artists selected -28 proposals rejected -14 artists asked to develop new proposals	SMAC staff	May 11, 16, 21 & July 16, 1984
Technical review of selected artworks for safety and durability	RT, STDA & City staff	Summer & Fall 1984
Approval of selected proposals	Sacramento Metropolitan Arts Commission  STDA Board	June 5 & September 1984  individually as contracts are ready to be signed (Fall 1984 & Winter 1985)
Fabrication of artwork	artists	Fall 1984 - December 1985
Installation of artwork	artists	Spring, Summer, Fall 1985
Overseeing artists' work	SMAC & STDA staff	ongoing

Artworks for the K Street Mall and Cathedral Square will be approved by City Council before coming to the STDA Board.

The Artwork for the O Street Mall is being reviewed by CADA, Capitol Area Planning Committee, the State Architect's Office and General Services.

Attached is a complete list of panelists and Advisory Committee members.



attachment

PANELS

Pavement Pieces & Tree Grates:

Jo Farb Hernandez, Director, Triton Art Museum,  
Santa Clara

Douglas Hollis, artist, San Francisco

Jacqueline Springwater, Chair, Sacramento  
Metropolitan Arts Commission, Art in Public  
Places Committee member

Watt/80 Wall and Banners:

Donald Amos, Exhibit Coordinator, California  
State Department of Parks

Victoria Rivers, artist, Sacramento

Sylvia Seventy, Director of Fiberworks

K Street, O Street, Cathedral Square:

Richard Andrews, Director, Art in Public Places,  
Seattle Arts Commission

Michael Riegel, artist, Sacramento

Connie Lewallen, Curator, Matrix Gallery,  
University of California, Berkeley

ADVISORY COMMITTEES

- Neil Fairbanks, STDA
- Ralph Carhart, CALTRANS
- John Ritner, CALTRANS
- Byron McCulley, CHNMB
- Judy Brifman, Regional Transit

same as above

same as above, plus:

- Whitson Cox, State Architect
- John Hansen, Deputy State Architect
- Paul Schmidt, CADA
- Howard Evanson, Sacramento Downtown Association
- Monsignor Kidder, Cathedral of the Blessed Sacrament
- Harry Devine, architect
- Johnie Bramble, Sacramento Parks Department
- Christie Marks, Downtown Tenants



October 25, 1984  
Background Report

SACRAMENTO LIGHT RAIL ART PROGRAM

BACKGROUND

Under the contract to the STDA, the Sacramento Metropolitan Arts Commission has been working since the Fall of 1982 to develop an art program appropriate to the needs and function of Sacramento's Light Rail System. The artworks will be an effective marketing tool for the system because of the positive image it will convey to the public. In addition, the artworks that are identifying each of the stations will enhance the community's relationship with the entire system.

The artworks have resulted from nationwide competitions, decisions by juries of arts professionals and community advisors, and thorough technical scrutiny by STDA and the Regional Transit staff. What is listed here is the result of two years' work by STDA staff and the Arts Commission to develop an art program that will be both exciting and functional. Although not unique for transportation systems (there are arts in transportation programs in Atlanta, Baltimore, Boston, Buffalo, Los Angeles, Miami, New York, Portland, San Francisco, and San Jose), Sacramento is unique in having its artwork so closely integrated into the system.

The following information developed by STDA staff and the Sacramento Metropolitan Art Commission is divided into Eliminations, Phased Implementation and Fundraising Strategies. These changes in the original art program reflect STDA's current budget situation and allow time for fundraising efforts and still work within the construction schedule. Many of the artworks need to be installed as part of the construction process since retrofitting is prohibitively expensive.

I. ELIMINATIONS

In keeping with budget eliminations throughout STDA's projects, two art projects have been eliminated:

Banners from suburban stations	\$46,000
Pavement piece from Watt/80 West	\$ 8,200
Total eliminations	\$54,200

II. PHASED IMPLEMENTATION

A. ARTWORKS INSTALLED CONCURRENT WITH CONSTRUCTION - 61,600

The following artworks are integral to the construction schedule. Elements of the artworks must be installed when the platform concrete is wet. Contracts for these artworks need to be executed when notice to proceed is given to the appropriate contractor.



Pavement Pieces

Location	Contract #	Description/Artist	Approx. Art Contract Date	Budget
Swanston	7	Archaeological artifacts the era of Sacramento as a sea bed and later as an Indian settlement John Roloff, Oakland	4/12/85	\$8,700
Del Paso	7	Stainless steel strips in pavement - light rails Jim Melchert, Oakland	4/12/85	\$8,000
Globe Ave.	4A	Tile coveying art deco/moderne motif of Del Paso area Rick Yoshimoto, Inverness	12/85	\$6,100
6th Street	4A	Twenty-seven 3" x 5" \$16 bills randomly set into the platform Clayton Bailey, Oakland	3/20/85	\$7,600
Starfire	7A	Milky Way Galaxy and Ursa Major portrayed with integrally colored concrete, tile and stainless steel Diane Dame, Napa	6/85	\$7,600
Butterfield	7A	A 21' x 7' pond depicted using integrally colored concrete with tile and copper inlays Susan Dannenfelser, Lafayette	6/85	\$9,000
59th Street	7A	The number 59 in terrazo changing into a bird shape on both platforms Joseph Distefano, Oakland	6/85	\$7,600

Tree Grates

All Stations		Designed to fit all technical specifications of RT and STDA and cost the same as standard tree grate John Dooley, Sacramento	6/85	\$7,000
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B. ARTWORKS INSTALLED AFTER CONSTRUCTION BUT BEFORE OPENING - \$90,500

The following artworks are also integrated into the system but because their installation does not come until the concrete on the platforms has dried, the contracts for the artists do not have to be signed until a few months before the system opens. The works must be installed before the system is operational because the recesses provided for the artworks would pose a safety problem for system users.



Location	Contract #	Description/Artist	Approx. Art Contract Date	Budget
Watt/80	6	Twelve 3' square California wildflowers in integrally colored concrete Margo Humphrey, Oakland	12/85	\$9,000
Roseville Road	2A	Twelve 3' square integrally colored puzzle pieces Jack Shafer, Roseville	12/85	7,600
Marconi/Arcade	7	Ten 3' square ceramic and relief images of a variety of neighborhoods Short Center, Sacramento	12/85	8,200
Royal Oaks	7	Two dimensional rock garden of stone imbedded in concrete Etsuko Sakimoto	12/85	7,600
12th Street	4A	Four 3' x 21' tile murals set into the concrete platform conveying the present R Street buildings and businesses' names Yoshio Taylor, Sacramento	12/85	7,600
23rd Street	7A	Redesigning proposal Mary O'Neal, Oakland	02/86	7,600
29th Street	7A	Bands of bricks with incised palm trees running the length of the platforms Delia Schalansky, Sacramento	02/86	7,600
65th Street	7A	Slate shadows of the station's structures set into the platform David Middlebrook, Los Gatos	02/86	9,000
Power Inn	7A	Mosaic tile lightning bolts set into 3' square areas on the platform Jim Kouretas, North Highlands	02/86	6,100
College Green	7A	Integrally colored concrete band running the length of the platform Marc Katano, San Francisco	02/86	6,100



Watt/Manlove	7A	A game made by using 3' grid pattern, paint, tile and integrally colored concrete on both platforms Joan Zalenski, Emeryville	02/86	7,600
Tiber	7A	River theme and gold panning depicted using tile and integrally colored concrete Gerald Hong, Menlo Park	02/86	6,500

C. ARTWORKS THAT MAY BE INSTALLED AFTER CONSTRUCTION - \$43,600

The following artworks should be installed by the time the system opens but do not pose any safety problems if the installation is delayed further.

Location	Contract #	Description/Artist	Approx. Art Contract Date	Budget
Alkali Mural		Two 50' x 30" murals - one depicting an Aztec Sun God, the other a Victorian decorative motif Henry Ortiz, Sacramento		\$7,600
Watt/80 Mural		22' x 15' tile mural under the Watt Avenue Bridge depicting sea life Maria Alquilar, Sacramento		8,000
Banners		For K and O Street Malls to be suspended from light fixtures. Four sets of decorative banners by David Ewing, Sacramento; Darrell Forney, Sacramento; and Patricia Dreher, San Francisco One RT banner by Illium		28,000

III. ARTWORKS FOR WHICH MATCHING FUNDS WILL BE SOUGHT - \$235,000

The following are artworks for which matching funds are being sought from the National Endowment for the Arts. In order to complete the application in December 1984, a commitment of the match is necessary. Staff proposes that the STDA approach the SHRA for one half of the funds for K Street and Cathedral Square artworks and the State for one half of the funds for the O Street artworks.



Location	Description/Artist	Approx. Art Contract Date	Revenue Source	Budget
K Street Mall	Four stylized tree forms between 8th and 10th Sts. John Buck. Boseman, Montana	10/85	\$25,000 NEA 25,000 SHRA	\$50,000
Cathedral Sq.	Site is 11th Street on either side of K Street. Artist to be selected December 1985	10/85	62,500 NEA 62,000 SHRA	125,000
O Street	"The Garden and the City" - a grove of trees and five facades at the corner of O and 9th Streets Lauren Ewing, New York City	10/85	30,000 NEA 30,000 State	60,000

Please note that these categories are still flexible pending final meeting with STDA design and engineering staff.

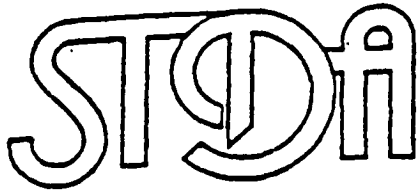
Total Art Budget	\$430,700
Administration	66,475
Contingency	8,625
Elimination	<u>54,200</u>
	\$560,000



**EXHIBIT 5**

**April 1984 Budget Adoption Memo to the Board**





# MEMORANDUM

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1201 I Street, Room 205 • Sacramento 95814 • (916) 445-6519

April 9, 1984

TO: Members of the Governing Board  
FROM: J. W. Schumann *[Signature]*  
RE: Baseline Schedule and Budget

## ISSUE

Should the Governing Board approve an updated baseline schedule and budget for the Sacramento LRT Project?

## PROPOSED ACTION

Adopt Resolution 84-04-01 approving an updated baseline schedule and budget.

## FISCAL IMPACT

The proposed revised baseline budget remains within the sum of funds available for the project: \$131.04 million. However, extension of the schedule for project completion and the addition of Regional Transit as Federal grantee more than offset actual and estimated savings in other project cost elements, and therefore required a major reduction in available contingency funds:

Baseline Contingency Adopted June 1983..	\$10.250 mil.
Less:	
Increased STDA Mgt & Eng Due Schedule. (	4.774 mil.)
RT Grant Sponsor & Start-Up Support... (	3.123 mil.)
Plus:	
Additional Sec 9A Funding.....	0.010 mil.
Actual & Estmtd Svngs on Proj Elmnts..	<u>1.224 mil.</u>
Revised Contingency:.....	\$ 3.587 mil.

## DISCUSSION

The attached pages present and summarize the proposed revised schedule and budget for the Sacramento LRT Project.

Agenda Item 4



### Schedule

The schedule meets the projected revised completion dates introduced by staff to the Governing Board last February:

- o Northeast Line & Central City...limited service in 11/85; full revenue service in 04/86; and
- o Folsom Line...full revenue service in the period, 09/86-04/87.

The next page, "Revised Schedule; Summary of Changes", lists the principal reasons for extending the dates for project completion. It is followed by a bar chart showing the schedule by contract unit. This format depicts actual progress (percentage numbers above each bar) vs. scheduled progress (percent completion numbers below each bar).

### Budget

Impacts of the proposed revised budget are summarized above. Details of changes in each major category are summarized by MACS Code on the third following page, titled "Budget Revision", and listed in detail on the final page, "Proposed Revised Budget". The proposed revised budget is supported from funds committed by these sources:

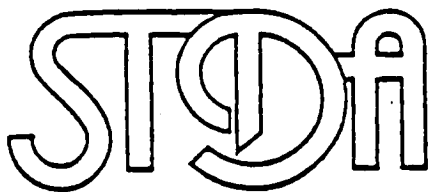
o Federal Interstate Transfer.....	\$ 96.10 mil.
o Federal Sec 9A Gas Tax.....	2.41 mil.
o State PUC Crossing Fund (Gas Tax)...	6.60 mil.
o State Art XIX (Gas Tax).....	16.12 mil.
o State TP&D Acct (Sales Tax).....	3.20 mil.
o Local RT Funds.....	2.52 mil.
o Local City Funds.....	1.86 mil.
o Local County Funds.....	1.16 mil.
o Local SHRA Funds.....	0.10 mil.
o Private Funds.....	0.97 mil.
<b>Total Funding.....</b>	<b>\$131.04 mil.</b>

The proposed revised budget leaves the project with no General Contingency. The remaining \$3.587 million not committed to project costs must be reserved for the Construction Contingency. This amount is estimated at 5% of those contract units for which allowance of funds to accommodate change orders is deemed necessary, namely, all those contracts involving on-site construction and the procurement of light rail vehicles. Given the limited funds available for the project, this is the only practical course.

JWS:s

Attchmnts.





# RESOLUTION

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 811 • Sacramento, California 95814 • (916) 442-3168

## RESOLUTION 84-04-01

### RESOLUTION APPROVING THE REVISED BASELINE SCHEDULE AND BUDGET AT THE "FINAL DESIGN" LEVEL OF PROJECT DEVELOPMENT

BE IT RESOLVED, by the Governing Board of the  
Sacramento Transit Development Agency:

1. THAT, the revised project Schedule and Budget  
attached hereto, and prepared at the "Final Design" level of  
development, are adopted as the "Baseline Schedule and  
Budget", against which project progress shall be measured.

PASSED AND ADOPTED this 11th day of April of 1984, by  
the following vote of the Governing Board:

AYES:

NAYS:

ABSTENTIONS:

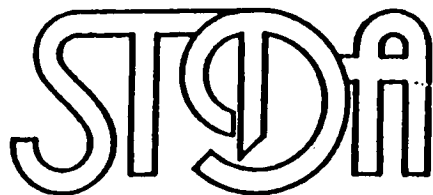
ABSENT:

ATTEST:

\_\_\_\_\_  
John W. Schumann  
Executive Director

\_\_\_\_\_  
Anne Rudin.  
Chairperson





REVISED SCHEDULE  
SUMMARY OF CHANGES

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

928 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1201 "I" Street • Sacramento (916) 445-6519

The Master Project Schedule presented to the STDA Board in June of 1983 planned for limited service to begin on the Northeast Corridor and into the Central City on March 4, 1985. Full service was to begin on the entire system when the Folsom Corridor was completed on July 1, 1985.

The Revised Master Schedule now projects limited service beginning on the Northeast Corridor and through Downtown area on November 11, 1985, with full service being integrated with the bus system by April 1986, a delay of 13 months. Depending upon time involved to obtain right-of-way from SPRR and UPRR, the Folsom Corridor is scheduled to open for revenue service on September 15, 1986 at the earliest. If condemnation proceedings are required to acquire the necessary right-of-way, the Folsom Corridor opening could be delayed as much as an additional nine months to May 1987.

Schedule Slippage to Date

	<u>June 1983 Schedule</u>	<u>Actual</u>	<u>Delay</u>	<u>Remarks</u>
Draft EIS	January 1981	April 1981	4 months	Complete technical studies, circulate documents for review, secure necessary fund commitments from Federal and State governments.
Preliminary Estimate	June 1982	August 1982	2 months	
Final EIS	June 1983	September 1982	3 months	
Re-Bid LRT Vehicles	Sept. 1983 <sup>a</sup>	January 1984	4 months	
		Total Delay	13 months	

a - Bids rejected in September of 1983 and re-bid.

OEW:Rev. 04/09/84



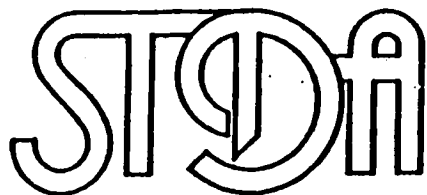
SACRAMENTO LIGHT RAIL TRANSIT PROJECT

PROPOSED REALLOCATED PROJECT BUDGET

MACS CODE	PROJECT ELEMENT	PROPOSED REVISED BUDGET (\$MIL)
20.01.00	PURCHASE OF TRANSIT VEHICLES	\$ 24.352
20.02.00	PURCHASE & INST. OF SUPPORT EQUIPMENT	
20.02.03	LRT Signaling	5.760
20.02.04	Fare Collection	0.520
20.02.08	Communications	0.280
20.03.00	PURCHASE & INST SERV. & MAINT EQUIPMENT	
20.03.01	Vehicles	0.240
20.03.02	Tools & Equipment	0.880
20.06.00	REAL ESTATE ACQUISITION	12.885
20.08.00	PROFESSIONAL SERVICES	
20.08.01	Proj. Mgmt, Eng & Des, Des. Supp.	<del>11.991</del> 14.911
20.08.02	Construction Management	2.660
20.08.03	Legal Services	0.338
20.08.04	Appraisal Services	0.265
20.08.05	Relocation Services	0.000
20.10.00	DEMOLITION	0.500
20.11.00	CONSTRUCTION OF FACILITIES	
20.11.01	Insurance	1.550
20.11.10	Stations/w Parking Fac.	10.620
20.11.20	Maintenance & Repair Facilities	2.726
20.11.30	Storage Yards	0.056
20.11.90	Landscaping	0.035
20.13.00	RIGHT-OF-WAY CONSTRUCTION	
20.13.12	Utility Relocation	5.257
20.13.40	Construction	28.076
20.14.00	PURCHASE OF LONG LEAD ITEMS	
20.14.01	Rail	3.911
20.14.02	Ties	1.142
20.14.03	Special Trackwork	0.643
20.14.05	Unit Substations	3.473
20.14.06	Catenary System	1.880
20.14.07	Cable and Wire	1.370
20.15.00	PROJECT SPONSOR FORCE ACCOUNT WORK	2.000
20.16.00	SUPPORTING SERVICES	1.122
	SUBTOTAL	\$127.453
32.00.00	CONTINGENCIES	
32.00.01	Construction Contingency	3.587
32.00.02	General Contingency	0.000
	TOTALS	<u>\$131.040</u>

OEW:Rev.04/07/84





**SACRAMENTO LIGHT RAIL TRANSIT PROJECT**  
**BUDGET REVISION**  
 Comparison of Estimates  
 Preliminary Engineering (PE) vs. Final Design (FD)

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

928 J Street, Suite 811 • Sacramento, California 95814 • (916) 442-3168  
 Project Office: 1201 "I" Street • Sacramento (916) 445-6519

The following is a comparison of the current budget approved in June of 1983 at the time of completion of the Preliminary Engineering phase; and the new proposed budget reflecting revised estimates made during final design and actual contract bidding. Reasons for budget changes are also shown.

The budget amounts are summarized by MACS Code of Accounts (UMTA cost reporting format).

MACS CODE	Description	OLD P.E. <sup>a</sup> Estimate 06/83 \$ mil.	NEW F.D. <sup>b</sup> Estimate 04/84 \$ mil.	Change \$ mil.	% Change	Remarks
20.01.00	Transit Vehicles	\$ 26.370	\$ 24.352	(\$2.018)	- 7.7%	Low bid.
20.02.00	Support Equipment	6.560	6.560	-	-	Preliminary estimate still carried.
20.03.00	Service & Maint. Equip.	1.710	1.120	( 0.590)	-34.5	Shift equipment to shop construction.
20.06.00	Real Estate Acquisition	12.360	12.885	0.525	+ 4.2	Revise appraisals, addnl. small parcels.
20.08.00	Professional Services	13.400	18.174	4.774	+35.6	Extend work through 1987.
20.10.00	Demolition	-	0.500	0.500	+100.0	Formerly in right-of-way construction.
20.11.00	Facilities Construction <sup>c</sup>	14.337	14.987	0.650	+ 4.5	Estimate reflects final design.
20.13.00	R.O.W. Construction <sup>d</sup>	33.023	33.333	0.310	+ 0.9	Revision to utility relocation estimate.
20.14.00	Long Lead Procurements	13.020	12.419	( 0.601)	- 4.6	Low bids - rail, substations.
20.15.00	RT Project Sponsor	-	2,000	2,000	+100.0	RT grant sponsor costs charged to C/budg.
20.16.00	RT Support Services	-	1,123	1,123	+100.0	RT startup support charged to Cap./budget.
32.00.00	Contingency	10.250	3,587	( 6.663)	-65.0	Reduced to cover increases in other items.
	Totals	\$131.030	\$131.040	\$ 0.010	-	Additional funds became available through UMTA Section 9A.

a - P.E. = Preliminary Engineering Estimate (06/83); b - F.D. = Final Design Estimate (04/84); c - Stations, Parking Lots, Shop and Yard; d - Track, Roadbed, Streetwork and Utility Relocation; f - STDA Mgt & Engrng.



MACS CODE	PROJECT ELEMENT	BASELINE (MIL)	CU #'s
20.01.00	PURCHASE OF TRANSIT VEHICLES	21.352	17
20.02.00	PURCHASE & INST. OF SUPPORT EQUIP.		
20.02.03	LRT Signaling	5.760	10
20.02.04	Fare Collection	0.520	18A
20.02.08	Communications	0.280	12
20.03.00	PURCHASE & INST SERV & MAINT EQUIP		
20.03.01	Vehicles	0.240	18C
20.03.02	Tools & Equipment	0.000	18B
20.06.00	REAL ESTATE ACQUISITION	12.005	60
20.08.00	PROFESSIONAL SERVICES		
20.08.01	Proj. Mgmt, Eng & Des, Des. Supp.	14.711	40
20.08.02	Construction Management	2.660	40
20.08.03	Legal Services	0.338	40
20.08.04	Appraisal Services	0.265	40
20.08.05	Relocation Services	0.000	40
20.10.00	DEMOLITION	0.500	4
20.11.00	CONSTRUCTION OF FACILITIES		
20.11.01	Insurance	1.550	50
20.11.10	Stations/w Parking Fac.	10.620	6, 7, 7A, 2A
20.11.20	Maintenance & Repair Facilities	2.726	3
20.11.30	Storage Yards	0.056	8, 8A
20.11.70	Landscaping	0.035	7B
20.13.00	RIGHT-OF-WAY CONSTRUCTION		
20.13.12	Utility Relocation	5.257	70
20.13.40	Construction	20.076	2, 4A, 4B, 4C, 5, 9, 11
20.14.00	PURCHASE OF LONG LEAD ITEMS		
20.14.01	Rail	3.911	14A, 14B
20.14.02	Ties	1.142	15
20.14.03	Special Trackwork	0.643	16
20.14.05	Unit Substations	3.473	19
20.14.06	Catenary System	1.800	20
20.14.07	Cable and Wire	1.370 <del>1.270</del>	21
20.15.00	PROJECT SPONSOR FORCE ACCOUNT WORK	2.000	45
20.16.00	SUPPORTING SERVICES	1.123	45
	SUBTOTAL	127.453	
32.00.00	CONTINGENCIES		
32.00.01	Construction Contingency	3.537	
32.00.02	General Contingency	0.000	
	TOTALS	131.040	



STDA MGT. & ENG. BUDGET - REVISED

PROJECT MGT. (20.08.01), DESGN. (20.08.01) & CONSTRUCTION MGT. (20.08.02)

REV. 03/26/81

	1	2	3	4	5	6	7	8	9	10	11	12	13
	ITEM				FY '81-2	FY '82-3		FY '83-4		FY '84-5	FY '85-6	FY '86-7	TOTAL
					(000's)	(000's)	7/1-9/80	10/1-6/80	TOTAL YR	(000's)	(000's)	(000's)	(000's)
1													
2													
3													
4	EXECUTIVE OFFICE:												
5	SALARIES (JWS, LDB, SS)				\$ 61	\$ 93	\$ 25	\$ 87	\$ 112	\$ 120 <sup>c</sup>	\$ 129 <sup>c</sup>	\$ 139 <sup>c</sup>	\$ 654
6	COMMUNITY RELATIONS				-	-	-	12	12	17	17	7	5
7	PROGRAM CONTROL				-	-	-	60	60	50	50	-	160
8	RISK MGT. ADMIN.				-	31	7	21	28	28	28	28	143
9	VALUE CAPTURE				-	20	-	-	-	-	-	-	20
10	EXPENSES				39	32	17	43	60	63	66	69	321
11	TOTAL				\$ 100	\$ 176	\$ 49	\$ 223	\$ 272	\$ 278	\$ 290	\$ 243	\$ 1,35
12													
13	LEGAL:												
14	R.H. HYDE				\$ 13	\$ 35	\$ 13	\$ 64	\$ 77	\$ 50	\$ 50	\$ 50	\$ 275
15	OTHER				-	-	3	15 <sup>b</sup>	18	30 <sup>b</sup>	15 <sup>b</sup>	-	63
16	TOTAL				\$ 13	\$ 35	\$ 16	\$ 79	\$ 95	\$ 80	\$ 65	\$ 50	\$ 338
17													
18	APPRAISERS				-	\$ 10.1	\$ 41	\$ 123	\$ 164	-	-	-	\$ 265
19													
20	PROJECT ENGINEERING: *												
21	CALTRANS				\$ 1,621	\$ 3,581	\$ 967 <sup>o</sup>	\$ 2,901 <sup>o</sup>	\$ 3,868	\$ 960	\$ 500	\$ 400	\$ 10,931
22	FOSTER				-	240	45	177	222	1,169	610	609	2,851
23	IECO				-	373 <sup>f</sup>	63	94	157	209	-	-	551
24	PSG. WATERS				-	9	6	20	26	25	20	20	101
25	CHNMB				-	50	8	112	120	15	15	-	201
26	STECHER AINSWORTH				-	35	38	67	105	-	-	-	141
27	COMSTOCK				-	62	17	81	98	-	-	-	161
28	KLAHOER				-	124	24	52	76	250	225	-	675
29	MISC EXPENSES				172	54 <sup>a</sup>	12	38	50	15	10	10	311
30	TOTAL				\$ 1,793	\$ 4,528	\$ 1,100	\$ 3,542	\$ 4,722	\$ 2,454	\$ 1,380	\$ 1,039	\$ 15,911
31	RT/CITY/COUNTY				-	91 <sup>j</sup>	16	49	65	65	50	25	29
	GRAND TOTAL				\$ 1,906	\$ 4,619	\$ 1,302	\$ 4,016	\$ 5,318	\$ 2,877	\$ 1,785	\$ 357	\$ 18,174



# STDA MGT. & ENG. BUDGET - REVISED (NOTES)

03/19  
P.2/2

REV. 03/26/84

	1	2	3	4	5	6	7	8	9	10	11	12	13
1	*	-	PROJ. MGT; ENG. DESGN; DESGN. SHIPMT.; & CONSTRUCTION MGT.										
2	a	-	EXPENSES @ \$41,860.55 + N. SMITH & ASSOC. (PARAMARE ANALYSIS) @ \$12,662.12.										
3	b	-	ALLOWANCE FOR D. PACH, SAGS. ATTY PROPOSED FOR SP ACQUISITION										
4	c	-	INFLATE @ 7.5%/YR										
5	d	-	" " 5.0%/YR										
6	e	-	PRO-RATED @ 2.5% & 7.5%										
7	f	-	TOTAL TO \$500,000.										
8	g	-	SUBSTITUTION INSPECTION.										
9	h	-	\$850,000. DESGN. + \$2,000,000. CONSTRUCN. MGT										
10	j	-	RT \$29,343 + CITY \$61,739.										
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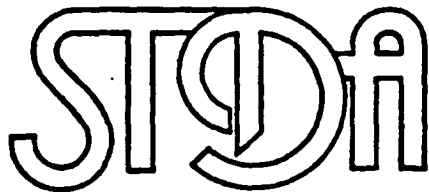




**EXHIBIT 6**

**Sample Budget Change Form**





BUDGET/SCOPE/SCHEDULE REVISION REQUEST

SACRAMENTO TRANSIT DEVELOPMENT AGENCY 926 J Street, Suite 511 • Sacramento, California 95814 • (916) 442-3168

DATE: AUGUST 24, 1984

CU# 2A

DESCRIPTION: WATT/80 MEDIAN

~~ORIGINAL BUDGET:~~

810,000

ADJUSTED BUDGET:

~~TRANSFER FROM OTHER CONTRACTS:~~

+2,819,000

TRANSFER FROM GENERAL CONTINGENCY:

TRANSFER TO OTHER CONTRACTS:

ADJUSTED BUDGET:

3,629,000

REASON FOR CHANGE IN SCOPE OR SCHEDULE: ADJUSTED BUDGET REFLECTS ELIMINATIONS, REDUCTIONS AND DEDUCTIVE OPTIONS.

COST IMPACT TO MAINTAIN CURRENT SCHEDULE/SCOPE: REDUCES GENERAL CONTINGENCY.

REQUESTED: L. SPATZ  
Name/Title

DATE: 11/12/84

RECOMMENDED:

J. E. Roberts, Project Director

CCNCUR:

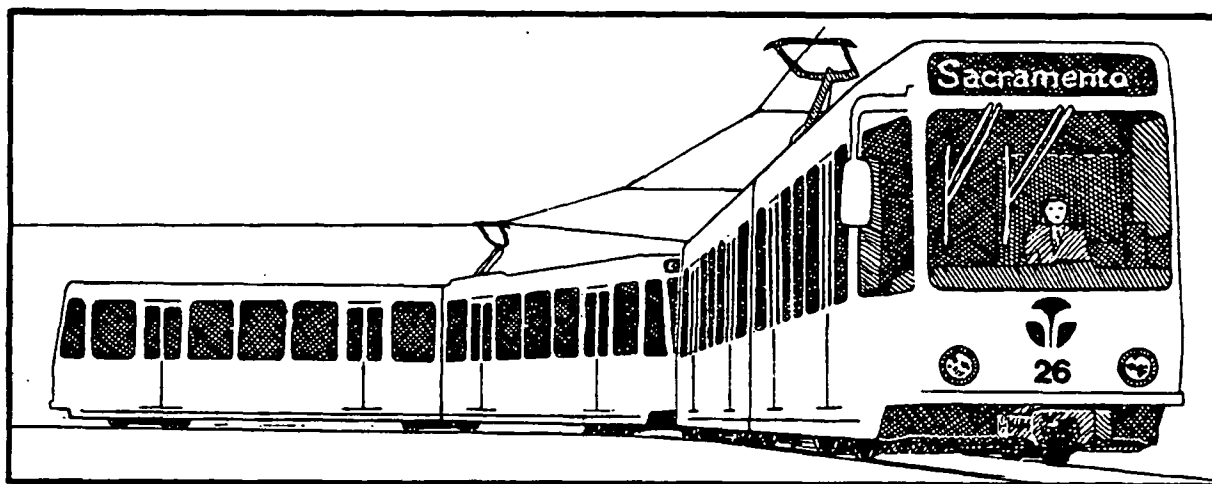
O. E. West, Project Control

APPROVED:

W. H. Edgar, Interim Executive Director



**SACRAMENTO  
TRANSIT DEVELOPMENT  
AGENCY**



**PRELIMINARY ASSESSMENT  
REPORT NO. 1**



**SACRAMENTO  
TRANSIT DEVELOPMENT  
AGENCY**

**PRELIMINARY ASSESSMENT REPORT NO.1**

**November 7, 1984**



November 7, 1984

Sacramento Transit Development Agency  
Board of Supervisors of the County  
of Sacramento  
City Council of the City of Sacramento  
Board of Directors of the Sacramento  
Regional Transit District

Honorable Members in Session:

SUBJECT: Preliminary Assessment Report

SUMMARY

Transmitted herein is the Agency's preliminary assessment of Sacramento's Light Rail Project. The report includes background information on the interim administrative procedure, identifies actions to date that relate to the three objectives of the interim administration, suggests preliminary findings and conclusions of our various reviews, and proposes certain recommendations for the Board's consideration.

This preliminary assessment is the first in a series of three reports that will be submitted to the Governing Board and parent bodies. Subsequent reports will address more specific conclusions and recommendations regarding specific aspects of the project itself.

RECOMMENDATION

The staff recommends that the Sacramento Transit Development Agency approve the Preliminary Assessment Report and authorize the Interim Executive Director to implement the specific recommendations included in the report.

Respectfully Submitted,

*William H. Edgar*

WILLIAM H. EDGAR  
Interim Executive Director



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**CONCLUSIONS  
AND  
RECOMMENDATIONS**



## I. CONCLUSIONS AND RECOMMENDATIONS

The following are the conclusions and recommendations of the report:

### Conclusions

1. The legal authority of the Agency creates a situation where everyone participates in the Project, but no one is responsible.
2. The unusual organization and management structure requires the Executive Director to utilize personal contacts, persuasion and informal influence to manage the Project rather than direct authority emanating from a formalized organization structure.
3. The project has minimal staff with previous transit experience. The technical resources on the project therefore require the benefit of additional project management skills--particularly in the areas of contract administration, quality assurance, configuration and interface management.
4. Budgeting and accounting policies, procedures, and practices are not adequate to properly control a project of this size. Changes to the budget have not been documented. Generally accepted control and change policies have not been put in place. Budgeting and accounting practices are fragmented throughout the project and need to be coordinated to the extent practicable.
5. Financial reporting of the Project has not been adequate; nor, has the reporting system been accomplished in accordance with generally accepted accounting principles.
6. Grant management and accounting has been inadequate and needs to be coordinated and formalized for the entire project within the Controller's office.
7. It is anticipated that the schedule will slip by at least six (6) months, although the detailed analysis will not be complete until next month.
8. The analysis of the "budget overrun" has not been completed at this time, and any speculation in this area would be premature. However, the above-mentioned delay will result in additional costs to the project. The initial evaluation of the overrun was \$18M and at this point, nothing has surfaced to indicate that this preliminary estimate should be significantly reduced.
9. A preliminary analysis has revealed that other rail systems have conducted successful short and/or



long-term financing debt issues. These efforts have resulted in the infusion of additional equity into the project. In addition, it may be possible to obtain additional revenue from other governmental agencies.

10. Many changes to the scope and design of the project have evolved over the last two (2) years which require a massive effort of documentation and evaluation.
11. The changes to the scope and design of the project have not been carried through to the Start-up and Operation Plan to make sure that the assumptions with regard to fleet size, meets, schedule, etc. are still valid.

#### Recommendations

1. Review alternative legal, organizational, and administrative structures to properly manage the Capital Project to completion as well as transition the Project to an effective operating agency.
2. Utilize the General Contingency as a source of budget transfers to and from contract units.
3. Increase project management staffing capacity in the areas of contract administration, quality assurance, configuration and interface management.
4. Formalize and coordinate the budgeting and accounting responsibilities within the Controller's Office and require that the processing of all financial transactions be the responsibility of that office.
5. Formalize and coordinate the overall activity of Grants Management for the entire Project similar to the process now being used by Regional Transit for their grants.
6. Assign a full-time accountant to the Project for the purpose of implementing recommendations No.'s 3, 4, and 5 above.
7. Schedule and conduct an overall Grant Compliance Audit.
8. Document, in a detailed way, all of the changes to the original scope and design of the Project. Then compare these changes to the original funding documents and FEIS. Finalize a report reflecting the design, budget and schedule evaluation of the project to serve as a base for an ongoing change control program.
9. Update the Start-up and Operations Plan to reflect the above-mentioned changes to the scope and design of the Capital Project.



**BACKGROUND**



## II. BACKGROUND

### A. Project Overview

The following description and definition of the Project is from the Monthly Progress Report which is provided to the Board each month:

#### 1. Summary Description

The 18.5 mile Sacramento Light Rail Transit (LRT) Starter Line Project will begin at Watt Avenue and I-80 in the Northeast Corridor. It will follow the abandoned I-80 Bypass freeway right-of-way (R-O-W), the abandoned Sacramento Northern Swanston Branch R-O-W along Arden Way, Del Paso Boulevard, the Route 160 bridge across the American River, 12th Street, K Street, 7th Street (southbound) and 8th Street (Northbound), O Street, 12th Street, Union Pacific R-O-W adjacent to the alley between Q and R Streets, R Street, and the Southern Pacific Placerville Branch R-O-W in the Folsom Corridor to Butterfield Way (see System Map attached as Exhibit No. 1).

#### 2. Facilities - Design, Construction and Right-of-Way

A single track main line will be built, with double track sections provided over 40% of the route to allow meets between trains operating at 15 minute intervals. A total of 27 passenger stations will be provided, six (6) to include bus transfer facilities, and seven (7) to include automobile park-and-ride lots. Outlying stations will have bicycle parking facilities where appropriate. A yard and shop complex will be located in the I-80 Bypass R-O-W near Academy Way between El Camino and Marconi Avenues.

#### 3. Systems - Design, Fabrication, Delivery, Installation and Testing

The systemwide items will cover the geographic limits defined above, and will include 26 Siemens-Allis/DueWag light-weight, articulated light rail vehicles, traction power, LRT signals, traffic signals, communication, fare vending, shop equipment and maintenance vehicles.

The project scope is consistent with the current authorization limits for which funding has been committed by the Urban Mass Transportation Administration.

#### 4. Limits of Construction

The facilities described above cover the route length of 97,858 feet, 8.65 miles northeasterly



from 7th and Capitol Mall to the Watt/80 station and 9.88 miles easterly from 7th and Capitol Mall to the Butterfield Way station.

The route has been broken down into contract units for monitoring purposes and is included as Exhibit No. 2 of this report.

B. General

On September 15, 1984, the Sacramento Transit Development Agency (STDA) Board of Directors approved the interim procedure for the administration of the Agency. The specific objective of this interim procedure is threefold:

1. To keep the activities of the Agency operating on an ongoing basis as efficiently and effectively as possible.
2. To conduct a thorough and complete analysis and evaluation of the Sacramento Light Rail Project.
3. To propose a course of action and achieve a consensus for completing and implementing the project in a timely fashion.

On September 26, 1984, the STDA Board approved the specific report relating to the administration of the Agency. This report has been attached as Exhibit No. 3. The Board approved the concept of completing the assessment and evaluation with existing staff and the technical assistance of consultants for specialized needs, as it becomes necessary. This concept includes interim status reports as follows:

	<u>Due Date</u>
1. Preliminary Assessment	October 30, 1984
2. Progress Report	November 30, 1984
3. Final Assessment	December 31, 1984

In addition, to the status reports, it is understood that numerous meetings and briefings are to be conducted in order to keep everyone appraised as to the details of the project. In this regard, the Board has agreed to meet weekly and participate in individual briefings, which has improved the awareness and knowledge of the Project immeasurably by those involved at the policy level.

The purpose of this first report is to document the actions to date of the interim administration, identify the major issues to be addressed and resolved during the ninety (90) day period, present some analysis of the



existing systems, draw some conclusions, and propose some recommendations for immediate or short-term problem resolution.

C. Agency Budget

Prior to identifying the actions to date and our preliminary findings, it is important to understand that we are analyzing the administrative, organizational, management and technical issues within the context of the Adopted Budget.

The Project Budget of \$131.04M was adopted by the STDA Board on April 11, 1984, and is monitored on a monthly basis by the Board of Directors through their review of the Progress Report. The project is financed entirely by fixed grants and local contributions totaling \$131.04M. The Adopted Budget has been included as Exhibit No. 4 of this report.

At this point, financial records are being kept at the various offices of Regional Transit, STDA, and the City of Sacramento. These separate records need to be coordinated and reconciled in order that the total Project can be managed properly.

D. Project Master Schedule

As with the Budget, it is important to understand that the issues are also being reviewed within the context of the Schedule.

The adopted Schedule anticipates full revenue on the Northeast and Central City portion of the system by April 1986. Full revenue service on the Folsom line is anticipated to start during the period between September 1986 and April 1987.

However, as a result of various design changes and other circumstances, the Project Master Schedule must be revised. It is anticipated that the revised schedule will show a delay of at least six (6) months in the full revenue service date for the Northeast line and the Central City.

E. Project Scope and Design Criteria

The overview section above outlines the basic components of the Project, but there has been some concern expressed about whether or not the original scope and design criteria of the Project have changed resulting in added capital or operating costs.. As we proceed with



our assessment and evaluation, it will be necessary to document any and all of the changes to the original scope and design criteria.

This analysis, together with our recommendations, will be transmitted to the Board for their review and approval with the Final Assessment Report due at the end of the year.



**ACTIONS TO DATE**



### III. ACTIONS TO DATE

The following is a summary of the actions to date of the interim administration. These actions have been related to the specific threefold objective approved by the STDA Board.

#### A. Objective No. 1

To keep the activities of the Agency operating on an ongoing basis as efficiently and effectively as possible.

The interim administration has spent considerable time and effort in administering the day-to-day operation of the Agency.

This effort has included an attempt to create a positive atmosphere, reestablish credibility and accountability, and to change the manner in which the Agency operates from a reactive to an active posture.

An interim organizational structure was established in order to bring greater management capacity to the administrative part of the organization, and to facilitate greater coordination in the technical area. The interim organization facilitates the execution of daily activities in a smooth and efficient manner.

As previously mentioned, the STDA Board of Directors has agreed to meet weekly, which has expedited the decision-making process and permitted a greater involvement at the policy level. In addition, individual briefings have been scheduled and implemented in order to explain specific items in greater detail as it becomes necessary. These two (2) changes have greatly improved the daily operation of the Agency.

The interim administration has exerted considerable effort to increase the involvement of the STDA Board and the parent bodies of the Joint Powers Agency. We have also attempted to improve working relationships between the Board and the Agency staff, and increase the Director's awareness of all matters affecting the Agency. This has been done both formally and informally by personally involving the Board of Directors in the decision-making process and in the organization's significant daily activities and problems.

In addition to greater involvement at the policy level, numerous internal staff meetings have been established



in order to insure greater coordination and communication among the staff members. This has resulted in closer monitoring of the project and has expedited the accomplishment of individual tasks. The standard monthly meeting schedule for the Agency has been included in this report as Exhibit No. 5.

We have also spent considerable time and effort, particularly in the technical area, documenting the Agency's workload. This has included identifying all the tasks, determining priorities and establishing realistic time schedules for completion. We have also attempted to implement procedures in order to expedite the review of technical documents, as well as permit as many interested parties to review them as possible. Procedures such as the design review procedure have formally required other agencies to become more involved in the Agency's decision-making process.

During the course of administering the Agency on a daily basis, the following changes and new policies have been implemented:

1. Standard Report Format/Review Process

A standard format and procedure for staff reports and the processing of material has been implemented. The memoranda establishing these is now being used by the staff. This is an effort to insure proper staff work, improve the content and comprehensiveness of staff reports, and promote full understanding of procedures for approval. These memoranda have been attached as Exhibit No. 6 of this report.

2. Central Tracking System

A central log has been established in the Executive Director's Office to keep track of external complaints/inquiries, documents requiring review and/or action, agenda items, assigned tasks, and other matters that require staff attention.

This has enabled the administrative staff to monitor the nature and frequency of complaints and inquiries received. In addition, we have been able to expedite the processing of the staff workload as a result of this system.

The intent of this system is to be able to document the Agency's response to external complaints/inquiries as well as to keep track of and expedite the processing of staff material.



3. Inter-Jurisdictional Light Rail Community Relations Team

During the initial phases of construction, STDA received a number of complaints from private property owners and businesses. Efforts to resolve the difficulties revealed the need to establish better coordination and communication among the various involved parties.

As a result of this experience, an Inter-Jurisdictional Light Rail Community Relations Team was established. The purpose of the Team is to anticipate problems, handle complaints, and resolve problems related to light rail construction. The goal of the Team is to minimize community disruption during construction.

The administrative procedure establishing the Inter-Jurisdictional Light Rail Community Relations Team is included as Exhibit No. 7 to this report.

4. Design Review Procedure

A formal design review procedure has been developed and implemented that applies to all the design work produced by the STDA and its subconsultants. The intent of the procedure is to: 1) formalize the method employed by the STDA to coordinate the review of the contract documents among the Joint Powers Agency (JPA) representatives and funding agencies, and 2) to introduce the discipline required for the accountability necessary to assure the quality of the documents produced. Formalizing the review process gives us the opportunity:

- a. To make sure that a given design reflects the required quality and will perform as originally intended.
- b. To facilitate review by all project participants.
- c. To permit identification of possible changes to scope, criteria, budget and schedule.
- d. To permit trend analysis to forecast budget and/or schedule problems.

The update to the Project Master Schedule has incorporated a milestone for intermediate review and a final review for each of the twelve (12) remaining contracts.



The review and coordination process is accomplished by systematically forming a design review team, the composition of which is predicated on the technical make-up of the individual contract.

The team is supported by representatives of the various technical disciplines at Caltrans and may be attended by CTC and UMTA representatives.

Salient points of the procedure are its specified responsibility, the initial review meeting, the controlled document submittal for review, adequate review time, formalized comment preparation and submittal, comment screening and processing, post-review meeting, documentation of the review and the follow-up process.

Attached to the report, as Exhibit No.8 is the letter putting the procedure in place, a copy of the procedure, and the tentative design review schedule. Please note the flow diagram appended to the procedure.

#### 5. Peer Reviews

Peer reviews, like design reviews, are another vehicle for assuring the quality of the system's design. The staff has defined the outline of three topics for peer review that would benefit the project: Management and Control, Safety and System Assurance and Operations Planning and Start-Up. The reviews recognize the fact that we have essentially completed the design phase and have construction, procurement and installation and system start-up ahead of us. At this point, staff will proceed to implement the reviews in time to have the results for incorporation in the final report.

Peer review is a process in which a project or phase or element of a project, is reviewed by experienced specialists in an attempt to improve the product. Most reviews last two days, are project oriented and draw their members from public agencies in the same industry.

The goal of peer reviews is to draw on the knowledge available in the operating rail transit systems in order to assist new rail systems. This assistance comes through the sharing of first-hand practical information.

There are two general types of peer reviews: peer review boards and peer review workshops. Peer review boards are more formal and generally three party: the



funding agency, the property being reviewed and the peer reviewers. Peer review workshops are less formal and generally two party: the property being reviewed and the peers. The funding agency is not involved but may play a support role. Peer review boards are generally more effective at the preliminary engineering level when much of the design criteria is still flexible. Peer review workshops can be applied effectively to narrow subject areas at any phase of development.

The peer review process brings the knowledge of experienced people to bear on the project being reviewed. It assists the reviewed agency in avoiding some of the pitfalls that other agencies learned the hard way. The sharing of knowledge benefits all who participate and the transit industry at large. Project managers generally listen to their peers.

The draft outline of the suggested peer reviews is appended as Exhibit No.9 and was reviewed by the STDA Board of Directors on October 31, 1984.

6. Urban Mass Transportation Administration (UMTA)  
Review

UMTA Relations and Issues

During the last few months we have worked diligently with UMTA to reduce the remaining issues of eligibility associated with STDA/RT LRT consultants. The issues have been quantified and submitted to UMTA for their final review and concurrence. Approval will reduce the potential for federal cost disallowance from \$5.1M to \$170,000.

Approval of amendment #1 to Grant CA-23-9001, effective September 30, 1984, added the additional right-of-way required to the scope of the project and incorporated the \$3.1 million required for the force account and cost allocation funds for RT's preparation for operation. The titles and deeds on 11 right-of-way parcels have been located and the associated UMTA issues resolved which will allow us to draw down \$4.9M against grant CA-23-9001-1.

During August and September we completed the detailed scope of work and progress reports necessary to remove the UMTA conditions on SACOG Grant CA-29-9005 for final design that will permit us to draw down \$5.5M in federal funds which was approved on September 18, 1982. The CA-29-9005 submittal will be made to UMTA in the near future.



We have also completed a review process with UMTA on the Force Account and Cost Allocation Plans for grants CA-29-9005, CA-90-0010 and CA-23-9001 which will culminate with submittal of the plans for UMTA approval in the near future, removing this major grant administrative issue dating back to 1982.

On October 23, 1984, the staff met with UMTA representatives from Washington and San Francisco to conduct the third Quarterly Review.

The details of the meeting and the action items to be accomplished are reflected in the minutes and confirmation letter which is attached to this report as Exhibit No. 10.

7. California Transportation Commission (CTC) Review

On Friday, October 19, 1984, RT and STDA staff met with CTC staff and their consultant of Wilbur Smith and Associates. The purpose of the meeting was to:

- a. Provide an overview of the interim organization and objectives.
- b. Provide a status report of the overall project with emphasis on our cost reduction/deferral program.
- c. Review the current budget and the additional funding sources that we are currently investigating.
- d. Review the status and steps necessary to secure the \$5.5M in Article XIX funds from the CTC, which has previously been approved.
- e. Initiate preliminary discussions regarding the scope and timing of our FY85-86 request for at least \$3.1M in Article XIX monies for expansion of the system.

We will be working with the consultant retained by the CTC to review Sacramento's Project in order that the presentation can be made to the State Commission at their January meeting.

In addition, we have been notified that we have received an application deadline waiver from the Commission so that our application for FY85-86 Article XIX funds can be submitted in January 1985 rather than November 1984. The request would have to be for projects beyond the current scope of the starter line. Initial discussions, based upon RT's Five (5) Year Plan have focused on system double tracking and additional vehicles.



The minutes of the meeting, confirmation letter, and waiver are included as Exhibit No. 11 to the report.

8. Cost Reduction Efforts

During the first month of the interim administration, a great deal of time and effort was spent analyzing and reviewing the construction contract units in the Northeast Corridor and the Central City.

The policy issue confronting the Board has been how to keep the project moving in order to obtain as much specific cost information about the project as possible; and, at the same time, allow sufficient time in order to generate additional income for the project.

This dilemma has been resolved by repackaging the bidding documents in order that the items which are not necessary to the functional operation of the line are bid separately or are deleted. These items were placed in specifically defined categories for the purpose of Board review and approval as well as UMTA and CTC consideration.

The policy and procedure accomplished two (2) things: First, it preserved the Agency's main priority which is to assure the financing of the entire line prior to the addition of enhancements.

Second, it will enable the Board to obtain a price on all of the enhancements so that additional revenue sources, both public and private, can be researched and pursued.

Finally, the Board agreed that the General Contingency would be used as a barometer of the financial health of the project. The contingency is now to be used as a "shock absorber" for adverse financial news, and as a "savings account" for the good news. Expenditures from the contingency and transfers to the contingency would be made keeping in mind that the entire line needs to be financially secure before the enhancements are considered.

The memoranda describing the specific cost reduction recommendations have been included as Exhibit No. 12 to this report. Board action approving these items was taken on October 10 and October 31 respectively.



B. Objective No. 2

To conduct a thorough and complete analysis and evaluation of the Sacramento Light Rail Project

1. General

This study is being completed by existing staff with the technical assistance from consultants and loaned personnel for specialized services as required. Status reports are to be submitted to the STDA Board with a comprehensive report to be submitted at the end of the interim procedure period.

This approach will require the retention of additional technical and management consultants to complete the study.

2. Legal Authority

The Sacramento Transit Development Agency operates under the authority of a Joint Powers Agreement executed by the participating agencies in March 1981.

There have been subsequent amendments to this original agreement which have reduced the numbers of participating agencies from four (4) to three (3) and the number of Board members from seven (7) to five (5).

There have been numerous criticisms of specific provisions of the Joint Powers Agreement, but at this time, no specific analysis or study has been undertaken to evaluate alternative legal structures for the Agency.

Research into the legal alternatives to the existing legislative process will be completed during the next phase of the study.

3. Organization and Management

The existing organizational and management system under which the Agency operates has been initially reviewed by the interim administration.

As described earlier, an interim administration procedure has been put in place and has been operating for approximately one (1) month.



Additional review and analysis regarding this subject will be completed in the next two (2) months.

Conclusions and recommendations will be forthcoming at that time.

4. Budget and Accounting

a. Budget

The Controller has assigned a senior management analyst from the City to this project. This analyst's responsibility is to completely reconstruct the project budget in detail, including:

- (1) Original adoption
- (2) Amendments
- (3) Current revised budget

This "bottom up" budget analysis will document the project budget on a functional basis, grant reporting basis and source of funds basis.

During this evaluation period, the staff is using the \$131.04M Board adopted budget as a baseline document. This baseline budget amount will undoubtedly be amended in early 1985.

b. Accounting

The City Finance Director is the Controller for the project. To date, the Controller has served as a fiscal agent, receiving grant funds, paying invoices and maintaining a general ledger.

In addition, the STDA staff is maintaining project ledgers.

Finally, Regional Transit is maintaining records on the Federal grants. Effective October 1, 1984, the project's Controller is taking a more direct and active role in the project's financial management. Acting as a financial management coordinator, the Controller is utilizing the resources of O. E. West, as well as the City Budget staff, Revenue staff, Accounting staff, and Treasury Management staff.



Accounting personnel are reviewing financial records at the City, STDA and RT with the intent of reconciling and coordinating these formerly separate efforts.

Concurrently, the project's books for Fiscal Year 83-84 have been closed and Price Waterhouse is conducting a financial audit. Also, RT's auditors, Deloitte Haskins and Sells are performing a Federal Grant Compliance Audit of the UMTA Grant records.

5. Master Schedule and Baseline Budget (Forecast) Updates

- a. Project Master Schedule - The computer has been loaded with updated data on all the key project elements at the lowest level of detail in the program. The first run has been generated and is currently under review. Updating the schedule is a step-by-step process. After review of the draft schedule, we will have to adjust some of the key constraints and assumptions and rerun the data. This process will require several cycles. Resolution of the vehicle delivery issue, the Sacramento Bee issue and the Southern Pacific right-of-way issues will improve the validity of the schedule.
- b. Baseline Budget (Forecast) - After establishing the Work Breakdown Structure (WBS) and allocating actual costs, we will have to prepare the forecast for the project management, engineering and design, right-of-way, agreements and utilities and the construction and procurement contracts (awarded and pending). The forecast produced by the technical staff will be compiled by Program Control and reflected in the financial plan by the administration.

The cost reduction effort discussed in III A.8. will be completed by mid December and incorporated in the forecast. The most time-consuming and perhaps most important effort will be the development of the detailed explanation of the changes in cost and scope that have evolved between the preliminary engineering base and the current design.



## 6. Project Financing

The interim management team is methodically reassessing the financial condition of the light rail project. This process involves analysis of the budget as well as the technical percentage of completion.

In the interest of time, however, the management team is assuming that the project is underfunded. This assumption is based on the July 30, 1984, Project Status Report to the STDA Board. Accordingly, the Interim Executive Director has created a "Project Financing Subcommittee" to explore all possible additional funding sources. The following outlines the actions to date:

- a. The Project Controller has verbally reported to the STDA Board on possible additional intergovernmental grant sources which are being pursued.
- b. A staff analysis of possible bond and lease financings is being conducted by the Project's Treasurer who will report his findings shortly to the Financing Subcommittee.
- c. The Project's Attorney is preparing a report on the legal ramifications of possible bond and lease financings.
- d. The above efforts are being coordinated with project grantor agencies.

## 7. Project Scope

A format has been developed for generating a technical update of each major project component. The format includes the following:

- a. Contract unit number
- b. Project designation
- c. A thorough description of the system component (with graphics, drawings and pictures as appropriate)
- d. A statement of the design principal and function



- e. The FEIS commitments/constraints
- f. The baseline scope
- g. Schedule (milestone dates)
- h. The budget
- i. The current scope and estimate
- j. A detailed list of the differences in original and current scope and budget
- k. A change order history (if component has been awarded)
- l. A list of issues and concerns.

A technical briefing to the Board has been scheduled on each major system component prior to December 30, 1984, for inclusion in the Final Report.

This complete analysis is required to clearly describe the current project scope so that an accurate cost estimate can be prepared, an effective cost reduction effort undertaken and ironclad documentation generated to gain the support of the CTC and UMTA. Both funding agencies want assurances that we are complying with our commitments. It is also important for us to have the current scope issue resolved so that we can distinguish the future scope from the current project.

#### 8. Project Design Criteria

At the end of preliminary engineering the efforts were reflected in the milestone deliverables. All of the milestone deliverables carried a late 1982 or early 1983 completion date. These milestones reflected the project baseline documentation that served as the basis for design. They collectively represent the project "design criteria" and dictated the scope, schedule and budget for the subsequent final design, construction management and capital grants.

The list of preliminary milestones has been reviewed and those requiring update identified. The list and status is attached as Exhibit No. 13 (Preliminary Engineering Baseline Document).



9. Start-up and Operations Plan

In order for the Sacramento LRT system to have a successful inauguration of service and to continue to operate effectively, it is necessary that a number of events occur before the first day of operation. Milestone 9 (Exhibit No. 13) was produced with that objective in mind. The preliminary outline of the plan was produced on April 14, 1983.

RT, working with the STDA staff and Foster Engineering, has elaborated on the preliminary plan and developed a fifteen task work program that assigns responsibility and a time frame for each task. A copy of the LRT Operations and Integrations Work Program and the milestone status chart are attached as Exhibit No. 14.

To continue moving the development of the plan forward, RT has assigned staff fulltime as project manager for the effort, working under the LRT Coordinator.

C. Objective No. 3

To propose a course of action and achieve a consensus for completing and implementing the project in a timely fashion

At this point, the interim administration is not prepared to address this part of the three-fold objective of the Management Study. This is because the analysis and evaluation has not yet been completed in sufficient detail to enable us to reach final conclusion and make final recommendations.

This will, of course, be completed in the next two (2) months and recommendations will be included in our Final Assessment at the end of December 1984.

The Final Assessment is meant to provide a suggested future direction for the Agency to complete the Capital Project and to turn over the project to the designated operating Agency.



**PRELIMINARY FINDINGS**



#### IV. PRELIMINARY FINDINGS

As indicated in the previous section of this report, specific actions have been taken in order to improve the administration of the Agency.

The stage was initially set by establishing an interim organizational structure and procedure that permitted the Agency to begin systematically performing its work, involving the STDA Board of Directors and its parent bodies in the decision-making process. The process and systems through which the Agency accomplishes its work are continuing to be reviewed and modifications are being made in order to improve the ongoing operations.

Specific administrative procedures were put into place, such as the report format and processing procedure, the establishment of the Inter-jurisdictional Light Rail Community Relations Team, and the Design Review and the Peer Review procedures, etc.

A method has been established for systematically reviewing the project. This review is a prelude to the third objective of the assessment which is: to propose a course of action and achieve a consensus for completing and implementing the project in a timely fashion.

This section of the report describes our preliminary findings.

##### A. Legal Authority, Organization, and Management

As mentioned earlier, the Sacramento Transit Development Agency operates under authority created by the approval of a Joint Powers Agency in March 1981.

Since that time numerous reports and studies have criticized the current legal and organizational structure. This criticism has primarily centered around two (2) issues; namely, ultimate responsibility for the project, and the management responsibility and authority.

It would appear that the current legal structure tends to relieve the parent governmental jurisdictions from accepting any real responsibility for the project. The participating jurisdictions have the luxury of being represented on the Board of Directors; but at the same time, being able to maintain a safe distance from the project in the event something goes wrong.



Second, the structure has created some serious internal questions of responsibility and authority for managing the project. This is particularly evident when reviewing the responsibilities and authority of the Executive Director and Project Manager as well as the Grant recipient (Regional Transit) and the Project Controller (City Finance Director). There are numerous other examples of these kinds of conflicts and confusion.

There are, of course, historical reasons for this structure and organization, and it is a credit to everyone involved that the project has moved along as well as it has given the difficult structure and organization.

Many problems, mostly administrative, result from this somewhat confusing situation. For example, the Executive Director must control and manage the project utilizing personal contacts, persuasion, and informal influence rather than a formal organizational structure. In addition, the decentralization of the administrative and technical staffs create difficult problems of communication. Finally, the delays created by the existing system in which many individuals and agencies demand constant oversight creates staff confusion and inefficiency.

The legal and organizational structure will need to be modified in order to allow the Agency to complete the Project and gradually transition out of existence efficiently and effectively.

The following three (3) alternative structures need to be reviewed during the next month:

1. Status Quo - This alternative would not change the Joint Powers Agency, and would require that the project be completed and turned over to the Regional Transit District as a "turn-key" project.
2. Assumption of the Project by an Existing Jurisdiction - This alternative would require that one (1) of the parent jurisdictions assume the responsibility for the project now and insure its completion. The obvious choice under this alternative would be the Regional Transit District, but it is theoretically possible for one of the other jurisdictions to also assume this responsibility.



3. New Structure - This alternative would envision a new legal and organizational structure that would attempt to resolve the problems mentioned above related to political and administrative accountability and organization.

The advantages and disadvantages of each of the above-mentioned alternatives will be evaluated in next month's report.

## B. Budget and Accounting

### 1. Budget

- a. Prior to the arrival of O.E. West, the documentation of changes to the budget was inadequate. As a result, clear documentation from inception to date of these changes is now required. Staff corrective action in this area is described under the "Actions To Date" section of this report.
- b. Past practice has been to administratively transfer budget amounts between contract units. This is not a recommended practice. A better one is to utilize the General Contingency as the source of budget transfers to and from contract units. Utilizing this procedure, the General Contingency then becomes an easily usable measure of the project's fiscal health.
- c. The budget and financial planning, reporting, control and amendment process is unstructured and should be formalized. Further, these tasks should be accomplished by the administrative staff rather than the project engineers or the technical staff.
- d. Grant management has been nonexistent until recently. The LRT Coordinator is now formalizing an ongoing grant management program with UMTA. Other members of the project staff are also becoming involved. This is a full-time effort that should be accomplished for all project grants.
- e. The STDA Board should adopt and control the annual STDA office budgets for each fiscal year of the project.



## 2. Accounting

- a. The official financial records of the project are maintained by the Project Controller. Records are also maintained by STDA and RT. While RT needs to maintain UMTA Grant records, the STDA and Project Controller records should be reconciled to assure that the monthly project status reports and the General Ledger are Correct. This will be accomplished in the coming months.
- b. Periodically, the Executive Director and the STDA Board should receive comprehensive financial statements of the project's actual costs to date prepared in accordance with generally accepted accounting principles. Further, these statements should be audited by external auditors. The Project Controller is implementing this recommendation immediately.
- c. The Monthly Project Status Report should contain a "Summary Chart" which lists actual expenditure amounts for each contract and then summarizes them for the project as a whole. This Summary Chart should also show grant drawdowns (revenue), other revenue and fund balances.
- d. All revenue billings to the grantor and all claims to vendors should include the source of funds identification. This will allow for proper accounting for each project grant. This recommendation has recently been implemented but was not done consistently prior to October 1984.
- e. Staff accounting support is inadequate. The Controller is utilizing one accountant part-time to account for project transactions. This has been adequate until recently because the volume of transactions was relatively small. This situation is rapidly changing as the project activity level accelerates into the construction phase. A full-time accountant should be assigned to the project.



- f. The City's external auditors are performing a financial audit of the light rail project's year-end Annual Financial Report. Regional Transit's external auditors are, in addition, performing a Grant Compliance Audit (Federal Attachment P) for the UMTA Grant. However, no overall Grant Compliance Audit of the entire project's finances is currently scheduled.

This should be done by the City's external auditors.

C. Project Master Schedule and Baseline Budget  
(Forecast Update)

Our progress monitoring and reporting is currently being reflected against Revision 6 of the Master Schedule, dated May 21, 1984, and the \$131.04M STDA Board approved budget, dated April 11, 1984. Both baselines require a major update. As a consequence, our progress reports are useful only in quantifying accomplishments but are of no value in determining the progress as it relates to the plan.

The schedule update that will reflect the new baseline Master Schedule will be ready in November and included in the November report to the Board. The project cost estimate is also being updated and will be reflected as a forecast in the December report to the STDA Board.

The Master Schedule will reflect a slip in Northeast/Central Business District (NE/CBD) revenue service of at least six (6) months. The slip is primarily related to the delay expected in the delivery of the 20 LRV's required for revenue service on the NE/CBD lines and the delay in advertising CU#4, CBD Line, necessitated by the cost reduction and repackaging efforts. The revenue service date for the Folsom Line appears to be achievable pending a timely resolution of the SP right-of-way and the Bee agreement issues. It is expected that the revenue services dates for the NE/CBC and Folsom Lines are getting closer together.

At this time, we have not completed the analysis of the budget. We are continuing to work against the previously announced \$18M overrun at this time.



After proper coordination of the Master Project Schedule and Budget Forecast with the City, the County, RT, the STDA Board, the RT Board, the CTC and UMTA, the new baselines will be proposed for adoption by the STDA Board. Adoption of the new Budget will be predicated on a new financial plan that identifies the revenue sources to accomplish the Project.

D. Project Financing

While it is too early at this point to make definitive statements about project financing, the preliminary analysis seems to indicate that other rail transit entities have conducted successful short and/or long-term financing debt issues which have the affect of infusing additional equity into the project.

As an example, some rail transit systems have successfully conducted long-term sale/leaseback transactions of rolling stock (safe harbor leasing) where the transit system is able to "pass through" Federal tax savings to the private investors. This type of transaction would, however, require an assured source for payment of annual debt service, such as Regional Transit, the City or County.

Early discussions with the Federal Urban Mass Transportation Administration (UMTA) indicate they would be willing to cooperate in such financing transactions.

Final findings and recommendations will be contained in the December 31, 1984, Interim Management Report.

If the project is materially underfunded as was indicated by the July 30, 1984, Progress Report, then a combination of bailout measures, such as additional intergovernmental grants, long-term debt financing transactions and cost-reduction measures may be required.

Proposition 36 on the November 7 ballot amends the California Constitution and materially changes the statewide financing of local government entities. Its passage will affect the financing of the Light Rail Project directly because area local governments will have a reduced capacity to support the project in either additional intergovernmental grants or long-term debt financing support.



E. Project Scope

As is common with transit projects, the design that has evolved over the two years since the establishment of the preliminary "design criteria" is different than the baseline. What is not common with transit projects is the fact that no intermediate milestone reviews or formal change control and configuration management process was utilized to monitor, control and document changes as they were made.

As a consequence, we are faced with a rather massive effort in determining the original scope of the Project and the changes that have occurred since the beginning. We must, therefore, methodically review and compare project components, as highlighted in III B.7., document the changes and put a formal change control and configuration management system in place.

F. Project Design Criteria

Item III B.8. included a list of the project baseline "design criteria" and the status of each item. The majority of the criteria needs updating. Criteria dictates scope and scope dictates the basis for design and the cost estimate. Prior to completing the cost estimate and generating a new project forecast, the criteria must be updated and changes approved by the the Board. The baseline criteria was originally adopted by the Board and established the design philosophy and design basis.

The design review procedure recently adopted provides the mechanism for monitoring design for compliance with the design criteria. Change control and configuration management will provide the mechanism for managing and documenting future changes.

G. Start-Up and Operations Plan

As with the rest of the "design criteria," the operations plan that defines operating parameters for the system is outdated. It is necessary to update the operating plan to include the physical characteristics of the system that have evolved with the civil and systems design (i.e., plan or profile changes in alignment, vehicle power or gear box changes, etc.).



We need to determine that our assumptions about fleet size, station dwell times, meets, schedule, trackwork and operating plan are still valid before completing the staffing plan, formalizing power consumption estimates for operating cost and making input change to the civil and procurement effort as required.

#### H. Future Extensions

Given the current circumstances related to the budget and schedule of the "starter line," some have suggested that it is premature to address the question of future extensions.

However, as you recall, the Sacramento Council of Governments (SACOG), at the request of the City, County and Regional Transit, has undertaken a study regarding the future extensions to the system.

The elected officials believe, and we concur, that this is an important study because it will provide a Master Plan for future additions and demonstrates that the project is a community-wide project for the metropolitan area--not just a city project.

The preliminary discussion paper prepared by SACOG has been attached as Exhibit No. 15 to this report. More definitive analysis and evaluation of the various alternative extension proposals should be available for our Final Report in December.



**EXHIBITS**



### LIST OF EXHIBITS

Exhibit No. 1:	System Map
Exhibit No. 2:	Contract Unit Detail
Exhibit No. 3:	Interim Procedure for Administration of the Sacramento Transit Development Agency
Exhibit No. 4:	Project Budget
Exhibit No. 5:	Standard Monthly Meeting Schedule
Exhibit No. 6:	Standard Report Format and Report Processing Memoranda
Exhibit No. 7:	Inter-Jurisdictional Light Rail Community Relations Team
Exhibit No. 8:	Design Review Procedure
Exhibit No. 9:	Peer Reviews
Exhibit No. 10:	Minutes and Confirmation Letter Regarding UMTA Review
Exhibit No. 11:	Minutes, Confirmation Letter and Waiver Regarding CTC Review
Exhibit No. 12:	Cost Reduction Memoranda
Exhibit No. 13:	Preliminary Engineering Baseline Document
Exhibit No. 14:	Operations and Integration Work Program, Task Force Milestone and Activity Dates
Exhibit No. 15:	Future Extensions Report



EXHIBIT NO. 1

SYSTEM MAP



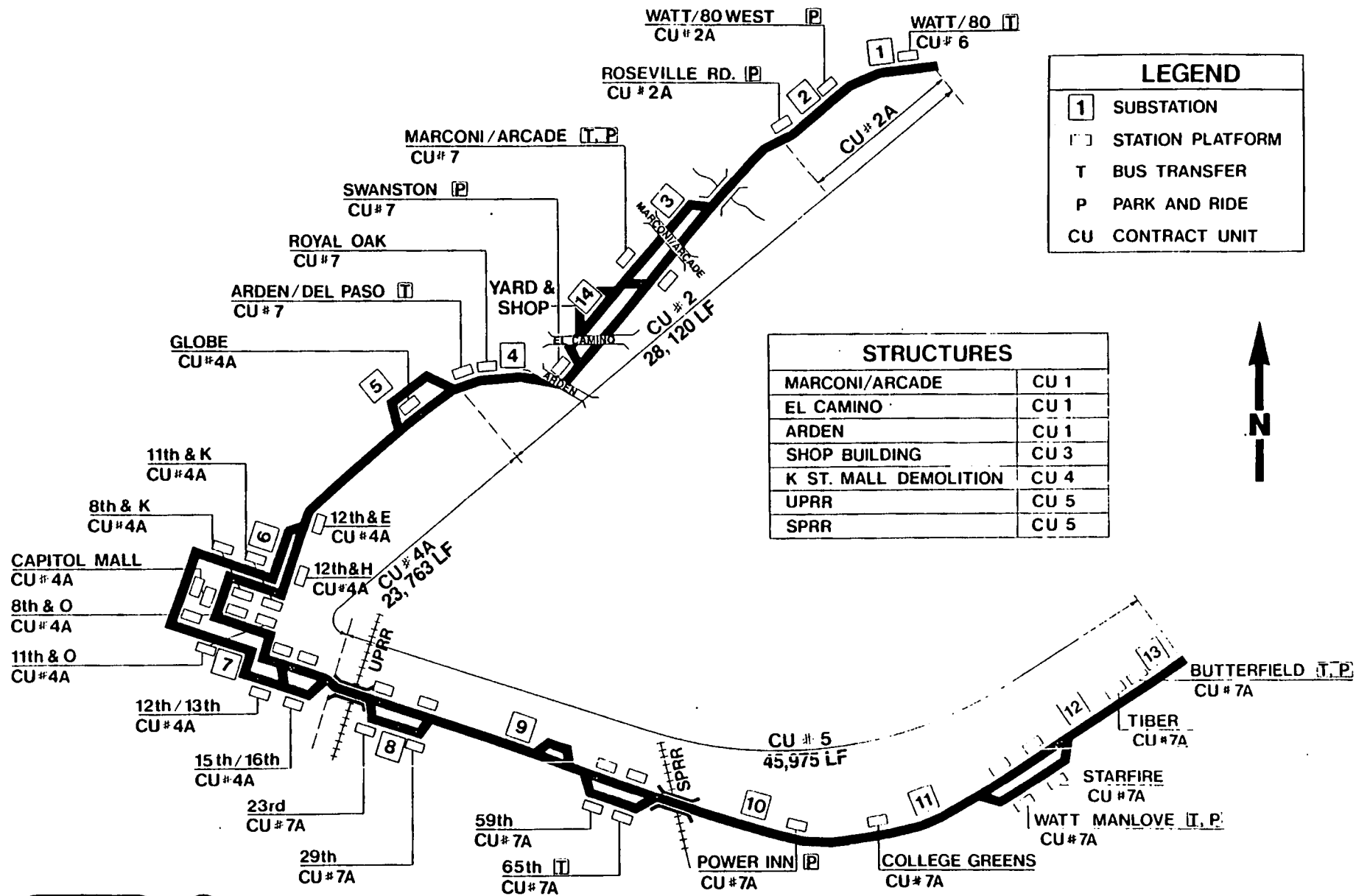








EXHIBIT NO. 2

CONTRACT UNIT DETAIL



# CONSTRUCTION CONTRACTS

<u>Contract Unit</u>	<u>Type</u>	<u>Length, in Feet</u>	<u>Description</u>	<u>Stationing From-To</u>
1	Street Overpasses North Sacramento	N/A	4-lane street overpasses at Arden, El Camino and Marconi/Arcade.	N/A
1A	SPRR Relocation	N/A	Temporary relocation and replacement of SP track associated with rerouting track made necessary by grade separation construction.	N/A
2	At Grade Line Northeast Line	21,919/ 28,120	Section of line from Arden/Del Paso to Watt/80 including grading & drainage; Arcade Creek structure; site preparation for storage yard; installation of ballast, rail, ties and special trackwork; foundations for signals & OCS; leveling pads & OCS supports on bridges; grading for approach road from Winters/Grand intersection. Limits: east side of Del Paso Blvd @ Arden to southwest end of Grand Ave OH, plus trackwork to end terminus @ Watt/80.	N194+50 to N413+69; Track from N194+50 to N511+80
2A	At Grade Line Watt/80 Median	8,062	Watt/80 median area including barriers to separate work area & freeway lanes; cut & remove existing concrete; grading & drainage; paving; curbs; platforms & related work; lighting; signing & landscaping. Limits: southwest end of Grand Ave OH to Watt/80 end terminus.	N430+88 to N511+50
3	Maintenance Bldg	±300	Maintenance & operations building including structural work, paving, lighting, fencing, utilities & related work, building electrification, trackwork within the building, DC power conduit & appropriate anchors & provisions for future shop equipment installation.	Vicinity N332+00
4	Mall Demolition K Street Mall	1,930	Demolition of existing structures on K Street Mall between 7th & 12th Streets.	N18+50 to N37+80

Continued.....



CONSTRUCTION CONTRACTS (CONTINUED)

<u>Contract Unit</u>	<u>Type</u>	<u>Length, in Feet</u>	<u>Description</u>	<u>Stationing From-To</u>
4A	At Grade Line Central City	23,763	Section of line from 18th/R to Arden/ Del Paso including grading & drainage; station stops; structure modifications; installation of ballast, rail, ties & special trackwork; reconstruction of K Street Mall; 12th Street & O Street im- provements; site preparation, conduit work & foundations for signals & elec- trification; street repaving as needed.	N10+00 to N194+50 & E10+07 to E72+40
4B 4C	Procurement	N/A	100 Bloodgood (Sycamore), 50 Red Oak & 30 Red Sunset (Red Maple) trees for K Street Mall.	N/A
4D	Parking Lots Central City	N/A	Demolition, grading, drainage, paving, and landscaping for three parking lots at Del Paso Blvd and Baxter for 41 cars, and on the east and west sides of 12th and E Streets for 15 and 34 cars respectively.	N/A
5	At Grade Line Folsom Line	45,975	Section of line from 18th/R to Butter- field Way including grading & drainage; structures (including UPRR & SPRR OHs); installation of ballast, rail, ties & special trackwork; conduit installation & foundations for signals & OCS; sub- station pad grading; & lining of SP Placerville Branch as required.	E72+40 to E571+60
6	Terminal At Grade Station Northeast Line	±450	Watt/80 terminus including Watt Ave bridge modification; elevators; stair- ways; crew & restroom facilities; platforms, shelters & E&H ramps; & related amenities.	Vicinity N510+00

Continued.....



CONSTRUCTION CONTRACTS (CONTINUED)

<u>Contract Unit</u>	<u>Type</u>	<u>Length, in Feet</u>	<u>Description</u>	<u>Stationing From-To</u>
7	At Grade Stations Northeast Line	320 Ea.	Northeast Line stops including grading & drainage; construction; lighting & landscaping for stations & park-&-ride lots; street signals associated with stations; platforms, shelters, E&H ramps & related amenities at Marconi/Arcade, Swanston, Royal Oaks & Arden/Del Paso.	Various
7A	At Grade Stations Folsom Line	320 Ea.	Folsom Line stops including grading & drainage; construction; lighting & landscaping for stations & park-&-ride lots; street signals associated with stations; platforms, shelters, E&H ramps & related amenities at 23rd, 29th, 59th, 65th, Power Inn, College Greens, Watt/Manlove, Starfire, Tiber & Butterfield Way.	Various
7B	Procurement	N/A	550 Valley Oak, 150 Red Oak, 250 Chinese Pistachios, 450 Bloodgood & 150 Hackberry trees for suburban stations.	N/A
7C	Art Program	N/A	Design, fabricate and install artworks systemwide including pavement pieces, tree grates, banners, bicycle lockers, and artistic treatments at Power Inn, Cathedral Square at 11th and K Streets, K Street Mall between 9th and 10th, St. Rose of Lima Park at 7th and K, and O Street Mall between 9th and 10th.	N/A
8	Yard Area Grading	N/A	Grading for maintenance building & temporary storage area including lighting.	Vicinity 345+00
8A	Temporary Fencing; Yard Storage Area	N/A	Rental of temporary fencing around storage area at yard.	Vicinity 345+00



SYSTEM CONTRACTS

<u>Contract Unit</u>	<u>Type</u>	<u>Length, in Feet</u>	<u>Description</u>	<u>Stationing From-To</u>
9	Installation	N/A	Installation of DC power substations, poles, conduit & OCS system for entire LRT system, yard and shop building.	System
10	Furnish & Install	N/A	All wayside signal equipment supply, installation & testing for entire LRT system; grade crossing protection devices & switch machines.	System
11	Furnish & Install	N/A	All street signal equipment supply, installation & testing; modifications to existing street signals for those not covered in station contracts (CU#7 & 7A)	System
13	Installation	N/A	No scope currently; work in other contracts. Held in reserve.	N/A

# # #



# EQUIPMENT & MATERIAL PROCUREMENTS

<u>Contract Unit</u>	<u>Type</u>	<u>Length, in Feet</u>	<u>Description</u>	<u>Stationing From-To</u>
12	Procurement	N/A	Procurement & installation of: mobile radios in LRV's & service vehicles & modifications to existing base station equipment; fare vending monitors at stations & the operations center.	N/A
14A	Procurement		Procurement of 5,750 tons of 115# RE rail.	N/A
14B	Procurement	N/A	Procurement of other track material (OTM): plates, bars, spikes, anchors, and tie pads.	N/A
15	Procurement	N/A	Procurement of 69,000 cross ties and 3,000 switch timbers.	N/A
16	Procurement	N/A	Procurement of special trackwork: 45 turnouts and associated hardware.	N/A
17	Procurement	N/A	Procurement of 26 six-axle, articulated light rail vehicles & spare parts.	N/A
18A	Procurement	N/A	Procurement of 42 fare vending machines.	N/A
18B	Procurement	N/A	Procurement of major shop equipment.	N/A
18C	Procurement	N/A	Procurement of maintenance & supervisory vehicles.	N/A
19	Procurement	N/A	Procurement of 14 one-megawatt traction power substations.	N/A

Continued.....



EQUIPMENT & MATERIAL PROCUREMENTS (CONTINUED)

<u>Contract Unit</u>	<u>Type</u>	<u>Length, in Feet</u>	<u>Description</u>	<u>Stationing From-To</u>
20	Procurement	N/A	Procurement of all overhead catenary system components except pole foundations, cable and wire.	N/A
21	Procurement	N/A	Procurement of major wire & cable used in traction power & signaling contracts, i.e., all feeder cable, contact wire, steel cable & signal wire.	N/A

# # #

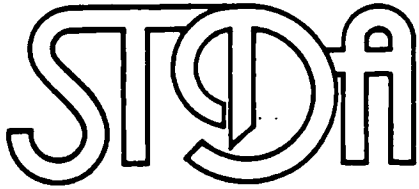
JWS/OEW:Rev. 05/29/84



EXHIBIT NO. 3

INTERIM PROCEDURE FOR ADMINISTRATION OF THE  
SACRAMENTO TRANSIT DEVELOPMENT AGENCY





# MEMORANDUM

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1201 I Street, Room 205 • Sacramento 95814 • (916) 445-6519

September 19, 1984

TO: Members of the Governing Board  
FROM: William H. Edgar *William H. Edgar*  
RE: Interim Procedure for Administration of the  
Sacramento Transit Development Agency

## SUMMARY

The purpose of this memorandum is to provide the Sacramento Transit Development Agency Board of Directors a status report regarding the interim administration of the Agency.

It is recommended that the Board authorize the Interim Executive Director to proceed with the interim administration as outlined below.

## BACKGROUND

On September 15, 1984, the Sacramento Transit Development Agency Board of Directors approved an interim procedure for the administration of the Sacramento Transit Development Agency.

The specific objective of this interim procedure is threefold:

1. To keep the activities of the Agency operating on an on-going basis as efficiently and effectively as possible.
2. To conduct a thorough and complete analysis and evaluation of the Sacramento Light Rail Project.
3. To propose a course of action and achieve a consensus for completing and implementing the project in a timely fashion.

The short-term objectives noted above are to be completed within a ninety (90) day period.

## ISSUES

Initially, the staff has identified several issues that need to be addressed. These issues include:



1. Scheduling problems in order to maintain the targeted opening date of April 1986
2. Budget overrun problems
3. Peer review of technical recommendations
4. Protests of bidders on certain contract awards
5. Organizational problems emanating from the current legal structure
6. Technical accounting and auditing issues related to properly accounting for the Project as a whole
7. Feasibility and desirability of extensions to the light rail starter line

Some of these issues, such as organizational and structural, are addressed as part of the interim organization discussed below. Other issues, such as the budget overrun problem, will be addressed during the ninety (90) day interim administration period. The resolution of long-term issues, such as the feasibility and desirability of extensions to the light rail starter line, will go well beyond the interim administration period.

#### INTERIM ORGANIZATION

As part of the interim procedure, an interim organizational chart is being recommended for the Agency. A copy of the chart has been attached as Exhibit 1 for your review and approval. The proposed interim organization is based upon a logical functional structure, attempts to insert significant management support into the Agency, and separates supportive from technical activities. The purpose is to define and establish appropriate lines of authority and communication.

The proposed interim organization also attempts to structure the Agency in a way that facilitates the smooth operation of daily activities. Hopefully, the fixed and stable nature of the structure will make it readily understood by employees, the Board, and the public.

The Administration Division includes activities which provide for supportive services for two technical activities of the Agency. This Division would be managed by the existing controller of the Agency.



The related technical activities are grouped under a Technical Coordinator and remain unchanged. The Technical Coordinator position is recommended for these purposes:

1. To coordinate and expedite the review of technical documents among the various agencies and interests.
2. To coordinate and schedule peer review of issues related to technical matters in the event this review is necessary.
3. To compile the data, material, and information necessary to analyze and evaluate the costs and projections related to the project.

This position would be filled during the interim period by a contract employee.

In summary, although this interim organization, as set fourth in the attached chart, may be altered after we have had an opportunity to work with it, we believe that it will resolve many of the problems that have been brought to our attention thus far.

#### ASSESSMENT APPROACH

In order to complete the assignment and charge outlined above, the following Preliminary and Schematic Plan of Action is proposed:

1. Discuss the current status of the project with as many agencies, special interest groups, elected officials, appointed officials, and members of the public as possible.
2. Read and review as much data, material, and information as possible.
3. Conduct as many briefings as possible. For example, we are recommending that the Board of Directors meet every week for at least a short period of time in order to accomplish the workload ahead.
4. Prepare three (3) reports:

	<u>Due Date</u>
a. Preliminary Assessment	October 30, 1984
b. Progress Report	November 30, 1984
c. Final Assessment	December 31, 1984

It is understood that as the assessment continues, numerous public meetings and briefings will be conducted with as many interests as possible. It is also contemplated that a peer



Memo to: Governing Board  
September 19, 1984  
Page 4

review of the assessment may be conducted if the Board believes that is necessary.

#### Financial Data

The approach discussed above requires a commitment of City, County, and Regional Transit staff resources. We are assuming that previously adopted resolutions authorize the drafting of appropriate agreements with the Agency for reimbursement for committed staff resources. At the present time, we are reviewing the current general capacity to determine if such reimbursement is possible. When, and if, reimbursement is generally possible, the appropriate contracts will be prepared and submitted to the parent agencies.

#### Conclusion/Recommendation

This report is the first status report regarding the interim administration of the Agency.

The staff recommends that the Board authorize the Interim Executive Director to proceed with the interim administration of the Agency in the manner described in the report.

WHE:rg

Attachment



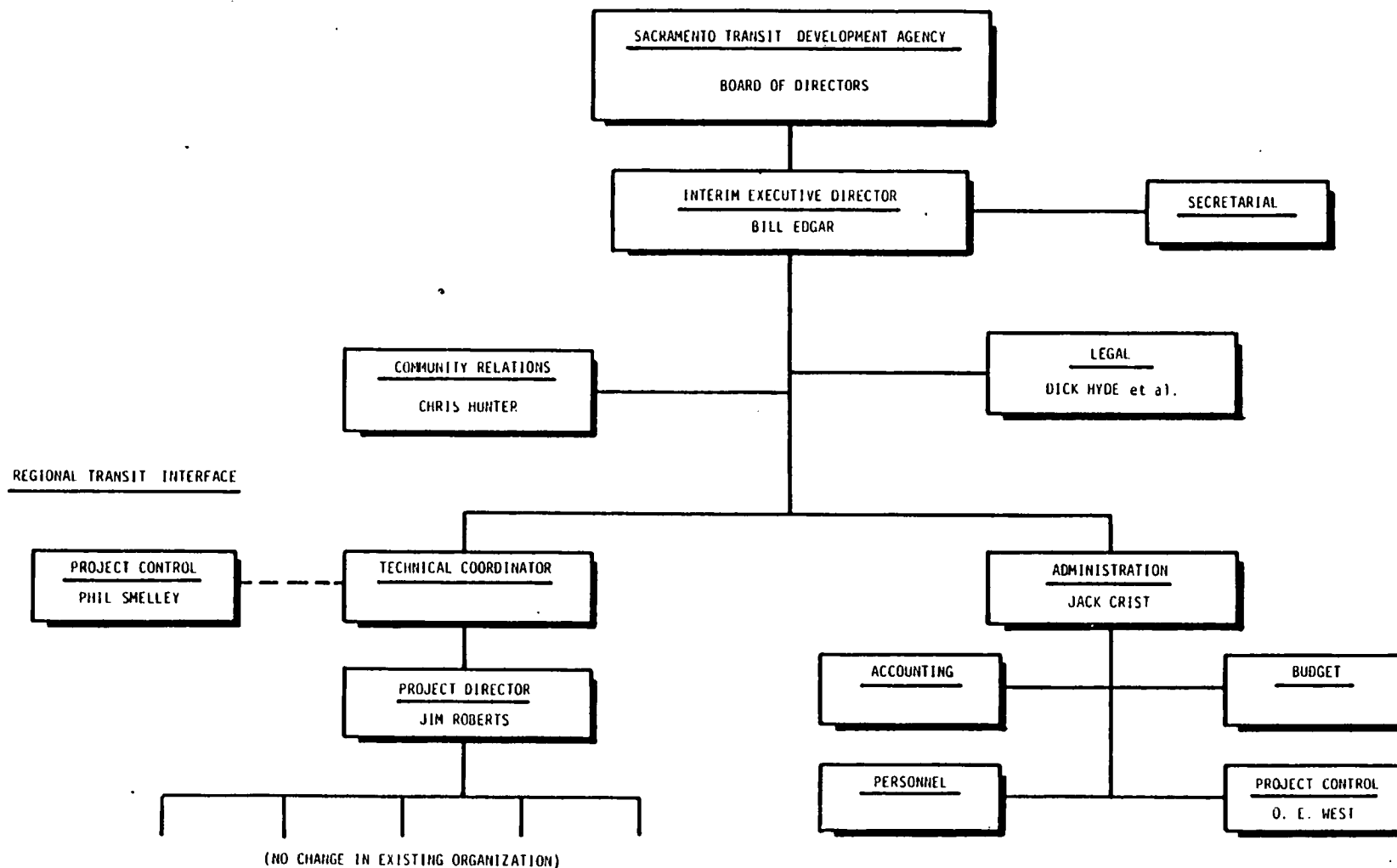








EXHIBIT NO. 4  
PROJECT BUDGET



SACRAMENTO LIGHT RAIL TRANSIT PROJECT

III. APPROVED PROJECT BUDGET - APRIL 11, 1984

<u>MACS CODE</u>	<u>PROJECT ELEMENT</u>	<u>(\$MIL)</u>
20.01.00	PURCHASE OF TRANSIT VEHICLES	\$ 24.352
20.02.00	PURCHASE & INSTL SUPPORT EQUIPMENT	
20.02.03	LRT Signaling	5.760
20.02.04	Fare Collection	0.520
20.02.08	Communications	0.280
20.03.00	PURCHASE & INST SVC & MAINT EQUIPMENT	
20.03.01	Vehicles	0.240
20.03.02	Tools & Equipment	0.880
20.06.00	REAL ESTATE ACQUISITION	12.885
20.08.00	PROFESSIONAL SERVICES	
20.08.01	Proj Mgt, Eng & Dsgn, Dsgn Sprt	14.911
20.08.02	Construction Management	2.660
20.08.03	Legal Services	0.338
20.08.04	Appraisal Services	0.265
20.08.05	Relocation Services	0.000
20.10.00	DEMOLITION	0.500
20.11.00	CONSTRUCTION OF FACILITIES	
20.11.01	Insurance	1.550
20.11.10	Stations/w Parking Facilities	10.620
20.11.20	Maintenance & Repair Facilities	2.726
20.11.30	Storage Yards	0.056
20.11.90	Landscaping	0.035
20.13.00	RIGHT-OF-WAY CONSTRUCTION	
20.13.12	Utility Relocation	5.257
20.13.40	Construction	28.076
20.14.00	PURCHASE OF LONG LEAD ITEMS	
20.14.01	Rail	3.911
20.14.02	Ties	1.142
20.14.03	Special Trackwork	0.643
20.14.05	Unit Substations	3.473
20.14.06	Catenary System & Poles	1.880
20.14.07	Cable and Wire	1.370
20.15.00	PROJECT SPONSOR FORCE ACCOUNT WORK	2.000
20.16.00	SUPPORTING SERVICES	1.123
	SUBTOTAL	<u>\$127.453</u>
32.00.00	CONTINGENCIES	
32.00.01	Construction Contingency	3.587
32.00.02	General Contingency	0.000
	TOTALS	<u><u>\$131.040</u></u>



**SACRAMENTO TRANSIT DEVELOPMENT AGENCY**  
**SUMMARY OF PROJECT COSTS ALLOCATED TO FEDERAL AND NON-FEDERAL FUNDS**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	
CU#	Category	1981-82			1982-83			1983-84 To End Of Project								Grand Total
		29-9002	Non-Fed	Total	29-9002	29-9004	Non-Fed	Total	29-9004	29-9005	90-0010	23-9001	Non-Fed	Total		
		(\$ Mil)	(\$ Mil)	(\$ Mil)	(\$ Mil)	(\$ Mil)	(\$ Mil)	(\$ Mil)	(\$ Mil)	(\$ Mil)	(\$ Mil)	(\$ Mil)	(\$ Mil)	(\$ Mil)	(\$ Mil)	
-	Mgt & Eng	\$ 0.23	\$ 1.69	\$ 1.92	\$ 0.35	\$ 2.29	\$ 2.29	\$ 4.93	\$ -	\$ 6.41	-	-	0.14	\$ 6.55	\$ 13.40	
-	Risk Mgt	-	-	-	-	-	0.13	0.13	-	-	0.64	0.54	0.24	1.42	1.55	
R-O-W & Utils:																
-	R-O-W	-	-	-	-	-	2.88	2.88	-	-	-	8.87	0.61	9.48	12.36	
-	Util Relo	-	-	-	-	-	-	-	-	-	-	5.12	-	5.12	5.12	
	Subtotal	-	-	-	-	-	\$ 2.88	\$ 2.88	-	-	-	\$ 13.99	\$ 0.61	\$ 14.60	\$ 17.48	
17	LRVs & Prts	-	-	-	-	-	-	-	-	-	-	26.37	-	26.37	26.37	
Othr Procrmnts:																
7B	Trees-Sub	-	-	-	-	-	-	-	-	-	-	0.04	-	0.04	0.04	
4B	Trees-Mall	-	-	-	-	-	-	-	-	-	-	-	0.02	0.02	0.02	
12	Communictn	-	-	-	-	-	-	-	-	-	-	0.28	-	0.28	0.28	
14	Rail & OTM	-	-	-	-	-	-	-	-	-	-	3.91	-	3.91	3.91	
15	Ties	-	-	-	-	-	-	-	-	-	-	1.14	-	1.14	1.14	
16	Spcl Trckwrk	-	-	-	-	-	-	-	-	-	-	0.65	-	0.65	0.65	
18	Misc Equip	-	-	-	-	-	-	-	-	-	0.52	1.71	-	2.23	2.23	
19	Substations	-	-	-	-	-	-	-	-	-	-	4.15	-	4.15	4.15	
20	Ctnry System	-	-	-	-	-	-	-	-	-	-	1.88	-	1.88	1.88	
21	Cable & Wire	-	-	-	-	-	-	-	-	-	1.37	-	-	1.37	1.37	
	Subtotal	-	-	-	-	-	-	-	-	-	1.89	13.76	0.02	15.67	15.67	
Construction:																
1	Grade Seps	-	-	-	-	-	0.77	0.77	-	-	-	-	5.90	5.90	6.67	
2	NE Cor Const	-	-	-	-	-	-	-	-	-	-	2.98	-	2.98	2.98	
2A	Wt/80 Median	-	-	-	-	-	-	-	-	-	-	0.81	-	0.81	0.81	
3	Maint Bldg	-	-	-	-	-	-	-	-	-	-	2.48	-	2.48	2.48	
4	Mall Demoltn	-	-	-	-	-	-	-	-	-	-	0.25	-	0.25	0.25	
4A	Cen Cty Cons	-	-	-	-	-	-	-	-	-	-	8.49	-	8.49	8.49	
5	Fols Cor Con	-	-	-	-	-	-	-	-	-	-	5.19	-	5.19	5.19	
6	Wt/80 Stns	-	-	-	-	-	-	-	-	-	-	2.44	-	2.44	2.44	
7	NE Cor Stns	-	-	-	-	-	-	-	-	-	-	3.50	-	3.50	3.50	
7A	Fols Cor Stn	-	-	-	-	-	-	-	-	-	-	3.87	-	3.87	3.87	
8	Yard Grading	-	-	-	-	-	-	-	-	-	-	0.05	-	0.05	0.05	
9	Electrifactn	-	-	-	-	-	-	-	-	-	-	1.39	-	1.39	1.39	
10	LRT Signals	-	-	-	-	-	-	-	-	-	-	5.76	-	5.76	5.76	
11	Tfc Signals	-	-	-	-	-	-	-	-	-	-	2.39	-	2.39	2.39	
	Subtotal	-	-	-	-	-	0.77	0.77	-	-	-	39.60	5.90	45.50	46.27	
Contingency		-	-	-	-	-	-	-	-	0.06	0.48	9.43	0.33	10.30	10.30	
Totals		\$ 0.23	\$ 1.69	\$ 1.92	\$ 0.35	\$ 2.29	\$ 6.07	\$ 8.71	\$ -	\$ 6.47	\$ 3.01	\$103.69	\$ 7.24	\$120.41	\$131.04	

JS:Rev. 01/16/84; sum cash/CTC2



SACRAMENTO TRANSIT DEVELOPMENT AGENCY

SUMMARY OF FUNDING ALLOCATIONS TO FEDERAL AND NON-FEDERAL EXPENSES

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
STDA#	Source	29-9002	1981-82	Total	29-9002	1982-83	Total	29-9004	29-9004	29-9005	90-0010	23-9001	Non-Fed	Total	Grand
		(\$ Mil)	(\$ Mil)	(\$ Mil)	(\$ Mil)	(\$ Mil)	(\$ Mil)	(\$ Mil)	(\$ Mil)	(\$ Mil)	(\$ Mil)	(\$ Mil)	(\$ Mil)	(\$ Mil)	Total (\$ Mil)
	Federal:														
FF-01	CA-29-9002	\$ 0.20	-	\$ 0.20	\$ 0.30	-	-	\$ 0.30	-	-	-	-	-	-	\$ 0.50
FF-02	CA-29-9004	-	-	-	-	1.96	-	1.96	-	-	-	-	-	-	1.96
FF-03	CA-29-9005	-	-	-	-	-	-	-	-	5.50	-	-	-	5.50	5.50
FF-04	CA-90-0010	-	-	-	-	-	-	-	-	-	2.41	-	-	2.41	2.41
FF-05	CA-23-9001	-	-	-	-	-	-	-	-	-	-	88.14	-	88.14	88.14
	Subtotal	\$ 0.20	-	\$ 0.20	\$ 0.30	\$ 1.96	-	\$ 2.26	\$ -	\$ 5.50	\$ 2.41	\$ 88.14	-	\$ 96.05	\$ 98.51
	State:														
SF-01	CTC-81	\$ 0.02	\$ 0.10	\$ 0.12	-	-	-	-	-	-	-	-	-	-	\$ 0.12
SF-02	CTC-82-1	-	1.34	1.34	-	-	0.06	0.06	-	-	-	-	-	-	1.40
SF-03	PUC-82	-	-	-	-	-	0.77	0.77	-	-	-	-	3.43	3.43	4.20
SF-04	CTC-82-2	-	0.15	0.15	-	-	0.85	0.85	-	-	-	-	-	-	1.00
SF-05	CTC-83	-	-	-	0.03	0.26	4.01	4.30	-	-	-	-	-	-	4.30
SF-06	PUC-83	-	-	-	-	-	-	-	-	-	-	-	2.40	2.40	2.40
SF-07	CTC-84	-	-	-	-	-	-	-	-	0.54	0.25	5.63	0.58	7.00	7.00
SF-08	CTC-85	-	-	-	-	-	-	-	-	0.10	0.20	4.69	0.51	5.50	5.50
	Subtotal	\$ 0.02	\$ 1.59	\$ 1.61	\$ 0.03	\$ 0.26	\$ 5.69	\$ 5.98	\$ -	\$ 0.64	\$ 0.45	\$ 10.32	\$ 6.92	\$ 18.33	\$ 25.92
	Local:														
LF-01	RT-81	\$ 0.01	\$ 0.10	\$ 0.11	\$ 0.01	-	-	\$ 0.01	-	-	-	-	-	-	\$ 0.12
LF-02	RT-82	-	-	-	0.01	0.07	0.25	0.33	-	-	-	-	0.02	0.02	0.35
LF-03	SHRA-1	-	-	-	-	-	-	-	-	0.02	-	-	-	0.02	0.02
LF-04	City-82	-	-	-	-	-	0.13	0.13	-	0.12	-	0.30	0.15	0.57	0.70
LF-05	Sou Pac	-	-	-	-	-	-	-	-	0.13	-	0.47	-	0.60	0.60
LF-06	Lmbrjck	-	-	-	-	-	-	-	-	-	-	0.27	-	0.27	0.27
LF-07	Cullign	-	-	-	-	-	-	-	-	-	-	-	0.09	0.09	0.09
LF-08	RT-83	-	-	-	-	-	-	-	-	-	-	1.00	-	1.00	1.00
LF-09	City-83	-	-	-	-	-	-	-	-	-	-	0.38	-	0.38	0.38
LF-10	Cnty-83	-	-	-	-	-	-	-	-	-	-	0.58	-	0.58	0.58
LF-11	SHRA-2	-	-	-	-	-	-	-	-	-	-	0.08	0.27	0.08	0.27
LF-12	RT-84	-	-	-	-	-	-	-	-	0.06	0.06	0.94	-	1.06	1.06
LF-13	City-84	-	-	-	-	-	-	-	-	-	-	0.72	0.06	0.78	0.78
LF-14	Cnty-84	-	-	-	-	-	-	-	-	-	0.09	0.49	-	0.58	0.58
	Subtotal	\$ 0.01	\$ 0.10	\$ 0.11	\$ 0.02	\$ 0.07	\$ 0.38	\$ 0.47	\$ -	\$ 0.33	\$ 0.15	\$ 5.23	\$ 0.32	\$ 6.03	\$ 6.61
	Total Funding	\$ 0.23	\$ 1.69	\$ 1.92	\$ 0.35	\$ 2.29	\$ 6.07	\$ 8.71	\$ -	\$ 6.47	\$ 3.01	\$ 103.69	\$ 7.24	\$ 120.41	\$ 131.04

JS:Rev. 01/16/84  
sum cash/CTC2



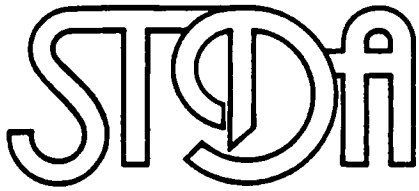




EXHIBIT NO. 5

STANDARD MONTHLY MEETING SCHEDULE





# MEMORANDUM

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1201 I Street, Room 205 • Sacramento 95814 • (916) 445-6519

October 1, 1984

TO: Members of the Governing Board and Alternatives  
STDA Staff  
County Executive  
City Manager  
General Manager, RT  
County Counsel  
City Attorney  
General Counsel, RT

FROM: William H. Edgar *William H. Edgar*  
Interim Executive Director

SUBJECT: Revised Meeting Schedule

The following meetings have been scheduled for the remainder of the 1984 calendar year. Please mark your calendar accordingly. We have also attached a calendar indicating the dates, times, and places for the meetings.

WHE:rg

Attachments

cc: Board of Supervisors  
City Council  
Regional Transit Board of Directors



# SCHEDULE OF EVENTS

<u>NAME</u>	<u>DATE</u>	<u>TIME</u>	<u>PLACE</u>	<u>MEMBERS</u>
1. <u>STDA Governing Board</u>				
a. Regular Board Mtg.	Every Wednesday (Except Friday, Oct. 5)	3:00p	Regional Transit Auditorium (Except Wed. Oct. 17)	Board Members and invited staff
b. Individual Briefings	Called as required			Individual Board Member and invited staff
1. <u>STDA Staff</u>				
a. LRT Executive Coordinating Committee	2nd and 4th Thursdays	3:00p	STDA Office	Edgar, Richter, Slipe Boggs, and invited staff
b. LRT Right-of-Way Acquisition Committee	2nd and 4th Thursdays	1:30p	STDA Office	Edgar, Elam, Jackson Ketelsen, Smelley, Burkman, Roberts, Prim Savage, Christ, Paris, Hammons
c. LRT Vehicle Committee	Called as required		STDA Office	Edgar, Smelley, Roberts Weaver, Burkman, Boggs Ketelsen, Beach, Morgan Prim, Savage, Crist
d. Staff	Every Monday	8:30a	STDA Office	Edgar, Smelley, Roberts Crist, Burkman, Hunter Prim
e. Project Review	Every Tuesday	8:30a	City Mgr's. Conf. Room 101 - City Hall	Edgar, Crist, Burkman Hunter, Prim, Smelley Beach, Roberts, Bei Gualco, Otte, Kershaw Weaver, Friery



SACRAMENTO TRANSIT DEVELOPMENT AGENCY

CALENDAR OF EVENTS

DATE October 1984

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1	2	3	4	5 3:00p STDA Bd. Mtg. (RT)	6
7	8 8:30a Staff Mtg. (STDA)	9 8:30a Proj. Rev. Mtg. Rm. 101 (City Hall)	10 3:00p STDA Bd. Mtg. (RT)	11 1:30p LRT ROW Acq. Comm. 3:00p LRT Exec. Coord. Comm.	12	13
14	15 8:30a Staff Mtg. (STDA)	16 8:30a Proj. Rev. Mtg. Rm. 101 (City Hall)	17 3:00p STDA Bd. Mtg. (**City Hall)	18	19	20
21	22 8:30a Staff Mtg. (STDA)	23 8:30a Proj. Rev. Mtg. **Rm. 202** (City Hall)	24 3:00p STDA Bd. Mtg. (RT )	25 1:30p LRT ROW Acq. Comm. 3:00p LRT Exec. Coord. Comm.	26	27
28	29 8:30a Staff Mtg. (STDA)	30 8:30a Proj. Rev. Mtg. Rm. 101 (City Hall)	31 3:00p STDA Bd. Mtg. (RT )			

\*\*Change in normal schedule



## SACRAMENTO TRANSIT DEVELOPMENT AGENCY

## CALENDAR OF EVENTS

DATE November 1984

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1	2	3
4	5 8:30a Staff Mtg. (STDA)	6 8:30a Proj Rev. Mtg. Rm. 101 (City Hall)	7 3:00p STDA Bd. Mtg. (RT)	8 1:30p LRT ROW Acq. Comm. 3:00p LRT Exec. Coord. Comm.	9	10
11	12 8:30a Staff Mtg. (STDA)	13 8:30a Proj Rev. Mtg. Rm. 101 (City Hall)	14 3:00p STDA Bd. Mtg. (RT)	15	16	17
18	19 8:30a Staff Mtg. (STDA)	20 8:30a Proj. Rev. Mtg. Rm. 101 (City Hall)	21 3:00p STDA Bd. Mtg. (RT)	22 THANKSGIVING DAY	23	24
25	26 8:30a Staff Mtg. (STDA)	27 8:30a Proj. Rev. Mtg. Rm. 101 (City Hall)	28 3:00p STDA Bd. Mtg. (RT)	29	30	



SACRAMENTO TRANSIT DEVELOPMENT AGENCY

CALENDAR OF EVENTS

DATE December 1984

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
						1
2	3 8:30a Staff Mtg. (STDA)	4 8:30a Proj. Rev. Mtg. Rm. 101 (City Hall)	5 3:00p STDA Bd. Mtg. (RT)	6 1:30p LRT ROW Acq. Comm. 3:00 LRT Exec. Coord. Comm.	7	8
9	10 8:30a Staff Mtg. (STDA)	11 8:30a Proj. Rev. Mtg. Rm. 101 (City Hall)	12 3:00p STDA Bd. Mtg. (RT)	13	14	15
16	17 8:30a Staff Mtg. (STDA)	18 8:30a Proj. Rev. Mtg. Rm. 101 (City Hall)	19 3:00 p STDA Bd. Mtg. (RT)	20 1:30p LRT ROW Acq. Comm. 3:00 LRT Exec. Coord. Comm.	21	22
23 30	24 8:30a Staff Mtg. (STDA) 31 8:30 Staff Mtg. (STDA)	25 CHRISTMAS DAY	26 3:00p STDA Bd. Mtg. (RT)	27	28	29



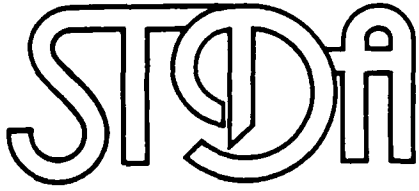




EXHIBIT NO. 6

STANDARD REPORT FORMAT AND  
REPORT PROCESSING MEMORANDA





## MEMORANDUM

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1201 I Street, Room 205 • Sacramento 95814 • (916) 445-6519

October 1, 1984

TO: STDA Staff

FROM: William H. Edgar  
Interim Executive Director

SUBJECT: Standard Report Format

This procedure outlines the standard format to be used when preparing staff reports regarding Agency matters. It is believed that uniformity in the preparation of material going to the Board will facilitate their discussions and decision making. Sample reports are attached for your reference and review.

Initially, it should be understood that it is the responsibility of the initiator of the report to obtain input and review from the supportive functions of the Agency. Examples of supportive functions are Finance, Legal and Project Control. The person originating the report is responsible for obtaining necessary information, material and appropriate documentation relating to these functions for incorporation into the staff report.

Particular attention must be paid to the overall content, comprehensiveness and grammatical structure of each report. The report should specifically identify the issue; provide background information relative to the issue; present alternatives considered for solution to the issue; and document and present a recommendation.

Each report should contain all of the information necessary for the Governing Board to fully understand and take action on the subject matter. Such effort in preparation of reports will result in a better final product and avoid delays in the approval process.



Memo to: STDA Staff  
October 1, 1984  
Page 2

Attachments should be referenced in the staff report, and be marked consecutively in the upper right-hand corner of the attachment.

It is the responsibility of the initiator of the report to number all pages of the staff report consecutively beginning with the first page of the staff report through the final attachment.

The numbers should be placed in the lower right-hand corner of the page within parentheses.

The report should be assembled in the following order:

Staff Report  
Resolution  
Attachments or Exhibits to Resolutions  
Miscellaneous Attachments or Exhibits

Attachment I is a sample report using the standard format that is to be used when submitting staff reports to the STDA Board.

Attachment II is a sample resolution using the standard format that is to be used when submitting proposed resolutions to the STDA Board.

Listed below is a summary of the subtitles that are to be used when preparing all staff reports. They should be followed as closely as possible, recognizing that all reports will not require the same amount of detail. In addition, there may be, on occasion, the need to include other subtitles in order to more fully explain the subject matter.

1. "Addressee" should be in memo form:

"To: Members of the Governing Board"

This is to be followed by: "From: William H. Edgar, Interim Executive Director."

2. "Subject" should be typed in capitals followed by a single phrase which describes the substance of the item being placed on the agenda.
3. "Summary" is a paragraph which briefly describes the subject, sets forth the issue, and indicates the action being recommended.
4. "Background" should provide sufficient detail so that the reader can easily discern the essential facts of the subject matter. Use attachments and exhibits as



necessary. If the subject of the report is a policy matter and the staff has considered alternatives, the alternatives should be identified. The proposed actions or conclusions are to be presented in this section. A separate section entitled "Conclusions" may be used if it makes the report more easily understood.

5. "Issues" is a subject area that should clearly, specifically, and succinctly identify the major issues that need to be discussed, debated, and resolved.
6. "Policy Implications" is a paragraph in which the policy implications of the report are discussed.

The following language is to be used in the event the requested action is, (a) consistent with existing policies; or (b) the action is not consistent with existing policies.

"The action(s) proposed in this staff report are consistent with previously approved policy and there are no policy changes being recommended.

or

"The action(s) proposed in this staff report are not consistent with previously approved policy because of the following reasons:

- 1.
- 2.
- 3.

"Therefore, based upon the above, the following changes are being recommended:

- 1.
- 2...."

5. "Financial Data" should clearly indicate the fiscal implications of the recommendation (budgeted amount, source of funding, maintenance and operational costs, personnel costs, etc., as appropriate). If there is no financial impact, then so state.

A statement clearly defining personnel needs should be stated in this section. If there will be any personnel requirements at any time regarding this item, they should be explained explicitly.

6. "Additional Subtitles" will be used in those instances



where further specific detail or explanation is required.

7. "Recommendation" is to be used at the end of all staff reports. The recommendation is to be identified as a staff recommendation--i.e., "The staff recommends..." It should indicate precisely the actions the Board is being asked to take.
8. The signature block at the lower right should include:

"Respectfully Submitted

William H. Edgar  
Interim Executive Director"
9. The transmittal date and meeting date should be placed at the right margin at the top of the first page.
10. Any departmental file numbers, attachments, reference numbers, etc. should be placed in the lower left-hand corner.
11. The following points should be followed when preparing resolutions:
  - a. Staff initiators of reports should compile all material desired for the resolutions and prepare a draft resolution for review by the legal counsel. All resolutions are to be reviewed by the legal counsel prior to finalizing the report for approval by the Interim Executive Director.
  - b. The format prescribed in Attachment II should be followed.
  - c. If an attachment is to be part of the resolution, attach it to the resolution and reference it in the resolution.
  - d. Again, the order of the report document is:
    - (1) Staff Report
    - (2) Resolution(s)
    - (3) Attachments or Exhibits to Resolution
    - (4) Miscellaneous Attachments or Exhibits

I would appreciate everyone adhering as closely as possible to this format since I believe uniformity will assist the Board in



Memo to: STDA Staff  
October 1, 1984

their deliberations on the difficult policy matters facing the Agency.

Thanks for your help. Please call if you have any questions about this memo.

Respectfully Submitted,

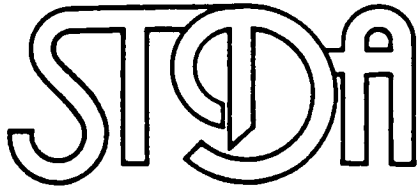
*William H. Edgar*

William H. Edgar  
Interim Executive Director

WHE:rg  
Attachments

cc: STDA Governing Board  
Board of Supervisors  
City Council  
Regional Transit Board of Directors  
County Executive  
City Manager  
General Manager, Regional Transit





## MEMORANDUM

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1201 I Street, Room 205 • Sacramento 95814 • (916) 445-6519

October 1, 1984

TO: STDA Staff

FROM: William H. Edgar  
Interim Executive Director

SUBJECT: Processing of Staff Reports

This procedure outlines the process by which all staff reports will be reviewed internally by the staff and ultimately by the Governing Board. It is believed that a uniform system and procedure will enable all interested parties to provide input and review in a timely and efficient manner. It is also believed that this procedure will facilitate a staff consensus on the issues so that the Board will be able to address themselves to the more difficult policy issues in a more effective way.

### PROJECT REVIEW MEETING

During the weekly Project Review Meeting on Tuesdays, at 8:30 a.m. in Room 101 at City Hall, a portion of the meeting will be devoted to the review of staff reports.

The purpose of this review is to determine whether or not all the proper elements are included and whether there is a staff consensus on the recommendation.

The procedure and dates for approval by the Board are confirmed for the report originator at this time.

### PROCESS

After the review meeting, the draft report is returned to the originator for final preparation. The final report, including resolutions and attachments, should be given to Gene Burkman no later than 9:00 a.m. on Thursday. Gene Burkman will forward the final package to me for final approval and sign-off.

Finally, the report is returned to Gene Burkman and the clerical staff for external processing.



Memo to: STDA Staff  
October 1, 1984  
Page 2

#### FINAL REVIEW

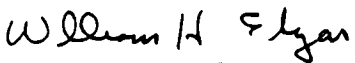
Final staff reports and meeting schedules for that week are reviewed at the staff meeting on Mondays at 8:30 a.m. in the STDA office conference room. The purpose of this final review is to confirm the staff recommendation; determine who will be responsible for assisting the Interim Executive Director in presenting the report to the Board; and determine the staff that should be in attendance at the Wednesday Board Meeting.

#### SCHEDULE

Attachment I is a schedule which shows the standard procedure by which a staff report is initiated and approved. The schedule indicates each step, action to be taken, and the amount of time for each step in the normal process. In some instances, the schedule will take longer because of the necessary review by citizen groups or organizations.

We are hopeful that this schedule will enable the Board to address itself to the difficult policy issues facing the Agency in a more efficient and effective way.

Thanks for your help. If you have any questions about this memo, please call.

  
William H. Edgar  
Interim Executive Director

cc: STDA Board of Directors  
Board of Supervisors  
City Counsel  
Regional Transit Board of Directors  
County Executive  
City Manager  
General Manager, Regional Transit



Memo to: STDA Staff  
October 1, 1984  
Page 3

Attachment I

SCHEDULE FOR PROCESSING REPORTS

<u>Step</u>	<u>Day of Week</u>	<u>Action</u>	<u>Cumulative Days</u>
1	Tuesday	Items for Board Meeting a week from tomorrow considered at Project Review Meeting	1
2	Thursday	Final report signed by Interim Executive Director	3
3	Friday	Board Agenda Packet distributed	4
4	Monday	Final review at staff meeting	7
5	Wednesday	STDA Board Meeting	9

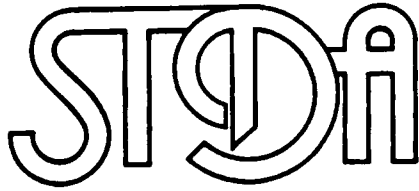


EXHIBIT NO. 7

INTER-JURISDICTIONAL LIGHT RAIL

COMMUNITY RELATIONS TEAM





# MEMORANDUM

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1201 I Street, Room 205 • Sacramento 95814 • (916) 445-6519

October 31, 1984

TO: STDA Senior Staff  
FROM: William H. Edgar, Interim Executive Director  
SUBJECT: Inter-Jurisdictional Light Rail Community Relations Team

## SUMMARY

This memorandum outlines the purpose, scope and recommended procedures for an Inter-Jurisdictional Light Rail Community Relations Team.

## BACKGROUND

STDA has received a number of complaints from businesses on K Street related to the construction of the light rail project. Efforts to resolve the complaints have revealed the need to improve information flow and clarify areas of responsibility, both internally and in cooperation with outside agencies, so as to minimize community disruption due to light rail construction. In order to streamline our community relations program during the design, right-of-way acquisition and construction phases as we transition into the start-up of operations, a Light Rail Community Relations Team has been formed.

## PURPOSE

The purpose of the Light Rail Community Relations Team is to establish an inter-jurisdictional network to develop strategies for minimizing community disruption during light rail design, right-of-way acquisition and construction, through the start of operations (start-up of 18.3 mile system plus 90 days).

## SCOPE

### Advance Construction Notification

The Team convened on October 26, 1984, (see Team Representation attached) to develop and adopt policies and procedures for gathering and channeling information regarding construction activities that may impact the surrounding community. Such



activities include 1) direct impacts, such as dust, noise or loss of access caused by construction and; 2) indirect impacts, such as the regular use of residential streets to truck materials to the construction site, and the re-routing of traffic.

### Complaint Handling

The Team was asked to come to some consensus regarding the handling of complaints which will inevitably arise during construction. Specific procedures to improve information flow, streamline advance construction notification and to handle complaints are detailed under "Recommended Procedures", below.

### Problem Solving

As light rail construction progresses over the next two to three years, problems may arise which will require the special expertise of members of the Community Relations Team. On such occasions Team members may be called upon to convene on an ad hoc basis to resolve problems.

## RECOMMENDED PROCEDURES

### Advance Construction Notification

STDA's construction management team and all other entities responsible for light rail-related construction contracts have agreed to provide the STDA community relations staff with: 1) a construction timetable, and 2) a two-weeks' notification before construction in a given area where community disruption may occur.

The purpose of advance construction notification is to allow STDA to develop and distribute information flyers, distribute construction signs to the construction supervisor, and/or notify radio traffic alert reporters of any flagmen, detours or slowdowns caused by LRT construction.

Construction supervisors in the field will report on anticipated construction impacts in their "weekly news letter" (see sample form attached) or other appropriate form, which is transmitted to the entity responsible for construction management (e.g., Foster Engineering, SMUD, City, County, PG&E, Pacific Bell). The entity responsible for construction management will then notify STDA community relations staff of anticipated construction impacts.

STDA community relations staff will develop flyers for advance neighborhood notification upon request. The development and distribution of flyers for construction activities which are specialized in nature, such as utility relocation work, may require assistance from the responsible agency. All flyers will contain the name and telephone number of the resident engineer and STDA community relations staff.



Complaint Handling

Consistent with STDA's policy to try to resolve problems at the lowest level possible, complaints received by the resident engineer or construction management team should be handled at that level. However, STDA community relations staff will be informed of unresolved complaints by the entity responsible for construction management. Complaints received directly by STDA's community relations staff will be handled in cooperation with the resident engineer and/or construction supervisor. A record of all complaints will be maintained by STDA's community relations staff, who will also notify the Agency's Risk Management staff (RT) of potential claims and legal counsel of threats of litigation.

Problem Solving

The Community Relations Team will be called upon on an as needed basis to resolve construction and start-up problems that are particularly sensitive and multi-jurisdictional in nature.

*William H. Edgar*

WILLIAM H. EDGAR  
Interim Executive Director

WHE:rg  
Attachments



Memo to: STDA Staff  
Page 4

TEAM REPRESENTATION - 10/26/84

DESIGNATED CONTACT PERSON

STDA	Bill Edgar Phil Smelley Jim Roberts Chris Hunter	X
City	Walt Thompson Rich Schmeidt	X X
County	Jim Ray	X
SMUD	Al Ortega Don Howton Carl Miller Harold King	X
S.P.	Bob Vincent	X
Pacific Bell	Sal Orosco	X
PG&E	Russ Berringer Jerry Monroe Herb Tappin Pat Thomas Tim Smyth	X
Foster Engineering	Clarence Otte	X
Regional Transit	Cam Beach Denise Barclay Don Schetter Debra Luthi	X X X



SAMPLE FORM

TO: STDA Community Relations Office

DATE:

SUBJECT: WEEKLY NEWS LETTERS

PROJECT:  
CONTRACT NO.:  
CONTRACTOR:

News Letter for Week Ending \_\_\_\_\_

%Time Elapsed \_\_\_\_\_ %Complete \_\_\_\_\_

Estimated Date of Completion \_\_\_\_\_

Date Contract Time Expires \_\_\_\_\_

THIS PAST WEEK THE FOLLOWING WORK WAS DONE:

THIS PAST WEEK THE FOLLOWING COMPLAINTS WERE RECEIVED:

(✓) HERE IF  
R.E. NEEDS  
ASSIST.

<u>NAME</u>	<u>ADDRESS</u>	<u>PHONE #</u>	<u>COMPLAINT</u>
-------------	----------------	----------------	------------------

WORK NEXT WEEK WILL PROBABLY CONSIST OF:

WORK WHICH WILL REQUIRE ADVANCE COMMUNITY NOTIFICATION:

<u>LOCATION</u>	<u>TYPE OF WORK</u>	<u>CONSTRUCTION SIGN</u>	<u>FLYERS</u>	<u>RADIO SPOTS</u>
-----------------	---------------------	--------------------------	---------------	--------------------

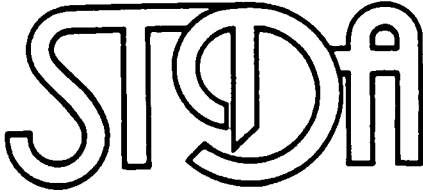
\_\_\_\_\_  
RESIDENT ENGINEER



EXHIBIT NO.. 8

DESIGN REVIEW PROCEDURE





# MEMORANDUM

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1201 I Street, Room 205 • Sacramento 95814 • (916) 445-6519

November 3, 1984

TO: Phillip R. Smelley, Technical Coordinator  
James E. Roberts, Project Director  
Eugene E. Burkman, Manager, Project Control  
Rino Bei, Manager, Systems Operation & Integration

FROM: William H. Edgar, *William H. Edgar* Interim Executive Director

RE: QUALITY ASSURANCE: DESIGN REVIEW PROCEDURE  
FILE NO: 039.005.000

The attached procedure is to be implemented immediately and applies to all design work produced by the STDA and its sub-consultants. The purpose of the procedure is to: 1) formalize the method employed by the STDA to coordinate the review of the contract documents among the JPA representatives and funding agencies, and 2) to introduce the discipline required for the accountability necessary to assure the quality of the documents produced.

Each of the twelve (12) remaining contract packages (and any developed subsequently) shall receive, in strict compliance with the subject procedure, a Final Design Review prior to the submittal of the Plans, Specifications and Estimate (p.S.&E.) to the STDA Board for authority to advertise. Where the level of design development permits, an In-Progress review shall occur prior to the Final Design Review.

The updated Master Project Schedule shall include the appropriate milestones to reflect the required design reviews and provide adequate time to conduct the reviews. No project will move forward until the required review has been conducted.

cc: David A. Boggs, General Manager, Regional Transit  
Mel Johnson, Director of Public Works, City of Sacramento  
Dee McKenzie, Director of Public Works, County of Sacramento



# DRAFT

TITLE: Design Review

PROCEDURE NO: D1

## SACRAMENTO TRANSIT DEVELOPMENT AGENCY

REVISION NO: 1

ORIGINATOR: \_\_\_\_\_

DATE ISSUED/REVISED: 11/3/84

EXECUTIVE DIRECTOR: \_\_\_\_\_

*William H. Egan*

### 1. POLICY

It is the policy of STDA that the formal design review process shall be documented and conducted in accordance with this procedure. Each contract package shall receive a Final Design Review prior to the submittal of the Plans, Specifications and Estimates to the STDA Board for authority to advertise. Where design development permits, an In-Progress review shall occur prior to the Final Design Review.

### 2. SCOPE

This procedure applies to all design work produced by STDA and its subconsultants. The design reviews shall be performed by the Project Review Team, described below, which consist of STDA, RT and City and County representatives.

### 3. PURPOSE OF DESIGN REVIEW

The purposes of design review include, but are not limited to, the following:

- A. To ascertain that a given design reflects the required quality and will perform its intended function properly.
- B. To permit review of the ongoing design by all project participants in order to fulfill the overall coordination and integration role.
- C. To permit identification of pending baseline (scope, criteria, budget and schedule) changes for determination of required actions.
- D. To permit cost trend analysis for updating the current working estimate and resolving potential budget or schedule issues.

### 4. TYPES OF REVIEWS

There are two types of reviews described as follows:

#### 4.1 STATUS REVIEWS

Status reviews are required to keep the data in the



Bi-Weekly Progress Report timely so that vested parties can be informed of the design progress and so that significant issues or problems can be identified for timely resolution.

Informal status reviews will be conducted by the Project Control Representatives with design staff and with the involvement of other disciplines as the situation warrants.

#### 4.2 FORMAL DESIGN REVIEWS

Formal program design reviews shall be accomplished immediately prior to the completion of a design milestone or as specified by this procedure.

Formal design reviews are required at the in-progress and final design milestones to ensure compliance with the projects design criteria (scope and operational), budget, grant(s) and FEIS commitments.

- 4.2.1 In-Progress Design Review - This review occurs at approximately the midpoint of the final design stage. At this review point, all design elements appear in the drawings and specifications (in general descriptive terms). The review will be scheduled and reflected in the milestone schedule and on the Bi-Weekly Progress Report. If the complexity or circumstance warrants, more than one in-progress review may be necessary.

This review point is extremely important as it represents the last time any significant changes can be made to contract documents without a substantial impact on the design effort. At this point, the basic layout of all drawings has been completed with only the final details to be developed.

- 4.2.2 Final Design Review - This review occurs after substantial completion of the final design including, completed detailed drawings and specifications. However, final checking and coordination may not be complete.

When the Final Design Review is completed and documented, the package is ready for transmitting to the Board requesting authority to advertise. The review will be reflected in the milestone schedule and on the Bi-Weekly Status Report. No contract package shall be taken to the Board for authority to advertise without completing a Formal Design Review.

#### 5. RESPONSIBILITY

The applicable Deputy Project Director shall ensure that this procedure is followed. Exceptions to the design review cycle may be authorized by the Project Director



with concurrence in writing from the Executive Director. The authority for directing the work may be delegated to the Design or Project Manager (Designer).

## 6. PROCEDURE FOR FORMAL DESIGN REVIEW

The Project Review Team conducts the formal design review. A flow diagram reflecting the process is appended as figure 6.0

This team shall be established in writing, on a contract by contract basis, by the responsible Deputy Project Director, with concurrence by the Project Director. The Project Review Team shall be chaired by the Deputy Project Director or the Project or Design Manager. The Project Review Team shall, as a minimum, include representatives of the following:

- ° Deputy Project Director
- ° Designer
- ° Systems Operation/Integration (Foster)
- ° Specifications/Contracts
- ° Cost Estimating
- ° Program Control (O. E. West)
- ° Construction Management
- ° Right of Way and Agreements
- ° Community Coordination (if necessary)
- ° Risk Management (if necessary)
- ° Legal (if necessary)
- ° RT Technical Coordinator (or Delegate)
- ° City and County representative

A team member may delegate the authority for performing the review to another member of his or her organization. When this authority is delegated, the new team member is responsible for ensuring that comments are appropriate and valid.

Generally, the team will be supported by representatives of the various technical disciplines, and others as deemed appropriate by the Deputy Project Director.

### 6.2 INITIAL REVIEW MEETING

Prior to beginning each review cycle, the Project Review Team will meet to discuss the review subject, the schedule, the documents expected, and any other issues to receive special attention. The Project Team chairperson shall ensure that minutes of this and all subsequent meetings are written and distributed.

### 6.3 SUBMITTAL OF DOCUMENTS

The Designer submits the documents to be reviewed to the Deputy Project Director in a reproducible form. The



submittal shall be accompanied by a transmittal letter tabulating the contents of the review package. It shall specify the purpose of the submittal, the specific program design review milestone, and shall outline any items that represent variances from the preliminary design or previous review milestone.

The Systems Operation/Integration representative shall assist the Designer, if requested, to verify that all required material is in the package or explanations for omissions are included. Data required is defined in Section 7 of this procedure.

The Designer shall then forward the package to the responsible Deputy Project Director.

After the Deputy Project Director's review and concurrence that all requirements for the review have been met, the Deputy Project Director shall authorize distribution of the documents for review.

#### 6.4 DISTRIBUTION OF DOCUMENTS

The Designer will distribute the package for the review. The documents will reflect the appropriate review stamp, indicating the Program design review point and the submittal date. Review documents will be reproduced and forwarded to the members of the Project Review Team and other affected disciplines by the Designer. The original submittal will be retained by the Designer.

A distribution letter from the Deputy Project Director itemizing the contents of the package, the purpose of the review, the schedule for completing the review, and any other pertinent comments related to the process shall accompany the submittal.

#### 6.5 PROGRAM REVIEW COMMENT PREPARATION

The review process condenses all comments to a single, easily understood set of comments reflected on the standard comment form to which responses can be added and disposition indicated. To accomplish this, all comments including drawings, calculations, specifications, design analysis reports, etc., must be written on the Design Review Form (see Figure 6-1). At the discretion of the Deputy Project Director, less complex projects may use a marked-up, reproducible set of drawings to indicate all comments. To simplify these comments for a particular detail shown on drawings, "keyed drawings" or coordinates may be used (Figure 6-2). Upon completion of the review, each reviewer will document his comments in a memorandum to the Design Review Team chairperson.

#### 6.6 SCREENING OF COMMENTS



After receiving comments, the design Review Team chairperson shall coordinate the comments with the responsible areas. It shall be his/her responsibility to screen comments and resolve any conflicts, resulting in a master set of consolidated comments, representing a consensus, for the Designer's response.

6.7 RETURN TO DESIGNER

Copies of the consolidated design review comments and necessary drawings shall be forwarded to the Designer, describing the status of the review and indicating a schedule for completion of the response to the comments.

6.8 POST-REVIEW MEETING

After a period of time, not to exceed seven working days, the Deputy Project Director will transmit the responses and will call a meeting with the Designer and the Project Review Team to permit a detailed, comment-by-comment discussion and resolution of outstanding issues. As a result of this meeting, a disposition of each comment shall be determined to permit the Designer to proceed with the work.

All issues considered to be appropriate for baseline change action (scope, criteria, budget and schedule) shall be subject to actions required by the change control procedure.

It is the responsibility of the Designer to initiate a change request if any Baseline Documentation is affected by changes made or identified during any of the design reviews.

6.9 DOCUMENTATION OF REVIEW

The information to be retained by Systems Operations/Integration Management shall include copies of the initial submittal for the Formal Design Reviews, copies of all transmittals and correspondence related to the review, and the final consolidated review comments and drawings.

It shall be the responsibility of the Project Review Team chairperson to prepare the Design Review Report documenting the results of the review. The Design Review Report shall be signed by the members of the Design Review Team.

6.10 FOLLOW-UP

It is the responsibility of the Designer to ensure that all actions agreed to in the review process are completed. Any modifications to the indicated actions shall be



submitted in writing to the Project Review Team for concurrence. Systems Operations/Integration Management is charged with the quality control audit to assure compliance with the design review procedure.

7. DESIGN REVIEW PACKAGE CONTENT

The design review package will be distributed by the Designer. Distribution of the Design Review package shall be limited to the following:

7.1 In Progress Design Review Submittal

This review, made approximately halfway through the final design process (or subsequent points as necessary), will include, as a minimum, the following information:

7.1.1 Meeting Agenda

Reflecting the contact number and description, the review milestone, the review meeting date, the Design Review Team, the Design Review Team chairperson (with phone number), the responsible Deputy Project Director, the Designer and the time and place for the meeting.

7.1.2 Drawings/Specifications

- ° Design drawings.
- ° Outline of technical specifications (brief description of particular materials intended to be incorporated in design), and Table of Contents.

7.1.3 Right-of-Way/Utility Data/Agreement Data (Potential Work Arounds Highlighted)

- ° Update on right-of-way, relocation, and demolition data.
- ° Update of utility information.
- ° Update of agreement status.

7.1.4 Design Support Data

- ° Final soils report summary (if appropriate).
- ° Update of design criteria (if appropriate).
- ° Equipment List (if applicable).
- ° Status report on environmental issues (construction mitigation).
- ° Community commitment status/issues.



- Identification of changes from preliminary Baseline requirements.

#### 7.1.5 Schedule & Cost Information

- Update of design cost data.
- Update of design schedule.
- Current cost estimate (bid quantities & unit prices).
- Preliminary construction cost estimate and current estimate comparison.
- Update of construction (procurement) schedule (advertise, N.T.P., release points, contract completion).

For installation contracts (or procure and install), the submittal is similar to above. For procurement contracts, only the applicable sections apply.

### 7.2 FINAL DESIGN REVIEW SUBMITTAL

This review submittal is intended to represent a complete design package. Although some checking and coordination may still remain, this submittal shall include a complete construction (procure and install, or procurement) package. This submittal will include at a minimum the following:

#### 7.2.1 Meeting Agenda

Reflecting the contact number and description, the review phase, the review meeting date, the Design Review Team, the Design Review Team chairperson (with phone number), the responsible Deputy Project Director, the Designer and the time and place for the meeting.

#### 7.2.2 Drawings/Specifications (Complete Contract Documents)

- Design drawings.
- Complete Contract Manual including General Provisions, Special Provisions, and Technical Provisions.

#### 7.2.3 Right-of-Way/Utility Data/Agreement Data

- Update of right-of-way data submitted earlier.
- Update on utility information.
- Update on agreement information.



#### 7.2.4 Design Support Information

- ° Update of design criteria (if appropriate).
- ° Update on environmental issues.
- ° Final equipment list (as appropriate).
- ° Discussion of previous design review comments not resolved.
- ° Identification of changes from previous submittals and from Baseline requirements.
- ° External interfaces with detailed definition of each interface parameter.

#### 7.2.5 Cost and Schedule Data

- ° Recap of design schedule and cost.
- ° Final construction management cost estimate.
- ° Final definitive construction cost estimate.
- ° Final master construction schedule network (milestones - advertise, N.T.P., release points, completion).

#### 8. DISTRIBUTION FOR DESIGN REVIEW

- The Project Review Team per Section 6.1 of Procedure.
- CPUC local office.
- The Urban Mass Transportation office, Region IX.
- The Deputy Project Director shall define any additional distribution required.



SACRAMENTO TRANSIT DEVELOPMENT AGENCY

DESIGN REVIEW PROCEDURE  
FLOW DIAGRAM

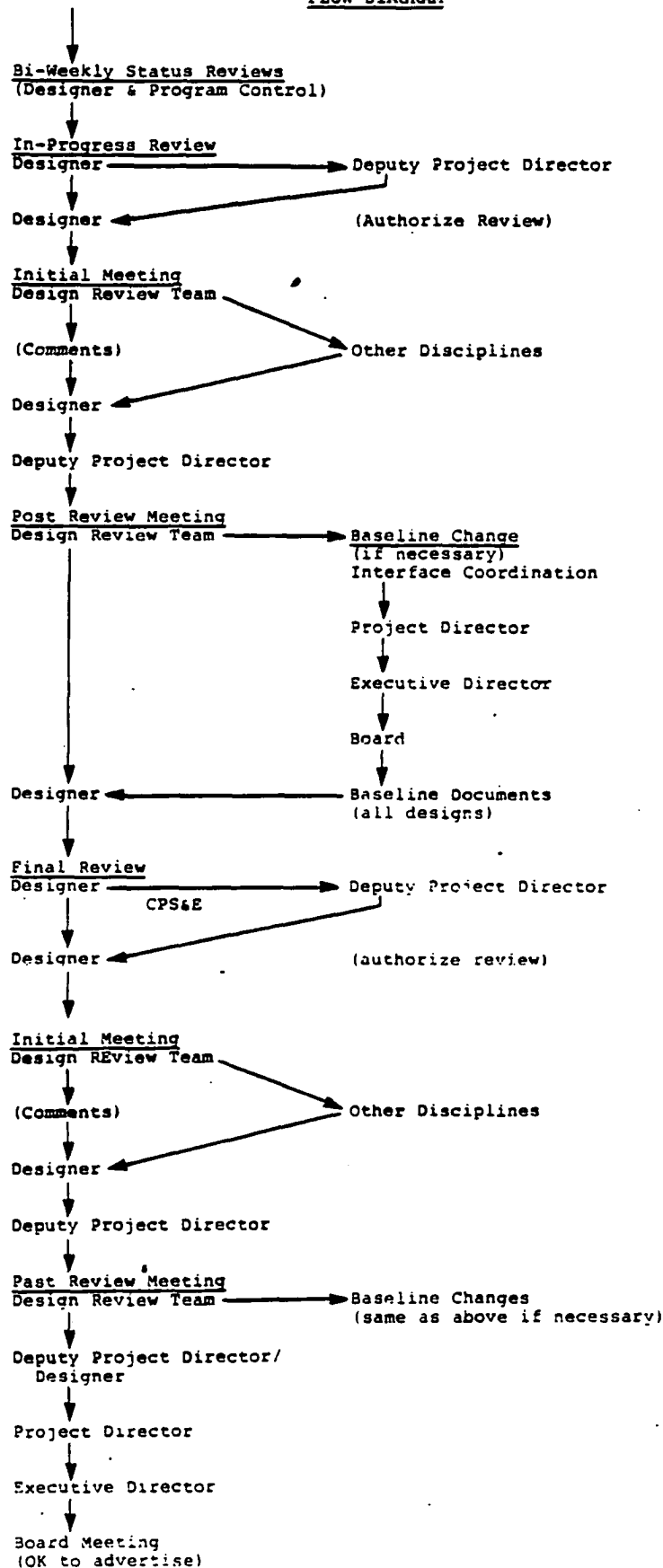


Figure 6-0



**SACRAMENTO TRANSIT DEVELOPMENT AGENCY**

### REVIEW COMMENTS

SUBJECT Civil Standards CES-5001

REVIEWER E. Fanning DATE 7-23-82

SHEET 1 OF 1

ORGANIZATION Architectural DESIGNER STDA

**SUBMITTAL Pre-Final**

[illegible]

FORM P1/DP 2.0/402

**FIGURE 6-1**

SAMPLE

**TITLE: Design Review**

**PROCEDURE NO.:** \_\_\_\_\_





**FIGURE 6-2**

STANDARD SYMBOLS FOR UTILITIES

P-1

PLAN VIEWS

DESCRIPTION

SYMBOL

PLAN VIEWS

DESCRIPTION

SYMBOL

PLAN VIEWS

DESCRIPTION

SYMBOL

GENERAL NOTES

1. All utilities shown on this plan are to be installed in accordance with the latest edition of the National Electrical Code, the National Fire Protection Association's National Electrical Safety Code, and the National Board of Fire Underwriters' National Electrical Code.

2. All utilities shown on this plan are to be installed in accordance with the latest edition of the National Electrical Code, the National Fire Protection Association's National Electrical Safety Code, and the National Board of Fire Underwriters' National Electrical Code.

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A-1

S-1

E-1

A-2

METRO

Division of Public Works  
City of New York

EN

Division of Public Works

Division of Public Works

Division of Public Works

Division of Public Works

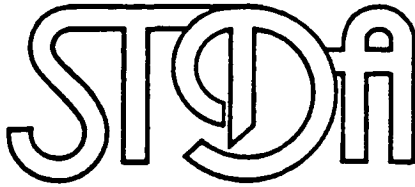
Division of Public Works



EXHIBIT NO. 9

PEER REVIEWS





# MEMORANDUM

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1201 I Street, Room 205 • Sacramento 95814 • (916) 445-6519

Transmittal Date: October 26, 1984  
Meeting Date: October 31, 1984

TO: Members of the Governing Board  
FROM: William H. Edgar, Interim Executive Director  
SUBJECT: Peer Review

## SUMMARY

The purpose of this memorandum is to provide the Governing Board with the attached draft outlines of proposed Peer Review Sessions covering Management Control, Safety and Systems Assurance, and Operations Planning and Start-Up, as a basis for a status report.

Respectfully Submitted,

*William H. Edgar*

WILLIAM H. EDGAR  
Interim Executive Director

WHE:rg  
Attachments



SACRAMENTO LIGHT RAIL TRANSIT PROJECTPEER REVIEW - MANAGEMENT CONTROL

DRAFT

I. Scope

- A. Project Description and Environment (what we are managing)
- B. Organization
- C. Interfaces - administrative & technical staffs
- D. Technical Coordination - management of scope, schedule & budget
- E. Management and control plan
- F. Cash flow - grant income and project expenses
- G. Some Key Areas (late for general review - focus on issues that are still current or pending)
  - Labor relations & policy
  - Risk Management
  - Right of Way Acquisition & Agreements
  - Community Relations
  - Quality/Safety Assurance
  - Conflict Resolution

II. Participants

- A. Executive Directors and/or Chief Engineers of other recent or ongoing LRT construction projects
- B. Specialists in the area of project control who have relevant experience, i.e., low budget LRT projects



SACRAMENTO LIGHT RAIL TRANSIT PROJECT  
PEER REVIEW - SAFETY & SYSTEMS ASSURANCE

**DRAFT**

I. Scope

- A. System description & operating environment
- B. Review of our plan(s)
- C. Discussion of added requirements
- D. Experience of others
- E. Wrap-up

This general heading usually includes the topics of:

- System Safety
- System Security
- System Reliability
- System Maintainability
- Quality Assurance
- Configuration Management & Control

Safety

The safety of transit patrons and operating and maintenance personnel is a main objective of program.

Four main areas of focus are:

- Passenger Safety
- Maintenance and operations personnel safety
- Public safety during construction
- Public safety during operations

Scope of area of peer review focus:

- Organization
  - Structure
  - STDA (designer) responsibilities
  - RT (operator) responsibilities
- Methods
  - Program objectives
  - System safety goals
  - Hierarchy of hazard resolution
  - Hazard analysis
  - System safety data
  - Safety testing demonstrations
  - Training



- Audit program

- ° Safety certification
- ° Summary

DRAFT

### Quality Assurance

Purpose is to establish a planning and policy document that defines the system expectations, organizational responsibilities for implementing and maintaining the system and the methodology to be employed.

Two main areas of focus are:

- ° Organizational & responsibilities
- ° Program plan & requirements

An effective program includes the requirements for adequate and proper design definition control of procured items, control of construction, and verification of activities which validate that the desired results are obtained. Usually establish control measures for:

- ° Design (procurement & construction)
- ° Instructions, procedures & drawings
- ° Document control
- ° Control of purchased materials, equipment & services
- ° Identification and control of materials, parts and components
- ° Control of special processes
- ° Inspections
- ° Test & testing
- ° Measuring and test equipment
- ° Handling, shipping & storage
- ° Non-conformances
- ° Corrective actions
- ° Quality reports
- ° Audits
- ° Orientation & training

### Reliability

Purpose of program is to achieve the objective of a safe, effective, and dependable passenger service with a minimum of maintenance.

The four areas of focus are usually:

- ° Reliability program & goals
- ° Reliability management & planning
- ° Technical requirements
- ° Documentation process



DRAFT

### Maintainability

Purpose of the program is to provide a set of criteria for design of vehicles, support systems and support facilities and a set of procedures maintenance. The major elements are:

- ° The maintainability program & goals
- ° Maintainability planning and management
- ° Technical requirements
- ° Documentation

### II. Participants

- A. Chief Engineers of other recent or ongoing LRT construction projects
- B. Safety Engineers/Specialists associated with existing LRT operators in North America
- C. Representatives of the CPUC and local fire and safety agencies



SACRAMENTO LIGHT RAIL TRANSIT PROJECT  
PEER REVIEW - OPERATIONS PLANNING & START-UP

DRAFT

I. Scope

- A. System description & operating environment
- B. Review LRT operating and start-up plan
- C. Review LRT/bus interfacing - adequacy of schedules  
re reliability of timed transfers
- D. Review RT LRT staff organization and size, hiring  
timetable and training plans
- E. Review RT bus training plans re timed transfers
- F. Labor (union) relations

II. Participants

- A. Operating managers of other LRT systems - favor those  
new systems using "modern" work rules
- B. Operations and maintenance specialists associated with  
existing LRT operators in North America
- C. Representative of the CPUC
- D. UMTA/APTA



EXHIBIT NO. 10

MINUTES AND CONFIRMATION LETTER

REGARDING UMTA REVIEW





# REGIONAL TRANSIT MEMO

October 29, 1984

TO: Attendees  
FROM: *Phillip R. Smelley* Phillip R. Smelley, LRT Project Coordinator  
RE: UMTA QUARTERLY REVIEW MEETING (3), 10/23/84; MINUTES  
FILE NO: 017.008.000

On October 29, 1984 members of the RT, STDA and SACOG staffs met with members of the UMTA Region IX office in the RT Auditorium to conduct our third LRT quarterly project review. The meeting followed the general agenda developed for these meetings (copy attached as Exhibit 1) and included a northeast and CBD line tour to review construction progress. Emphasis during the meeting was placed on the review of cost reductions and deferrals proposed for C.U. 2A, Watt/80 Median, C.U. 6, Watt/80 Terminal Stations, C.U. 7, N.E. Line Construction and C.U. 4A, Central City. Attending were:

Urban Mass Transportation Administration

Brigid Hynes-Cherin, Regional Administrator  
Ernesto V. Fuentes, Regional Counsel  
Bob Hom, Project Manager  
Mike Kennedy, Grants Representative  
Frank McCarron, Senior Civil Engineer, Washington, D.C.

Regional Transit

David A. Boggs, General Manager  
Phillip R. Smelley, LRT Project Coordinator  
John T. Ketelsen, Chief Legal Counsel  
Melanie Morgan, Consulting Attorney  
Ursula Hull, Grantsperson  
Dennis Fournier, Grants Consultant

Sacramento Area Council of Governments

Mike Hoffacker, Director of Planning

Sacramento Transit Development Agency

William H. Edgar, Interim Executive Director  
James E. Roberts, Project Director  
Jack Crist, Controller  
Gene Burkman, Manager, Project Control



### Introductions

The meeting started at 10:00 a.m. with Dave Boggs making the introductions, highlighting the agenda and presenting Brigid with a framed Sacramento LRT poster to keep us literally in her minds-eye. The meeting format is an informal working session in which the following information and understandings were shared.

### Project Review

Bill Edgar then opened the meeting by reviewing the STDA Interim Procedure for administration of the agency, the mandate and plan for updating the project baselines and the status of the effort. The substance of Bill's presentation is contained in Exhibit 2, dated September 19, 1984, entitled Interim Procedure for Administration of the STDA and summarizes as follows:

- ° On September 19, 1984 the STDA Board approved the interim procedure for administration of the Agency. The procedure was supportive of the STDA Boards mandate to keep the activities of the Agency operating on an on-going basis as efficiently and effectively as possible, to conduct a thorough and complete analysis and evaluation of the LRT Project and to propose a course of action and achieve a consensus on the updated schedule and budget for implementing the project.

To accomplish the objective, an interim (90) days organization was installed that added administrative support resources under Jack Crist (City Finance Director) and Phil Smelley as Technical Coordinator (RT Project Coordinator) to work with Jim Roberts and John Varozza in the development and coordination of the technical issues.

The approach to completing the charge is 1) to discuss the current status of the project with as many agencies, special interest groups, elected officials, appointed officials, and members of the public as possible, 2) read and review as much data, material and information as possible and 3) conduct as many briefings as possible.

The results of these efforts will be quantified and reflected in three reports:

- a. Preliminary Assessment - Quantification of issues facing us: due out October 30, 1984.
  - b. Progress Report - Preliminary game plan and Master Schedule update: due out November 30, 1984.
  - c. Final Assessment - Recommended course of action including Master Schedule and Budget Recommendations.
- ° Bill explained that our progress monitoring and reporting is currently being reflected against Revision 6 of the Master



Schedule, dated May 21, 1984 and the \$131.04 million STDA Board approved budget dated April 11, 1984. Both of these baselines are in the process of being updated as part of the interim management process. As a consequence, the progress report is useful in quantifying accomplishment but of no value in determining progress related to plan; the plan is obsolete.

The schedule update reflecting the new baseline Master Schedule should be ready in November and included in the November report to the STDA Board. The project cost estimate is also being updated and will be reflected as a forecast in the December report to the STDA Board. After proper coordination of the schedule and budget with the City, the County, RT, the STDA Board, the RT Board, the CTC and UMTA, new baselines will be adopted for the Project by the STDA Board.

#### Construction Progress Review

Gene Burkman followed Bill with a construction unit review reflecting the following data:

- ° The project is 62.5% committed; we have executed \$82,019,000 in contracts,
- ° The R-O-W activity is 31% complete in terms of parcels acquired, 42% complete in right of way dollars expended. We have not purchased anything since May 24, 1984. No counter offer has been received from Southern Pacific,
- ° C.U. 10, LRT Signaling, contract executed,
- ° C.U. 12, Communication, contract executed,
- ° C.U. 18A, Fare Vending Equipment, STDA Board approved advertising for step one,
- ° C.U. 20, Catenary System/Poles, contract executed,
- ° Our DBE and WBE actuals are 14.5% and 3.4% respectively against 15% and 3% goals; doing well, and,
- ° Completed P.S.&E. for C.U. 4D, CBD Parking Lots.

The focus of current issues include:

- ° Notice to Proceed C.U. 10, LRT Signaling (10/1/84)
- ° Notice to Proceed C.U. 20, Catenary/Poles (10/1/84)
- ° Board Approval of Deletions C.U. 4A, At Grade Line Central City (10/5/84)
- ° Board Approval to Advertise C.U. 4D, Parking Lots (10/5/84)



- ° Board Approval of Deletions C.U. 6, At Grade Station Watt/80 Terminus (10/5/84)
- ° Board Approval of Deletions C.U. 7, at Grade Stations Northeast Corridor (10/5/84)
- ° Board Approval to Readvertise C.U. 18B, Wheel Truing Machine (10/10/84)
- ° Advertise C.U. 4D, Parking Lots (10/12/84)
- ° Board Approval to Advertise C.U. 2A, Watt/80 Median (10/17/84)
- ° Board Approval to Advertise C.U. 7, at Grade Stations Northeast Corridor (10/17/84)
- ° Board Approval to Advertise C.U. 9, Electrification (10/17/84)
- ° Board Approval to Advertise C.U. 11, Traffic Signals (10/17/84)
- ° Advertise C.U. 18B, Wheel Truing Machine (10/18/84)
- ° Advertise C.U. 9, Electrification (10/24/84)
- ° Advertise C.U. 11, Traffic Signals (10/24/84)
- ° Bid Opening C.U. 4D, Parking Lots (10/26/84)

The summary status of each C.U. is reflected in Exhibit 3, dated 10/19/84, and entitled, Contract Progress.

By November 30, 1984 our Master Schedule Update will be complete and ready for review. Our progress reports will then again related progress to plan. The N.E./CBD lines revenue service dates are expected to slip 4 to 6 months.

#### Budget Review

Jack Crist next made a presentation of the Budget and Funding Status. Jack's presentation included a review of the total budget, the funding sources, changes to the budget and a list of potential additional funds we are pursuing. Jack's presentation is summarized in Exhibit 4, Summary of Total Project Budget.

By December 30, 1984 the new forecast and updated financial plan for the project will be completed and ready for review. Financial status will be related to budget by grant.



### Cost Reduction Efforts

Phil Smelley, Jim Roberts and Bob Kershaw next reviewed the proposed cost reduction efforts for the N.E. Corridor and Central City. The presentation included a detailed review of the approach, resulting estimates and the drawings which highlighted the proposed reductions. The essence of the presentation is reflected in Exhibit 5, dated October 1, 1984 and entitled Cost Reduction Efforts, N.E. Corridor and Central City.

Brigid's concerns are that in our reductions that we retain the scope and operational parameters of the system committed to in the Grant Contracts and FEIS with its mitigation requirements. While in agreement that grant funds should go for the original scope and while sympathetic with the idea of the delaying tactic our reduction and deductive options afford us, its imperative that we demonstrate we are in compliance or assure Brigid that we will be in compliance before proceeding with award of the effected contracts. Brigid also cautioned us about the inclusion or exclusion of scope that may be an issue at a later date; can't have it both ways.

The concerns focused on specific deferrals such as parking, shelters and the acceleration ramp. It was agreed that under separate letter and in narrative fashion that we would confirm our approach and rationale and seek UMTA's concurrence with our actions. Included would be our assurance to end up in compliance with the requirements of the grant. Should our detailed review and documentation of the scopes evolution since the preliminary engineering phase identify any area we have inadvertently overlooked, we would incorporate the necessary change to our construction contract. Our detail review and documentation of the scope and budget change will be completed by December 30, 1984.

### Construction Management & Field Tour

At this point we had a working lunch and prepared for our field trip to review construction progress. Clarence provided a brief overview of his current organization. We then toured the construction in the N.E. Corridor and CBD.

We committed to Bob Hom and Frank McCarron to provide them with a quality assurance report on the rail. We also committed to have Bob and Frank get together with us in the near future for a detailed review of our quality assurance and construction management program.

### Right-of-Way

After lunch we picked up with a review of the status of right of way. The summary of the right of way review is as follows:

- ° Approval of CA-23-9001 Amendment 1 released us to proceed



with acquisition of the added parcels. We pointed out we would need help in accelerating UMTA approval of the appraisal of the Naygrow property (parcel 027787); critical to our schedule.

- ° Ernie committed to confirming his verbal approval of the administrative settlement for parcel 027782 and the administrative process proposed by Lee Savage. Ernie would try and get the confirming letter off by Friday, October 26, 1984.
- ° The issue of the necessity of updating all appraisals over a year old was left open. Lee will confirm with Ernie.
- ° There were several questions raised by Bob Hom regarding right of way that we were unable to answer but agreed to research and respond to:
  - Why was settlement for parcel 028031 higher than the UMTA approved appraisal; administrative settlement?
  - Why in some places was UMTA approved appraisal so much higher or lower than budget or our appraisal?

#### DBE/WBE Status

Harold Dorell was unable to attend the meeting so our review was limited to an overview of status. Overall, our goals for MBE and WBE are 15% and 3% respectively. Our actuals to date are 14.6% and 3.4%. We will remove Chris Hunter from the October WBE report.

The detail materials Harold requested were provided by Nick for Brigid to deliver as reflected in Exhibit 9, dated October 23, 1984.

#### 1985 Meeting Schedule

The meeting schedule of the 1985 quarterly reviews was established as follows:

January 22, 1985  
April 23, 1985  
July 23, 1985  
October 22, 1985

The meeting concluded about 3:30 p.m. after review of the miscellaneous status reports reflected at the bottom of the agenda.



UMTA Meeting Minutes

October 29, 1984

Page 7

- Exhibit 1 - Agenda, UMTA Quarterly Review Meeting (3), Sacramento Light Rail Transit Project, October 23, 1984, 10:00 a.m., Regional Transit Auditorium
- Exhibit 2 - Interim Procedure for Administration of the Sacramento Transit Development Agency
- Exhibit 3 - Sacramento Transit Development Agency Contract Progress as of 10/19/84
- Exhibit 4 - Sacramento Transit Development Agency Light Rail Starter Line Project Summary of Total Project Budget By Funding Source
- Exhibit 5 - Cost Reduction Efforts, NE Corridor and Central City
- Exhibit 6 - Bus Tour of LRT Route
- Exhibit 7 - Sacramento Light Rail Transit Project R-O-W Acquisition as of 10/15/84
- Exhibit 8 - Sacramento Transit Development Agency, Status of DBE/WBE Payments on Professional Service Contracts Through 9/30/84
- Exhibit 9 - Letter to Harold Dorell, dated 10/23/84



AGENDA

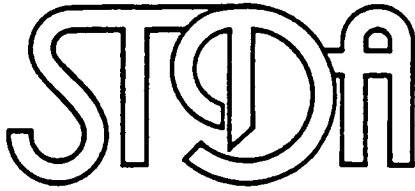
UMTA QUARTERLY REVIEW MEETING (3)  
SACRAMENTO LIGHT RAIL TRANSIT PROJECT  
OCTOBER 23, 1984, 10:00 a.m.  
REGIONAL TRANSIT AUDITORIUM

- ° Introductions . . . David Boggs
- ° Overall Project Status . . . Bill Edgar
  - Interim Organization and Mandate
  - Project Baseline Update (game plan & timing)
  - Status of Effort (three reports)
- ° Construction Unit Review . . . Gene Burkman
  - Major Activities (status as of 10/19/84)
  - Contract Units (status as of 10/12/84)
- ° Budget
  - Budget & Funding Status; Committed & Potential . . . Jack Crist
  - Budget Update (in progress, due out by 12/30/84)
- ° Cost Reduction Effort
  - Lead-in . . . Phil Smelley
  - C.U. Review . . . Jim Roberts/Bob Kershaw
- ° Construction Management . . . Clarence Otte
  - Overall Status (organization/process)
  - C.U. Review
- ° Lunch (sandwiches)
- ° Field Tour . . . Clarence Otte
- ° Right-of-Way . . . Jerry Hammons
  - Overall Status
  - Parcel Review
  - Major Issues
- ° DBE/WBE Status . . . Nick Recostodio
  - Status (deliver material Harold requested)
- ° Status Reports/Other Issues . . . Phil Smelley
  - Force Account - undergoing internal review, to UMTA by 10/31/84



- Cost Allocation - RT/Caltrans accounting completing, to UMTA by 10/31/84
- CA-29-9005, Final Design Work Program - completing review cycle, to UMTA by 10/26/84
- Wheel Truing Machine (C.U. 18B), Rebid Process
- Fare Vending Equipment (C.U. 18A), Step One, all foreign suppliers
- Consultant Contract Status
- Peer Reviews
- Design Review Procedure





## MEMORANDUM

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1201 I Street, Room 205 • Sacramento 95814 • (916) 445-6519

September 19, 1984

TO: Members of the Governing Board  
FROM: William H. Edgar *William H. Edgar*  
RE: Interim Procedure for Administration of the  
Sacramento Transit Development Agency

### SUMMARY

The purpose of this memorandum is to provide the Sacramento Transit Development Agency Board of Directors a status report regarding the interim administration of the Agency.

It is recommended that the Board authorize the Interim Executive Director to proceed with the interim administration as outlined below.

### BACKGROUND

On September 15, 1984, the Sacramento Transit Development Agency Board of Directors approved an interim procedure for the administration of the Sacramento Transit Development Agency.

The specific objective of this interim procedure is threefold:

1. To keep the activities of the Agency operating on an on-going basis as efficiently and effectively as possible.
2. To conduct a thorough and complete analysis and evaluation of the Sacramento Light Rail Project.
3. To propose a course of action and achieve a consensus for completing and implementing the project in a timely fashion.

The short-term objectives noted above are to be completed within a ninety (90) day period.

### ISSUES

Initially, the staff has identified several issues that need to be addressed. These issues include:

Agenda Item 2



1. Scheduling problems in order to maintain the targeted opening date of April 1986
2. Budget overrun problems
3. Peer review of technical recommendations
4. Protests of bidders on certain contract awards
5. Organizational problems emanating from the current legal structure
6. Technical accounting and auditing issues related to properly accounting for the Project as a whole
7. Feasibility and desirability of extensions to the light rail starter line

Some of these issues, such as organizational and structural, are addressed as part of the interim organization discussed below. Other issues, such as the budget overrun problem, will be addressed during the ninety (90) day interim administration period. The resolution of long-term issues, such as the feasibility and desirability of extensions to the light rail starter line, will go well beyond the interim administration period.

#### INTERIM ORGANIZATION

As part of the interim procedure, an interim organizational chart is being recommended for the Agency. A copy of the chart has been attached as Exhibit 1 for your review and approval. The proposed interim organization is based upon a logical functional structure, attempts to insert significant management support into the Agency, and separates supportive from technical activities. The purpose is to define and establish appropriate lines of authority and communication.

The proposed interim organization also attempts to structure the Agency in a way that facilitates the smooth operation of daily activities. Hopefully, the fixed and stable nature of the structure will make it readily understood by employees, the Board, and the public.

The Administration Division includes activities which provide for supportive services for two technical activities of the Agency. This Division would be managed by the existing controller of the Agency.



The related technical activities are grouped under a Technical Coordinator and remain unchanged. The Technical Coordinator position is recommended for these purposes:

1. To coordinate and expedite the review of technical documents among the various agencies and interests.
2. To coordinate and schedule peer review of issues related to technical matters in the event this review is necessary.
3. To compile the data, material, and information necessary to analyze and evaluate the costs and projections related to the project.

This position would be filled during the interim period by a contract employee.

In summary, although this interim organization, as set fourth in the attached chart, may be altered after we have had an opportunity to work with it, we believe that it will resolve many of the problems that have been brought to our attention thus far.

#### ASSESSMENT APPROACH

In order to complete the assignment and charge outlined above, the following Preliminary and Schematic Plan of Action is proposed:

1. Discuss the current status of the project with as many agencies, special interest groups, elected officials, appointed officials, and members of the public as possible.
2. Read and review as much data, material, and information as possible.
3. Conduct as many briefings as possible. For example, we are recommending that the Board of Directors meet every week for at least a short period of time in order to accomplish the workload ahead.

4. Prepare three (3) reports:

	<u>Due Date</u>
a. Preliminary Assessment	October 30, 1984
b. Progress Report	November 30, 1984
c. Final Assessment	December 31, 1984

It is understood that as the assessment continues, numerous public meetings and briefings will be conducted with as many interests as possible. It is also contemplated that a peer



review of the assessment may be conducted if the Board believes that is necessary.

Financial Data

The approach discussed above requires a commitment of City, County, and Regional Transit staff resources. We are assuming that previously adopted resolutions authorize the drafting of appropriate agreements with the Agency for reimbursement for committed staff resources. At the present time, we are reviewing the current general capacity to determine if such reimbursement is possible. When, and if, reimbursement is generally possible, the appropriate contracts will be prepared and submitted to the parent agencies.

Conclusion/Recommendation

This report is the first status report regarding the interim administration of the Agency.

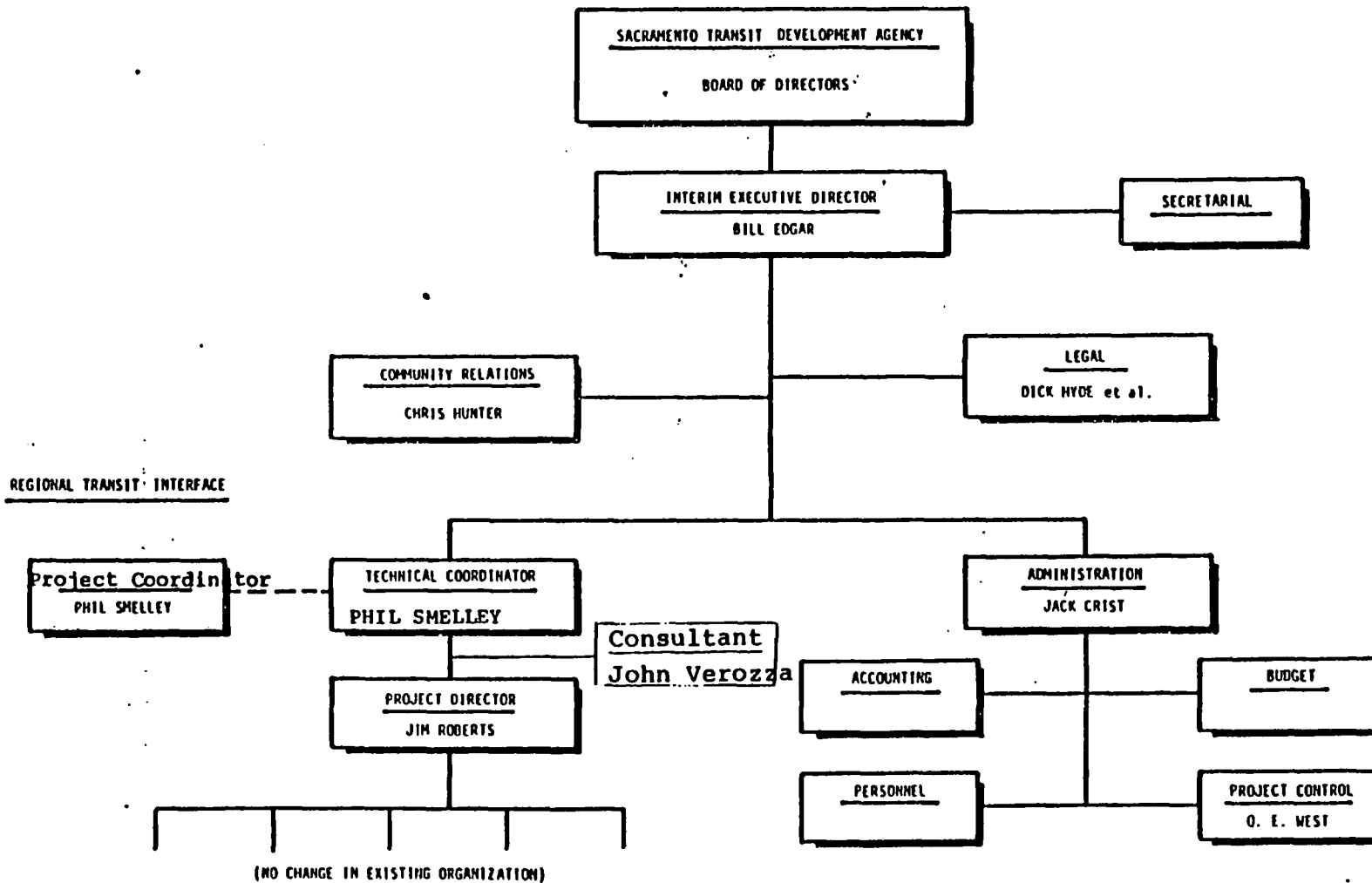
The staff recommends that the Board authorize the Interim Executive Director to proceed with the interim administration of the Agency in the manner described in the report.

WHE:rg

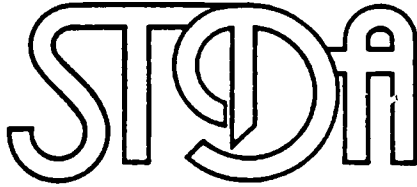
Attachment



Attachment A






SACRAMENTO TRANSIT DEVELOPMENT AGENCY
CONTRACT PROGRESS AS OF 10/19/84

SACRAMENTO TRANSIT DEVELOPMENT AGENCY 926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168

<u>CU#</u>	<u>DESCRIPTION</u>	<u>STATUS</u>	<u>% COMPLETE</u>
1	No. Sac. Grade Separation Structures	Awarded	96
1A	No. Sac. SPRR Relocation	"	96
2	At Grade Line - Northeast Corridor	"	12
2A	Watt/80 Median	Design	95
3	Maintenance Building	Awarded	7
4	Mall Demolition	Complete	100
4A	At Grade Line - Central City	Design	98
4B	Tree Procurement - K Street Mall	Awarded	47
4C	Tree Procurement - K Street Mall	"	47
4D	Central City Parking Lots	Advertised	100
5	At Grade Line - Folsom Corridor	"	50
6	At Grade Station - Watt/80 Terminus	"	95
7	At Grade Stations - Northeast Corridor	"	99
7A	At Grade Stations - Folsom Corridor	"	33
7B	Tree Procurement - Folsom Corridor	Awarded	48
7C	Art Program	Design	30
8	Yard Grading	Complete	100
8A	Temporary Fencing - Yard Storage Area	Awarded	29
9	Electrification	Design	96
10	LRT Signaling	Awarded	0
11	Traffic Signals	Design	100
12	Communications Radio Procurement	Awarded	0
13	Equipment Installation	Design	N/A
14A	Rail Procurement	Complete	100
14B	Other Track Material Procurement	Awarded	90
15	Tie Procurement	Complete	100
16	Special Trackwork Procurement	Awarded	50
17	Light Rail Vehicles	"	27
18A	Fare Vending Equipment Procurement	Advertised	100
18B	Major Shop Equipment Procurement	Design	N/A
18C	Line Maintenance Equipment Procurement	Awarded	23
19	Substation Procurement	"	46
20	Catenary System/Pole Procurement	"	0
21	Cable/Wire Procurement	"	35

Contract Status Summary

	<u>Last Month</u>	<u>This Month</u>
In Design	13	11
Advertised	1	2
Awarded	16	17
Completed	<u>4</u>	<u>4</u>
Total	34	34



SACRAMENTO TRANSIT DEVELOPMENT AGENCY  
LIGHT RAIL STARTER LINE PROJECT  
SUMMARY OF TOTAL PROJECT BUDGET BY FUNDING SOURCE

	BUDGET		
	Original	Revised	%
	\$ in Millions		
Federal (Attached)	\$98.514	\$98.514	75.1%
State (Attached)	25.922	25.922	19.8
Local	6.604	6.798	5.1
	-----	-----	----
	\$131.040	\$131.234	100.0%
	=====	=====	



SACRAMENTO LIGHT RAIL TRANSIT PROJECT

III. APPROVED PROJECT BUDGET - APRIL 11, 1984

<u>MACS CODE</u>	<u>PROJECT ELEMENT</u>	<u>(\$MIL)</u>
20.01.00	PURCHASE OF TRANSIT VEHICLES	\$ 24.352
20.02.00	PURCHASE & INSTL SUPPORT EQUIPMENT	
20.02.03	LRT Signaling	5.760
20.02.04	Fare Collection	0.520
20.02.08	Communications	0.280
20.03.00	PURCHASE & INST SVC & MAINT EQUIPMENT	
20.03.01	Vehicles	0.240
20.03.02	Tools & Equipment	0.880
20.06.00	REAL ESTATE ACQUISITION	12.885
20.08.00	PROFESSIONAL SERVICES	
20.08.01	Proj Mgt, Eng & Dsgn, Dsgn Sprt	14.911
20.08.02	Construction Management	2.660
20.08.03	Legal Services	0.338
20.08.04	Appraisal Services	0.265
20.08.05	Relocation Services	0.000
20.10.00	DEMOLITION	0.500
20.11.00	CONSTRUCTION OF FACILITIES	
20.11.01	Insurance	1.550
20.11.10	Stations/w Parking Facilities	10.620
20.11.20	Maintenance & Repair Facilities	2.726
20.11.30	Storage Yards	0.056
20.11.90	Landscaping	0.035
20.13.00	RIGHT-OF-WAY CONSTRUCTION	
20.13.12	Utility Relocation	5.257
20.13.40	Construction	28.076
20.14.00	PURCHASE OF LONG LEAD ITEMS	
20.14.01	Rail	3.911
20.14.02	Ties	1.142
20.14.03	Special Trackwork	0.543
20.14.05	Unit Substations	3.473
20.14.06	Catenary System & Poles	1.880
20.14.07	Cable and Wire	1.370
20.15.00	PROJECT SPONSOR FORCE ACCOUNT WORK	2.000
20.16.00	SUPPORTING SERVICES	1.123
	SUBTOTAL	<u>\$127.453</u>
32.00.00	CONTINGENCIES	
32.00.01	Construction Contingency	3.587
32.00.02	General Contingency	<u>0.000</u>
	TOTALS	<u><u>\$131.040</u></u>

*RT start up costs*



SACRAMENTO TRANSIT DEVELOPMENT AGENCY

SUMMARY OF PROJECT EXPENSES THROUGH 09/30/84

(1) Item	(2) Apprvd. Budget (\$Mil)	(3) vs Adjust Budget (\$Mil)	(4) Prct Variance (%)	(5) Projected Last Mo (\$Mil)	(6) This Mo (\$Mil)	(7) Prct Variance	(8) Obligated Amount (\$Mil)	(9) vs Bdgt Prct (\$Mil)	(10) Expended Amount (\$ %)	(11) vs Bdgt Prctd (%)
STDA Mgmt & Engrg	\$ 18.174	\$ 17.156	-5.6	\$ 17.156	\$ 18.508	7.8	\$16.383	95.5	\$ 8.790	51.2%
RT Mgmt & Sys Strt-Up	3.123	2.949	-5.6	2.949	2.949	0.0	-	-	-	-
Risk Mgmt	1.550	1.550	0.0	1.550	1.550	0.0	0.333	21.5	0.333	21.5
R-O-W & Util Relo	18.142	18.142	0.0	18.705	18.705	0.0	9.520	52.5	5.999	33.1
IRT Vehicle	24.352	24.352	0.0	24.352	24.352	0.0	24.352	100.0	2.725	11.2
Other Proc	20.099	17.693	-11.9	17.684	17.684	0.0	16.011	90.5	5.294	30.0
IRT Const	35.343	39.169	10.8	45.178	45.609	0.9	8.361	21.3	0.390	0.9
No Sac Grade Sep	6.670	6.670	0.0	6.825	6.828	0.0	6.828	102.0	6.191	92.8
Subtotal	127.453	127.681	0.1	134.399	136.185	1.3	81.788	-	29.722	-
Constr Cont	3.587	3.529	-1.6	3.796	3.777	-0.5	0.231	6.5	0.116	3.2
Enl Cont	0.000	0.023	-	0.000	0.000	-	0.000	-	0.000	-
Totals	\$131.040	\$131.233	0.1	\$138.195*	\$139.962	1.2	\$82.019	62.5	\$29.838	22.7

\* Reflects action taken by Governing Board 08/15/84 on proposed deferrals but does not include deferrals pending review at subsequent meetings. Indications are that the project is potentially 12.0% over budget as of September 30, 1984.



Table 1 .

SACRAMENTO LIGHT RAIL TRANSIT PROJECT  
ACTUAL AND POTENTIAL CHANGES IN PROJECT BUDGET  
AND ESTIMATED COSTS

<u>Cost Item</u>	<u>Prl Eng</u> <u>06/83</u> <u>(\$ Mil)</u>	<u>Approvd</u> <u>04/84</u> <u>(\$ Mil)</u>	<u>Potentl</u> <u>07/84</u> <u>(\$ Mil)</u>	<u>Diff 84</u> <u>07 V 04</u> <u>(\$ Mil)</u>
Mgt, Eng & Risk Mgt	14.950	19.724	20.774	1.050
R-O-W Acqstn & Util Rl	17.480	18.142	22.772	4.630
Lt Rail Veh Procurmnt	26.370	24.352	25.410	1.058
Other Procurements	15.530	14.339	14.363	0.024
LRT Construction	39.780	41.103	51.829	10.726
No Sac Grd Separatns	6.670	6.670	6.707	0.037
Contingencies	<u>10.250</u>	<u>3.587</u>	<u>4.197</u>	<u>0.610</u>
STDA Total	131.030	127.917	146.052	18.135
RT Admin & Start-Up	<u>-</u>	<u>3.123</u>	<u>2.980</u>	<u>- 0.143</u>
Total Project Costs	<u>131.030</u>	<u>131.040</u>	<u>149.032</u>	<u>17.992</u>

Notes:

"Potential 07/84" estimated costs are based on:

Smelley, "Risk Analysis", 6/84: Mgt, Eng & Risk Mgt; R-O-W Acqstn & Util Relo (reduced by \$1.5 mil. re SMUD hook-up charges); RT Admin & Start-Up.

Contract Value + portion of submitted claim not covered by Contingencies: Lt Rail Veh Procurement.

Revised Estimates from project engineers: Other Procurements; LRT Construction.

Contract Values: No Sac Grd Separatns (including SP work)

5% of LRV Procurement, LRT Construction & No Sac Grd Separatns: Contingencies

JWS:07/28/84



SACRAMENTO TRANSIT DEVELOPMENT AGENCY  
LIGHT RAIL STARTER LINE PROJECT  
SUMMARY OF STATE OF CALIFORNIA GRANTS  
AS OF OCTOBER 18, 1984

<u>Fiscal Year</u>	<u>State Article XIX (Gas Tax)</u>	<u>State TP&amp;D Account (Sales Tax)</u>	<u>State PUC Crossing Fund (Gas Tax)</u>	<u>Total</u>
81-82	\$ 2.12(a)(b)(c)	\$0.40(a)(b)(c)	\$	\$ 2.52
82-83	4.30(a)(b)(c)	--	4.20	8.50
83-84	4.20(a)(b)	2.80(a)(b)(c)	2.40	9.40
84-85	5.50(a)	--	--	5.50
	-----	-----	-----	-----
TOTAL	\$16.12	\$3.20	\$6.60	\$25.92
	=====	=====	=====	=====

- (a) Legislative Appropriation.
- (b) CTC Approval and Contract Executed.
- (c) SB 580 Review Complete.



**SACRAMENTO LIGHT RAIL TRANSIT PROJECT**  
**PROJECT BUDGET MATRIX**  
**FUNDING SOURCE & PROJECT PHASE**

Phase	All (1)		Alt. Analysis:		Preliminary		Detail		Construction		Construction		TOTAL	
	Local (2)		Des. Concept. Res.		Engineering		Design		Management		Procurement			
			CA-29-9002		CA-29-9004		CA-29-9005		CA-90-0010		CA-29-9001			
	\$'s	%	\$'s	%	\$'s	%	\$'s	%	\$'s	%	\$'s	%	\$'s	%
Federal	0	0.0	500	85.0	1,960	85.0	5,500	85.0	2,409	80.0	88,145	85.0	98,514	75.1
State	13,768	90.8	50	8.5	260	11.3	640	9.9	450	15.0	10,754	10.4	25,922	19.8
RT	0	0.0	38	6.5	86	3.7	60	0.9	60	2.0	2,276	2.2	2,520	1.9
City	(4) 700	4.6	0	0.0	0	0.0	120	1.9	0	0.0	1,040	1.0	1,860	1.4
County	0	0.0	0	0.0	0	0.0	0	0.0	90	3.0	1,070	1.0	1,160	0.9
Other	(3) 690	4.6	0	0.0	0	0.0	151	2.3	2	0.0	(5) 415	0.4	1,258	0.9
TOTAL	15,158	100.0	588	100.0	2,360	100.0	6,471	100.0	3,011	100.0	103,700	100.0	131,234	100.0

(1) Prior to grants or for grade separations

(2) Local monies including P.U.C. grant (no Federal match)

(3) SP @ \$600 + Culligan @ \$90

(4) El Camino grade separation

(5) SP @ \$600 + Culligan @ \$90 + Lumberjack @ \$275 + SHRA @ \$293



SACRAMENTO TRANSIT DEVELOPMENT AGENCY  
LIGHT RAIL STARTER LINE PROJECT  
SCHEDULE OF POTENTIAL ADDITIONAL FUNDING SOURCES  
AS OF OCTOBER 19, 1984

Item No.	Source	Description/Contract Unit	Status	Approximate Amount
1.	Federal - Federal Aid Interstate (FAI)	<ul style="list-style-type: none"> <li>o FAI Transfer of funds from R.T. to STDA related to Watt Ave. Station/ Acceleration Ramp.</li> <li>o CU 2A (Watt/80 Median)</li> </ul>	<ul style="list-style-type: none"> <li>o Administered by CTC Request submitted to SACOG Board.</li> <li>o Prospects good for FAI approval.</li> </ul>	\$ 600,000
2.	Federal - Federal Aid Urban (FAU)	<ul style="list-style-type: none"> <li>o FAU request of County area portion of project and median barrier crossing. (Watt Avenue at I-80) (Crossing Construction - SPRR at Watt Avenue Extension)</li> <li>o CU 5 (At grade line - Folsom Corridor)</li> <li>o CU 6 (At Grade Station-Watt/80 Terminus)</li> </ul>	<ul style="list-style-type: none"> <li>o Folsom Corridor &amp; Watt Ave. are eligible for FAU and staff will pursue funding vigorously with FAU Committee.</li> <li>o Request submitted to FAU Committee 10-15-84</li> <li>o Prospects Good for FAU approval.</li> </ul>	300,000
3.	Federal - Federal Aid Urban (FAU)	<ul style="list-style-type: none"> <li>o FAU request for City area portion of project related to traffic signals at 12th St. and other downtown locations.</li> <li>o CU 11 (Traffic Signals)</li> </ul>	<ul style="list-style-type: none"> <li>o Reconstruction of traffic signals along LRT route, North 12th St, etc. FAU eligible locations only.</li> <li>o Request submitted to FAU FAU Committee 10-15-84.</li> <li>o Prospects fair for FAU approval.</li> </ul>	700,000
SUBTOTAL FEDERAL				1,600,000
4.	State - Railroad Crossing Protection Fund	<ul style="list-style-type: none"> <li>o State P.U.C./CTC R.R. Crossing Funds related to City grade crossings such as 15th and 16th St. (60 crossings in City).</li> <li>o CU 10 (Rail Signaling)</li> </ul>	<ul style="list-style-type: none"> <li>o Application has been filed by Caltrans</li> <li>o Requires 10% local match.</li> <li>o Prospects Unknown.</li> </ul>	500,000
5.	State - California Conservation Corp (CCC)	<ul style="list-style-type: none"> <li>o CCC financed work crews utilized to install system wide landscaping. This would represent an "in-kind" contribution to the project.</li> <li>o CU (various)</li> </ul>	<ul style="list-style-type: none"> <li>o Firm commitment based on confirming letter from CCC</li> </ul>	500,000 (up to)

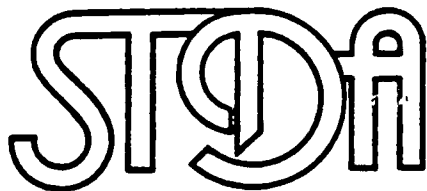


Item No.	Source	Description/Contract Unit	Status	Approximate Amount
6.	State - Department of General Services	o Enhancements to O St. Mall as requested by Capitol Area Development Authority and State General Services.	o Prospects positive per Roberts that State O.S. will budget.	\$ 440,000
		o CU 4A (See July 20 memo).		-----
	SUBTOTAL STATE			\$1,440,000 -----
7.	County/Private	o Contribution from County and/or private developers	o Prospects fair for County/private assistance for some portion of the estimated total dollar amount.	265,000 (up to) -----
		o CU 7A (Starfire and Tiber Stations)		
8.	City	o City (a) share of 12th St. drainage pumping plant improvements related to CU 4A.	o Prospects fair for assistance for some portion of the estimated total dollar amount.	200,000
		(b) street improvements in the vicinity of Swanston & Marconi stations related to CU 7.	o Prospects fair for assistance for some portion of the estimated total dollar amount.	200,000
		(c) Maintenance yard pumping plant related to City requirement the LRT store drainage flow for up to 24 hours. This requirement is related to CU 2.	o Prospects fair for assistance for some portion of the estimated total dollar amount.	200,000
		(d) Grand Ave/Winters St. connector related to CU 2A.	o Prospects fair for assistance for some portion of the estimated total dollar amount.	200,000
		(e) System wide landscaping policy requirement of City requires 50% of parking areas to be shaded within so many years. This requires additional drainage.	o Prospects fair for assistance for some portion of the estimated total dollar amount.	200,000
		All CU		-----
	SUBTOTAL CITY			1,000,000 -----



Item No.	Source	Description/Contract Unit	Status	Approximate Amount
9.	Sacramento Housing & Redevelopment Agency	o See Bill Edgar's memorandum to himself. o CU 4A	o Prospects good based on conversation with Executive Director.	750,000
GRAND TOTAL				\$5,055,000 *****





# MEMORANDUM

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1201 I Street, Room 205 • Sacramento 95814 • (916) 445-6519

October 1, 1984

TO: Members of the Governing Board  
FROM: J. E. Roberts  
SUBJECT: Cost Reduction Efforts, NE Corridor and Central City

## ISSUE

Should the Board authorize staff to proceed with construction contract advertising for the Northeast and Central City portions of the project?

## PROPOSED ACTION

Continue to advertise the contract units for the Northeast Corridor and Central City as they are value engineered by staff and approved individually by the Board.

## FISCAL IMPACT

The combined cost reduction efforts on the contracts necessary to complete the operational segment from Watt Avenue/I.S. 80 to 18th and R Streets have resulted in an aggregate cost estimate that is within the project budget. The general contingency reserve would be reduced to \$100,000 if all staff recommended reductions are adopted by the Board. If none of the reductions are adopted, the project will cost \$4,300,000 over budget.

## DISCUSSION

Staff has evaluated and value engineered each contract unit in the NE Corridor and downtown segments of the project. The resulting proposed contracts retain the scope of the original UMTA grant and the operational system approved by this Board at the conclusion of Preliminary Engineering in 1983 as the project baseline documents. This cost reduction analysis is limited to the \$131.234 million budget. Additional funds being pursued by staff but not currently committed were not considered.



Page Two  
Memorandum

TO: Governing Board  
FROM: J. E. Roberts

SUBJECT: Cost Reduction Efforts, NE Corridor and Central City

A Budget and Estimate Comparison and Contingency Analysis are included as Attachments No. 1 and No. 2. A summary sheet of proposed cost reduction actions for each contract unit which staff has analyzed is included as Attachment No. 3.

Each contract unit was analyzed for three types of cost reduction efforts.

- (1) Eliminate -- These items have been permanently eliminated from the contract as a result of value engineering analyses. These items represent true cost savings and will reduce the construction cost estimate and overall project estimate.
- (2) Reduce -- These items are long-term deferrals. They constitute items which will be needed in the future and can be added after LRT operations begin and as funding can be identified.
- (3) Deductive Option -- These items are not needed for a functional system but are deemed necessary by many groups as required for public acceptance of the system. This category of items can be added back to the system as funding can be identified and staff has attempted to prioritize these items for Board consideration. As funds become available for project specific items, they can be added without regard to the priority list. As general additional funds are identified, the Board can utilize the priority list for authorizing additions to the project.

Recommended Eliminations amount to \$1,670,000. (This reduces the worst case project estimate to \$145,300,000 and the \$18 million overrun to \$14.3 million.)

Recommended Reductions amount to \$479,000. (This reduces the worst case project estimate to \$144,820,000 and the overrun to \$13.8 million.)

Recommended Deductive Options amount to \$2,228,580. (It is staff recommendation that additional funds be pursued to restore these options to the project.)

Attachments

JER:cr



**PROJECT DEVELOPMENT & FINANCIAL ISSUES**

**BUDGET/ESTIMATE COMPARISON**

**NORTHEAST CORRIDOR AND CENTRAL CITY**

Item	Contract Unit	Approved Budget 4/84	Estimate	Constrtn Contngcy 5%	Reductions	Constrtn Contngcy 5%	Estimate With Reductions	Reduced Const. Cont. 5%
<b>Contracts Awarded</b>								
1.	#2, NE Corridor	\$3.924	\$4.543				\$3.964 (Bid)	
2.	#3, Maintenance Bldg	2.726	4.474				3.827 (Bid)	
3.	SUBTOTAL (1&2)	6.650	9.017				7.791	
<b>Contracts Yet to Bid</b>								
4.	#2A, Watt/80 Median	0.810	5.269	.263	1.640	.082	3.629	.181
5.	#6, Watt/80 Terminus	2.440	1.515	.076	.677	.034	.838	.042
6.	#7, NE Corridor Sts.	3.500	2.552	.128	.695	.035	1.857	.093
7.	#4A, Central City	6.000	9.148	.457	1.415	.071	7.333	.386
8.	#9, Electrification*	1.390	2.194	.110	0	0	2.194	.110
9.	#11, Traffic Signals*	2.390	2.390	.119	0	0	2.390	.119
10.	#7E, Shelters*	0.000	.403	.020	0	0	.403	.020
11.	SUBTOTAL (4 Thru 10)	\$16.530	\$23.471	1.173	4.427	.222	19.044	.951
<b>TOTALS (3+11)</b>		<b>\$23.180</b>	<b>\$32.488</b>				<b>\$26.835**</b>	

NOTES: All Costs Shown in Millions of Dollars

\* For 18.3 Miles Systemwide

\*\* Original Estimates of \$32.488 less Reductions of \$4.427 Less Difference between Estimate (\$9.017) and Bid (\$7.791) Equals Estimate with Reductions \$26.835.



NOTES FOR REVISED ATTACHMENT NO. 1 TO J.E. ROBERTS MEMO OF 10/2/84

In our previous review of the Cost Reduction efforts, it was requested that Attachment No. 1, Budget/Estimate Comparison, be modified to show the related Construction Contingency.

This attachment compares the budgeted amounts with estimates for the two contracts that have been awarded, and for the contracts yet to be bid to construct the Northeast corridor and Central City lines. It further shows the effect on estimated costs of the approved reductions for Contract Unit #2A, and the reductions proposed for Contract Unit #'s 6, 7 and 4A. The five percent (5%) Construction Contingency relating to each of the estimated costs is also shown.

It is noted that the reductions in estimated costs result in a directly proportional reduction in the Construction Contingency in each case. Also, as the result of bidding Contract Unit #'s 2 and 3 and the approved and proposed reductions, the overall estimate changes from \$32.488 million to \$26,835 million, drawing closer to the aggregate budgeted amount for these Contract Units of \$23.180 million.



PROJECT DEVELOPMENT & FINANCIAL ISSUES

CONTINGENCY ANALYSIS

NORTHEAST CORRIDOR & CENTRAL CITY

Item	Contract Unit	Budget w/Cont.	Project Costs (\$Mil)		Contingency	
			Estimate w/Reductions	Estimate/5%	±	Cumulative
1.	#2, NE Corridor Ln.	\$3.965/.107	Bid	\$3.965/.107	-	-
2.	#3, Maintenance Bld.	3.827/.136	Bid	3.827/.136	-	-
(General Contingency taking into account previous contract actions)						\$2.983
3.	#2A, Watt/80 Median	.810/.041	3.629	3.629/.181	-2.959	.024
4.	#6, Watt/80 Terminus	2.363/.122	0.838	0.838/.042	+1.752	1.776
5.	#7, NE Corridor Sts.	3.423/.175	1.857	1.857/.093	+1.902	3.678
6.	#4A, Central City	5.524/.293	7.733	7.733/.387	-2.303	1.365
7.	#9, Electrification*	1.390/.070	2.194	2.194/.110	-.844	.521
8.	#11, Traffic Signals*	2.390/.119	2.390	2.390/.119	.000	.521
9.	#7E, Shelters*	-	0.403	0.403/.020	-.423	.098
(General Contingency Remaining)						.098

\*For 18.3 miles, systemwide



Revised

L 10/23/84

COST REDUCTION PROPOSALSNE CORRIDOR AND DOWNTOWNSUMMARY

Contract Unit	Deductive Option	Reduce	Eliminate	Total
2A	\$ 373,000*	\$ 20,000	\$1,248,000*	\$1,641,000
6	614,000	21,000	42,000	677,000
7	159,000	346,000	190,000	695,000
4A	<u>1,314,580*</u>	<u><del>10,000</del> 92,000</u>	<u>90,000</u>	<u><del>1,414,580</del></u>
SUBTOTAL	\$2,460,580*	\$397,000*	\$1,570,000*	\$4,427,580
			TOTAL	\$4,427,580

\* Revised per 10/10/84 Board Action.  
Detail sheets attached



CU#2A-WATT/80 MEDIAN STATIONS

Item	Deductive Option	Reduce	Eliminate	Remarks
<u>Winter Street Access</u>				
Lighting, Signals, and Roadway	\$100,000*		\$199,000*	Provide Del Paso Hgt access at Marconi/ Arcade Station.
Landscaping			48,000*	
<u>Watt/80 West Station</u>				
Civil, Drainage, Roadwork			\$440,000	Remove station entir and provide some ove. flow parking spaces.
Platform			159,000	
Lighting			200,000	
Landscaping			202,000	
<u>Overall</u>				
Nonfunctional Planting	\$273,000			Shrubs, etc.
Roseville Road Shelter		\$20,000		Future separate cont:
	<u>\$373,000*</u>	<u>\$20,000</u>	<u>\$1,248,000*</u>	

			(\$Mil)
<u>Budget</u>	Original Budget 4/84		.810
	Adjusted Budget		.810
	Construction Contingency		<u>.040</u>
	Total Budget		\$0.850
<u>Estimate</u>	Current Estimate		5.269
	Deductive Options, Reductions and Eliminations		1.640
	Estimated Cost		3.629
	Construction contingency (5%)		<u>.181</u>
	Total Estimate		\$3.810

Needed from General Contingency \$2.960

\*Revised per 10/10/84 Board Action.



CU#6 - WATT/80 TERMINUS

<u>Item</u>	<u>Deduc- tive Option</u>	<u>Reduce</u>	<u>Elimi- nate</u>	<u>Remarks</u>
Shelters (Upper)	\$135,000	\$	\$	Include as a deductive alternative
Shelters (Lower)	250,000			
Bridge Median Barrier	150,000			Seeking FAU funds for this item
RT Utility Space		20,000		
Windscreen on Top and Stairways	58,000			
Landscape Planters	21,000			
Lighting Reduction		1,000		
Custom Phones			4,000	
Benches			9,000	
Elevator Enclosures			20,000	
Future Escalator Footings			9,000	
	<u>\$614,000</u>	<u>\$21,000</u>	<u>\$42,000</u>	
	<u>TOTAL</u>			<u>\$677,000</u>

<u>Budget</u>	Original Budget (4/84)	(\$mil) \$2.440
	Adjusted Budget	2.363
	Construction Contingency (5%)	.122
	Total Budget	<u>\$2.485</u>
<u>Estimate</u>	Current Estimate (9/84)	1.515
	Deductive Options, Reductions and Eliminations	- .677
	Estimated Cost	.838
	Construction Contingency (5%)	<u>+ .042</u>
	Total Estimate	.880
Transfer to General Contingency		\$1.605



CU#7 - Northeast Corridor Stations

<u>Item</u>	<u>Deductive Option</u>	<u>Reduce</u>	<u>Eliminate</u>	<u>Remarks</u>
180 Parking (Reduce 140 spaces at Marconi and 150 spaces at Swanston Stations)	\$	\$265,000	\$	Include as a deductive alternate
Street Improvements	75,000			Seeking City funds for this work
Concrete Bus Apron (Swanston Station)			130,000	
Construction/Traffic Control Signs			40,000	
Shelters	84,000			Future separate contract
Nonfunctional Planting		81,000		
*Landscape along Arden Way			20,000	Place irrigation only (\$13K)
	<u>\$159,000</u>	<u>\$346,000</u>	<u>\$190,000</u>	
<b>TOTAL</b>				<u><b>\$695,000</b></u>

\*Working with North Sacramento groups; recommend we do irrigation and ~~they~~ do the planting.  
*others* -----

<u>Budget</u>	Original Budget (4/84)	(\$mil) \$3.500
	Adjusted Budget	3.423
	Construction Contingency (5%)	.175
	Total Budget	<u>\$3.598</u>
<u>Estimate</u>	Current Estimate (9/84)	\$2.552
	Deductive Options, Reductions and Eliminations	.695
	Estimated Cost	<u>1.857</u>
	Construction Contingency (5%)	.093
	Total Estimate	<u>1.950</u>
Transfer to General Contingency		<u>\$1.648</u>



Revised

CU#4A-CENTRAL CITY

Item	Deductive Option	Reduce	Eliminate	Remarks
K Street mall	\$ 765,365*	\$ 0*	\$ 0	See Exhibit A
O Street mall	465,215*	\$ 0*	0	See Exhibit B
<u>GENERAL</u>				
Shelters (Tot 4)	84,000			Future Separate Contra
Non-functional Planting		10,000		
N. 12th Street Open Track			11,000	
Landscape G-K Streets			29,000	
Paving 7th, 8th, 12th Streets			50,000	
	<u>\$1,314,580*</u>	<u>\$10,000*</u>	<u>\$90,000</u>	
	TOTAL		<u>\$1,414,580</u>	
<u>Budget</u>	Original Budget (4/84)		\$6.000	
	Adjusted Budget		5.524M	
	Construction Contingency (5%)		<u>0.293</u>	
	Total Budget		\$5.817	
<u>Estimate</u>	Current Estimate (9/84)		9.148	
	Deductive Options, Reductions and Eliminations		1.415	
	Estimated Cost		7.733	
	Construction Contingency (5%)		<u>.387</u>	
	Total Estimate		\$8.120M	
Needed from General Contingency			\$2.303M	

\*Revised per 10/10/84 Board Action.



CU#4A-K Street Mall (Exhibit A)

Item	Deductive Option	Reduce	Eliminate	Remarks
Track Area	\$152,250	\$	\$	Place AC in lieu of pavers.
Remove Pavers	117,230			<u>No</u> work outside track area.
Remove New Concrete	62,070			<u>No</u> work outside track area.
<u>Planters</u>				
Large	22,000			
Small	19,800			
<u>Benches</u>				
Type A	37,500			
Type B	137,500			
Trees	21,600			
Grates	4,375			
Leaning Rail	31,500			
Light Pole With Banner	56,000*			
Planting (Other than Trees)	21,210			
Irrigation	38,130			
<u>Miscellaneous</u>				
Telephone Kiosk	22,000			
Drinking Fountain	5,400			
Trash Receptacle	13,300			
Bike Rack	1,250			
News Rack Rail	2,250			
	\$ 765,365*	\$ 0*	\$ 0	
		<u>TOTAL</u>		\$765,365

Note: These items are not listed in any priority or order.

\*Revised per 10/10/84 Board Action.



Revised

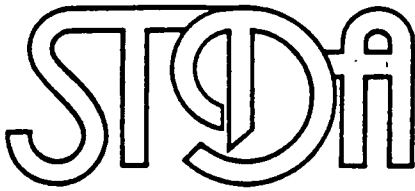
CU#4A-O STREET MALL (Exhibit B)

Items	Deductive Options	Reduce	Eliminate	Remarks
Track Area	\$157,040	\$	\$	Place AC in lieu of pavers
Remove Pavers	138,800			No work outside track area
Remove New Concrete	42,870			No work outside track area
<u>Planters</u>				
Large	6,000			
Small	5,400			
Benches (Type A)	30,000			
Trees	2,100			Cost is shipping and installation only
Light Pole With Banner	26,000*	0*		Retain minimum lightin only
Planting (Other than trees)	9,200			
Irrigation	29,680			
<u>Miscellaneous</u>				
Telephone Kiosk	8,800			
Drinking Fountain	1,800			
Trash Receptacle	6,650			
Bike Rack	500			
News Rack Rail	375			
	\$465,215*	\$ 0*	\$ 0	
			TOTAL:	<u>\$465,215</u>

Note: These items are not listed in any priority or order.

\*Revised per 10/10/84 Board Action.





# MEMORANDUM

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
 Project Office: 1201 I Street, Room 205 • Sacramento 95814 • (916) 445-6519

October 15, 1984

TO: Members of the STDA Governing Board, RT Board, City Council, Board of Supervisors, Slipe, Richter, Boggs, Ketelsen, Elam, J. Jackson, Crist, Wiley, STDA Senior Staff

FROM: William H. Edgar, Interim Executive Director

SUBJECT: Bus Tour of LRT Route

Following the October 24, 1984, Governing Board Meeting, at approximately 3:30 p.m., I have scheduled a bus tour of the LRT system.

Members of the STDA Governing Board, Regional Transit Board, City Council, Board of Supervisors, Senior Staff and members of the press are invited to tour the system route, which will include an update on construction progress. Clarence Otte, Project Construction Manager for Foster Engineering, will moderate the tour, which is expected to take approximately two hours.

Regional Transit will provide a bus which will pick up passengers at three locations:

RT auditorium on 29th Street - 3:30 p.m.  
 City Hall, I Street loading zone - 3:45 p.m.  
 County Administration Building, I Street loading zone - 3:50 p.m.

Please call Rita Gingerich at STDA, 442-3168, if you are able to join us.

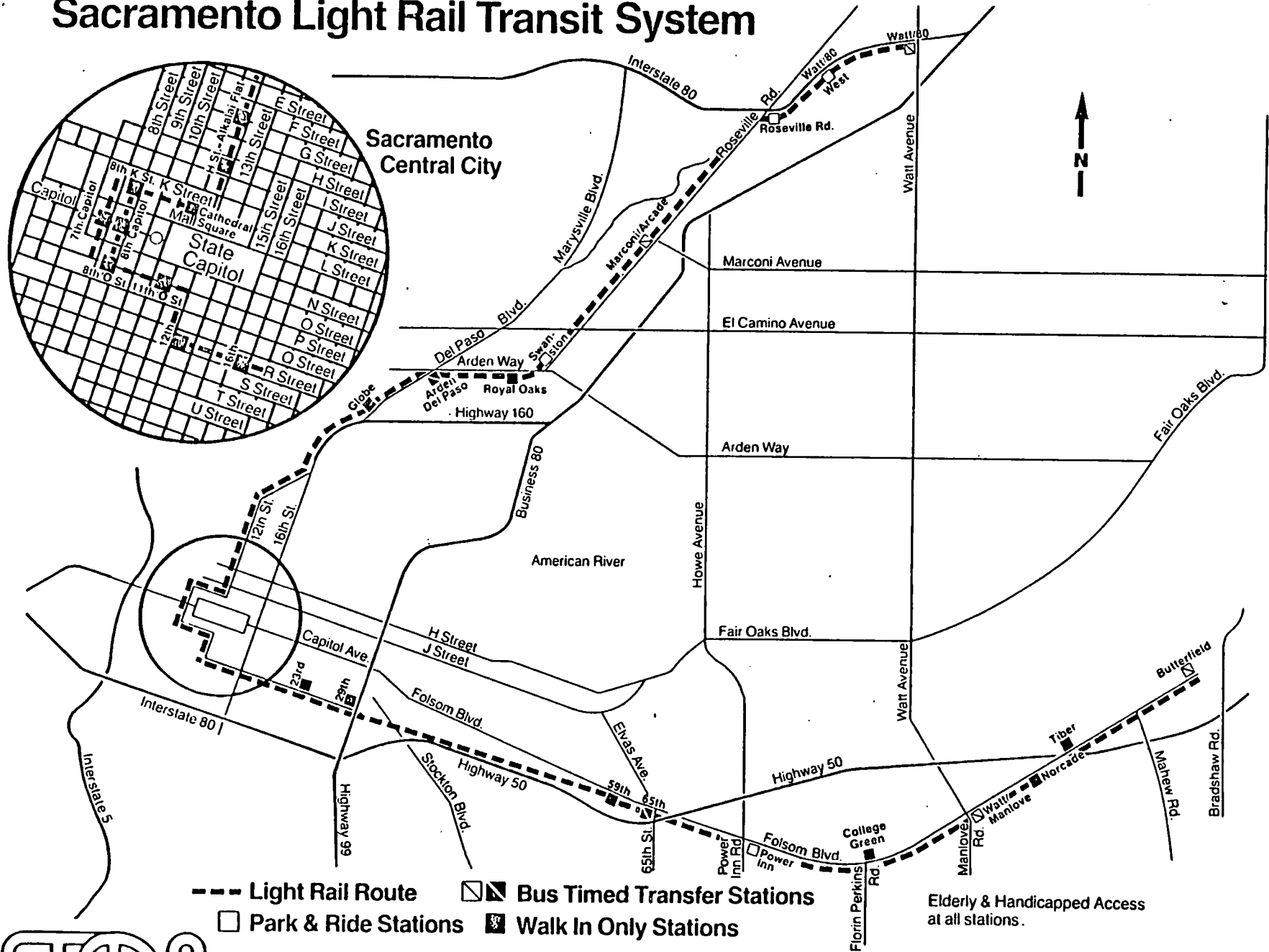
BLL

WILLIAM H. EDGAR  
 Interim Executive Director

WHE:CH:rg  
 Attachments



# Sacramento Light Rail Transit System



-117-









SACRAMENTO LIGHT RAIL TRANSIT PROJECT  
R-O-W ACQUISITION AS OF 10/15/84

UMTA Approved Appraisal									Condemnation	Final
Description	Owner (a)	Parcel	Approved Budget	Appraisal	Amount	Date	Approval Date	Cost		
<u>CU#2, NE Corridor:</u>										
I-80 Bypass R-O-W	Caltrans	(b)	N/A							
Ben All Spur Easement	Southern Pacific	028106	46,700	46,700				46,700		
Lumberjack Bypass	Lumberjack	027761	350,000	-						
	Denveruti	027708(i)	Included	7,600						
		028099(i)	Above	129,746	129,746	01/24/84	09/05/84			
		028100(i)		290,251	290,251	01/24/84	09/05/84			
Sac Northern R-O-W	Western Pacific	028067(c)	250	250				250		
Royal Oaks Station	Myrtle Johnson	028066	94,100	94,100				94,100		
<u>CU#4A, Central City:</u>										
Dol Paso & Acoma R-O-W	Icboo	028237	250	250				250		
12th St Curve	CA Almond Growers	028238	6,640	6,640				6,640		
12th & No B R-O-W(k)	Salvation Army	027948	67,000	8,600						
Access Rights(k)	Hong Enterprises	027949(i)	Included	24,300	162,000	10/31/83				
			Above							
SP 12th St UP R-O-W	SP Land	028111	12,800	12,800	12,000	10/31/83				
Alkali Flat Station	Martinez	028159	537,000	15,500						
O St. & 7th	City of SACTO	027785	0	4,000						
O St. 8th & 9th	State of CA	027786	0	67,200						
O St. Btwn 9th & 10th	State of CA	028416	9,800	9,000						
12th & O Curve	State of CA	027950	0	10,400						
12th Btwn O & P	State of CA	028158	0	24,000						
12th & Alley Curve	Watkins	027782	0	1,000 (m)						
12th & Alley Curve	Jess Merchouse	028073(i)	Included	1,500 (l)						
			Above							
Q/R Alley & 12th R-O-W	City of Sac	028062	650	25,600						
Q/R Alley Track	Western Pacific	028065(d)	1,120,000	1,277,850 (l)	1,021,720	10/31/83				
<u>CU#4D, Parking Lots N.E. Corridor</u>										
Baxter Ave. Parking	William David	027769(i)	58,500	58,500						
Alkali Flat St./& Pkg.	Future Dev.	028011(i)	Included	77,000						
			in 28159							
Alkali Flat Parking	Russell	028063	131,600	131,600	131,600	10/31/83		131,600		
Alkali Flat Parking	Desch	028064	133,400	133,400	133,400	10/31/83		133,400		
<u>CU#5, Folsom Corridor</u>										
Dec Freight Siding	Naygrow	027787	0	341,698						
Placerville Br R-O-W										
Alhambra-65th St	Southern Pacific	028013(e)	1,750,100	1,750,100	1,750,100	10/31/84				
65th St-Butterfield	Southern Pacific	028021(f)	2,379,738	2,379,738						
Power Inn Road	PG&E	028371	1,000	66,488						
Power Inn Rd (West)	Tateishi	028454	0	7,500 (m)						
<u>CU#7, Stations, N.E. Corridor</u>										
Marconi Station	C. N. Hansen	028110	1,620	1,620				1,620		
<u>CU#7A, Station/Parking Folsom Corridor</u>										
65th St Station	Pacific Coast	028108(i)	580,000	580,000	580,000	10/31/83	05/30/84			
Hkwo/Power Inn Station	PG&E	028047	1,500,000	1,500,000	1,500,000	10/31/83		1,500,000		
Watt/Hunlove Station	Teichert & Son	028112(i)	296,000	296,000	296,000	11/15/83	05/30/84			
Watt/Hunlove Station	Daru Dev.	028010	1,628,400	1,070,000	1,070,000	11/30/83		1,630,000		
Butterfield Wy Station	Cook Co.	028031	1,899,119	1,827,000	1,827,000	10/28/83		1,899,119		
<u>Construction Contract Item Included in Right-of-Way Budget</u>										
CSUS Underpass		(g)	29,000	29,000						
Union Pacific Wye	Union Pacific	(g)	250,000	250,000						
			\$12,883,667	\$12,556,931	\$8,903,817			\$5,443,679		



SACRAMENTO LIGHT RAIL TRANSIT PROJECT  
REAL ESTATE ACQUISITION THROUGH 10/15/84

Footnotes

(a) All titles vested in Sacramento Transit Development Agency (STDA) until turnover of completed project to Sacramento Regional Transit District (SRTD). Then, titles will be conveyed with improvements to SRTD.

(b) No parcel numbers assigned. Property to be transferred without charge from Caltrans to STDA under Federal Interstate Transfer regulations and California Assembly Bill 481 (1983) passed by both Assembly and Senate and signed by Governor Deukmejian.

(c) Parcel numbers (from west to east) 028086, 028087, 028088, 028089, 028090, 028091, 028067, 028068, 028069, 028070, 028071, 028072, 028098, and 028107.

(d) Parcel numbers (from west to east) 028076, 028077, 028078, 028079, 028080, 028081, 028065, 028082, and 028083. Parcel numbers 028084 and 028085 are included in payment of parcel 028065 but are located in the Folsom corridor.

(e) Parcel numbers (from west to east) 028013, 028014, 028015, 028016, 028017, 028018, and 028020.

(f) Parcel numbers (from west to east) 028021, 028022, 028023, 028024, 028025, 028026, 028027, 028028, 028029, 028030, 028118, and 028229.

(g) No parcel number assigned to this date.

(h) Waiting UMTA approval.

(i) Under condemnation.

(j) Check deposited with Clerk of Superior Court 07/09/84 regarding condemnation.

(k) Access rights only.

(l) UMTA Approved Administrative Authorized Amounts.

(m) Not appraised--estimate only.



SACRAMENTO TRANSIT DEVELOPMENT AGENCY

STATUS OF DBE/WBE PAYMENTS ON PROFESSIONAL SERVICE CONTRACTS THROUGH 09/30/84

Note: Agency Goals Are 15% DBE & 3% WBE

Type Service/Firm	Goals		Payments to Date			To Date		Contract % Complt (%)
	DBE (%)	WBE (%)	Total (\$)	DBE (\$)	WBE (\$)	DBE (%)	WBE (%)	
Engnrng & Design:								
Intrntl Engr	15%	3%	\$ 512,899	\$ 75,040	\$ 15,002	14.6%	3.0%	93.0%
L K Comstock	15	3	161,438	29,761	12,757	18.4	7.9	96.0
L T Klauder	15	3	199,665	--	--	(a)	(a)	30.2
CHNMB	15	3	278,150	11,438	16,997	4.1	6.1	94.3
Stecher-Ainswrth	15	0	112,459	32,915	--	29.3	0.0	80.3
PSG Waters	15	3	41,996	3,863	--	9.2	0.0	85.7
Subtotal			\$1,306,607	\$153,017	\$ 44,756	11.7	3.4	--
System Intgrtn:								
Foster Engr	15	3	\$ 573,431	\$ 40,871	\$ 32,902	7.1 <sup>b</sup>	5.8	70.9
Construction Mgmt:								
Foster Engr			133,310	35,911	--	26.9	0.0	6.7
Planning Asstnce:								
W Smith & Assoc	0	0	\$ 9,650	--	--	0.0	0.0	100.0
J Harnish	0	0	20,060	--	10,060	0.0	50.1	100.0
Subtotal			\$ 29,710	--	\$ 10,060	0.0	33.9	--
Community Rltns:								
C Hunter	0	0	\$ 15,531	--	\$ 15,531	0.0	100.0	29.6
Project Control:								
OE West Engrs.	0	0	\$ 93,378	--	93,378	0.0	100.0	58.4
Risk Mngmnt:								
James/Dnr Lvsn	0	0	\$ 65,825	--	--	0.0	0.0	35.0
Agency Totals	15	3	\$2,217,792	\$229,779	\$196,627	10.3	8.8	--

a - Committed to providing total DBE/WBE participation in Phase III, Procurement Support, to meet overall goals of 15% and 3%; b - Committed to provide additional DBE work in Constr. Mgt. phase to meet overall 15% project goal.



SACRAMENTO TRANSIT DEVELOPMENT AGENCY

STATUS OF DBE/WBE PAYMENTS ON CONSTRUCTION CONTRACTS THROUGH 09/30/84

Note: Agency Goals Are 15% DBE & 3% WBE

<u>Type Service/Firm</u>	<u>Goals</u>		<u>Payments to Date</u>			<u>To Date</u>		<u>Contract % Complt</u> (%)
	<u>DBE</u> (%)	<u>WBE</u> (%)	<u>Total</u> (%)	<u>DBE</u> (%)	<u>WBE</u> (%)	<u>DBE</u> (%)	<u>WBE</u> (%)	
Construction:								
Granite (CU#1)	15%	3%	\$5,947,035	\$760,140	2,109	12.8%	0.0	94.6
Anderson (CU#8)	-	-	\$ 70,756	-	-	0.0	0.0	100.0
Zenith (CU#4)	15%	3%	\$ 251,560	28,973	5,795	11.5	2.3	73.3
PRC (CU#2)			-	-	-	-	-	-
Cont. Hel. (CU#3)			-	-	-	-	-	-
Agency Totals	15%	3%	\$6,269,373	\$789,114	7,903	12.6	0.1	-



SACRAMENTO TRANSIT DEVELOPMENT AGENCY

STATUS OF DBE/WBE PAYMENTS ON PROCUREMENT CONTRACTS THROUGH 09/30/84

Note: Agency Goals Are 15% DBE & 3% WBE

<u>Type Service/Firm</u>	<u>Goals</u>		<u>Payments to Date</u>			<u>To Date</u>		<u>Contract % Complt</u> (%)
	<u>DBE</u> (%)	<u>WBE</u> (%)	<u>Total</u> (\$)	<u>DBE</u> (\$)	<u>WBE</u> (\$)	<u>DBE</u> (%)	<u>WBE</u> (%)	
Procurement:								
A & K Mat'l (CU#14B)	9.4%	0.0%	1,074,326	-	-	-	-	91.1
L.B. Foster (CU#16)	15.0	3.4	-	-	-	-	-	-
CF&I Steel (CU#14A)	9.4	0.0	2,731,254	257,714	-	9.4	0.0	100.0
Ndrmyr-Mtn (CU#15)	15.5	0.0	1,146,580	177,055	-	15.4	0.0	100.0
Cntrld Pwr (CU#19)	17.7	3.5	287,252	-	-	-	-	8.3
Anaconda (CU#21)	6.4	0.4	-	-	-	-	-	-
Art Program (CU#7C)	15.0	3.0	-	-	-	-	-	-
Agency Totals	15.0	3.0	5,239,412	434,769	-	8.3	-	-





# Regional Transit

Exhibit 9

P.O. BOX 2110 • 1400 29TH STREET • SACRAMENTO, CA 95810-2110 • (916) 321-2800

017.011.000

October 23, 1984

Mr. Harold Dorell  
Regional Civil Rights Officer  
Urban Mass Transportation Administration  
211 Main Street, Room 1160  
San Francisco, CA 94105

Dear Mr. Dorell:

It is unfortunate you could not attend the quarterly meeting. We were looking forward to seeing you again.

Enclosed you will find photocopies of documentation that will provide the information you have requested regarding the DBEs and WBEs that have been utilized in Light Rail Project contracts from October 1, 1983 through September 30, 1984.

Where Schedule A is not attached, you will find verifications of certification from other agencies or the particular DBE or WBE is indicated on the Caltrans Certified DBE/WBE Listing that is enclosed.

If you have any questions, please feel free to contact me at (916) 321-2979.

Sincerely,

Nicholas Recostodio  
EEO/AA/DBE Officer

Enclosures

cc: D. Boggs, General Manager, RT  
J. Roberts, Project Director, STDA  
✓ P. Smelley, LRT Project Coordinator, Consultant

9/24/84

LIGHT RAIL

OCT 24 1984





## Regional Transit

P.O. BOX 2110 • 1400 29TH STREET • SACRAMENTO, CA 95810-2110 • (916) 321-2800

November 5, 1984

Ms. Brigid Hynes-Cherin  
Regional Administrator  
Region IX  
211 Main Street, Room 1160  
San Francisco, CA 94105

RE: COST REDUCTION EFFORTS; UMTA APPROVAL  
FILE NO: 017.008.000

Dear Brigid:

During the Quarterly Review Meeting for the LRT Project on October 23, 1984 we had the opportunity to review the details of our cost reduction efforts proposed for C.U. 2A, Watt/80 Median Stations, C.U. 6, Watt/80 Terminus, C.U. 7, Northeast Corridor Stations and C.U. 4A, Line Central City with you and members of your staff. Based on that review and your specific concerns and comments we committed to provide you with a narrative analysis of our proposal that contained the assurances necessary for you to concur with the proposed program.

In the Fall of 1982 and the Spring of 1983 the results of the preliminary engineering efforts were summarized in the project baseline documents (milestones 1 thru 10). The scope, schedule and budget reflected in the baseline documents were formatted into a grant application for capital assistance and a formal environmental impact statement (FEIS). On September 28, 1983 UMTA approved Capital Grant CA-23-9001 and followed on October 5, 1983 with a Record of Decision approving the FEIS.

During the balance of 1983 and into 1984 the STDA continued the design and implementation of the project. The design development process was carried out in a traditional way and involved review and input from the City, the County, Regional Transit, the State, the business community, public and private interest groups and the agencies impacted by the proposed construction. In June, 1984 a forecast was prepared that reflected a potential project cost of some \$18.0 million more dollars than was available in the project budget.

As a result of the forecast, it has been necessary to review each of the components comprising the project and determine the source of the increased cost; added scope, budget estimate insufficient or omitted. To accomplish the task, an interim STDA organization was put in place on September 19, 1984 with a ninety (90) day mandate to 1) keep the business of the agency moving, 2) complete a thorough review of the project and 3) make the recommendations necessary to effectively continue the effort.



Our current dilemma is the continuation of the implementation of the project (advertising and awarding contracts) without the benefit of the detailed scope and cost information that will be available at the end of December, 1984. We have elected to manage this delaying action with a cost reduction effort that quantifies the estimated cost of the contracts into four categories:

1. Basic Requirements - That part of the contract that is fundamental to the systems operation and part of the original and intended scope and operational parameters or has been added and must be part of the base system (i.e. acceleration ramp).
2. Eliminations - These items have been permanently eliminated from the contract as a result of value engineering analyses. These items represent true cost savings and will reduce the construction cost estimate and overall project estimate. These are intended to be items that are not part of original scope.
3. Reductions - These items are long-term deferrals. They constitute items which will be needed in the future and can be added after LRT operations begin and as funding can be identified. These are intended to be items that are part of scope but where level of application has grown (i.e. landscaping) beyond that originally intended.
4. Deductive Option - These items are not needed for a functional system but are deemed necessary by many groups as required for public acceptance of the system. This category of items can be added back to the system as funding can be identified and staff has attempted to prioritize these items for Board consideration. As funds become available for project specific items, they can be added without regard to the priority list. As general additional funds are identified, the Board can utilize the priority list for authorizing additions to the project. These are intended to be items that are beyond the original scope and that must be funded from sources other than those currently committed or dropped (i.e. amenities on K Street Mall).

The cost update for the project includes a detailed review of milestone 8A, Project Cost Estimate, the formatting of that information into the current contract unit limits and descriptions and a detailed comparison of the scope and budget to the current scope and project forecast. The effort will include documentation of the changes and the reason for the changes. The effort will be complete by December 30, 1984.

The Project Master Schedule is currently undergoing a detailed review and update that will be completed by November 30, 1984 allowing us to address the impact of inflation before completing the cost estimate. The analysis will also include a



documentation of the schedule slippage. A narrative review of the cost reductions proposed is as follows:

General

- ° Landscaping: Reduce the landscaping effort to that intended by the preliminary design and budget and necessary to comply with the cities landscaping policy. The primary impact will be on shrubbery and ground cover. The larger trees will generally be provided as will the necessary irrigation system. Landscaping will be in accord with Section 9.0 of the design criteria.
- ° Lighting: Reduce the lighting to the basic standards (poles) and fixtures reflected and budgeted in the preliminary design. Lighting will be in compliance with Section 8.4 of the design criteria.
- ° Platform/Station Shelters: With the exception of the Watt/80 Station, remove the platform shelters from the other stations and combine the shelters into a single contract for providing standard platform shelters in accord with the design criteria Section 8.2.3 and 8.3.5. The station platforms will be in place before revenue service.

Contract Unit 2A, Watt/80 Median Stations

- ° Winters Street Access: A functional street will be provided connecting the Roseville Road Station with Winters Street. The access has been downscoped to exclude some of the landscaping and lighting back to Design Criteria standards.
- ° Watt/80 West Station: The station, like the parking and landscaping in the area between Watt/80 and Watt/80 west, is being downscoped to act as overflow for the Watt/80 Station. The platform and basic requirements for boarding passengers will be put in initially with the civil work and the train will stop and collect passengers at the station. As patronage increases, the parking, landscaping and station will be completed.

Contract Unit 6, Watt/80 Terminus

- ° Shelters (upper & lower): The station at Watt/80 is unique to the system. It is the largest station (highest demand) and provides access for patrons from the adjacent parking area and the Watt Avenue bridge above the station. As a consequence, the passenger shelters are unique in size and design. We propose to bid them as deductive options providing us the flexibility of leaving the shelters as designed if the bid is reasonable or exercising the deductive option and replacing them with standard shelters as we plan on doing for the balance of the stations.
- ° Bridge Median Barrier: The scope of the median barrier on the Watt Avenue Bridge has grown in length and size as a result of



review with the County. The barrier will be in place before operation. We are seeking FAU funds to help finance the barrier construction. The deductive option provides us a way of defining the cost of the barrier and some flexibility as to when we build the barrier. If the fundings available, we could award as part of this contract; if not, can identify cost, pull and put in as a separate contract.

- ° RT Utility Space: The reduction cuts the finished space back to RT's foreseeable needs. The space deferred can be finished at a later date if required.
- ° Windscreens & Landscape Planters: The screens and planters are amenities that could be added at a later date. The deductive options allow us to define the price and add at a later date if funds can be identified.
- ° Custom Phones, Benches, Elevator Enclosures and Future Escalator Footings: The custom phones will be replaced with the standard Pacific Telephone issue. The benches will also be replaced with a standard functional bench. The elevator enclosures are being downscoped to a functional enclosure and future escalator footings are being deferred.

#### Contract Unit 7, Northeast Corridor Stations

- ° Reduced Parking: The property for the entire parking requirement on the Northeast line is being acquired. The reduced area of parking at Marconi and Swanston Stations will be drained, graded and graveled to handle overflow parking should it result. The parking provided, in conjunction with the other stations will provide the 3,500 spaces required by the FEIS. Parking will be expandable to 4,500 to 6,000 spaces as demand warrants.
- ° Street Improvements: Design review with the City has resulted in significantly more street improvement work than originally anticipated at the end of preliminary engineering. We are currently working with the City to define the additional work and seeking their funding for the effort. The deductive option will establish a price for the work and provide us with implementation flexibility while we work with the City.
- ° Concrete Bus Apron (Swanston): The current bus grid and operation plan does not require buses to unload in the station proper at Swanston. The reinforced concrete is therefore not required for bus access and egress.
- ° Construction Traffic Control Signs: The designer had inadvertently designed the temporary traffic control signs for the construction phase to permanent sign standards. The reduction reflects the reduction to temporary sign standards.



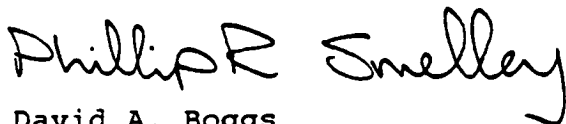
Brigid Hynes-Cherin  
November 5, 1984  
Page 5

Contract Unit 4A, Central City Line

- ° North 12th Street Open Track: Originally we had intended to leave this section of track open (exposed ties and ballast). We subsequently, working with the City, have decided to pave between the tracks. The reduction reflects this decision.
- ° Paving 7th, 8th & 12th Streets: Our original plans included paving only the portion of the subject streets we disturbed with our construction. The City had subsequently requested that we pave the entire streets. We have now transitioned back to our original position.
- ° K Street Mall & O Street Mall: The design of the Malls developed since preliminary engineering has had substantial input from the local business, special interest, City and State agencies. As a result, the design parameters have increased to incorporate a larger amount of amenities and custom items than originally budgeted. Our reductions are intended to satisfy our original design intent on the Malls. By utilizing deduction options we are able to establish the bid price for the added amenities for which we are seeking added private and State funding. If a fund source isn't identified for the deductive items, the option won't be exercised for these items.

The approach, while accomplishing the mandate of keeping the project moving while developing a detailed assessment of the project status, obviously isn't fool proof. Our commitment to you for your support of this interim process includes a complete review of the detail data available in late December and the incorporation of any necessary changes to the contracts to assure compliance with the grant or FEIS requirements if necessary.

Sincerely yours,

*for* 

David A. Boggs  
General Manager

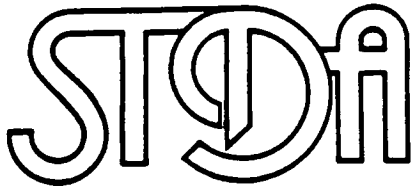


EXHIBIT NO. 11

MINUTES, CONFIRMATION LETTER AND WAIVER

REGARDING CTC REVIEW





## MEMORANDUM

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1201 I Street, Room 205 • Sacramento 95814 • (916) 445-6519

October 22, 1984

TO: Attendees  
FROM: Phillip R. Smelley, LRT Project Coordinator  
RE: CTC PROJECT REVIEW MEETING 10/19/85; MINUTES  
FILE NO: 023.016.001

On Friday, October 19, 1984, RT and STDA staff met with members of the CTC. The purpose of the meeting was to:

- ° Provide an overview of the interim organization and objective,
- ° To provide them with the overall project status with emphasis on our cost reduction/deferral program,
- ° Review the current budget and the additional sources of funds we are investigating (local, state and federal),
- ° Review the status and steps necessary to shake loose our FY 84/85 \$5.5 million in Article XIX monies, and,
- ° Initiate preliminary discussions on the scope and timing of our FY 85/86 request for at least \$3.1 million in Article XIX monies.

The agenda for the meeting is attached as Exhibit 1. Attending the meeting were:

California Transportation Commission

Hugh Fitzpatrick, CTC Staff  
Bob Remen, Acting Executive Director  
Gerald Drake, Wilbur Smith & Assoc.

Regional Transit

David A. Boggs, General Manager  
Phillip R. Smelley, LRT Project Coordinator



Attendees  
October 22, 1984  
Page 2

Sacramento Transit Development Agency

William H. Edgar, Interim Executive Director  
James E. Roberts, Project Director  
Jack Crist, Controller (City of Sacramento)  
Gene E. Burkman, Manager, Project Control  
Bob Kershaw, Deputy Project Director

Bill started the meeting by providing a brief review of the background of the STDA, the current organization and interim management approach and a recap of CTC's role in our current \$131.04 million project budget. Bill next introduced the subject of the City requested CTC review of the project.

Hugh provided us with a letter from Bob Remen to Leo Trombatore (Exhibit 3) outlining the scope of work that Gerald Drake must pursue to provide the CTC with the information they will need to act on to release our \$5.5 million in Article XIX funds for FY 84/85. The scope has three major parts:

- ° Estimate (or review the estimate) for the total cost of building the LRT; basis for CTC Resolution MT-84-7. Estimate the total cost of building the project as it is now defined; compare and document differences,
- ° Identify the amount of local, state and federal funds available for the project; compare revenues and projected cost, and,
- ° Identify any conflicts between conditions set forth in CTC Resolution MT-84-7 and subsequent contracts between STDA and UMTA to include an explanation of why shorting the Folsom Line, approved by CTC, was not an option approved by UMTA.

The scope of work for Gerald is so similar to what we are going as part of our update, that we asked Gerald to work with us. We will reduce redundant effort and achieve consensus while we go through the update process.

Gerald was to get with us to develop a detailed scope of work and acquire the review and background material required. We committed to supply Gerald with basic background material later that afternoon and set a meeting for Friday, October 26, 1984 at 10:00 to work on the scope of work.

Phil Smelley, Jim Roberts and Bob Kershaw next reviewed the proposed cost reduction efforts for the N.E. Corridor and Central City. The presentation included a detailed review of the approach, resulting estimates and the drawings which highlighted the proposed reductions. The essence of the presentation is reflected in Exhibit 2, dated October 1, 1984 and entitled Cost Reduction Efforts, N.E. Corridor and Central City.

Gene Burkman then reviewed the overall status of the project briefly with emphasis on our progress to date. We committed to



Attendees  
October 22, 1984  
Page 3

having the drawings for C.U. 2A, Watt/80 Median, available for SB 580 review by October 31, 1984.

Jack Crist next made a presentation of the Budget and Funding Status. Jack's presentation included a review of the total budget, the funding sources, changes to the budget and a list of additional funding sources we are pursuing (Exhibit 4). We wished to identify the added state monies we were pursuing to verify that the CTC Resolution MT-84-7 and our efforts were consistent. The essence of the discussion center on our compliance with the intent of the scope and operational parameters defined and intended by MT-84-7. The pursuit of other state funds was not a problem if we could clearly demonstrate that the monies were required for scope beyond that defined in MT-84-7.

Hugh also provided us with the rough approach we should take when next approaching the Commission. He suggested that our presentation to the CTC encompass the data required to release the FY 84 \$5.5 million in Article XIX monies and our proposed FY 85 scope which would have to be clearly for items beyond the current project scope (i.e. double tracking - added LRV vehicles).



Attendees  
October 22, 1984  
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EXHIBITS

LRT/CTC BRIEFING  
FRIDAY, OCTOBER 19, 1984  
9:00 a.m.  
REGIONAL TRANSIT AUDITORIUM

- Exhibit 1 - LRT/CTC Briefing Agenda
- Exhibit 2 - Cost Reduction Efforts, N.E. Corridor and Central City
- Exhibit 3 - Remen Letter to Trombatore, dated 10/11/84
- Exhibit 4 - Budget & Funding Presentation



LRT/CTC PROJECT BRIEFING

Friday, October 19, 1984

9:00 A.M.

Regional Transit

A G E N D A

1. Introductions Edgar
  
  
  
  
  
  
  
  
  
  
2. Overview/Administrative Comments: Edgar
  - Background
  
  
  
  
  - Current Organization Structure
  
  
  
  
  - Interim Management Report Outline
  
  
  
  
  - \$131.04 Million Project Baseline Budget



- City Requested CTC Review of Project

- Community Relations Program

3. Technical Briefing

Smelley/Roberts

- Review of Cost Reductions, Elimination and Bid  
Deductive Options
- Overall Project Status
- Quarterly UMTA Briefings  
Resolution of Potential UMTA Cost Disallowances
- SB 580 Review
- 85-86 CTC Entitlements

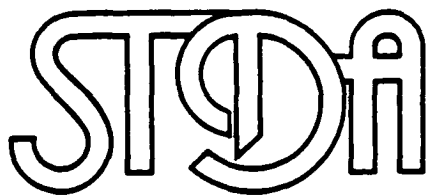


4. Financial

Crist

- Review of State Funding Portion of Project  
(\$25.92 Million) (Handout)
- Review of Potential New Project Revenue Sources/  
Financing Techniques (Handout)





## MEMORANDUM

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1201 I Street, Room 205 • Sacramento 95814 • (916) 445-6519

October 1, 1984

TO: Members of the Governing Board

FROM: J. E. Roberts

SUBJECT: Cost Reduction Efforts, NE Corridor and Central City

ISSUE

Should the Board authorize staff to proceed with construction contract advertising for the Northeast and Central City portions of the project?

PROPOSED ACTION

Continue to advertise the contract units for the Northeast Corridor and Central City as they are value engineered by staff and approved individually by the Board.

FISCAL IMPACT

The combined cost reduction efforts on the contracts necessary to complete the operational segment from Watt Avenue/I.S. 80 to 18th and R Streets have resulted in an aggregate cost estimate that is within the project budget. The general contingency reserve would be reduced to \$100,000 if all staff recommended reductions are adopted by the Board. If none of the reductions are adopted, the project will cost \$4,300,000 over budget.

DISCUSSION

Staff has evaluated and value engineered each contract unit in the NE Corridor and downtown segments of the project. The resulting proposed contracts retain the scope of the original UMTA grant and the operational system approved by this Board at the conclusion of Preliminary Engineering in 1983 as the project baseline documents. This cost reduction analysis is limited to the \$131.234 million budget. Additional funds being pursued by staff but not currently committed were not considered.



Page Two  
Memorandum

TO: Governing Board  
FROM: J. E. Roberts

SUBJECT: Cost Reduction Efforts, NE Corridor and Central City

A Budget and Estimate Comparison and Contingency Analysis are included as Attachments No. 1 and No. 2. A summary sheet of proposed cost reduction actions for each contract unit which staff has analyzed is included as Attachment No. 3.

Each contract unit was analyzed for three types of cost reduction efforts.

- (1) Eliminate -- These items have been permanently eliminated from the contract as a result of value engineering analyses. These items represent true cost savings and will reduce the construction cost estimate and overall project estimate.
- (2) Reduce -- These items are long-term deferrals. They constitute items which will be needed in the future and can be added after LRT operations begin and as funding can be identified.
- (3) Deductive Option -- These items are not needed for a functional system but are deemed necessary by many groups as required for public acceptance of the system. This category of items can be added back to the system as funding can be identified and staff has attempted to prioritize these items for Board consideration. As funds become available for project specific items, they can be added without regard to the priority list. As general additional funds are identified, the Board can utilize the priority list for authorizing additions to the project.

Recommended Eliminations amount to \$1,670,000. (This reduces the worst case project estimate to \$145,300,000 and the \$18 million overrun to \$14.3 million.)

Recommended Reductions amount to \$479,000. (This reduces the worst case project estimate to \$144,820,000 and the overrun to \$13.8 million.)

Recommended Deductive Options amount to \$2,228,580. (It is staff recommendation that additional funds be pursued to restore these options to the project.)

Attachments

JER:cr



NOTES FOR REVISED ATTACHMENT NO. 1 TO J.E. ROBERTS MEMO OF 10/2/84

In our previous review of the Cost Reduction efforts, it was requested that Attachment No. 1, Budget/Estimate Comparison, be modified to show the related Construction Contingency.

This attachment compares the budgeted amounts with estimates for the two contracts that have been awarded, and for the contracts yet to be bid to construct the Northeast corridor and Central City lines. It further shows the effect on estimated costs of the approved reductions for Contract Unit #2A, and the reductions proposed for Contract Unit #'s 6, 7 and 4A. The five percent (5%) Construction Contingency relating to each of the estimated costs is also shown.

It is noted that the reductions in estimated costs result in a directly proportional reduction in the Construction Contingency in each case. Also, as the result of bidding Contract Unit #'s 2 and 3 and the approved and proposed reductions, the overall estimate changes from \$32.488 million to \$26,835 million, drawing closer to the aggregate budgeted amount for these Contract Units of \$23.180 million.



**PROJECT DEVELOPMENT & FINANCIAL ISSUES**

**BUDGET/ESTIMATE COMPARISON**

**NORTHEAST CORRIDOR AND CENTRAL CITY**

Item	Contract Unit	Approved Budget 4/84	Estimate	Constrtn Contngcy 5%	Reductions	Constrtn Contngcy 5%	Estimate With Reductions	Reduced Const. Cont. 5%
<b>Contracts Awarded</b>								
1.	#2, NE Corridor	\$3.924	\$4.543				\$3.964 (Bid)	
2.	#3, Maintenance Bldg	2.726	4.474				3.827 (Bid)	
3.	SUBTOTAL (1&2)	6.650	9.017				7.791	
<b>Contracts Yet to Bid</b>								
4.	#2A, Watt/80 Median	0.810	5.269	.263	1.640	.082	3.629	.181
5.	#6, Watt/80 Terminus	2.440	1.515	.076	.677	.034	.838	.042
6.	#7, NE Corridor Sts.	3.500	2.552	.128	.695	.035	1.857	.093
7.	#4A, Central City	6.000	9.148	.457	1.415	.071	7.333	.386
8.	#9, Electrification*	1.390	2.194	.110	0	0	2.194	.110
9.	#11, Traffic Signals*	2.390	2.390	.119	0	0	2.390	.119
10.	#7E, Shelters*	0.000	.403	.020	0	0	.403	.020
11.	SUBTOTAL (4 Thru 10)	\$16.530	\$23.471	1.173	4.427	.222	19.044	.951
<b>TOTALS (3+11)</b>		<b>\$23.180</b>	<b>\$32.488</b>				<b>\$26.835**</b>	

NOTES: All Costs Shown in Millions of Dollars

\* For 18.3 Miles Systemwide

\*\* Original Estimates of \$32.488 less Reductions of \$4.427 Less Difference between Estimate (\$9.017) and Bid (\$7.791) Equals Estimate with Reductions \$26.835.



PROJECT DEVELOPMENT & FINANCIAL ISSUES

CONTINGENCY ANALYSIS

NORTHEAST CORRIDOR & CENTRAL CITY

Item	Contract Unit	Budget w/Cont.	Project Costs (\$Mil)		Contingency	
			Estimate	Estimate/5%	±	Cumulative
1.	#2, NE Corridor Ln.	\$3.965/.107	Bid	\$3.965/.107	-	-
2.	#3, Maintenance Bld.	3.827/.136	Bid	3.827/.136	-	-
(General Contingency taking into account previous contract actions)						\$2.983
3.	#2A, Watt/80 Median	.810/.041	3.629	3.629/.181	-2.959	.024
4.	#6, Watt/80 Terminus	2.363/.122	0.838	0.838/.042	+1.752	1.776
5.	#7, NE Corridor Sts.	3.423/.175	1.857	1.857/.093	+1.902	3.678
6.	#4A, Central City	5.524/.293	7.733	7.733/.387	-2.303	1.365
7.	#9, Electrification*	1.390/.070	2.194	2.194/.110	- .844	.521
8.	#11, Traffic Signals*	2.390/.119	2.390	2.390/.119	.000	.521
9.	#7E, Shelters*	-	0.403	0.403/.020	- .423	.098
(General Contingency Remaining)						.098

\*For 18.3 miles, systemwide



COST REDUCTION PROPOSALS  
NE Corridor and Downtown

SUMMARY

<u>Contract Unit</u>	<u>Deductive Option</u>	<u>Reduce</u>	<u>Eliminate</u>
2A	\$ 273,000	\$ 20,000	\$1,348,000
6	614,000	21,000	43,000
7	159,000	346,000	190,000
4A	<u>1,232,580</u>	<u>92,000</u>	<u>90,000</u>
Subtotal	<u>\$2,278,580</u>	<u>\$479,000</u>	<u>\$1,670,000</u>
Total			\$4,427,580

Detail sheets attached.



Revised

CU#2A-WATT/80 MEDIAN STATIONS

Item	Deductive Option	Reduce	Eliminate	Remarks
<u>Winter Street Access</u>				
Lighting, Signals, and Roadway	\$100,000*		\$199,000*	Provide Del Paso Hgts access at Marconi/ Arcade Station.
Landscaping			48,000*	
<u>Watt/80 West Station</u>				
Civil, Drainage, Roadwork			\$440,000	Remove station entirely and provide some over- flow parking spaces.
Platform			159,000	
Lighting			200,000	
Landscaping			202,000	
<u>Overall</u>				
Nonfunctional Planting	\$273,000			Shrubs, etc.
Roseville Road Shelter		\$20,000		Future separate contra
	\$373,000*	\$20,000	\$1,248,000*	

			(\$Mil)
<u>Budget</u>	Original Budget 4/84		.810
	Adjusted Budget		.810
	Construction Contingency		.040
	Total Budget		\$0.850
-----			
<u>Estimate</u>	Current Estimate		5.269
	Deductive Options, Reductions and Eliminations		1.640
	Estimated Cost		3.629
	Construction contingency (5%)		.181
	Total Estimate		\$3.810

Needed from General Contingency	\$2.960
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\*Revised per 10/10/84 Board Action.



CU#4A-CENTRAL CITY

Item	Deductive Option	Reduce	Eliminate	Remarks
K Street mall	\$ 765,365 *	\$ 0 *	\$ 0	See Exhibit A
O Street mall	465,215 *	\$ 0 *	0	See Exhibit B
 <u>GENERAL</u>				
Shelters (Tot 4)	84,000			Future Separate Contract
Non-functional Planting		10,000		
N. 12th Street Open Track			11,000	
Landscape G-K Streets			29,000	
Paving 7th, 8th, 12th Streets			50,000	
	<u>\$1,314,580 *</u>	<u>\$10,000 *</u>	<u>\$90,000</u>	
	TOTAL			<u>\$1,414,580</u>
<u>Budget</u>	Original Budget (4/84)			\$6.000
	Adjusted Budget			5.524M
	Construction Contingency (5%)			<u>0.293</u>
	Total Budget			\$5.817
<u>Estimate</u>	Current Estimate (9/84)			9.148
	Deductive Options, Reductions and Eliminations			1.415
	Estimated Cost			7.733
	Construction Contingency (5%)			<u>.387</u>
	Total Estimate			\$8.120M
Needed from General Contingency				\$2.303M

\*Revised per 10/10/84 Board Action.



Revised

CU#4A-K Street Mall (Exhibit A)

Item	Deductive Option	Reduce	Eliminate	Remarks
Track Area	\$152,250	\$	\$	Place AC in lieu of pavers.
Remove Pavers	117,230			<u>No</u> work outside track area.
Remove New Concrete	62,070			<u>No</u> work outside track area.
<u>Planters</u>				
Large	22,000			
Small	19,800			
<u>Benches</u>				
Type A	37,500			
Type B	137,500			
Trees	21,600			
Grates	4,375			
Leaning Rail	31,500			
Light Pole With Banner	56,000*			
Planting (Other than Trees)	21,210			
Irrigation	38,130			
<u>Miscellaneous</u>				
Telephone Kiosk	22,000			
Drinking Fountain	5,400			
Trash Receptacle	13,300			
Bike Rack	1,250			
News Rack Rail	2,250			
	\$ 765,365*	\$ 0*	\$ 0	
		<u>TOTAL</u>		\$765,365

Note: These items are not listed in any priority or order.

\*Revised per 10/10/84 Board Action.



Revised

CU#4A-O STREET MALL (Exhibit B)

Items	Deductive Options	Reduce	Eliminate	Remarks
Track Area	\$157,040	\$	\$	Place AC in lieu of pavers
Remove Pavers	138,800			No work outside track area
Remove New Concrete	42,870			No work outside track area
<u>Planters</u>				
Large	6,000			
Small	5,400			
Benches (Type A)	30,000			
Trees	2,100			Cost is shipping and installation only
Light Pole With Banner	26,000*	0*		Retain minimum lighting only
Planting (Other than trees)	9,200			
Irrigation	29,680			
<u>Miscellaneous</u>				
Telephone Kiosk	8,800			
Drinking Fountain	1,800			
Trash Receptacle	6,650			
Bike Rack	500			
News Rack Rail	375			
	\$465,215*	\$ 0*	\$ 0	
			TOTAL:	<u>\$465,215</u>

Note: These items are not listed in any priority or order.

\*Revised per 10/10/84 Board Action.



CU#6 - WATT/80 TERMINUS

<u>Item</u>	<u>Deduc-</u> <u>tive</u> <u>Option</u>	<u>Reduce</u>	<u>Elimi-</u> <u>nate</u>	<u>Remarks</u>
Shelters (Upper)	\$135,000	\$	\$	Include as a deductive alternative
Shelters (Lower)	250,000			
Bridge Median Barrier	150,000			Seeking FAU funds for this item
RT Utility Space		20,000		
Windscreen on Top and Stairways	58,000			
Landscape Planters	21,000			
Lighting Reduction		1,000		
Custom Phones			4,000	
Benches			9,000	
Elevator Enclosures			20,000	
Future Escalator Footings			9,000	
	<u>\$614,000</u>	<u>\$21,000</u>	<u>\$42,000</u>	
	<b>TOTAL</b>			<u><b>\$677,000</b></u>

<u>Budget</u>	Original Budget (4/84)	(\$mil)
	Adjusted Budget	\$2.440
	Construction Contingency (5%)	2.363
	Total Budget	<u>.122</u>
		\$2.485
<u>Estimate</u>	Current Estimate (9/84)	1.515
	Deductive Options, Reductions and Eliminations	- .677
	Estimated Cost	<u>.838</u>
	Construction Contingency (5%)	<u>+ .042</u>
	Total Estimate	.880
Transfer to General Contingency		\$1.605



CU#7 - Northeast Corridor Stations

<u>Item</u>	<u>Deductive Option</u>	<u>Reduce</u>	<u>Eliminate</u>	<u>Remarks</u>
Parking (Reduce <sup>140</sup> 100 spaces at Marconi and 150 spaces at Swanston Stations)	\$	\$265,000	\$	Include as a deductive alternate
Street Improvements	75,000			Seeking City funds for this work
Concrete Bus Apron (Swanston Station)			130,000	
Construction/Traffic Control Signs			40,000	
Shelters	84,000			Future separate contract
Nonfunctional Planting		81,000		
*Landscape along Arden Way			20,000	Place irrigation only (\$13K)
	<u>\$159,000</u>	<u>\$346,000</u>	<u>\$190,000</u>	
		<b>TOTAL</b>		<b><u>\$695,000</u></b>

\*Working with North Sacramento groups; recommend we do irrigation and they do the planting.

Others -----

		(\$mil)
<u>Budget</u>	Original Budget (4/84)	\$3.500
	Adjusted Budget	3.423
	Construction Contingency (5%)	.175
	Total Budget	<u>\$3.598</u>
<u>Estimate</u>	Current Estimate (9/84)	\$2.552
	Deductive Options, Reductions and Eliminations	.695
	Estimated Cost	<u>1.857</u>
	Construction Contingency (5%)	.093
	Total Estimate	<u>1.950</u>
Transfer to General Contingency		<u>\$1.648</u>





ORIGINAL

Do not remove from office of  
California Transportation  
Commission

CALIFORNIA TRANSPORTATION COMMISSION

1120 N STREET, P.O. BOX 1139  
SACRAMENTO 95805  
(916) 443-1690

October 11, 1984

Mr. Leo Trombatore, Director  
California Department of Transportation  
1120 N Street  
Sacramento, CA 95814

Dear Leo:

At the September 27 meeting, the Commission authorized me to award a \$150,000 contract for a consultant on mass transportation issues.

The contract will fund an initial assignment relating to the overall cost and resources available to guideway systems in California. In addition, the consultant will respond to specific questions the Commission has about transit projects competing for State funds.

In accordance with the Commission's agreement with you, the bid proposal indicated that the Department would serve as the "resource of first resort" when questions related to the mass transportation program arise. The consultant would be used in instances when the Department's existing work load did not permit the diversion of resources to our question, or when the Department's role in the project in question (as a project engineer for the Sacramento light rail project, for example) made it impractical for the Department to serve as the Commission's independent reviewer.

Because of the Commission's need for reliable information on the Sacramento light rail project before acting on a \$5.5 million allocation to the project, the Commission has decided to conduct a review of the Sacramento light rail project's budget. Sacramento is one of the projects we have used as an instance in which the Department's existing work on the project precludes the Department for serving as the Commission's reviewer. However, since this is the first time an issue has come up, I would like to outline for you the subject of the review, solicit your comments on it, and request that you make staff available to review drafts of the consultant's work. Your staff's comments on drafts of the mass transit report prepared for Senate Concurrent Resolution 46 were very helpful, and I would like to continue this arrangement.



Commission staff is proposing that the assignment include three tasks:

1. Estimate the total cost of building the Sacramento light rail project as it was proposed in the project's Final Environmental Impact Statement (FEIS), which was the project the Commission agreed to fund in Resolution MT-84-7.

Estimate the total cost of building the project as it is now proposed.

Identify specific changes in facilities, as they were proposed in the FEIS, made to reduce the project deficit. (One provision of Resolution MT-84-7 allows the Sacramento Transit Development Agency (STDA) to reduce the project's scope in order to stay within budget, with the understanding that the State will not participate in the cost of the facilities at a later date.) This task includes identifying those elements of the cost estimate which remain uncertain, identifying the cause of the uncertainty, and projecting a reasonable range of costs for each element.

2. Identify the amount of State, local, and Federal funds available to the project under existing arrangements, and estimate the difference between revenues and costs.
3. Identify any conflicts between conditions set forth in Resolution MT-84-7, to which the STDA agreed by its own resolution, and subsequent contracts between STDA and UMTA. A provision of Resolution MT-84-7 specified that, if a shortfall should occur, STDA would reduce the length of the Folsom corridor segment, with the understanding that the segment or equivalent improvements would be completed without using funds allocated by the Commission. Recent newspaper articles indicate that, subsequent to the approval of the resolution, STDA signed a contract with UMTA that requires the local agency to repay Federal funds if the full line is not completed. This apparent contradiction should be reviewed and explained to the Commission.

Initial meetings between my staff, the consultant, and STDA are anticipated to begin in mid-October. I plan to submit a work plan and budget to the Commission at its October 25 meeting. Review of the consultants findings and consideration of the \$5.5 million allocation would most likely take place after the first of the year.

In order to maintain this schedule, I would appreciate receiving your comments prior to the October 25 meeting. My staff and I look forward to working with the staff you assign to review the consultant's work.

Sincerely,



ROBERT I. REMEN

Acting Executive Director

cc: Chairman and Commissioners  
California Transportation Commission



SACRAMENTO TRANSIT DEVELOPMENT AGENCY  
LIGHT RAIL STARTER LINE PROJECT  
SUMMARY OF TOTAL PROJECT BUDGET BY FUNDING SOURCE

Federal	\$ 98.51 Million
State (Attached)	25.92
Local	6.61
	-----
Total	\$131.04
	=====



SACRAMENTO TRANSIT DEVELOPMENT AGENCY  
 LIGHT RAIL STARTER LINE PROJECT  
 SUMMARY OF STATE OF CALIFORNIA GRANTS  
 AS OF OCTOBER 18, 1984

<u>Fiscal Year</u>	<u>State Article XIX (Gas Tax)</u>	<u>State TP&amp;D Account (Sales Tax)</u>	<u>State PUC Crossing Fund (Gas Tax)</u>	<u>Total</u>
81-82	\$ 2.12 (a)(b)(c)	\$0.40 (a)(b)(c)	\$	\$ 2.52
82-83	4.30 (a)(b)(c)	--	4.20	8.50
83-84	4.20 (a)(b)	2.80 (a)(b)(c)	2.40	9.40
84-85	5.50 (a)	--	--	5.50
	-----	----	----	-----
TOTAL	\$16.12	\$3.20	\$6.60	\$25.92
	=====	====	====	=====

- (a) Legislative Appropriation.
- (b) CTC Approval and Contract Executed.
- (c) SB 580 Review Complete.



SACRAMENTO TRANSIT DEVELOPMENT AGENCY  
LIGHT RAIL STARTER LINE PROJECT  
SCHEDULE OF POTENTIAL ADDITIONAL FUNDING SOURCES  
AS OF OCTOBER 19, 1984

Item No.	Source	Description/Contract Unit	Status	Approximate Amount
1.	Federal - Federal Aid Interstate (FAI)	<ul style="list-style-type: none"> <li>o FAI transfer of funds from R.T. to STDA related to Watt Ave. Station/ Acceleration Ramp.</li> <li>o CU 2A (Watt/80 Median)</li> </ul>	<ul style="list-style-type: none"> <li>o Administered by CTC Request submitted to SACOG Board.</li> <li>o Prospects good for FAI approval.</li> </ul>	\$ 600,000
2.	Federal - Federal Aid Urban (FAU)	<ul style="list-style-type: none"> <li>o FAU request of County area portion of project and median barrier crossing. (Watt Avenue at I-80) (Crossing Construction - SPRR at Watt Avenue Extension)</li> <li>o CU 5 (At grade line - Folsom Corridor)</li> <li>o CU 6 (At Grade Station-Watt/80 Terminus)</li> </ul>	<ul style="list-style-type: none"> <li>o Folsom Corridor &amp; Watt Ave. are eligible for FAU and staff will pursue funding vigorously with FAU Committee.</li> <li>o Request submitted to FAU Committee 10-15-84</li> <li>o Prospects Good for FAU approval.</li> </ul>	300,000
3.	Federal - Federal Aid Urban (FAU)	<ul style="list-style-type: none"> <li>o FAU request for City area portion of project related to traffic signals at 12th St. and other downtown locations.</li> <li>o CU 11 (Traffic Signals)</li> </ul>	<ul style="list-style-type: none"> <li>o Reconstruction of traffic signals along LRT route, North 12th St, etc. FAU eligible locations only.</li> <li>o Request submitted to FAU FAU Committee 10-15-84.</li> <li>o Prospects fair for FAU approval.</li> </ul>	700,000
SUBTOTAL FEDERAL				1,600,000
4.	State - Railroad Crossing Protection Fund	<ul style="list-style-type: none"> <li>o State P.U.C./CTC R.R. Crossing Funds related to City grade crossings such as 15th and 16th St. (60 crossings in City).</li> <li>o CU 10 (Rail Signaling)</li> </ul>	<ul style="list-style-type: none"> <li>o Application has been filed by Caltrans</li> <li>o Requires 10% local match.</li> <li>o Prospects Unknown.</li> </ul>	500,000
5.	State - California Conservation Corp (CCC)	<ul style="list-style-type: none"> <li>o CCC financed work crews utilized to install system wide landscaping. This would represent an "inkind" contribution to the project.</li> <li>o CU (various)</li> </ul>	<ul style="list-style-type: none"> <li>o Firm commitment based on confirming letter from CCC</li> </ul>	500,000 (up to)

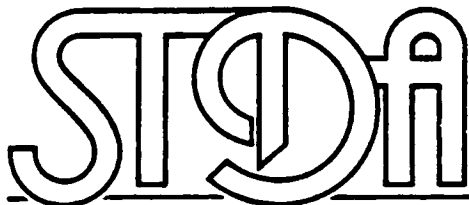


Item No.	Source	Description/Contract Unit	Status	Approximate Amount
6.	State - Department of General Services	o Enhancements to O St. Mall as requested by Capitol Area Development Authority and State General Services.	o Prospects positive per Roberts that State G.S. will budget.	\$ 440,000
		o CU 4A (See July 20 memo).		-----
	<b>SUBTOTAL STATE</b>			<b>\$1,440,000</b> -----
7.	County/Private	o Contribution from County and/or private developers	o Prospects fair for County/private assistance for some portion of the estimated total dollar amount.	265,000 (up to) -----
		o CU 7A (Starfire and Tiber Stations)		
8.	City	o City (a) share of 12th St. drainage pumping plant improvements related to CU 4A.	o Prospects fair for assistance for some portion of the estimated total dollar amount.	200,000
		(b) street improvements in the vicinity of Swanston & Marconi stations related to CU 7.	o Prospects fair for assistance for some portion of the estimated total dollar amount.	200,000
		(c) Maintenance yard pumping plant related to City requirement the LRT store drainage flow for up to 24 hours. This requirement is related to CU 2.	o Prospects fair for assistance for some portion of the estimated total dollar amount.	200,000
		(d) Grand Ave/Winters St. connector related to CU 2A.	o Prospects fair for assistance for some portion of the estimated total dollar amount.	200,000
		(e) System wide landscaping policy requirement of City requires 50% of parking areas to be shaded within so many years. This requires additional drainage.	o Prospects fair for assistance for some portion of the estimated total dollar amount.	200,000
	<b>SUBTOTAL CITY</b>	<b>All CU</b>		<b>1,000,000</b> -----



<u>Item No.</u>	<u>Source</u>	<u>Description/Contract Unit</u>	<u>Status</u>	<u>Approximate Amount</u>
9.	Sacramento Housing & Redevelopment Agency	o See Bill Edgar's memorandum to himself. o CU 4A	o Prospects good based on conversation with Executive Director.	750,000
GRAND TOTAL				\$5,055,000 =====





# SACRAMENTO TRANSIT DEVELOPMENT AGENCY

Executive Offices

926 J Street, Suite 611 • Sacramento, California 95814

## GOVERNING BOARD

ANNE RUDIN, Mayor  
City of Sacramento  
(Chairperson)

ARTHUR BAUER, Director  
Sacramento Regional Transit District

ILLA COLLIN, Supervisor  
County of Sacramento

PHILIP FLYNN, Director  
Sacramento Regional Transit District

DAVID SHORE, Councilman  
City of Sacramento

JOHN W. SCHUMANN  
(Executive Director)  
926 J Street, Suite 611  
Sacramento, California 95814  
(916) 442-3168

JAMES E. ROBERTS  
(Project Director)  
1201 I Street, Room 504  
Sacramento, California 95814  
(916) 445-6519

## COOPERATING AGENCIES

City of Sacramento  
County of Sacramento  
Sacramento Regional  
Transit District

November 5, 1984

Mr. Robert I. Remen  
Acting Executive Director  
California Transportation Commission  
1120 N Street  
P. O. Box 1139  
Sacramento, CA 95805

RE: COST REDUCTION EFFORTS; CTC APPROVAL  
FILE NO: 023.016.001

Dear Mr. Remen:

During our review of the Light Rail Project with you and members of your staff on October 19, 1984 we had the opportunity to provide you with an overview of the interim organization and administration of the STDA, catch you up on the overall project status, provide you with a review of our cost reduction efforts, review the current budget and the additional funds we are pursuing, discuss the action necessary to shake loose our FY 84 Article XIX monies and initiate preliminary discussions on the scope and timing of our FY 85 Article XIX monies. The minutes of the meeting are attached for your information.

Since our meeting, we received your letter granting a waiver extending the deadline for submitting our request for Article XIX monies for FY 85 until January 31, 1985. This will enable us to complete our current review of the Project and be better prepared to discuss the issues of scope and budget related to CTC Resolution MT-84-7. We have also completed our initial efforts at bringing Gerald Drake up to speed and assisted in the development of a scope for his review, on your behalf, of the project. We will work closely with Gerald thru December, 1984.

The cost update for the project includes a detailed review of Milestone 8a, Project Cost Estimate, the formatting of the information into the current contract unit limits and descriptions and a detailed comparison of the scope and budget to the current scope and project forecast. The effort will include documentation of the changes and the reason for the changes. The effort will be completed by December 30, 1984.

The Project Master Schedule is currently undergoing a detailed review and update that will be completed by



Robert I. Remen  
November 5, 1984  
Page 2

November 30, 1984 allowing us to address the impact of inflation before completing the cost estimate. The analysis will also include documentation of the schedule shippage.

As we move the project forward during the next several months, we will utilize the cost reductions reviewed with you at the meeting. We commit to you, for your support of this interim process, a complete review of the detail data available from our update. Should it be necessary based on the detailed review, we will make the necessary adjustments to the appropriate contracts.

Sincerely yours,

*William H. Edgar*

William H. Edgar  
Interim Executive Director



GEORGE DEUKMEJIAN  
GOVERNOR

STATE OF CALIFORNIA



10-29-84

CALIFORNIA TRANSPORTATION COMMISSION

1120 N STREET, P.O. BOX 1139  
SACRAMENTO 95805  
(916) 445-1690

October 26, 1984

William Edgar  
Acting Executive Director  
Sacramento Transit Development Agency  
926 "J" Street, Suite 611  
Sacramento, CA 95814

Dear Mr. Edgar:

At the October 25, 1984 meeting of the California Transportation Commission, the Commission voted unanimously to extend the November 1, 1984 filing deadline for Fiscal Year 1985-86 Article XIX funding for Sacramento County until January 31, 1985. At the same meeting, Mr. Leo Trombatore, Director of the Department of Transportation, concurred in that extension.

The intent of that extension is to permit your board to complete its current review of the Sacramento Light-Rail Project and its capital budget. As you know, starting in 1985-86, any additional Article XIX funds coming to Sacramento are eligible only for activities not included in the original light-rail application to the Commission. Your current review will help determine new activities that would be eligible for 1985-86 funds.

If you have any questions regarding this matter, please contact Hugh Fitzpatrick of the Commission staff at 445-1690.

Sincerely,

A handwritten signature in dark ink, appearing to read "Robert I. Remen".

ROBERT I. REMEN  
Acting Executive Director



# Memorandum

To : Robert I. Remen  
Acting Executive Director  
California Transportation Commission

Date : October 26, 1984

File No.:

REC-11/1/84

From : DEPARTMENT OF TRANSPORTATION  
Director's Office

Subject: Application Date Waiver Request

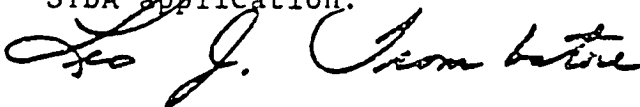
By your letter of October 23 and the Commission's motion on October 25, the California Transportation Commission has requested that the Department waive its November 1 deadline for Sacramento Transit Development Agency (STDA) to submit an application for 1985-86 State guideway funds.

I understand STDA and the Commission believe this waiver is necessary for STDA to prepare its application following identification of cost overruns on the project and a subsequent change in STDA management.

You must be aware that the Department has established this deadline in order to evaluate all applications fairly and consistently, and to recommend a priority list of projects for funding to the Commission by February 1, 1985, the statutory date for this recommendation.

To be fair and consistent as possible to all applicants, it is likely that the STDA application will have to be treated as a special case in this review.

Under this condition, the Department will grant a one-time waiver of its November 1, 1984 deadline to receive and evaluate the STDA application.



LEO J. TROMBATORE  
Director of Transportation

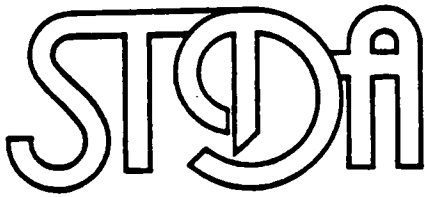
cc William Edgar, STDA ✓



EXHIBIT NO. 1-2

COST REDUCTION MEMORANDA





# MEMORANDUM

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1201 I Street, Room 205 • Sacramento 95814 • (916) 445-6519

October 1, 1984

TO: Members of the Governing Board  
FROM: J. E. Roberts  
SUBJECT: Cost Reduction Efforts, NE Corridor and Central City

## ISSUE

Should the Board authorize staff to proceed with construction contract advertising for the Northeast and Central City portions of the project?

## PROPOSED ACTION

Continue to advertise the contract units for the Northeast Corridor and Central City as they are value engineered by staff and approved individually by the Board.

## FISCAL IMPACT

The combined cost reduction efforts on the contracts necessary to complete the operational segment from Watt Avenue/I.S. 80 to 18th and R Streets have resulted in an aggregate cost estimate that is within the project budget. The general contingency reserve would be reduced to \$100,000 if all staff recommended reductions are adopted by the Board. If none of the reductions are adopted, the project will cost \$4,300,000 over budget.

## DISCUSSION

Staff has evaluated and value engineered each contract unit in the NE Corridor and downtown segments of the project. The resulting proposed contracts retain the scope of the original UMTA grant and the operational system approved by this Board at the conclusion of Preliminary Engineering in 1983 as the project baseline documents. This cost reduction analysis is limited to the \$131.234 million budget. Additional funds being pursued by staff but not currently committed were not considered.



Page Two

Memorandum

TO: Governing Board  
FROM: J. E. Roberts

SUBJECT: Cost Reduction Efforts, NE Corridor and Central City

A Budget and Estimate Comparison and Contingency Analysis are included as Attachments No. 1 and No. 2. A summary sheet of proposed cost reduction actions for each contract unit which staff has analyzed is included as Attachment No. 3.

Each contract unit was analyzed for three types of cost reduction efforts.

- (1) Eliminate -- These items have been permanently eliminated from the contract as a result of value engineering analyses. These items represent true cost savings and will reduce the construction cost estimate and overall project estimate.
- (2) Reduce -- These items are long-term deferrals. They constitute items which will be needed in the future and can be added after LRT operations begin and as funding can be identified.
- (3) Deductive Option -- These items are not needed for a functional system but are deemed necessary by many groups as required for public acceptance of the system. This category of items can be added back to the system as funding can be identified and staff has attempted to prioritize these items for Board consideration. As funds become available for project specific items, they can be added without regard to the priority list. As general additional funds are identified, the Board can utilize the priority list for authorizing additions to the project.

Recommended Eliminations amount to \$1,670,000. (This reduces the worst case project estimate to \$145,300,000 and the \$18 million overrun to \$14.3 million.)

Recommended Reductions amount to \$479,000. (This reduces the worst case project estimate to \$144,820,000 and the overrun to \$13.8 million.)

Recommended Deductive Options amount to \$2,228,580. (It is staff recommendation that additional funds be pursued to restore these options to the project.)

Attachments

JER:cr



NOTES FOR REVISED ATTACHMENT NO. 1 TO J.E. ROBERTS MEMO OF 10/2/84

In our previous review of the Cost Reduction efforts, it was requested that Attachment No. 1, Budget/Estimate Comparison, be modified to show the related Construction Contingency.

This attachment compares the budgeted amounts with estimates for the two contracts that have been awarded, and for the contracts yet to be bid to construct the Northeast corridor and Central City lines. It further shows the effect on estimated costs of the approved reductions for Contract Unit #2A, and the reductions proposed for Contract Unit #'s 6, 7 and 4A. The five percent (5%) Construction Contingency relating to each of the estimated costs is also shown.

It is noted that the reductions in estimated costs result in a directly proportional reduction in the Construction Contingency in each case. Also, as the result of bidding Contract Unit #'s 2 and 3 and the approved and proposed reductions, the overall estimate changes from \$32.488 million to \$26,835 million, drawing closer to the aggregate budgeted amount for these Contract Units of \$23.180 million.



**PROJECT DEVELOPMENT & FINANCIAL ISSUES**

**BUDGET/ESTIMATE COMPARISON**

**NORTHEAST CORRIDOR AND CENTRAL CITY**

Item	Contract Unit	Approved Budget 4/84	Estimate	Constrtn Contngcy 5%	Reductions	Constrtn Contngcy 5%	Estimate With Reductions	Reduced Const. Cont. 5%
<b>Contracts Awarded</b>								
1.	#2, NE Corridor	\$3.924	\$4.543				\$3.964 (Bid)	
2.	#3, Maintenance Bldg	2.726	4.474				3.827 (Bid)	
3.	SUBTOTAL (1&2)	6.650	9.017				7.791	
<b>Contracts Yet to Bid</b>								
4.	#2A, Watt/80 Median	0.810	5.269	.263	1.640	.082	3.629	.181
5.	#6, Watt/80 Terminus	2.440	1.515	.076	.677	.034	.838	.042
6.	#7, NE Corridor Sts.	3.500	2.552	.128	.695	.035	1.857	.093
7.	#4A, Central City	6.000	9.148	.457	1.415	.071	7.333	.386
8.	#9, Electrification*	1.390	2.194	.110	0	0	2.194	.110
9.	#11, Traffic Signals*	2.390	2.390	.119	0	0	2.390	.119
10.	#7E, Shelters*	0.000	.403	.020	0	0	.403	.020
11.	SUBTOTAL (4 Thru 10)	\$16.530	\$23.471	1.173	4.427	.222	19.044	.951
<b>TOTALS (3+11)</b>		<b>\$23.180</b>	<b>\$32.488</b>				<b>\$26.835**</b>	

NOTES: All Costs Shown in Millions of Dollars

\* For 18.3 Miles Systemwide

\*\* Original Estimates of \$32.488 less Reductions of \$4.427 Less Difference between Estimate (\$9.017) and Bid (\$7.791) Equals Estimate with Reductions \$26.835.



## NORTHEAST CORRIDOR & CENTRAL CITY

\*For 18.3 miles, systemwide



COST REDUCTION PROPOSALS  
NE Corridor and Downtown

SUMMARY

<u>Contract Unit</u>	<u>Deductive Option</u>	<u>Reduce</u>	<u>Eliminate</u>
2A	\$ 273,000	\$ 20,000	\$1,348,000
6	614,000	21,000	43,000
7	159,000	346,000	190,000
4A	<u>1,232,580</u>	<u>92,000</u>	<u>90,000</u>
Subtotal	<u>\$2,278,580</u>	<u>\$479,000</u>	<u>\$1,670,000</u>
		Total	\$4,427,580

Detail sheets attached.



CU#2A-WATT/80 MEDIAN STATIONS

Item	Deductive Option	Reduce	Eliminate	Remarks
<u>Winter Street Access</u>				
Lighting, Signals, and Roadway	\$100,000*		\$199,000*	Provide Del Paso Hgts access at Marconi/ Arcade Station.
Landscaping			48,000*	
<u>Watt/80 West Station</u>				
Civil, Drainage, Roadwork			\$440,000	Remove station entire and provide some over flow parking spaces.
Platform			159,000	
Lighting			200,000	
Landscaping			202,000	
<u>Overall</u>				
Nonfunctional Planting	\$273,000			Shrubs, etc.
Roseville Road Shelter		\$20,000		Future separate contr
	<u>\$373,000*</u>	<u>\$20,000</u>	<u>\$1,248,000*</u>	

			(\$Mil)
<u>Budget</u>	Original Budget 4/84		.810
	Adjusted Budget		.810
	Construction Contingency		<u>.040</u>
	Total Budget		\$0.850
<u>Estimate</u>	Current Estimate		5.269
	Deductive Options, Reductions and Eliminations		1.640
	Estimated Cost		3.629
	Construction contingency (5%)		<u>.181</u>
	Total Estimate		\$3.810

Needed from General Contingency \$2.960

\*Revised per 10/10/84 Board Action.



Revised

CU#4A-CENTRAL CITY

Item	Deductive Option	Reduce	Eliminate	Remarks
K Street mall	\$ 765,365*	\$ 0*	\$ 0	See Exhibit A
O Street mall	465,215*	\$ 0*	0	See Exhibit B

GENERAL

Shelters (Tot 4)	84,000			Future Separate Contract
Non-functional Planting		10,000		
N. 12th Street Open Track			11,000	
Landscape G-K Streets			29,000	
Paving 7th, 8th, 12th Streets			50,000	
	<u>\$1,314,580*</u>	<u>\$10,000*</u>	<u>\$90,000</u>	

TOTAL

\$1,414,580

<u>Budget</u>	Original Budget (4/84)	\$6.000
	Adjusted Budget	5.524M
	Construction Contingency (5%)	<u>0.293</u>
	Total Budget	\$5.817

<u>Estimate</u>	Current Estimate (9/84)	9.148
	Deductive Options, Reductions and Eliminations	1.415
	Estimated Cost	7.733
	Construction Contingency (5%)	<u>.387</u>
	Total Estimate	\$8.120M

Needed from General Contingency	\$2.303M
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\*Revised per 10/10/84 Board Action.



CU#4A-K Street Mall (Exhibit A)

Item	Deductive Option	Reduce	Eliminate	Remarks
Track Area	\$152,250	\$	\$	Place AC in lieu of pavers.
Remove Pavers	117,230			<u>No</u> work outside track area.
Remove New Concrete	62,070			<u>No</u> work outside track area.
<u>Planters</u>				
Large	22,000			
Small	19,800			
<u>Benches</u>				
Type A	37,500			
Type B	137,500			
Trees	21,600			
Grates	4,375			
Leaning Rail	31,500			
Light Pole With Banner	56,000*			
Planting (Other than Trees	21,210			
Irrigation	38,130			
<u>Miscellaneous</u>				
Telephone Kiosk	22,000			
Drinking Fountain	5,400			
Trash Receptacle	13,300			
Bike Rack	1,250			
News Rack Rail	2,250			
	\$ 765,365*	\$ 0*	\$ 0	
		<u>TOTAL</u>		\$765,365

Note: These items are not listed in any priority or order.

\*Revised per 10/10/84 Board Action.



Revised

CU#4A-O STREET MALL (Exhibit B)

Items	Deductive Options	Reduce	Eliminate	Remarks
Track Area	\$157,040	\$	\$	Place AC in lieu of pavers
Remove Pavers	138,800			No work outside track area
Remove New Concrete	42,870			No work outside track area
<u>Planters</u>				
Large	6,000			
Small	5,400			
Benches (Type A)	30,000			
Trees	2,100			Cost is shipping and installation only
Light Pole With Banner	26,000*	0*		Retain minimum lightin only
Planting (Other than trees)	9,200			
Irrigation	29,680			
<u>Miscellaneous</u>				
Telephone Kiosk	8,800			
Drinking Fountain	1,800			
Trash Receptacle	6,650			
Bike Rack	500			
News Rack Rail	375			
	\$465,215*	\$ 0*	\$ 0	
			TOTAL:	<u>\$465,215</u>

Note: These items are not listed in any priority or order.

\*Revised per 10/10/84 Board Action.



CU#6 - WATT/80 TERMINUS

<u>Item</u>	<u>Deduc-</u> <u>tive</u> <u>Option</u>	<u>Reduce</u>	<u>Elimi-</u> <u>nate</u>	<u>Remarks</u>
Shelters (Upper)	\$135,000	\$	\$	Include as a deductive alternative
Shelters (Lower)	250,000			
Bridge Median Barrier	150,000			Seeking FAU funds for this item
RT Utility Space		20,000		
Windscreen on Top and Stairways	58,000			
Landscape Planters	21,000			
Lighting Reduction		1,000		
Custom Phones			4,000	
Benches			9,000	
Elevator Enclosures			20,000	
Future Escalator Footings			9,000	
	<u>\$614,000</u>	<u>\$21,000</u>	<u>\$42,000</u>	
	<u>TOTAL</u>			<u>\$677,000</u>

<u>Budget</u>	Original Budget (4/84)	(\$mil) \$2.440
	Adjusted Budget	2.363
	Construction Contingency (5%)	<u>.122</u>
	Total Budget	\$2.485
<u>Estimate</u>	Current Estimate (9/84)	1.515
	Deductive Options, Reductions and Eliminations	<u>- .677</u>
	Estimated Cost	<u>.838</u>
	Construction Contingency (5%)	<u>+ .042</u>
	Total Estimate	.880
Transfer to General Contingency		\$1.605



CU#7 - Northeast Corridor Stations

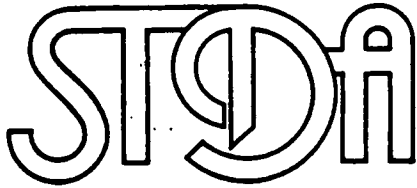
<u>Item</u>	<u>Deductive Option</u>	<u>Reduce</u>	<u>Eliminate</u>	<u>Remarks</u>
150 Parking (Reduce 100 <sup>140</sup> spaces at Marconi and 150 spaces at Swanston Stations)	\$	\$265,000	\$	Include as a deductive alternate
Street Improvements	75,000			Seeking City funds for this work
Concrete Bus Apron (Swanston Station)			130,000	
Construction/Traffic Control Signs			40,000	
Shelters	84,000			Future separate contract
Nonfunctional Planting		81,000		
*Landscape along Arden Way			20,000	Place irrigation only (\$13K)
	\$159,000	\$346,000	\$190,000	
		<b>TOTAL</b>		<b>\$695,000</b>

\*Working with North Sacramento groups; recommend we do irrigation and they do the planting.

others

		(\$mil)
<u>Budget</u>	Original Budget (4/84)	\$3.500
	Adjusted Budget	3.423
	Construction Contingency (5%)	.175
	Total Budget	<u>\$3.598</u>
<u>Estimate</u>	Current Estimate (9/84)	\$2.552
	Deductive Options, Reductions and Eliminations	.695
	Estimated Cost	<u>1.857</u>
	Construction Contingency (5%)	.093
	Total Estimate	<u>1.950</u>
Transfer to General Contingency		<u>\$1.648</u>





# MEMORANDUM

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1201 I Street, Room 205 • Sacramento 95814 • (916) 445-6519  
Transmittal Date: October 26, 1984  
Meeting Date: October 31, 1984

TO: Member of the Governing Board

FROM: William H. Edgar, Interim Executive Director

SUBJECT: Cost Reduction Efforts, Light Rail Art Program

## SUMMARY

This memorandum sets forth a proposed policy and procedure for implementing the light rail art program as funds become available. In light of current budget uncertainties, I propose some eliminations of artworks from the system; phased implementation of "integral" art contracts; postponement of art contracts unrelated to the opening of the LRT system; and the adoption of fundraising strategies.

It is recommended that the Board adopt the revised policy and procedure for completing the light rail art program.

## BACKGROUND

On November 22, 1983 STDA executed a \$560,000<sup>1</sup> contract with the Sacramento Metropolitan Arts Commission (SMAC) to develop and implement an integral art program suited to the needs of Sacramento's light rail transit system. The art program is part of the UMTA-approved original scope of the project as delineated in the EIS and is intended to add visual interest to the stations, foster system ridership and provide an invaluable marketing tool for Regional Transit.

Consistent with the STDA-SMAC agreement, 28 out of a total of 29 artists and their proposals have been selected. Selection of art proposals was based, in part, on criteria that artwork be safe and economically maintained. Artists selected for the light rail art program meet STDA's DBE goal of 15% and exceed the WBE goal of 3%; women owned businesses will constitute 23% of all art contracts. The next step in the administration of the art program is for STDA to enter into contracts with selected artists.

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<sup>1</sup> Light Rail Arts Program Budget, as amended May, 1984:

Artwork -	\$472,000
Contingency -	21,525
Administration -	66,475
Total -	\$560,000

<sup>2</sup> See sample CONTRACT TO PURCHASE ARTWORK, attached as Exhibit A. Also attached as Exhibit B is a July 20, 1984 memorandum on the Selection Process for Light Rail Art Program.



## ISSUES

Current funding uncertainties require a re-evaluation of how we implement the art program, consistent with the Governing Board's policy to eliminate, reduce and postpone implementation of system enhancements until funding becomes available.

Like other government entities which are cooperating with STDA to re-evaluate and reduce LRT construction costs, SMAC has agreed to some eliminations from the program, a phased implementation strategy based on construction timing, and fundraising strategies, outlined below:

### I. PROPOSED ELIMINATIONS

The following artworks are proposed for elimination from the light rail art program:

	Budget
All Suburban Station Banners	\$ 46,000
Watt 80 West Mural (Station eliminated)	8,200
Total	\$ 54,200

### II. PROPOSED PHASED IMPLEMENTATION

#### A. ARTWORK INSTALLED CONCURRENT WITH CONSTRUCTION

<u>Station Pavement Pieces</u>	<u>Contract #</u>	<u>Approx. Art Contract Date</u>	<u>Budget</u>
Swanston	7	4/85	8,700
Del Paso	7	4/85	8,000
Globe	4A	12/85	6,100
16th Street	4A	3/85	7,600
Starfire	7A	6/85	7,600
Butterfield	7A	6/85	9,000
59th Street	7A	6/85	7,600
		Subtotal	\$54,600
<u>All Tree Grates, Systemwide</u>			7,000
		Total	\$61,600

#### B. ARTWORK INSTALLED AFTER CONSTRUCTION BUT BEFORE OPENING

<u>Station Pavement Pieces</u>	<u>Contract #</u>	<u>Approx. Art Contract Date</u>	<u>Budget</u>
Watt 80	6	12/85	9,000
Roseville Rd.	2A	12/85	7,600
Marconi Arcade	7	12/85	8,200
Royal Oaks	7	12/85	7,600
12th St.	4A	12/85	7,600
		Subtotal	\$40,000

<sup>3</sup> See October 25, 1984 Background Report on the Sacramento Light Rail Art Program, attached as Exhibit C.



<u>Station Pavement Pieces</u>	<u>Contract #</u>	<u>Approx. Art Contract Date</u>	<u>Budget</u>
23rd St.	7A	2/86	7,600
29th St.	7A	2/86	7,600
65th St.	7A	2/86	9,000
Power Inn	7A	2/86	6,100
College Green	7A	2/86	6,100
Watt/Manlove	7A	2/86	7,600
Tiber	7A	2/86	6,500
		Subtotal	\$50,500

Total	\$90,500
TOTAL (A + B)	\$152,100

C. ARTWORK THAT MAY BE INSTALLED AFTER CONSTRUCTION AND AFTER OPENING OF SYSTEM

	<u>Budget</u>
Alkalai Mural	7,600
Watt/80 Mural	8,000
Banners (K and O St.)	28,000
Total	\$43,600

III. ARTWORKS FOR WHICH MATCHING FUNDS WILL BE SOUGHT

<u>Location</u>	<u>Approx. Art Contract Date</u>	<u>Revenue Source</u>	<u>Budget</u>
K Street Mall	10/85	SHRA \$25,000	
		NEA 25,000	\$ 50,000
Cathedral Square	10/85	SHRA \$62,500	
		NEA 62,500	125,000
O Street	10/85	State 30,000	
		Gen. Svc.	
		NEA 30,000	60,000
		Total	\$ 235,000

STDA/SMAC must secure local/state commitments to provide matching funds for an application to be submitted to the National Endowment for the Arts (NEA) in December 1984.

IV. OTHER FUNDING STRATEGIES

Efforts to secure private sector funding of specific artworks should also be undertaken. One possible vehicle for such fundraising might be the Mayor's Citizens' Advisory Committee on Light Rail Funding, tentatively scheduled to reconvene in November.



## POLICY IMPLICATIONS

Consistent with the Governing Board's previous policy of considering cost reduction measures, the proposed framework for eliminating, postponing and seeking outside funding for artwork, outlined above, gives the Board and staff time to generate hard data on construction costs and time to raise revenues.

Implicit in the above outline is an STDA policy to reserve \$152,100 to fund integral artworks listed in II A & B; set aside an artwork contingency of \$3,042; and meet STDA's contractual obligation to SMAC to cover administrative costs of \$66,475--totaling \$221,617 for STDA's Art Program reserve fund.

There is an additional policy implication that none of the Art Program reserve fund will be committed until each relevant construction contract (2A, 4A, 6, 7 and 7A) is sufficiently funded to build the basic LRT line, consistent with previous policies set by the Board.

## FINANCIAL DATA

Approved May 1984 Artwork Budget.....	\$ 560,000
SMAC Art Program Administrative Budget.....	-66,475
Artwork Funding Reserve (A & B).....	-152,100
Artwork Contingency.....	-3,042
TOTAL ART PROGRAM RESERVE \$-221,617	
RETURN TO GENERAL CONTINGENCY \$ 338,383	

## RECOMMENDATION

Staff recommends that the Governing Board:

- 1) Eliminate all Suburban Station Banners and the Watt/80 West Mural, budgeted at \$54,000;
- 2) Reserve \$221,617 to fund artwork (II A & B), contingency and administrative costs outlined above;
- 3) Return \$338,383 to General Contingency;
- 4) Approve in concept Contract to Purchase Artwork (Exhibit A);
- 5) Express conceptual support for the six art elements outlined in II C and III on page 3;
- 6) Direct staff to take appropriate measures to secure outside public and private funding for the six art elements outlined in II C and III on page 3.

Respectfully Submitted,

*William H. Edgar*

WILLIAM H. EDGAR  
Interim Executive Director

WHE:rg  
Attachments



**DRAFT**CONTRACT TO PURCHASE ARTWORK

THIS AGREEMENT is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 1984, by and between the SACRAMENTO TRANSIT DEVELOPMENT AGENCY, a joint powers agency, hereinafter referred to as "STDA", and \_\_\_\_\_, hereinafter referred to as "Artist".

WITNESSETH:

WHEREAS, STDA is engaged in planning and constructing a light rail project within Sacramento County;

WHEREAS, STDA desires to procure artwork for incorporation into the light rail system;

WHEREAS, STDA has delegated to the Sacramento Metropolitan Arts Commission certain administrative responsibilities relative to the procurement of artwork for the light rail system; and

WHEREAS, Artist has proposed to provide artwork in accordance with the terms set forth herein.

NOW, THEREFORE, in consideration of the mutual promises hereinafter set forth, STDA and Artist agree as follows:

I. SCOPE OF WORK

Subject to the terms and conditions set forth in this Agreement, Artist shall:

A. Purchase on Artist's account all labor, supplies, materials and equipment required to furnish to STDA a \_\_\_\_\_ (hereinafter referred to as the "Work"), and fabricate, deliver and install to the satisfaction of STDA the Work, substantially as described in Artist's proposal, a true and correct copy of which is attached hereto marked Exhibit A.

B. Install to the satisfaction of STDA the Work in the manner described in Exhibit A and in the Specifications of Work attached hereto as Exhibit B. To the extent that Exhibits A and C are inconsistent, Exhibit B shall supersede.

C. Provide STDA with a complete and reasonable schedule, as outlined in Exhibit B, for the maintenance of the Work subsequent to its acceptance by STDA. Said schedule shall be provided prior to final payment.

The specifications and details contained in the aforementioned exhibits are of the essence to this Agreement.



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**II. PAYMENT**

STDA shall pay Artist a firm fixed price of \$ \_\_\_\_\_. It is agreed that STDA has no obligations regarding commissions or any agreements with galleries or agents with whom Artist may have contracted. Payments to Artist shall be made as set forth in Exhibit C.

**III. COMPLETION DATE**

Artist shall dedicate such time and effort as is necessary to fulfill Artist's obligations to completely finish and install the Work pursuant to the Agreement on or before \_\_\_\_\_. Time and strict punctual performance are of the essence to this Agreement.

**IV. SITE RESTORATION**

Within 30 days after the date specified for completion of the Work, Artist shall restore the project site (including the entire area affected by the fabrication and installation of the Work) to a state and condition that is substantially identical to that which existed when the project was begun taking into the account the Work. Within 30 days of the date specified for completion of the Work, Artist shall repair or replace, as is determined necessary by STDA, all property (real, personal, or otherwise), which has been damaged, injured or otherwise adversely affected by the acts or omissions of Artist, Artist's agents, contractors, or employees. Artist shall be solely responsible for all expenses and costs which may be necessary to comply with the requirements of this paragraph, and STDA shall have no responsibility or liability therefor. Artist shall accomplish said restoration before final payment.

**V. WARRANTIES**

A. Artist warrants that the Work is original and the product of Artist's own creative efforts and does not infringe the rights of any person. Artist also warrants that, unless otherwise stipulated in writing, the Work is an edition of one (1), and that Artist shall not sell, license, perform or reproduce a substantially identical copy of the Work, without the prior consent of STDA.

B. Artist shall warrant and maintain the Work free from all faults or defects in material and workmanship for a period of one year after installation.

C. Artist agrees to fabricate and install the Work in conformance with all applicable laws, including without limitation the Uniform Building Code as amended by either the City of Sacramento (if the Work will be located in the City) or the County of Sacramento (if the Work will be located in the County).



## VI. ASSIGNMENT AND SUBCONTRACTING

A. Artist's obligation imposed by this Agreement are not assignable or transferable without first obtaining the written consent of STDA.

B. Artist agrees not to subcontract any work pursuant to this Agreement in any amount over \$ \_\_\_\_\_ without the prior written approval of STDA.

## VII. RISK OF LOSS

Regardless of any payment STDA may make to Artist prior to the completion of the Work, title to the Work shall be in Artist until STDA shall certify that the Work is completed and installed to the satisfaction of STDA. When STDA has so certified, title shall transfer to STDA. Artist shall bear all risk of loss to the Work during the time Artist has title.

## VIII. INSURANCE

A. In the event STDA desires to do so, Artist shall cooperate with STDA to obtain life and accidental dismemberment insurance on Artist naming STDA as beneficiary to the extent required to protect STDA's interest in any payments made prior to completion of the Work. Any premiums for any such insurance shall be paid by STDA.

B. In the event that Artist employs any person to perform work contemplated by this Agreement, Artist shall maintain statutory workers' compensation insurance covering any and all such employees. Coverage shall include: (1) STDA, its member entities and all governing boards, directors, officers, agents and employees of STDA and its members entities as additional insureds, or a waiver of subrogation; and (2) a cross liability clause providing that the insurance applies separately to each insured except with respect to the limits of liability.

## IX. DISABILITY

In the event it shall become impossible for Artist to complete the Work because of illness, death or injury, this Agreement may be terminated at the sole discretion of STDA, and in such event, all completed work, materials, and supplies related to the Work shall be delivered to STDA and shall, along with the Exhibit A proposal, become the sole property of STDA. In the event of such termination, STDA may take such action as may appear to STDA appropriate in the circumstances then prevailing, including, without limitation, commissioning another artist to complete Work. In the event that STDA completes the Work or arranges to have it completed, Artist's name shall be publicly displayed at, on, or near the Work unless Artist gives written notice that such not be done. The name of the artist who completes the Work shall be displayed in a manner equal to the display of the original Artist unless the original Artist requests that his or her name not be displayed. The term



# DRAFT

"equal" shall mean similar, not identical, and shall not mandate any preference of position or size or location.

## X. ACCEPTANCE OF WORK

A. STDA agrees to accept the completed Work unless it can show:

(1) that the Work was not executed substantially in accordance with Exhibit A or B; or

(2) that the Work as completed, or any portion thereof, does not conform to a reasonable standard of artistic or technical quality. In the event that STDA refuses to accept the Work on the grounds stated in this subparagraph (2), and the Artist disputes STDA's refusal, the matter will be submitted to the Arbitration Service of the Bay Area Lawyers for the Arts for determination, and such determination shall be binding upon STDA and Artist and neither shall have any further recourse or cause of action regarding that matter only.

B. In the event STDA refuses to accept the Work according to the provisions of this paragraph it must notify Artist in writing specifying the reasons for such refusal within ten (10) days of tender of the Work for acceptance by Artist. No prior payment to Artist shall be deemed to waive the right of STDA to refuse to accept Work.

C. In the event the refusal of STDA to accept the Work is either accepted by Artist or determined to be correct according to subparagraph A(2) above, STDA shall have the right either to have Artist correct the deficiencies in the Work within a reasonable time and then accept the Work, or to terminate this Agreement and recover all sums previously paid to the Artist. Each such remedy shall be independent and shall be cumulative and in addition to any other or further remedy of STDA at law or equity. Enforcement of one such remedy shall not be exclusive nor shall it be deemed an election of such remedy to the exclusion of any other or further remedy.

## XI. STDA DUTIES RELATIVE TO THE WORK

A. STDA agrees that it will not intentionally destroy, damage, alter, modify or change the Work in any way except after notice as required by the law of California. If an alteration should occur, either intentionally or unintentionally, then the Work will no longer be represented as the work of the Artist without his or her written permission. STDA agrees to reasonably assure that the work is properly maintained and protected. This does not preclude STDA's right to move the Work or remove it from display.



B. Insofar as is practical, in the event repair of the Work is required, STDA shall give Artist the opportunity to so repair for a reasonable fee. In the case of disagreement between STDA and Artist as to what constitutes a reasonable fee, the fee determined by an independent conservator selected by STDA shall be considered a reasonable fee. In the event Artist refuses to make the repair for such fee, STDA may proceed to arrange for such repair by a person qualified to accomplish the restoration. When emergency repairs are necessary in order to prevent the loss of or further damage to the Work, such repairs shall be undertaken or arranged by STDA without advance notice to Artist, and such repairs shall not be deemed to constitute an artistic alteration.

C. In the event it becomes necessary to alter the placement of the Work, STDA shall confer with Artist concerning placement of the Work.

D. Artist shall retain the right to claim authorship of the Work. STDA shall assure that the Artist's name shall be publically displayed on, at or near the Work. In the event the Work is substantially damaged or artistically altered in a substantial manner, STDA shall no longer represent the Work to be the Work of the Artist if Artist gives written notice to STDA that it is the position of Artist that Artist has the right to deny authorship on the grounds stated in this paragraph. In the event STDA disputes the right of Artist to deny authorship, the matter shall be submitted to the Arbitration Service of the Bay Area Lawyers for the Arts which shall determine the issue of whether the Work is substantially damaged or artistically altered in a substantial manner. Such determination shall be binding upon STDA and Artist as to that matter only, and neither shall have any further recourse or cause of action regarding such determination.

## XII. CLAIMS BY EMPLOYEES OR SUPPLIERS OF ARTIST

In the event Artist hires or contracts with employees or materialmen suppliers of materials, Artist shall make payment to said employees or supplies.

Before payment may be made pursuant to paragraph II of this Agreement for completion of a phase, Artist shall demonstrate to the satisfaction of STDA that all employees or suppliers who provided labor or materials for the prior phase have been paid.

In the case of any claim or action alleging the underpayment or nonpayment of wages and other amounts due employees or suppliers hired by or contracted with Artist for the Work, STDA may withhold from Artist out of payments due, or to become due, a sum sufficient to pay such persons the difference between the wages or amounts required to be paid pursuant to their agreement with Artist and the wages or amounts actually paid such persons by Artist.



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**XIII. INDEMNITY AND HOLD HARMLESS**

Artist shall assume the defense of, and indemnify and save harmless, STDA, its member entities, all officers, employees, and agents of STDA or its member entities, and each and every one of them, from and against all actions, damages, costs, liability, claims, losses and expenses of every type and description to which any or all of them may be subjected, by reason or, or resulting from, directly or indirectly, the performance of this Agreement by Artist; provided that such action, damage, claim, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to, or destruction of property, including the loss of use thereof, and is caused in whole or in part by an omission, negligent act or greater degree of culpability by Artist whether or not it is caused in part by a party indemnified hereunder. The foregoing shall include, but not be limited to, any attorney fees reasonably incurred by STDA.

**XIV. INDEPENDENT CONTRACTOR**

Artist is not an employee of STDA but is an independent contractor. STDA shall not have the right to direct the manner in which Artist accomplishes the Work but only to assess the results or compliance with this Agreement and to determine such things as acknowledgement of progress according to the phases by virtue of which payments are to be made. Artist represents and warrants to STDA that Artist possess all required licenses, insurance and other entitlements of whatever nature to legally pursue Artist's occupation and that Artist shall maintain all such licenses, insurance and other entitlements in full force and effect during the time of this Agreement.

**XV. COPYRIGHT**

Artist expressly reserves every right available to him under the Federal Copyright Act to control the making and dissemination of copies or reproduction of the Work except as those rights are limited by this Agreement. Artist agrees to give a credit substantially in the following form: "Original owned by Sacramento Transit Development Agency" in any public showing of reproductions of the Work. Artist authorizes STDA and its assigns to make photographs, drawings, and other two dimensional reproductions of the Work without prior consent of Artist if used solely for non-commercial purpose, advertising, descriptive brochures, and similar purposes. All reproductions by STDA shall contain a copyright notice substantially in the following form: "Copyright ©, Artist's name, date".

**XVI. BREACH OF CONTRACT**

A. In the event Artist believes that STDA has failed to faithfully perform this Agreement, Artist shall notify the STDA in writing of such failure. Such notice shall specify in detail each and every failure of STDA and the reason why failure is deemed by Artist to be a breach of the Agreement.



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B. If any matter is to be submitted to a third party for resolution, all fees, expenses, and costs connected therewith shall be borne by the party who loses on the issue. Each and every obligation under this Agreement to submit any matter to a third party for resolution is conditioned upon the foregoing provision of this paragraph. If any matter is to be submitted to the Arbitration Service of the Bay Area Lawyers for the Arts for resolution pursuant to the Agreement, and if, at the time such submission is called for, the Arbitration Service of the Bay Area Lawyers for the Arts is not in existence or is not able or willing to provide such resolution service, then the matter shall be submitted for resolution to the American Arbitration Association in accordance with its procedures then prevailing. No party who submits an issue for arbitration shall be bound by the determination by the arbitration of any other issue.

## XVII. ACCESS TO RECORDS

Artist shall maintain books, records, documents, and other evidence directly pertinent to work under this Agreement in accordance with generally accepted accounting principles and practices consistently applied. STDA, the United States Urban Mass Transit Authority, the Comptroller General or the United States or any of their duly authorized representatives, shall have, with reasonable notice, access to such books, papers, records, documents, and other evidence for the purpose of making inspection, audit, transcription and copying.

## XVIII. EMPLOYMENT PRACTICES

In the performance of this agreement, Artist will not discriminate against any employee or applicant for employment because of race, color, religion, ancestry, sex, age, national origin or physical handicap. Artist shall in all respects in the performance of this Agreement, comply with the Executive Order 11246, as amended by Executive Order 11375, and as supplemented by Department of Labor Regulations (41 CFR Part 60). Artist shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to race, color, religion, ancestry, sex, age, national origin or physical handicap. Such action shall include, but not be limited to: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Artist shall, in all solicitation or advertisements for employees placed by or on behalf of the Artist, state that all qualified applicants will receive consideration for employment without regard to race, religion, ancestry, sex, age, national origin or physical handicap. Artist will permit access to its records of employment, advertisements applications forms, and other pertinent data and records by the State Fair Employment Practices and Housing Commission, STDA, or any other agency of the State of California designated by STDA for the purpose of investigation to ascertain compliance with this section.



**XIX. DISADVANTAGED AND WOMEN-OWNED BUSINESS ENTERPRISES**

A. It is the policy of the Department of Transportation (DOT) that disadvantaged and women-owned business enterprises (DBEs and WBEs) as defined in 49 CFR Part 23, shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with Federal funds under this agreement. Consequently, the requirement of 49 CFR Part 23 apply to this agreement.

B. Prior to the execution by all parties of this Amendment, Consultant shall submit in writing to the STDA Project Manager (who is also the STDA DBE liaison officer) a description of the type of work which may be subcontracted and an estimate of the cumulative cost of all subcontracts.

C. Artist agrees to ensure that disadvantaged and women-owned business enterprises as defined in 49 CFR Part 23 shall have the maximum opportunity to participate in the performance of any subcontracts let by Artist pursuant to this Agreement. In this regard, Artist shall take all necessary and reasonable steps in accordance with 49 CFR Part 23 to ensure that disadvantaged and women-owned business enterprises have the maximum opportunity to compete for and perform any subcontracts let by Artist pursuant to this Agreement. In the award and performance of DOT funded subcontracts, let in furtherance of this agreement, STDA and Artist shall not discriminate on the basis of race, color, national origin or sex.

D. The provisions of subparagraphs A and C shall be contained in each subcontract let by Artist. Failure to carry out the provisions set forth in subparagraphs A and C shall constitute a breach of contract, and after notification to the Department of Transportation, may result in termination of the contract by STDA or such other remedy as STDA deems appropriate.

**XX. ENERGY REGULATIONS**

Artist shall comply with mandatory standards and policies relating to energy efficiency which are contained in the State of California's energy conservation plan issued in compliance with the Energy Policy and Conservation Act (P.K. 94-163).

**XXI. CONFLICT OF INTEREST**

A. No member of or delegate to the Congress of the United States of America, or no Resident Commissioner, shall be permitted to any share or part hereof or to any benefit to arise herefrom.

B. No member of STDA shall participate in any decision to this contract, which affects his personal interest, in which he is directly or indirectly interest; nor shall any member, officer, agent, or employee of STDA have any interest direct or indirect in this contract or the proceeds thereof.



DRAFT

XXII. NOTICES

A. Any notice required or desired to be given pursuant to this Agreement shall be deemed given when it is personally served or forty-eight (48) hours after it is deposited in the United States mail, postage pre-paid, certified mail, return receipt requested, addressed as follows:

STDA: STDA  
c/o Sacramento Metropolitan Arts Commission  
1221 J Street  
Sacramento, CA 95814

ARTIST:

B. Artist shall notify the STDA of any change of address and failure to do so shall constitute a waiver of Artist's rights pursuant to this Agreement during the time such omission prevails. Any notice required or desired to be sent to Artist shall be sent certified mail, return receipt requested, to the Artist at the latest address given the Metropolitan Arts Commission. In the event such notice is returned refused or addressee unknown, then such attempt shall fulfill all obligations of STDA to locate Artist or to give notice, whether required by this Agreement or by law.

XXIII. SUCCESSOR

All rights covered and obligations imposed by this agreement shall benefit and bind any successor of STDA.

XXIV. ENTIRE AGREEMENT

This Agreement is the entire Agreement of the parties and supercedes all prior negotiations and agreements whether written or oral. This Agreement may be amended only by written agreement and no purported oral amendment to this Agreement shall be valid.

IN WITNESS WHEREOF, the parties have executed this Agreement the date and year first above written.

STDA

APPROVED AS TO FORM AND LEGALITY:

BY: \_\_\_\_\_  
Christina Prim, Attorney  
Sacramento Transit Development Agency

Date \_\_\_\_\_



DRAFT

RECOMMENDED and APPROVED:

BY: John W. Schumann, Executive Director  
Sacramento Transit Development Agency

\*APPROVED:

BY: Anne Rudin, Chairperson  
Sacramento Transit Development Agency

ARTIST

APPROVED:

BY: \_\_\_\_\_

\*Execution by STDA Chairperson required only if contract exceeds \$10,000.



EXHIBIT A

Artist's Proposal



## EXHIBIT B

### Specifications of Work

1. Dimensions, Size, Color and Weight:

2. Materials and Finishes

The following is a complete list of the materials and finishes which will be used to fabricate the Work. The list of materials and finishes includes raw materials, tiles, paints, primers, metals, clays, adhesives, epoxys, grouts, etc. Please be detailed since this list will be kept on file and referred to for repairs and maintenance in the future.

1.

2.

3.

4.

5.

6.



3. Studio Fabrication/Field Fabrication

The following is a description of the aspects of the Work which will be studio and field fabricated:

a) Studio Fabrication:

b) Field Fabrication:

c) Please list here your proposed sub-contractors/employees and the work you anticipate they will be doing:

4. Schedule for Completion of Work

The following fabrication schedule shall be adhered to in the performance of the work:

- a) Start Date: \_\_\_\_\_
- b) Phase I (description) \_\_\_\_\_ finished by \_\_\_\_\_
- c) Phase II (description) \_\_\_\_\_ finished by \_\_\_\_\_
- d) Phase III (description) \_\_\_\_\_ finished by \_\_\_\_\_
- e) Phase IV (description) \_\_\_\_\_ finished by \_\_\_\_\_
- f) Phase V (description) \_\_\_\_\_ finished by \_\_\_\_\_

5. Installation

Following are detailed plans for the installation of the Work, including precise location, description of all fixtures, support, etc. and any preparatory work needed to be done at the site prior to installation:



6. Maintenance and Cleaning Provisions

The following are design provisions and instructions for the maintenance and cleaning of the Work upon final acceptance by STDA:

- a) Special design features for maintenance by STDA:
  
  
  
  
  
  
  
  
  
  
- b) Special cleaning instructions:
  
  
  
  
  
  
  
  
  
  
- c) Maintenance and repair instructions (match color, spare parts, etc.)



EXHIBIT C  
Payment Schedule

(a) At the execution of this Agreement \$\_\_\_\_\_.

(b) At the time the following Phases of Work, as defined in Exhibit B, are completed to the satisfaction of STDA:

Phase I \$\_\_\_\_\_

Phase II \$\_\_\_\_\_

Phase III \$\_\_\_\_\_

Phase IV \$\_\_\_\_\_

Phase V \$\_\_\_\_\_

(c) At the time the Work is completed and installed to the satisfaction of STDA, STDA shall so certify and \$\_\_\_\_\_ (final payment) paid no later than the 35th day after said certification, provided, however, that no payment shall be made when Artist shall be in default of this Agreement. STDA shall be the sole determiner of when the Work has been completed during its various phases.





## CITY OF SACRAMENTO

 DEPARTMENT OF COMMUNITY SERVICES  
 METROPOLITAN ARTS DIVISION

 1221 J STREET  
 TELEPHONE (916) 449-5320

SACRAMENTO, CA 95814

 BILL MOSKIN  
 EXECUTIVE DIRECTOR

July 20, 1984

MEMORANDUM

TO: BOB KERSHAW, STDA

FROM: JENNIFER DOWLEY, COORDINATOR  
ART IN PUBLIC PLACES PROGRAM

RE: Selection Process for Light Rail Art Program

In response to Board Member Arthur Bauer's request for clarification of the Light Rail Art Program's selection process, I submit the following. If you need any additional material, please do not hesitate to ask me.

<u>Activity</u>	<u>Responsible Parties</u>	<u>Timetable</u>
Planning & development of program and artist selection process	STDA & SMAC staff	August 1982 - August 1983
Review of program and artist selection process	RT Board	March 15, 1983
Approval of program and artist selection process	SMAC STDA Board	February 1, 1983 March 25, 1983
Approval of contract for SMAC to implement Light Rail art program	STDA Board	March 25, 1983
Notice to proceed with art program	STDA staff to SMAC staff	November 23, 1983
Distribution of RFP to artists (4,000 nationwide)	SMAC staff	December 1983 - January 1984



Memorandum  
 Bob Kershaw  
 page 2

<u>Activity</u>	<u>Responsible Parties</u>	<u>Timetable</u>
Panels of arts professionals with technical advisory committee convene to review slides from 600 artists	SMAC staff	January 25, 30 & February 1, 1984
46 artists under contract to develop proposals	SMAC staff	February - May 1984
Panels reconvene to review & select proposals: -18 artists selected -28 proposals rejected -14 artists asked to develop new proposals	SMAC staff	May 11, 16, 21 & July 16, 1984
Technical review of selected artworks for safety and durability	RT, STDA & City staff	Summer & Fall 1984
Approval of selected proposals	Sacramento Metropolitan Arts Commission  STDA Board	June 5 & September 1984  individually as contracts are ready to be signed (Fall 1984 & Winter 1985)
Fabrication of artwork	artists	Fall 1984 - December 1985
Installation of artwork	artists	Spring, Summer, Fall 1985
Overseeing artists' work	SMAC & STDA staff	ongoing

Artworks for the K Street Mall and Cathedral Square will be approved by City Council before coming to the STDA Board.

The Artwork for the O Street Mall is being reviewed by CADA, Capitol Area Planning Committee, the State Architect's Office and General Services.

Attached is a complete list of panelists and Advisory Committee members.



attachment

PANELS

Pavement Pieces & Tree Grates:

Jo Farb Hernandez, Director, Triton Art Museum,  
Santa Clara

Douglas Hollis, artist, San Francisco

Jacqueline Springwater, Chair, Sacramento  
Metropolitan Arts Commission, Art in Public  
Places Committee member

Watt/80 Wall and Banners:

Donald Amos, Exhibit Coordinator, California  
State Department of Parks

Victoria Rivers, artist, Sacramento

Sylvia Seventy, Director of Fiberworks

K Street, O Street, Cathedral Square:

Richard Andrews, Director, Art in Public Places,  
Seattle Arts Commission

Michael Riegel, artist, Sacramento

Connie Lewallen, Curator, Matrix Gallery,  
University of California, Berkeley

ADVISORY COMMITTEES

- Neil Fairbanks, STDA
- Ralph Carhart, CALTRANS
- John Ritner, CALTRANS
- Byron McCulley, CHNMB
- Judy Brifman, Regional Transit

same as above

same as above, plus:

- Whitson Cox, State Architect
- John Hansen, Deputy State Architect
- Paul Schmidt, CADA
- Howard Evanson, Sacramento Downtown Association
- Monsignor Kidder, Cathedral of the Blessed Sacrament
- Harry Devine, architect
- Johnie Bramble, Sacramento Parks Department
- Christie Marks, Downtown Tenants



## EXHIBIT C

October 25, 1984  
Background Report

### SACRAMENTO LIGHT RAIL ART PROGRAM

#### BACKGROUND

Under the contract to the STDA, the Sacramento Metropolitan Arts Commission has been working since the Fall of 1982 to develop an art program appropriate to the needs and function of Sacramento's Light Rail System. The artworks will be an effective marketing tool for the system because of the positive image it will convey to the public. In addition, the artworks that are identifying each of the stations will enhance the community's relationship with the entire system.

The artworks have resulted from nationwide competitions, decisions by juries of arts professionals and community advisors, and thorough technical scrutiny by STDA and the Regional Transit staff. What is listed here is the result of two years' work by STDA staff and the Arts Commission to develop an art program that will be both exciting and functional. Although not unique for transportation systems (there are arts in transportation programs in Atlanta, Baltimore, Boston, Buffalo, Los Angeles, Miami, New York, Portland, San Francisco, and San Jose), Sacramento is unique in having its artwork so closely integrated into the system.

The following information developed by STDA staff and the Sacramento Metropolitan Art Commission is divided into Eliminations, Phased Implementation and Fundraising Strategies. These changes in the original art program reflect STDA's current budget situation and allow time for fundraising efforts and still work within the construction schedule. Many of the artworks need to be installed as part of the construction process since retrofitting is prohibitively expensive.

#### I. ELIMINATIONS

In keeping with budget eliminations throughout STDA's projects, two art projects have been eliminated:

Banners from suburban stations	\$46,000
Pavement piece from Watt/80 West	\$ 8,200
Total eliminations	\$54,200

#### II. PHASED IMPLEMENTATION

##### A. ARTWORKS INSTALLED CONCURRENT WITH CONSTRUCTION - 61,600

The following artworks are integral to the construction schedule. Elements of the artworks must be installed when the platform concrete is wet. Contracts for these artworks need to be executed when notice to proceed is given to the appropriate contractor.



### Pavement Pieces

<u>Location</u>	<u>Contract #</u>	<u>Description/Artist</u>	<u>Approx. Art Contract Date</u>	<u>Budget</u>
Swanston	7	Archaeological artifacts the era of Sacramento as a sea bed and later as an Indian settlement John Roloff, Oakland	4/12/85	\$8,700
Del Paso	7	Stainless steel strips in pavement - light rails Jim Melchert, Oakland	4/12/85	\$8,000
Globe Ave.	4A	Tile coveying art deco/moderne motif of Del Paso area Rick Yoshimoto, Inverness	12/85	\$6,100
6th Street	4A	Twenty-seven 3" x 5" \$16 bills randomly set into the platform Clayton Bailey, Oakland	3/20/85	\$7,600
Starfire	7A	Milky Way Galaxy and Ursa Major portrayed with integrally colored concrete, tile and stainless steel Diane Dame, Napa	6/85	\$7,600
Butterfield	7A	A 21' x 7' pond depicted using integrally colored concrete with tile and copper inlays Susan Dannenfelser, Lafayette	6/85	\$9,000
59th Street	7A	The number 59 in terrazo changing into a bird shape on both platforms Joseph Distefano, Oakland	6/85	\$7,600

### Tree Grates

All Stations		Designed to fit all technical specifications of RT and STDA and cost the same as standard tree grate John Dooley, Sacramento	6/85	\$7,000
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### B. ARTWORKS INSTALLED AFTER CONSTRUCTION BUT BEFORE OPENING - \$90,500

The following artworks are also integrated into the system but because their installation does not come until the concrete on the platforms has dried, the contracts for the artists do not have to be signed until a few months before the system opens. The works must be installed before the system is operational because the recesses provided for the artworks would pose a safety problem for system users.



Location	Contract #	Description/Artist	Approx. Art Contract Date	Budget
Watt/80	6	Twelve 3' square California wildflowers in integrally colored concrete Margo Humphrey, Oakland	12/85	\$9,000
Roseville Road	2A	Twelve 3' square integrally colored puzzle pieces Jack Shafer, Roseville	12/85	7,600
Marconi/Arcade	7	Ten 3' square ceramic and relief images of a variety of neighborhoods Short Center, Sacramento	12/85	8,200
Royal Oaks	7	Two dimensional rock garden of stone imbedded in concrete Etsuko Sakimoto	12/85	7,600
12th Street	4A	Four 3' x 21' tile murals set into the concrete platform conveying the present R Street buildings and businesses' names Yoshio Taylor, Sacramento	12/85	7,600
23rd Street	7A	Redesigning proposal Mary O'Neal, Oakland	02/86	7,600
29th Street	7A	Bands of bricks with incised palm trees running the length of the platforms Delia Schalansky, Sacramento	02/86	7,600
65th Street	7A	Slate shadows of the station's structures set into the platform David Middlebrook, Los Gatos	02/86	9,000
Power Inn	7A	Mosaic tile lightning bolts set into 3' square areas on the platform Jim Kouretas, North Highlands	02/86	6,100
College Green	7A	Integrally colored concrete band running the length of the platform Marc Katano, San Francisco	02/86	6,100



Watt/Manlove	7A	A game made by using 3' grid pattern, paint, tile and integrally colored concrete on both platforms Joan Zalenski, Emeryville	02/86	7,600
Tiber	7A	River theme and gold panning depicted using tile and integrally colored concrete Gerald Hong, Menlo Park	02/86	6,500

C. ARTWORKS THAT MAY BE INSTALLED AFTER CONSTRUCTION - \$43,600

The following artworks should be installed by the time the system opens but do not pose any safety problems if the installation is delayed further.

Location	Contract #	Description/Artist	Approx. Art Contract Date	Budget
Alkali Mural		Two 50' x 30" murals - one depicting an Aztec Sun God, the other a Victorian decorative motif Henry Ortiz, Sacramento		\$7,600
Watt/80 Mural		22' x 15' tile mural under the Watt Avenue Bridge depicting sea life Maria Alquilar, Sacramento		8,000
Banners		For K and O Street Malls to be suspended from light fixtures. Four sets of decorative banners by David Ewing, Sacramento; Darrell Forney, Sacramento; and Patricia Dreher, San Francisco One RT banner by Illium		28,000

III. ARTWORKS FOR WHICH MATCHING FUNDS WILL BE SOUGHT - \$235,000

The following are artworks for which matching funds are being sought from the National Endowment for the Arts. In order to complete the application in December 1984, a commitment of the match is necessary. Staff proposes that the STDA approach the SHRA for one half of the funds for K Street and Cathedral Square artworks and the State for one half of the funds for the O Street artworks.



Location	Description/Artist	Approx. Art Contract Date	Revenue Source	Budget
K Street Mall	Four stylized tree forms between 8th and 10th Sts. John Buck, Boseman, Montana	10/85	\$25,000 NEA 25,000 SHRA	\$50,000
Cathedral Sq.	Site is 11th Street on either side of K Street. Artist to be selected December 1985	10/85	62,500 NEA 62,000 SHRA	125,000
O Street	"The Garden and the City" - a grove of trees and five facades at the corner of O and 9th Streets Lauren Ewing, New York City	10/85	30,000 NEA 30,000 State	60,000

Please note that these categories are still flexible pending final meeting with STDA design and engineering staff.

Total Art Budget	\$430,700
Administration	66,475
Contingency	8,625
Elimination	<u>54,200</u>
	\$560,000



EXHIBIT NO. 13

PRELIMINARY ENGINEERING

BASELINE DOCUMENT



SACRAMENTO LIGHT RAIL TRANSIT STARTER LINE PROJECT

PRELIMINARY ENGINEERING

DELIVERABLES RELATED TO MILESTONES

	<u>Submittal Date</u>	
	<u>Draft</u>	<u>Final</u>
Milestone 1: Management Control Plan		
Deliverables: a. Management and Control Plan (Draft and Final) (requires update-not started)	11/15/82	01/15/83
b. General Provisions and Standards for Contracts (GP's updated and OK, Standards require update)	01/15/83 04/1/83	01/31/83
Milestone 2: Major Special Studies		
Deliverables: a. Reports on Compatible Land Use and Development Programs (Initial and Final) (need to initiate phase II)	12/15/82 04/5/83	01/15/83
b. Report on Corrosion Control and Protection (needs to be reviewed)	01/31/83 04/1/83	02/28/83 05/6/83
c. Report on Geotechnical Surveys (OK)	11/30/82 12/27/82	01/15/83
d. Utility Relocation (needs updating)	12/31/82 04/1/83	01/31/83 05/6/83
Milestone 3: Initial and Final Layout of Alignments		
Deliverables: a. Right-of-Way and Track Maps, including special drainage (Initial) (needs updating)	11/15/82 12/13/83	01/15/83 04/28/83
b. Plans for Major Structures (Initial) (needs updating)	12/15/82 12/27/82	01/15/83 05/4/83
c. Right-of-Way and Land Acquisition Requirements (updated monthly)	01/15/83 01/24/83	01/31/83 03/17/83



Submittal DateDraft      Final

## Milestone 4: Initial and Final Criteria Development

Deliverable: LRT Design Criteria (Draft and Final)  
(requires review and updating)

09/30/82    11/30/82  
10/21/82    01/10/83

## Milestone 5: Initial and Final Station Layouts

Deliverables: a. Typical LRT Station Platform and Shelter  
Layouts (Initial)  
(needs review and update)

10/15/82    12/15/82  
12/27/82    12/27/82

b. Major Bus Transfer and Park-and-Ride Station  
Plans (Initial)  
(needs updating)

11/30/82    01/31/83  
12/27/82

c. Downtown Transit Mall Plans - K and O Streets  
(Initial)  
(needs updating)

11/15/82    01/31/83  
12/27/82

## Milestone 6: Initial and Final System Layouts for Signals, Power and Vehicles

Deliverables: a. Preliminary Plans for Train Protection, Local  
Supervision and Control, Traffic Coordination  
and Highway Crossing Protection Signaling  
(Initial)  
(needs review and updating)

12/15/82    01/31/83  
05/6/83    Not Required

b. Preliminary Plans for Substations Including  
Recommended Spacing and Typical Layout (Initial)  
(needs updating)

12/15/82    01/31/83  
05/6/83    Not Required

c. Preliminary Plans for Traction Power Distribu-  
tion System (Initial)  
(needs updating)

12/15/82    01/31/83  
05/6/83    Not Required

d. Request for Technical Proposals for Light Rail  
Transit Vehicles (Draft)  
(document changes)

11/30/82    01/15/83  
02/11/83    Not Required

e. Preliminary Plans for Other Subsystems including  
Communications, Fare Collection, Safety, and  
Fire Protection (Initial)  
(needs review)

12/15/82    01/31/83  
InFEIS    Not Required



Submittal Date	
Draft	Final

#### Milestone 7: Functional and Final Yard and Shop Layout

Deliverable:	Yard and Shop Layouts (Functional) (needs review, contract awarded)	12/15/82	01/31/83
		12/27/82	

#### Milestone 8: Estimates - Methodology, Cost Estimate and Implementation Schedule

Deliverables:	a. Technical Memorandum on Capital Cost Estimating Methodology (needs review)	11/15/82 01/10/83	11/30/82 05/14/83
	b. Technical Memorandum on Operating and Maintenance Cost Methodology (needs major revision - RT has update data)	11/30/82 05/11/83	12/31/82 In FEIS
	c. Preliminary Engineering Cost Estimate and Financial Plan for LRT System (Draft and Final) <ul style="list-style-type: none"> <li>o Capital (absolute - major update)</li> <li>o Operating (RT has updated)</li> </ul>	01/15/83	01/31/83
	d. LRT Project Implementation Schedule (Initial and Final) (Revision 7 in progress)	12/15/82 01/10/83	01/31/83

#### Milestone 9: Demand and Operational Analysis

Deliverables:	a. Report on Estimated LRT and Northeast Transit System Patronage in 1985, 1990 and 1995 (Draft and Final) (OK)	12/15/82 01/18/83	01/15/83
	b. Technical Memorandum on Confirmation of LRT Operating Plan (Design Criteria Chapter 1.3; Reports 1 and 1A) (need review and update)	11/30/82 03/28/83	12/15/82 04/14/83
	c. Technical Memorandum on Track Fasteners and Configuration Study (needs update)	12/31/82 01/10/83	01/15/83
	d. Technical Memorandum on Noise and Vibration Study (OK)	12/31/82 04/01/83	01/31/83 05/06/83



		<u>Submittal Date</u>	
		<u>Draft</u>	<u>Final</u>
e.	Technical Memorandum on Operable Segments, including impacts of future extensions. (needs review and update)	11/30/82 03/28/83	12/15/82 04/14/83
f.	Technical Memorandum on Refined Bus Routing Analysis (RT has updated)	12/31/82 05/11/83	01/31/83
g.	Technical Memorandum on Study of Single Versus Double Track Operation and Its Impact (Utilize DCR-1A) (needs review and update)	12/15/82 03/28/83	01/15/83 04/14/83
h.	Preliminary System Start-Up Plan including:	12/31/82 04/14/83	01/31/83
	o Operating Plan - update in process RT		
	o Maintenance Plan - update in process RT		
	o Training Plan - update in process RT		

Milestone 10: Final Environmental Impact Statement (FEIS)

Deliverable:	The Final Environmental Impact Statement (need review for compliance, update and perhaps formal amendment)	10/31/82 12/16/82	01/15/83 06/01/83
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EXHIBIT NO. 14

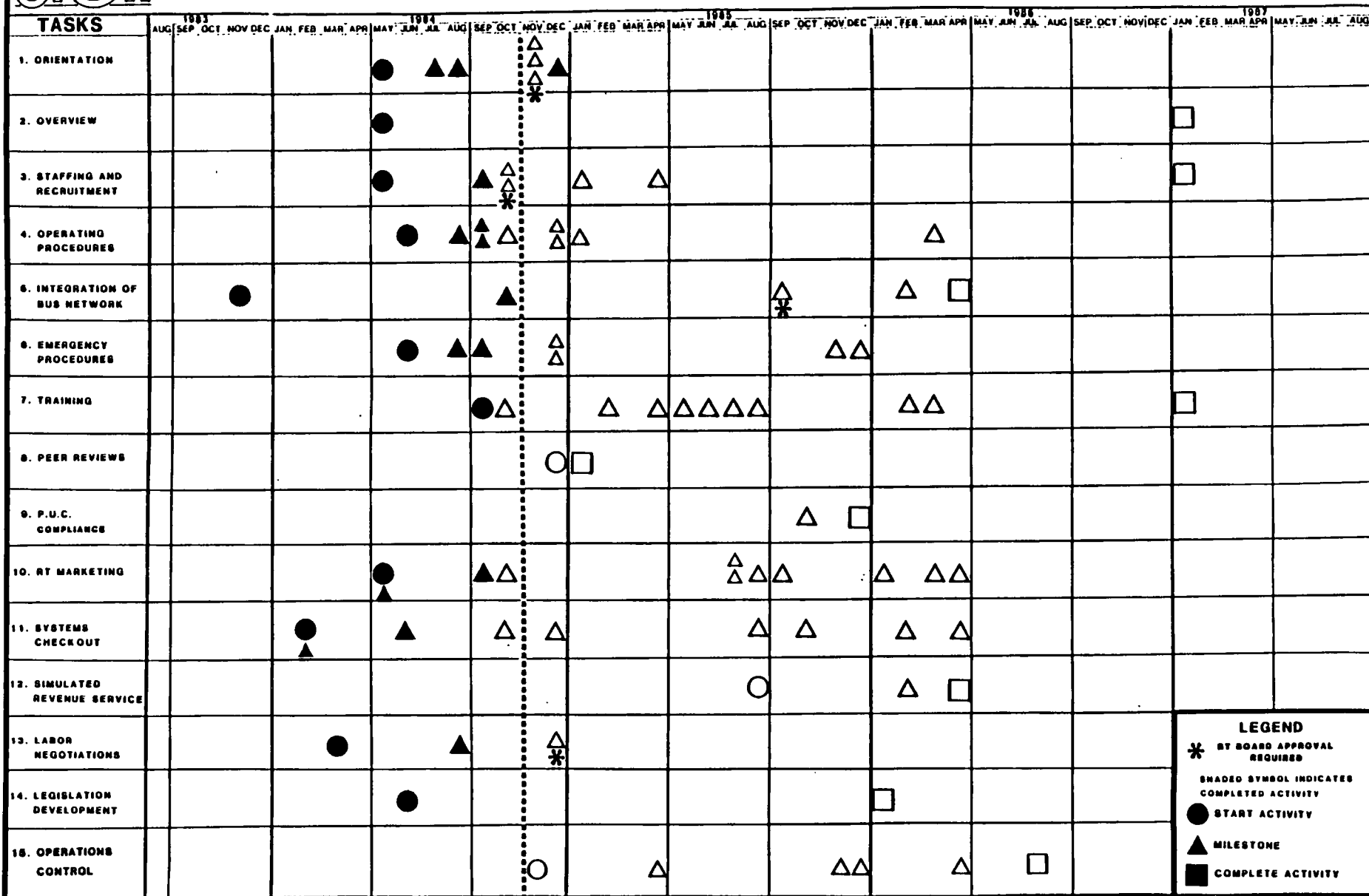
OPERATIONS AND INTEGRATION WORK PROGRAM

TASKFORCE MILESTONE AND ACTIVITY DATES





SACRAMENTO LIGHT RAIL TRANSIT PROJECT  
LRT OPERATIONS AND INTEGRATION WORK PROGRAM









# LRT OPERATIONS AND INTEGRATION WORK PROGRAM

TASK	PERSONS/DEPTS. INVOLVED	ACTIVITY START DATE	ACTIVITY END DATE
1. Orientation	Blymyer* LRT Project Dev. Team LRT PCO	5/84	8/84
The preparation and presentation of an informative program dealing with t progress and development of the light rail project (internal and external			
2. Overview	Smelley* Senior Staff STDA	5/84	Completion
A comprehensive review of the tasks outlined in the light rail start-up process by senior staff at major milestones.			
3. Staffing and Recruitment Plan	Beach* Personnel	5/84	7/84 First Milestone to Completion
The development of various job classifications: defining tasks, requirements, pay grades and recommendations, and the selection of personnel needed for positions in the LRT Department.			
4. Operating Procedures	Beach* LRT PCO LRT Project Dev. Team Foster Engineering MIS Accounting Risk Management AGM - Operations	6/84	9/84
The implementation of the rules, policies and performance required for the routine operation of the LRT system.			
5. Integration of Bus Network	Lonergan* LRT Project Dev. Team Scheduling Transportation Planning	In Progress	10/84 Ready for Public Process
The development, coordination, and implementation of a viable bus network designed to operate in conjunction with the light rail system.			
6. Emergency Procedures	Beach* Risk Management Foster Engineering	6/84	9/84 First Milestone



Develop and maintain an extensive, coordinated plan which deals with operation and testing of the light rail system under emergency conditions.

- |    |          |   |      |                                       |
|----|----------|---|------|---------------------------------------|
| 7. | Training | Beach*<br>Risk Management<br>LRT Project Dev.<br>Team | 9/84 | 3/85 First Milestone<br>to Completion |
|----|----------|---|------|---------------------------------------|

Establish criteria and perform the necessary training required for the development of LRT personnel.

- |    |              |  |      |      |
|----|--------------|--|------|------|
| 8. | Peer Reviews | Smelley*<br>STDA<br>LRT Project Dev.<br>Team | 7/84 | 8/85 |
|----|--------------|--|------|------|

Coordination of the evaluation process performed by outside agencies reviewing RT's engineering and operation plan for the light rail project.

- |    |                         |                |       |            |
|----|-------------------------|----------------|-------|------------|
| 9. | P.U.C.<br>Certification | Beach*<br>STDA | 12/85 | Completion |
|----|-------------------------|----------------|-------|------------|

The process of working with the P.U.C. during various stages of development and the final application for approval of the LRT system.

- |     |                         |                               |      |            |
|-----|-------------------------|-------------------------------|------|------------|
| 10. | RT Marketing<br>Efforts | Blymyer*<br>Marketing<br>STDA | 5/84 | Completion |
|-----|-------------------------|-------------------------------|------|------------|

Develop and implement a marketing program by RT's marketing department designed toward the transition of LRT into RT's operating bus network and coordinate with Regional Transit's current and ongoing marketing programs.

- |     |                  |                       |      |                    |
|-----|------------------|-----------------------|------|--------------------|
| 11. | Systems Checkout | Beach*<br>LRT<br>STDA | 2/85 | 4/86 to Completion |
|-----|------------------|-----------------------|------|--------------------|

Evaluation and problem solving phase designed to test all components of the LRT system and correct all deficiencies resulting from non-compliance with the design specifications.

- |     |                              |  |      |                    |
|-----|------------------------------|--|------|--------------------|
| 12. | Simulated Revenue<br>Service | Beach*<br>LRT<br>Risk Management<br>Accounting | 4/85 | 4/86 to Completion |
|-----|------------------------------|--|------|--------------------|

The process in which the start-up and implementation tasks are completed and the LRT system is operational. Actual revenue service is duplicated to insure that service will be provided in a proficient manner.

- |     |                    |                                       |      |  |
|-----|--------------------|---------------------------------------|------|--|
| 13. | Labor Negotiations | Beach*<br>Labor Negotiations<br>Legal | 5/84 | 12/84 First Milestone<br>to Completion |
|-----|--------------------|---------------------------------------|------|--|



The process in which an agreement is finalized dealing with the labor conditions of the LRT system.

14. Legislation Dev.      Beach\*                      6/84                      4/20/86  
                                 Legal  
                                 Senior Staff

Initiate and seek approval for the necessary legislation required for the operation of the LRT system.

15. Operation Control      Smelley\*  
                                 LRT Project Dev. Team  
                                 Foster Engineering

Development of a vehicle maintenance and operation MIS system, system monitoring program, operating and maintenance cost and equipment list.

Revised: 10/24/84

\* Designated Project Development Team Coordinator



## TASKFORCE MILESTONE AND ACTIVITY DATES

### 1. Orientation (Blymyer)

- A. 5/84 Start activity
- B. 7/84 Present to Task Force
- C. 8/84 Present to Senior Staff
- D. 11/84 Orientation approval by RT Board (10/25/84) \*
- E. 11/84 Present to Labor organizations (10/25/84)
- F. 11/84 Start public presentations (10/25/84)
- G. 12/84 Complete RT orientation

### 2. Overview (Smelley)

- A. 5/84 Start process
- B. 1/87 Complete process

### 3. Staffing and Recruitment (Beach)

- A. 5/84 Start activity
- B. 9/84 Review final staffing plan
- C. 10/84 Staffing approval by RT Board \*
- D. 10/84 Start ATU & IBEW negotiations
- E. 1/85 Start non-union recruiting process
- F. 4/85 Union & Management Agreement
- G. 1/87 Complete staffing process

### 4. Operating Procedures (Beach)

- A. 6/84 Start activity
- B. 8/84 Draft operating rules
- C. 9/84 Develop operating plan
- D. 9/84 Start meetings with public safety agencies
- E. 10/84 Adopt rule book
- F. 12/84 Finalize operating plan (10/23/84)
- G. 12/84 Complete peer reviews
- H. 1/85 Complete system start-up schedule (10/23/84)
- I. 3/86 Finalize agreement with public safety agencies

### 5. Integration of Bus Network (Lonergan)

- A. 11/83 Start activity
- B. 10/84 Complete preparation for public process
- C. 9/85 Network approved by RT Board \*
- D. 2/86 Complete sign-up preparation
- E. 4/86 Implement bus network

### 6. Emergency Procedures (Beach)

- A. 6/84 Start activity
- B. 8/84 Draft emergency procedures
- C. 9/84 Start meetings with public safety agencies
- D. 12/84 Develop system safety plan (10/23/84)
- E. 12/84 Complete peer review



- F. 11/85 Adopt emergency procedures
- G. 12/85 Commence emergency simulation

7. Training (Beach)

- A. 9/84 Start activity
- B. 10/84 Start negotiations for classes (coordinate with Luthi)
- C. 2/85 Schedule classes
- D. 4/85 Start Electro Mechanic training (Management)
- E. 5/85 Operations trainer qualified
- F. 6/85 Start Electro Mechanic training (Mechanics)
- G. 7/85 Start operations training
- H. 8/85 Car delivery (testing)
- I. 2/86 Emergency simulation (testing)
- J. 3/86 Power, signal & track repair, complete operator training
- K. 4/86 Revenue service

8. Peer Review (Smelley)

- A. 12/84 System safety and assurance
- B. 1/85 Operations and start-up

9. P.U.C. Certification (Beach)

- A. 10/85 File for final certification
- B. 12/85 Complete certification

10. Marketing (Blymyer/Cain)

- A. 5/84 Start activity
- B. 5/84 Provide general information to public
- C. 9/84 Establish specific goals with Marketing
- D. 10/84 Start public orientation (coordinate with Marketing)
- E. 8/85 P/R - receive first LRV
- F. 7/85 P/R - receive fare vending equipment
- G. 7/85 Start preparation for K St. Mall ceremony
- H. 9/85 P/R - K St. Mall ceremony
- I. 1/86 Complete preparation for simulated revenue service
- J. 3/86 Simulated revenue service (open house)
- K. 4/86 I-80 revenue service (inauguration)

11. System Checkout (Beach)

- A. 2/84 Start activity
- B. 2/84 First vehicle design review
- C. 6/84 Second vehicle design review
- D. 10/84 Substation test review
- E. 12/84 Start buff strength design review
- F. 8/85 Start vehicle testing
- G. 10/85 Start system checkout process



- H. 2/86 Simulated revenue service
- I. 4/86 Revenue service

12. Simulated Revenue Service (Beach)

- A. 8/85 Start activity
- B. 2/86 Start simulated revenue service
- C. 4/86 Complete activity

13. Labor Negotiations (Beach)

- A. 3/84 Start activity
- B. 8/84 Establish negotiating guidelines
- C. 12/84 Approval of negotiating guidelines by RT Board (10/25/84) \*

14. Legislation Development (Beach)

- A. 6/84 Start activity
- B. 1/86 Complete activity

15. Operation Control (10/22/84) (Smelley)

- A. 11/84 Start vehicle maintenance and operating M.I.S. development
- B. 4/85 Complete equipment list
- C. 11/85 Finalize operating and maintenance cost
- D. 12/85 Develop operation monitoring criteria
- E. 4/86 Start operation monitoring
- F. 7/86 Complete activity

\* Activity requiring Board approval



EXHIBIT NO. 15

FUTURE EXTENSIONS REPORT



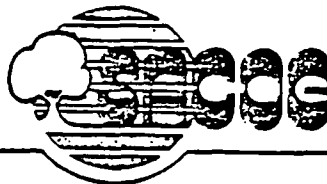
**DRAFT**

SACRAMENTO LRT EXTENSION STUDY

PRELIMINARY ANALYSIS  
OF THE  
PROPOSED EXPANDED LRT SYSTEM

OCTOBER 25, 1984

PREPARED BY:



Sacramento Area Council of Governments

Suite 300, 800 "H" Street Sacramento, California 95814



## INTRODUCTION

The Sacramento LRT Extension Study is designed to prioritize potential LRT system improvements and expansion alternatives within the Sacramento area so that rights-of-way for future extensions can be preserved. Such preservation will allow the orderly and timely development of Sacramento's LRT system should funds become available to build and operate any extension to the starter system now being constructed.

This Preliminary Analysis of the Proposed Expanded LRT System report completes the first phase of the Extension Study. With assistance from Regional Transit and the Sacramento Transit Development Agency staffs, a map of the potential corridors in which LRT service could be extended has been developed (see Map 1). Once the corridors were identified, they were divided into 14 segments for analysis purposes. System improvements such as double tracking, additional maintenance facilities or additional rolling stock were not considered in this phase. It is assumed that the facilities and equipment required to support the operation of an expanded system would be added as necessary. System improvements will, however, be included in the project priority listing to be prepared by a consultant in the next phase of the study.

The range of LRT system extension alternatives to be carried to the next phase of the study is set by this report. One of three recommendations are made for each of the 14 segments. The first recommendation is to carry the segment forward to the project definition phase. This recommendation means that the discrete projects within the segment will be identified and analyzed for consideration in the development of a list of priority projects. The second recommendation is to carry the segment forward to the conceptual phase. This recommendation means that the segment will be briefly analyzed by the consultant as to its ultimate development potential but it will not be considered for the list of priority projects. The third recommendation is to drop the segment from further consideration. This recommendation means that, even though the segment may have development potential, it is the responsibility of the benefiting jurisdiction to plan for its extension.

Of the 14 segments in the proposed expanded LRT system, 12 are recommended for either the conceptual or project definition phase of the study. These 12 segments, depending on their ultimate alignment, are approximately 75 miles in length. Approximately 41 miles (55%) of these segments would be located in the unincorporated area of Sacramento County. Approximately 30 miles (40%) would be located within the city limits of Sacramento. The remaining 4 miles (5%) would be in the city of Folsom.







POTENTIAL LIGHT RAIL EXTENSION SEGMENTS

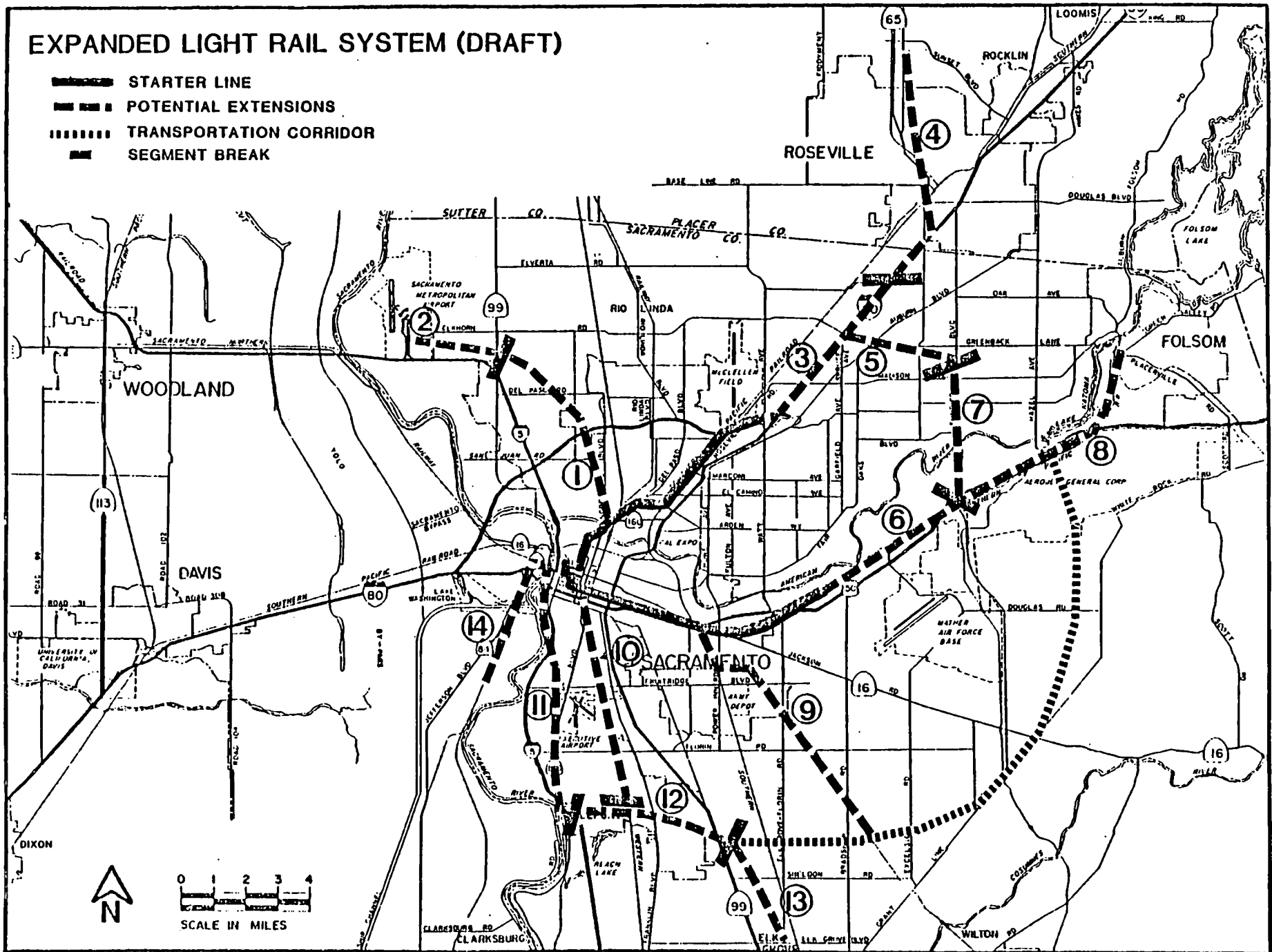
Key to Map 1

- |   |   |
|---|---|
| 1. NATOMAS EXTENSION<br>Approx. 7.8 miles                             | 8. CITY OF FOLSOM EXTENSION<br>Approx. 7.0 miles                |
| 2. AIRPORT EXTENSION<br>Approx. 3.7 miles                             | 9. SOUTHEAST COUNTY EXTENSION<br>Approx. 8.1 miles              |
| 3. INTERSTATE 80/ANTELOPE ROAD<br>EXTENSION<br>Approx. 6.0 miles      | 10. LAGUNA EXTENSION<br>Approx. 7.4 miles                       |
| 4. SOUTH PLACER COUNTY EXTENSION<br>Not recommended for further study | 11. MEADOWVIEW EXTENSION<br>Approx. 7.0 miles                   |
| 5. INTERSTATE 80/SUNRISE MALL<br>EXTENSION<br>Approx. 9.1 miles       | 12. ROUTE 148 EXTENSION<br>Approx. 5.7 miles                    |
| 6. HIGHWAY 50/SUNRISE BOULEVARD<br>EXTENSION<br>Approx. 4.7 miles     | 13. ELK GROVE EXTENSION<br>Approx. 3.4 miles                    |
| 7. SUNRISE BOULEVARD EXTENSION<br>Approx. 5.0 miles                   | 14. SOUTHPORT EXTENSION<br>Not recommended for further<br>study |



# EXPANDED LIGHT RAIL SYSTEM (DRAFT)

-  STARTER LINE
-  POTENTIAL EXTENSIONS
-  TRANSPORTATION CORRIDOR
-  SEGMENT BREAK





## 1. NATOMAS EXTENSION

### EXTENSION LOCATION

The Natomas Extension is located north of the downtown serving the communities of North and South Natomas. Both of these communities are located primarily within the city limits of Sacramento. The community plans for the this area show two possible alignments for light rail transit (LRT). The first alignment would run north from the starter line at Northgate Boulevard and Route 160 along Northgate Boulevard to Del Paso Boulevard. From there, the line would parallel Del Paso Boulevard to the west until it reaches I-5 where it would turn north and parallel I-5 until its terminus at I-5 and Route 99. The second alignment would start in downtown Sacramento and proceed north along a Truxel Road extension across the American River to Del Paso Boulevard. From there, the LRT line would proceed west along Del Paso Boulevard to I-5, then north to its terminus at I-5 and Route 99. Station locations along either alignment would most likely occur at major cross streets such as West El Camino Avenue, San Juan Road and Del Paso Boulevard.

### SERVICE AREA

Either extension would extend LRT service into the growing residential and industrial areas of both North and South Natomas. According to the community plans for these areas, there is substantial office, commercial, industrial and residential development planned for the Natomas area that could easily be served by LRT. In addition, any proposed LRT alignment for the Natomas area should consider the possible location of the proposed sports complex.

Implementation of a Natomas extension would also allow for a significant level of reverse commuting. The primary destinations served by either of the alignments would be downtown Sacramento, the proposed sports complex and any proposed industrial and commercial office complexes proposed for the Natomas area.

### IMPLEMENTATION FACTORS

Timing will be the critical factor in determining the implementation of a Natomas extension. Currently, the Sacramento City Council is grappling with the time schedule for development of the entire Natomas area. Another major factor that could impact the Natomas extension is whether or not there is sufficient right-of-way along the existing streets for LRT. In addition, the Truxel Road alignment will pose an additional problem of how to get across the American River and into downtown Sacramento.

### RECOMMENDATION

Carry forward to project definition phase.



## 2. AIRPORT EXTENSION

### EXTENSION LOCATION

The Airport Extension would roughly parallel I-5 from the terminus of the Natomas extension at Route 99 and I-5 to the Sacramento Metropolitan Airport via Airport Road. This extension lies entirely within Sacramento County. The alignment for this extension would probably be wholly contained within the I-5 right-of-way and airport property. Station locations for this extension would be determined by the development patterns occurring along this segment exclusive of the Metro Airport station.

### SERVICE AREA

This segment would extend LRT service to the proposed industrial development in and around Metro Airport. In addition, this segment would provide for quick and easy access to Metro Airport for people living in either North or South Natomas and the downtown.

### IMPLEMENTATION FACTORS

One of the major problems facing this extension will be how to get across Route 99 at I-5. In addition, the timing of the industrial development in and around Metro Airport along with ridership growth at Metro Airport will be critical factors in determining when LRT should be extended to Metro Airport. Another factor to consider when discussing the Airport Extension is whether or not the airport should become directly involved financially with the planning for this segment as it would probably derive the greatest benefit from its implementation.

### RECOMMENDATION

Carry forward to the conceptual phase.

## 3. INTERSTATE 80/ANTELOPE ROAD EXTENSION

### EXTENSION LOCATION

The I-80/Antelope Road Extension is located in the northeast area of Sacramento County roughly parallel to I-80 and the Southern Pacific tracks. This extension would start at Watt Avenue and I-80, which is the ending point for the starter line in the I-80 corridor, and proceed in a northeasterly direction roughly parallel to I-80 before reaching its terminus at Antelope Road. The alignment for this alternative would probably be contained in either the I-80 or Southern Pacific rights-of-way. Potential station locations for this segment, no matter which alignment is chosen, would probably occur at Madison Avenue, Greenback Lane/ Elkhorn Boulevard and Antelope Road.

### SERVICE AREA

This segment would extend LRT service to the substantial residential development that is now occurring in the Foothill Farms area and in the area bounded by I-80 on the east, Elkhorn Boulevard on the south, Watt Avenue on the west



and the Sacramento/Placer County line on the north. This area includes the rapidly developing community of Antelope. Based upon development planned for South Placer, this extension could see a significant level of reverse commuting. For reverse commuting to work one of two things needs to occur. Either the LRT line will need to be extended into South Placer, as described under the next segment, or some sort of shuttle bus system would need to be set up between the Antelope station and the existing and proposed industrial areas of South Placer. Primary destinations for those using this segment would probably include McClellan Air Force Base, the Point West area, and downtown Sacramento.

#### IMPLEMENTATION FACTORS

A major problem facing this extension is whether or not the extension should be located in the I-80 or Southern Pacific right-of-way. There are problems with both alignments. The I-80 alignment provides little, if any, access to the system other than at the major cross streets (i.e. Madison Avenue, Greenback Lane/Elkhorn Boulevard, and Antelope Road). This is also a problem with the Southern Pacific alignment. Use of the Southern Pacific right-of-way would also entail negotiating with Southern Pacific and that has proven to be difficult in the past. In addition, if the Southern Pacific right-of-way were used, the line, as currently drawn, would end at the beginning of the Roseville switching yard which could pose some serious operational problems if an extension were ever envisioned into the industrial areas of South Placer. This is because it would probably be very difficult, if not impossible, to coordinate all the train movements that take place daily in the Roseville yard and also accommodate an LRT train on a fixed schedule.

#### RECOMMENDATION

Carry forward to project definition phase.

### 4. SOUTH PLACER COUNTY EXTENSION

#### EXTENSION LOCATION

The South Placer County Extension is located in northeast Sacramento County and the industrial area of South Placer. This extension would run northeast from Antelope Road roughly parallel to I-80 or the Southern Pacific tracks until it reached the Placer County line. From there, the LRT line would proceed in a northerly direction on a yet undefined alignment through the city of Roseville with its terminus probably occurring somewhere in the vicinity of the Highway 65 bypass. It is recommended that the exact alignment, station locations and ending point for this segment be the responsibility of the South Placer County jurisdictions.

#### SERVICE AREA

This segment would extend LRT service into the growing industrial areas of South Placer and to the substantial residential development that is now occurring in and around the city of Roseville. Based upon all the proposed industrial development slated to occur in South Placer, this extension segment lends itself well to reverse commuting. The primary destinations that would be served by the extension include the industrial areas of South Placer, McClellan Air Force Base, the Point West area and downtown Sacramento.



## IMPLEMENTATION FACTORS

A major problem facing this extension will be in determining where the actual alignment will be located. If the Southern Pacific alignment is chosen, there is the problem of how to get around or through the Roseville switching yard and into the industrial and residential development that is occurring South Placer County. If the I-80 alignment is chosen, there is a similar problem of how to get out of the I-80 median and into the industrial and residential development that is occurring in South Placer County.

## RECOMMENDATION

That this extension be dropped from any further consideration with a recommendation that the South Placer jurisdictions assume the responsibility for any planning associated with this extension segment.

### 5. INTERSTATE 80/SUNRISE MALL EXTENSION

#### EXTENSION LOCATIONS

The Interstate 80/Sunrise Mall Extension is located in northeast Sacramento County and would roughly parallel either the Southern Pacific tracks or I-80 from the end of the starter line at Watt and I-80 to the vicinity of Greenback Lane/Elkhorn Boulevard. From there, the LRT line would head east towards Sunrise Mall on a yet undefined alignment and terminate at Sunrise Mall. Stations along this extension would probably be located at major cross streets such as Madison Avenue, Greenback Lane/Elkhorn Boulevard, Auburn Boulevard, San Juan Avenue and Sunrise Mall.

#### SERVICE AREA

This segment would extend LRT service to the large residential population currently located around Sunrise Mall including the communities of Citrus Heights and Orangevale as well as the people living along Greenback Lane. Extension of LRT service to the Sunrise Mall area would allow for some reverse commuting as there is a substantial amount of employment centered in and around Sunrise Mall. Primary destinations for those using this segment would include the Sunrise Mall area, McClellan Air Force Base, the Point West area and downtown Sacramento.

#### IMPLEMENTATION FACTORS

As discussed under Segment #3 - Interstate 80/Antelope Road Extension, a major problem facing this extension is whether or not the extension should be located in the I-80 or Southern Pacific right-of-way. There are problems with both as described under the Segment 3 discussion. In addition, both of these alignments pose another problem and that is how to get from either the Southern Pacific or I-80 right-of-way to the east side of I-80 and then to Sunrise Mall. The area between I-80 and Sunrise Mall is almost fully developed. Therefore, in order to get LRT service to Sunrise Mall you must either use the median of Greenback Lane or purchase an entire new right-of-way parallel to Greenback Lane which in all likelihood would be cost prohibitive. In addition, no matter



which alignment is chosen it will probably have some major impacts on traffic in the area that would have to be taken into consideration before this segment could be considered for implementation. Station access could also become a problem since there is little, if any, land available on or near Greenback Lane that could be used for park-and-ride lots so that the majority of LRT ridership along this corridor would probably be walk-on traffic except at Sunrise Mall.

#### RECOMMENDATION

Carry forward to project definition phase.

### 6. HIGHWAY 50/SUNRISE BLVD. EXTENSION

#### EXTENSION LOCATION

The Highway 50/Sunrise Boulevard Extension is located in the eastern portion of Sacramento County roughly parallel to the State Route 50 freeway. The extension would start at the Butterfield Way terminal of the LRT starter system and extend to the intersection of Highway 50 and Sunrise Boulevard. The alignment for this segment would probably be wholly contained in existing railroad right-of-way now owned by Southern Pacific. This extension would provide LRT service to the community of Rancho Cordova with possible station locations to include Mather Field Road, Zinfandel Drive and Sunrise Boulevard

#### SERVICE AREA

This segment would extend LRT service to the large residential population of Rancho Cordova as well as to the rapidly developing employment center in the Sunrise Boulevard and White Rock Road area. Based on the proposed development for the Sunrise Boulevard area south of Highway 50, this segment would allow for a significant level of reverse commuting. Primary destinations for those using this segment would include Mather Air Force Base, the Franchise Tax Board, Sacramento State University and downtown Sacramento.

#### IMPLEMENTATION FACTORS

Right-of-way acquisition in this corridor has proven to be a difficult, if not insurmountable, hurdle. Due to the relatively isolated nature of the railroad right-of-way, transfers between LRT and some other mode will be required to begin and complete most trips. Development along this segment is nearly completed although several major parcels remain undeveloped.

#### RECOMMENDATION

Carry forward to project definition phase.



## 7. SUNRISE BOULEVARD EXTENSION

### EXTENSION LOCATION

The Sunrise Boulevard Extension is located in the eastern portion of Sacramento County parallel to Sunrise Boulevard. The extension would begin at the Sunrise Boulevard station of the Highway 50/Sunrise Boulevard Extension (see segment 6) and extend north across the American River to the vicinity of Sunrise Mall. Possible station locations would include Gold River, Fair Oaks Boulevard, Madison Avenue and Sunrise Mall.

### SERVICE AREA

This segment would extend LRT service to the predominantly residential areas north of the American River in northeast Sacramento County. Major communities benefiting from this extension include Citrus Heights and Fair Oaks as well as the large residential developments of Gold River and Sunriver. The primary destinations for those using this segment would be the Sunrise Mall/Birdcage Walk commercial developments and the remainder of the LRT system to downtown Sacramento.

### IMPLEMENTATION FACTORS

The major factor affecting the development of this extension is the American River. Both how to cross the river and how to scale the bluffs on the north side of the river are significant obstacles to extending LRT northward. Secondary, though important, is the traffic impacts on Sunrise Boulevard which would vary depending on the specific alignment. Access to the line would be primarily limited to walk-on or transferring passengers with the possible exception of a Sunrise Mall station.

### RECOMMENDATION

Carry forward to project definition phase.

## 8. CITY OF FOLSOM EXTENSION

### EXTENSION LOCATION

The City of Folsom Extension is located in east Sacramento County and within the city limits of Folsom paralleling Highway 50 for most of its length. The extension would start at the Sunrise Boulevard station of the Highway 50/Sunrise Boulevard extension (see segment 6) and continue east to the city of Folsom. The alignment for this segment would probably be wholly contained in existing railroad right-of-way on the south side of Highway 50 up to the city limits of Folsom. This right-of-way is currently controlled by Southern Pacific. Once within the Folsom city limits the alignment would be determined by Folsom with at least two options. One option would be to continue the LRT line into the core of Folsom. A second option would be to extend the line to the developing employment center near the intersection of Prairie City Road and Highway 50. Possible station locations would include Hazel Avenue and the city of Folsom.



## SERVICE AREA

This segment extends LRT service to the far east portion of Sacramento County. This corridor contains some of the largest potential or current employment centers in the county, including Aerojet General, McDonald-Douglas, Intel and the Lakeforest Technical and Industrial Parks. Residential areas served by this extension would include the city of Folsom and, by park-and-ride, the El Dorado communities of El Dorado Hills and Cameron Park. The City of Folsom Extension also provides transfer capabilities with the east Sacramento County transportation corridor that is expected to provide access to the large development proposed for the area between Highways 50 and 16. The primary destinations for those using this segment include the many office and industrial developments along this corridor as well as the remainder of the LRT system to downtown Sacramento. This corridor also provides a significant opportunity for reverse commuting.

## IMPLEMENTATION FACTORS

The major factor affecting the development of this extension is the willingness and ability of the city of Folsom to participate financially in its construction. Other factors include the problem of acquiring railroad right-of-way and the timing of the development of the east area transportation corridor. This extension, if directed along Highway 50 to the Prairie City Road area, would also allow for addition of an El Dorado County extension should one be needed at some future date.

## RECOMMENDATION

Carry forward to project definition phase with the condition that further study involve City of Folsom staff.

# 9. SOUTHEAST COUNTY EXTENSION

## EXTENSION LOCATION

The Southeast County Extension is located in a broad corridor bounded by Highway 16 in the north and the Southern Pacific railroad tracks east of Highway 99. Within this corridor are three potential alignments: parallel to Highway 16, parallel to the Central California Traction line or parallel to the Southern Pacific line. Any of these alignments would extend from the starter system at roughly the Power Inn Road station southeast to the east Sacramento County transportation corridor.

## SERVICE AREA

The southeast portion of the county is predominantly low density residential (5 to 20 acre parcels) with scattered industrial development. The northern portion of this corridor contains the Sacramento Army Depot, Proctor and Gamble, and numerous aggregate and nursery interests. Current plans for this area call for continued low density development in this area but as other suitable areas of the county are developed this corridor could receive greater development pressure.



## IMPLEMENTATION FACTORS

The primary factor in the development of LRT in this corridor is the timing of east county development and the construction of a major transportation corridor. The relatively undeveloped nature of much of this corridor allows for potential developer participation in the construction of the extension. Two of the possible alignments require securing railroad right-of-way while the third would probably be jointly developed with any expansion of Highway 16.

## RECOMMENDATION

Carry forward to conceptual phase.

## 10. LAGUNA EXTENSION

### EXTENSION LOCATION

The Laguna Extension is located in the southern portion of the city of Sacramento. This segment would begin in downtown Sacramento in the vicinity of 20th and R Streets and end at the proposed Route 148 corridor in south Sacramento. This alignment for this extension would probably be wholly contained in the existing railroad right-of-way now owned by Western Pacific. Stations along this corridor would probably be located at major cross streets such as Sutterville Road, Fruitridge Road, Florin Road, Meadowview Road, and Route 148.

### SERVICE AREA

This extension would provide LRT service to the core of south Sacramento. Land uses along the corridor are predominantly residential with scattered industrial development. Primary destinations for those using this segment would include Campbell's Soup, Sacramento City College, Hughes Stadium, Department of Motor Vehicles and downtown Sacramento.

## IMPLEMENTATION FACTORS

The significant factor concerning the implementation of LRT service in this corridor is the potential right-of-way conflicts with Western Pacific's operations. The proposed alignment would place LRT along the main line for Western Pacific in this area. In addition, the railroad's central switching yard is located in the middle of this extension behind Sacramento City College. Because of the exclusive railroad right-of-way, traffic impacts from LRT operation would be minimal. Another major factor is the timing of the development of the Meadowview Extension (see segment #11). The Meadowview and Laguna extensions nearly parallel each other, varying from a mile to slightly more than two miles apart. Because of their redundant nature it appears the two extensions may be mutually exclusive.

## RECOMMENDATION

Carry forward to project definition phase.



## 11. MEADOWVIEW EXTENSION

### EXTENSION LOCATION

The Meadowview Extension is located in the southwest portion of the city of Sacramento. This segment would extend south from downtown Sacramento to the vicinity of the Delta Shores business park development east of Interstate 5 and the community of Freeport. The alignment for this extension would be wholly contained in existing right-of-way formerly used as a railroad and currently in public ownership. The only exception to the railroad right-of-way is a short portion at the southern terminus to Delta Shores. Stations on this extension would probably be located at major cross streets such as Fruitridge Road, Florin Road and Meadowview Road.

### SERVICE AREA

This extension would provide LRT service to the large residential population of south Sacramento and the proposed Delta Shores business park. The location of Delta Shores would encourage reverse commuting. Primary destinations along this segment include Delta Shores, William Land Park, Miller Park and downtown Sacramento.

### IMPLEMENTATION FACTORS

The right-of-way for this extension is currently under public ownership and therefore available for development. This alignment also provides for a joint use opportunity with the State Department of Parks and Recreation for excursion train service out of Old Sacramento. Ridership development on this extension is heavily dependent on the uncertain nature of Delta Shores. Another factor is the timing of the development of the Laguna Extension (see segment #10) which roughly parallels the Meadowview Extension. Because of their redundant nature, the two extensions appear to be mutually exclusive.

### RECOMMENDATION

Carry forward to project definition phase.

## 12. ROUTE 148 EXTENSION

### EXTENSION LOCATION

The Route 148 Extension is located along the southern Sacramento city limit boundary. The extension would start at the Delta Shores station of the Meadowview Extension (see segment #11) and extend east to the Calvin Road on the east side of Highway 99. The alignment for this segment would parallel, either in the median or shoulder, Sacramento's proposed Route 148 arterial. Much of the right-of-way for this alignment is in public ownership already. Possible station locations would include Franklin Boulevard and Calvin Road at Highway 99.

### SERVICE AREA

The Route 148 Extension would provide LRT service to the large residential and business park developments proposed along this corridor. The western por-



tion of this corridor is predominantly agricultural land while the eastern portion contains Valley Hi residential area and Cosumnes River College. Primary destinations along this corridor would be the business and industrial parks proposed near Highway 99 at Calvine Road and Cosumnes River College. Given the location of the industrial parks, a strong opportunity for reverse commuting exists.

#### IMPLEMENTATION FACTORS

The development of this extension is based primarily on the construction timing of Route 148. The alignment has been deleted from the state freeway system and is being proposed by Sacramento city and county as an arterial. It is not certain that adequate right-of-way is being reserved to accommodate light rail as well as the planned six lanes of traffic along Route 148.

#### RECOMMENDATION

Carry forward to project definition phase.

### ELK GROVE EXTENSION

#### EXTENSION LOCATION

The Elk Grove Extension is located in the Highway 99 corridor south of the current urbanized area boundary. The extension would begin at the Calvine Road and Highway 99 station of the Route 148 Extension (see segment #12) and end in Elk Grove. The alignment for this extension would be set in the area between the Southern Pacific rail line on the east and Highway 99 on the west.

#### SERVICE AREA

The LRT segment would extend service to the large residential population of the community of Elk Grove as well as to the large industrial developments proposed north of Elk Grove. The primary destinations for those using this extension, however, would probably be downtown Sacramento and the areas served by the remainder of the LRT system.

#### IMPLEMENTATION FACTORS

The major factor affecting the implementation of this segment is the timing of development proposals in the corridor and whether the residential densities would provide reasonable ridership levels. Because the corridor is largely undeveloped, significant developer participation in the construction of this extension is possible.

#### RECOMMENDATION

Carry forward to conceptual phase.



## 14. SOUTHPORT EXTENSION

### EXTENSION LOCATION

The Southport Extension is located almost entirely within Yolo County serving the community of Southport. The extension would start in downtown Sacramento and would most likely parallel Capitol Mall before crossing the Sacramento River in the vicinity of the Tower Bridge. Once across the river the extension would head in a southwesterly direction paralleling the Sacramento Northern railroad tracks to the community of Southport. It is recommended that the exact alignment, station locations, and ending point for this extension be the responsibility of Yolo County.

### SERVICE AREA

This segment would extend LRT service into the growing residential and industrial development that is occurring in the Southport area. Extension of LRT service into the Southport area would allow for some reverse commuting as the industrial areas of Southport develop. The primary destinations served by this extension would either be downtown Sacramento or the planned industrial areas of Southport.

### IMPLEMENTATION FACTORS

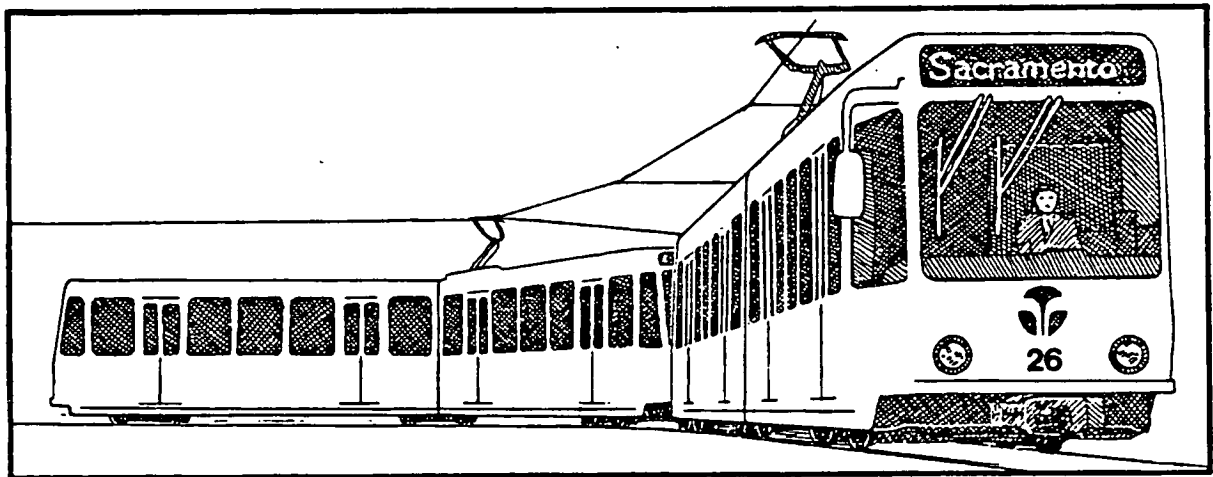
A major problem facing this extension will be how to get LRT service across not only the Sacramento River but also the Barge Canal. Crossing both of these channels of water would probably be cost prohibitive at this time. Another factor that would impact development of LRT service in this corridor is the timing of the planned industrial and residential development in the Southport area. In addition, there would most likely have to be some negotiations with whomever owns the Sacramento Northern right-of-way which could prove to be a stumbling block if past negotiations with railroad companies are any indication.

### RECOMMENDATION

That this extension be dropped from any further consideration with a recommendation that Yolo County assume the responsibility for any planning associated with this extension segment.



**SACRAMENTO  
TRANSIT DEVELOPMENT  
AGENCY**



**FINAL ASSESSMENT  
REPORT NO. 3**



**SACRAMENTO  
TRANSIT DEVELOPMENT  
AGENCY**

**FINAL ASSESSMENT REPORT NO. 3**

**JANUARY 18, 1985**



## ACKNOWLEDGEMENTS

In an assignment that is as volatile and visible as this one, it is literally impossible to thank every individual for their patience, guidance, hard work and support. However, the success of this project can only be attributed to the many talented people who gave of themselves to complete their specific tasks. Fortunately, we were able to form a synergistic effort in which the qualities of each one of us produced a product greater than the sum of the parts.

The staff of the STDA Executive Office performed extremely well under very difficult and trying circumstances which included many additional meetings and unreasonable deadlines.

The Project Office, under the direction of Jim Roberts and staffed by Caltrans employees, could not have been expected to perform better. Not only were they required to keep the project moving along in every technical respect, they were required to submit themselves, their documents, and their records to the many individuals and consultants who were asked to conduct detailed reviews and audits.

The City staff, primarily the Finance Department under the direction of Jack Crist, performed above and beyond the call of duty. They were able, with the help of the Project Control Team, to re-establish overall fiscal control of the project in a very short period of time. Budgeting, accounting, and auditing systems have now been put in place to provide continued monitoring and control of the project.

The Regional Transit staff, under the direction of Dave Boggs, was exceptionally helpful and cooperative through the entire assignment. Obviously, without their expertise in the various issues peculiar to transit administration, we would have failed. It should be noted that one individual, Phil Smelley, devoted many long hours away from home to insure our success. Moreover, his experience, knowledge, and talent in the area of transit system development throughout the country, as well as his familiarity with the Urban Mass Transportation Administration's (UMTA) policies, rules, and regulations were instrumental to our success.

The County staff assisted particularly in the area of financial advice and public works administration as it related to bidding procedures, contract administration, and assistance in the Federal Aid Urban program.

We were extremely fortunate to have a group of consultants who were as able and productive as the job demanded. I am not sure I have ever seen as talented a group of individuals in one assignment as I have seen here. They produced a great deal of valuable data, material and information in a very short period of time.



Finally, the support of Brian Richter, Walt Slipe and the elected and appointed officials were critical to the success of this effort. Without their patience and counseling this assignment would not have succeeded.

Thanks to all of these individuals for their hard work over the last few months. Their dedication has been in the best tradition of California local self-government.

*William H. Edgar*

WILLIAM H. EDGAR  
Interim Executive Director



January 18, 1985

Sacramento Transit Development Agency Board  
Board of Supervisors of the County  
of Sacramento  
City Council of the City of Sacramento  
Board of Directors of the Sacramento  
Regional Transit District

Honorable Members in Session:

SUBJECT: Final Assessment - Report No. 3

Transmitted herein is the Final Assessment (Report No. 3) of Sacramento's Light Rail Project. This report is the third and final in a series of three reports prepared and submitted by the interim administration's staff to the Sacramento Transit Development Agency, the Board of Supervisors, the City Council, and the Regional Transit District Board of Directors.

You will recall that the three objectives of the Interim Administration were:

1. To keep the activities of the Agency operating on an ongoing basis as efficiently and effectively as possible.
2. To conduct a thorough and complete analysis and evaluation of the Sacramento Light Rail Project.
3. To propose a course of action and achieve a consensus for completing and implementing the project in a timely fashion.

These objectives overlap since they were all carried out simultaneously by the interim administration. As a result, we have included, as part of the assessment, a status report which attempts to review the progress of major changes relating to the ongoing administration of the Agency. This section of the report responds to Objective No. 1 above. Other changes and improvements too numerous to mention and document were also made during the course of administering the Agency on a day-to-day basis.

The report also presents the final analysis of the issues and problems related to Sacramento's Light Rail Project. As a convenience to the reader, this part of the report, relating to Objective No. 2 above, has also been included as a separate section of the report.

It should be noted that this final assessment provides a "road map" for the Regional Transit administration to follow in the future. Specifically, the report proposes a "Transfer Plan" prepared by the Regional Transit District staff, outlining the details of how the administrative responsibility for the project would be transferred from the Sacramento Transit Development Agency (STDA) to the Regional Transit District (RT). This



proposal is responsive to the policy direction set forth in last month's "Progress Statement (Report No. 2)".

In addition, we have submitted a proposed Project Budget as a separate document with this report. This budget represents the most current forecast which was developed through separate and detailed analysis over the last few months with input from staff and consultants. Our Final Assessment also includes the proposed Financing Plan, the companion document to the budget, that recommends a method to raise the capital necessary to complete the construction of the project.

The report also addresses the issues related to current and future operational costs. These projections were developed by the Regional Transit District staff and, like the capital costs, have significant implications for the city and county governments.

The "Transfer Plan," the Project Budget, the proposed Financing Plan, and the operational projections are the central issues addressed in this report. Since the justification for these recommendations are included in the body of the report, no detailed rationale is provided here. The approval of these recommendations is a fitting conclusion to this analysis since it will provide a direction for the project to follow in the future.

#### RECOMMENDATION

The staff recommends that the Sacramento Transit Development Agency Board, the Sacramento Board of Supervisors, the Sacramento City Council, and the Regional Transit District Board of Directors approve this final assessment and authorize the Interim Executive Director to implement the report's specific recommendations by July 1, 1985.

With the submission of this Final Assessment Report, the task of the interim administration is complete.

Respectfully submitted,

*William H. Edgar*

WILLIAM H. EDGAR  
Interim Executive Director

WHE:rg



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## **CONCLUSIONS AND RECOMMENDATIONS**



## I. CONCLUSIONS AND RECOMMENDATIONS

The following are the conclusions and recommendations of this report:

### Conclusions

It is concluded that:

1. The current legal, organization, and management structure of the Sacramento Transit Development Agency is inefficient and ineffective and must be phased out immediately.
2. The "Transfer Plan" proposed by the Regional Transit District staff clearly accomplishes the desirable objectives of establishing organizational accountability, providing for a smooth transition, and creating the least amount of disruptive change at a very critical time.
3. Since the project's baseline documents (scope, design criteria and FEIS) were determined to be adequate as a result of two (2) independent design audits and a thorough review by the staff, the project budget was obviously insufficient from the beginning.
4. As a result of two (2) independent budget reviews and a detailed examination by the staff, the project budget should be revised from \$131.233M to \$155.982M, or an increase of \$24.749M.
5. As a result of the significant shortfall in the revised budget, the only practical way to raise local construction project capital is through permanent municipal bond financing.
6. Since the Regional Transit District staff and the California Transportation Commission consultant both forecast significant operational deficits in the coming years for Regional Transit, the City and County governments will be forced to consider operating subsidy payments.
7. The burden of long-term debt financing, therefore, for the capital construction of the light rail starter line must be borne by an entity other than the City and County governments. We suggest that the issuing entity be the Sacramento Housing and Redevelopment Agency.
8. The planned redevelopment program for the City will be materially and significantly altered as a result of the Sacramento Housing and Redevelopment Agency's funding of this project.



9. The newly adopted Project Master Schedule; budgeting, accounting, billing and auditing systems; Start-Up and Operations Plan; and the LRT Extension Study must be closely monitored by the Regional Transit District in the future to insure compliance with local legislative goals.
10. The Regional Transit District should take the lead in transit planning and development in the future.

Recommendations

It is recommended that:

1. The proposed "Transfer Plan" attached as Exhibit No. 2 be adopted.
2. The revised budget transmitted as a separate document totalling \$155.982 be adopted.
3. The recommendations contained in the Debt Financing Plan included as a separately bound Appendix C be adopted.



**BACKGROUND**



## II. BACKGROUND

### A. Progress Statement (Report No. 2)

On December 19, 1984, the STDA Board of Directors approved our Progress Statement (Report No. 2). The approval of that report authorized the Interim Executive Director to:

1. Request the Regional Transit District to prepare and coordinate a "Transfer Plan" for the purpose of phasing out STDA and phasing in the Regional Transit District as the responsible agency for completing and operating the light rail system. The STDA Board stated that the time frame for this transfer should be six (6) months - July 1, 1985.
2. Utilize the readopted baseline budget as the basis for the preparation of the Project Forecast and new Project Budget as well as the companion Debt Financing Plan.
3. Utilize the revised and adopted Project Master Schedule as the new schedule for the project.

### B. Preview of Final Report

In the Progress Statement (Report No. 2), the goals of our first two (2) reports were restated. In summary, the purpose of the Preliminary Assessment was to initially review the project and make some preliminary findings that would be reviewed and refined later.

The purpose of the second report was to further analyze the following specific areas of activity:

1. Legal Authority, Organization, and Management
2. Budgeting, Accounting, and Auditing
3. Project Financing
4. Project Master Schedule
5. Project Scope and Design Criteria
6. Start-Up and Operations Plan
7. Future Extensions

In the second report, we stated that the purpose of the Final Assessment was to meet the third objective of the interim administration which was "to propose a course of action and achieve a consensus for completing and implementing the project in a timely fashion."



More specifically, the areas which were to be addressed in this final assessment were:

1. Final determination of the organizational and management structure to complete the project and begin start-up operation.
2. Approval of the updated scope and design criteria of the project.
3. Adoption of the forecast as the updated project budget.
4. Approval of the proposed financing plan.
5. Participation in the phase-out/phase-in defined in the Transfer Plan.

As mentioned in the transmittal letter, the specific analysis, findings, and recommendations relating to the above activity areas are included in the body of this report. Therefore, there is no need to detail them here.

It is important to mention that the central focus of this final assessment is to provide a suggested future direction for the project. Therefore, we have dealt with "where we go from here" in the major sections of the report, and included the status report and final analysis and findings as preliminary and as introductory sections of the report.

With the submission of this final report, the task of the interim administration has been completed. The assigned objectives have been accomplished and the implementation of the recommendations contained in this report is now in order. The subject of the duration of the interim administration (phase-out/phase-in period) will be addressed by the STDA Governing Board, the Board of Supervisors, the City Council, and the Regional Transit Board of Directors in their review of the proposed "Transfer Plan."



**STATUS OF ACTIONS TO DATE**



### III. STATUS OF ACTIONS TO DATE

As mentioned before, Objective No. 1 of the interim administration has been "to keep the activities of the Agency operating on an ongoing basis as efficiently and effectively as possible." This objective was initiated by the STDA Board and reinforced by the interim administration in September 1984. Since that time, it has been our policy to perform our assessment without delaying the progress of the project. Obviously, this has created difficulties and problems along the way; but in the final analysis, this approach proved more prudent than to stop the project while awaiting the results of the assessment.

During the month of December 1984, our ongoing activities were highlighted in our December 31, 1984, Progress Report.

Work on Contract Unit #1 for construction of three grade separation structures on the Northeast Corridor line was completed and formally accepted. Approval to advertise was obtained for Contract Unit #2A, Watt/80 Median line construction and for Contract Unit #18B-1, Wheel Truing Machine procurement. Both of these contracts were advertised as well as Contract Unit #11, Traffic Signals.

Some progress was made on right-of-way negotiations and related agreements needed for completion of design and start of construction. In the field, construction was delayed due to rain. However, progress was evident in completion of the bridge structure over Arcade Creek and concrete work in the pits and floor slabs of the Maintenance Building.

Since the presentation of our Progress Statement (Report No. 2), on December 12, 1984, there have been numerous actions which were taken to carry out Objective No. 1. The following is a summary of the most important ones:

#### 1. Settlement of the Siemens-Allis Dispute

After long and protracted negotiations, the STDA Board approved the resolution of a \$3.6M dispute with the light rail vehicle manufacturer (Siemens-Allis).

The dispute related to the Siemens-Allis allegation that its bid anticipated manufacture in Germany; and when their exemption for a non-domestic submittal was denied, their costs were increased.

The settlement required amending the production and payment schedules under the contract, but necessitated no additional cash outlay beyond the contract price.



## 2. 1982-83 Financial Statements

The STDA Financial Statements for the 1982-83 Fiscal Year were reviewed and accepted by the Governing Board on January 9, 1985. These statements have been attached as Exhibit No. 1 of this report.

## 3. Agreements

As the STDA Board is aware, several agreements have been under discussion for sometime. These agreements are very important to the construction progress of the project. At this time, the following is a status report on the most important ones:

<u>Agreement With</u>	<u>Purpose</u>	<u>Status</u>	<u>Anticipated Board Action</u>
Sacramento Bee	Alternate service	Negotiations Complete	Feb. 1985
Western Pacific RR	Provision of Alter- nate Service	Negotiations Complete	Feb. 1985
City	Const. Permit on City streets	Negotiations Complete	Mar. 1985
City and RT	Operational Permit on City Streets	Commenced Negotiations	Mar. 1985
Southern Pacific RR	Acquisition of right- of-way	Commenced Negotiations	Spring 1985

## 4. Actions on Contracts

Since the presentation of our second report and the development of the Revised Project Budget, it has become evident that several of the consultants have or will exceed their contract limits.

These consultant contracts are for legal services (Hyde, Miller and Savage), engineering and design (Caltrans), construction management and operations support (Foster Engineering), project control (O. E. West), contract administration, technical support (L. T. Klauder), community relations and possibly others.

After the Revised Project Budget is adopted, we anticipate bringing these contracts back to the STDA Board for review and amendment to reflect the additional costs. These amendments are required to continue the project's ongoing operations and be consistent with the Transfer Plan.

## 5. Technical Briefings

As mentioned in our previous reports, technical briefings have been conducted on an ongoing basis.



Since the presentation of our second report, the following technical briefings have been presented to the Board:

<u>Subject</u>	<u>Date</u>
Direct Fixation Rail Fasteners Procurement	12/12/84
Northeast Corridor Stations Design	12/19/84
Operations Planning and Start-Up	01/09/85

6. Third-Party Tort Claims Procedure

After considerable staff effort, a third-party tort claims procedure was adopted on December 19, 1984. Resolution No. 84-12-03 and the Property Damage and Personal Injury Claims Procedure Guide were the implementing documents.

The STDA Board's objective of keeping the project moving has been met even though serious questions remained regarding the project's financing.



## **FINAL ANALYSIS AND FINDINGS**



#### IV. FINAL ANALYSIS AND FINDINGS

Objective No. 2 of the interim administration has been "to conduct a thorough and complete analysis and evaluation of the Sacramento Light Rail Project."

As mentioned in our previous reports the management team has narrowed the focus of the analysis to several key areas. A few of these key areas have required outside consultant help as well as the preparation of special reports by outside agencies. In some cases, these reports have been prepared as a separate document and included as appendices to this report.

##### A. Legal Authority, Organization, and Management

As mentioned in the Progress Statement (Report No. 2), the current legal, organization, and management structure of the Sacramento Transit Development Agency is inefficient and ineffective and must be phased out immediately. Research and analysis was accomplished by the legal staff regarding several alternative structures for completing the construction of the project and beginning its operation. Based upon this analysis, the STDA Board approved the staff recommendations to gradually phase out STDA and designate the Regional Transit District as the responsible agency for completing and operating the light rail system.

This decision was conditioned upon the implementation of a transition period of six (6) months, and the approval of a "Transfer Plan" to be submitted by the Regional Transit District.

Because of its importance, the "Transfer Plan" is summarized in a separate section of this report, and the entire document is included as Exhibit No. 2 of this report.

##### B. Project Design Criteria and Scope

In the Preliminary Assessment (Report No. 1), staff identified the need to update and clearly describe the current project scope and document changes from the design criteria, so that an accurate cost estimate could be prepared, an effective cost reduction effort undertaken and ironclad documentation generated to gain the support of the California Transportation Commission (CTC) and The Urban Mass Transit Administration (UMTA). It was important for us to resolve current scope issues and have the ability to distinguish the scope and design criteria of the funded project from added scope or design criteria changes so that additional funding could be pursued when appropriate.

To facilitate this effort, the staff developed a comprehensive format for developing and presenting a technical update and briefing on each of the project's major



sub-elements. These Technical Briefings were scheduled for presentation to the Board prior to December 30, 1984, so that the benefit of the exercise would be available for inclusion in the final assessment.

In the Progress Statement (Report No. 2), the staff highlighted the fact that it had been two years since the development of the baseline documentation for the project (Scope, Design Criteria, Master Schedule and Budget). The concern expressed was that budget had resulted in the application of insufficient project management resources to administer a formal interface and configuration management program. These management controls normally assure that changes, resulting from the design philosophy, scope, schedule or budget as design progresses, are picked up, documented and kept compatible with the baseline commitments.

As a consequence of this lack of documentation, we were faced with a rather massive effort of determining where we were from a scope, criteria, budget and schedule standpoint and the pressing need to document the evolution from the original baseline documents.

The findings of the progress report (Report No. 2) indicated that staff was taxed to the limit in keeping the project moving (Interim Administration Directive No. 1). As a consequence the staff recommended, and the Board authorized, the execution of a contract with Parsons, Brinckerhoff Quade and Douglas (PBQD) to perform the technical audit and provide technical support.

The product of the effort is an updated set of baseline documents and ironclad documentations of the changes from the original baseline and an accurate and reliable projection of the schedule and cost required to complete the project. The product of this effort will be used to gain/continue the support financing strategy and as an instrument to continue/restore the public's confidence and commitment to the project.

During this time, the California Transportation Commission (CTC) hired Wilbur Smith and Associates (WSA) to conduct a technical audit similar in scope to the PBQD effort for the capital project. WSA was also charged by the CTC to evaluate the existing funding commitments and RT's plan for funding guideway operating costs.

The result of the PBQD and WSA capital efforts are highlighted in Section VI, Summary of The Project Design Criteria and Scope of this report and the PBQD and WSA reports are attached to this report as appendices A and B respectively.



## C. Budgeting, Accounting, and Auditing

### 1. General

A final observation of the interim management team is that because numerous governmental agencies are involved in this project, significant coordinating effort is required to insure that all agencies' financial information is consistent. This coordinating effort was absent prior to October 1984, but is now in place and functioning well.

The existing financial staff will now participate in the STDA "Phase-out/RT Phase-in Plan" with the intent of completing the transfer of all financial responsibilities by July 1, 1985. Regional Transit will then handle all aspects of Budgeting, Accounting, Auditing, etc. after that date.

### 2. Budgeting

- o During the months of November and December, the financial staff worked with project engineers, accountants and outside consultants to develop a comprehensive Project Budget by contract unit and funding source. A Baseline budget document was prepared in December which documents the existing assured project funding which totals \$131.233M. This document provided invaluable assistance to the consulting firm of PBQD during their engineering and design audit of the project.

Once the PBQD study was completed, STDA Financial Staff revised the total project cost estimate from \$131.233 to 155.982M and incorporated the revisions into a January "Revised Project Budget". The Revised Project Budget has been included as a separate document but is summarized in this report.

- o Formal budget change and control procedures have been approved by the STDA Board by Resolution No.84-12-4, dated December 19, 1984. These change and control procedures have been implemented and are functioning properly.
- o Finally, the Project Budget Analyst assisted legal counsel in preparing alternative proposals to settle the Siemens-Allis vehicle dispute of \$3.6M.



### 3. Accounting/Billing

Acting as a financial management coordinator, the STDA Controller is utilizing the resources of O. E. West, as well as City Accounting, Revenue and Treasury staff. November and December project activities included the following:

- o Served as Project Fiscal Agent paying invoices, billing grantor agencies and maintaining project ledgers.
- o Coordinated the Financing Alternatives Committee efforts which finally resulted in the Paine Webber "Report to STDA on Alternative Methods for Financing the Sacramento Light Rail Project."
- o Performed financial analysis of individual project funding sources and established internal record keeping systems necessary to assure that all costs incurred are billed to the appropriate grantor agencies.
- o Researched and obtained proper supporting documentation for all right-of-way acquisitions actually acquired to date.
- o Met with Caltrans accounting personnel on several occasions to facilitate payment of Caltrans invoices and drawdown of CTC grants.
- o Began a formal review of the existing account code structure with the objective of implementing improvements in January 1985.
- o Performed numerous administrative tasks at the request of the Executive Director (i. e., obtained security services for material storage yard, developed policy on "Use of Funds," etc.).
- o Assigned an accountant to the project on a full-time basis as recommended in the November Preliminary Assessment Report No. 1
- o Reported the financial status of the project through the Project Bi-Weekly Progress Reports by Contract Unit the management and other interested parties.
- o Initiated a financial information feedback system so that project control staff and project engineers are advised when payments to contractors are released.



This area of project support and control will continue to be reviewed and upgraded as we proceed with the implementation of the recommendations contained in this Final Assessment.

#### 4. Auditing

During the time since the STDA Board adopted the Preliminary Assessment, the following tasks relating to the general area of auditing were or are now being accomplished:

- o Regional Transit's external auditors completed their compliance review of the UMTA grants. STDA, as well as RT staff, are currently reviewing the auditors' draft findings, and the report will be transmitted to the Board shortly.
- o Price Waterhouse, as part of the City's normal audit contract, is also reviewing the financing records of STDA. The financial statement audit from inception to June 30, 1983, was presented to the STDA Board on January 9, 1985. The audit report for fiscal 1983-84 will be transmitted in early February as this audit is also currently in process.
- o The STDA Controller is planning and coordinating the 1984-85 External Audit of the project. This audit will occur in the winter of 1985 and will include comprehensive grant compliance reviews of all project grants. This will require early coordination by the STDA Controller and RT staff to assure that the individual audit requirements of each grantor agency are properly defined before the audit is conducted.
- o An Auditor Briefing Manual is being prepared by Project Financial staff.

#### D. Project Financing

The Interim Executive Director authorized the formation of a "Financing Alternatives Committee" comprised of representatives from the various parent jurisdictions. This committee was charged with examining alternative short and long-term debt financing alternatives which could be utilized to finance a project funding deficit in the range of \$10-20M. To accomplish this task, the consulting services of Paine Webber was obtained. Working with direction provided from the committee, Paine Webber studied transit financing alternatives and reported their findings in a separate report dated January 11, 1985. The Paine Webber report is included as part of the Debt Financing Plan, which is appended to this report as Appendix C. It is discussed in the "Debt Financing Plan" section of this report, and was the basis for the Debt Financing Plan recommendations.



In addition, the Interim Executive Director authorized the hiring of Mr. John Varozza, the City's former Public Works Director, to work with the STDA staff and other governmental agencies in obtaining additional grant revenues for the project. This effort has been extremely successful and \$4,134,000 in additional project grants are in varying stages of application approval.

E. Project Master Schedule

The Project Master Schedule presented to the Governing Board in April 1984 planned for full revenue service in the Northeast Corridor and Central City in April 1986, followed by full service in the Folsom corridor in September 1986, at the earliest. The revised Project Master Schedule now projects a six months' slippage in initial full service operation in the Northeast corridor and Central City areas, to October 1986, and in the Folsom Corridor to January 1987, at the earliest. The revised schedule, dated November 30, 1984, which was accepted by the Governing Board at its meeting on December 19, 1984, takes into account progress made to date and future projections that are known at this time.

Some of the assumptions made and points recognized include:

- o Cost reduction efforts and resulting repackaging has prolonged architectural and engineering design and the design review process.
- o All remaining contract durations will be specified in calendar days.
- o Non-working days have been allowed for bad weather on contracts already underway which were specified in working days.
- o A three-month period has been allowed for "System Check-Out and Start-Up" prior to start of revenue service for each segment.
- o The Vehicle Schedule is based on the contractors' schedule dated October 15, 1984.
- o The wheel truing machine will not be available by the time the first vehicles arrive. Other arrangements to maintain wheel profiles during the initial three or four months of vehicle acceptance testing have been made by RT.
- o The critical path of the project now runs through Contract Units #2, Northeast Corridor Line, #3, Maintenance Building, #4A, Central City Line, #9, Electrification, and completion of #10, LRT Signaling.



Any slippage in these contracts will result in a delay in revenue service unless remaining work is shortened or overlapped.

- o The uncertainties, including the acquisition of right-of-way relating to the Folsom Corridor at the time the April 1984 Project Master Schedule was produced, still remain. The design and construction schedule for the Folsom line remains essentially unchanged and therefore all dependencies and constraints are near-critical for that segment.
- o The Project Master Schedule does not include provision for any delay relating to arrangements for financing any projected funding shortfall. If additional financial resources are not available by June 1985, the project will be delayed. Delays in critical path contracts result in a day-for-day delay in project completion unless compensating alternative actions are taken.

F. Start-Up and Operations Plans

1. Master Start-Up Plan - In the Preliminary Assessment (Report No. 1), staff identified the need to update and expand upon Milestone 9, the Preliminary Start-up and Operations Plan produced by Foster Engineering and dated April 14, 1983. To move the development of the plan forward, Regional Transit (RT) assigned a full-time project manager working under the Light Rail Transit (LRT) Project Coordinator.

In the Progress Statement (Report No. 2), it was reported that development of the Master Start-Up Plan was progressing on schedule. The staffing and recruiting plan, the Operating Rule Book and the emergency procedures were produced in draft form and reviewed with the RT Board.

At the January 9, 1985, STDA Board meeting, the Start-Up Plan status was reviewed with the STDA Board. The goals, responsibilities, scope and schedule for each of the 15 major tasks comprising the plan were presented. As of the meeting date, 12 of the 15 tasks had started and all but three were on schedule. The Operations and Start-Up Peer Review, approval of initial staffing and the labor negotiations task have fallen behind. However, the peer review scheduled for late December was conducted on January 14-16, 1985. The staffing issue will be taken to the RT Board for their approval on February 11, 1985. Orientations with the labor unions will be scheduled during January. The summary presented to the STDA Board on January 9, 1985, is included as Exhibit No. 4 to this report.



2. Operations Plan - In the Preliminary Assessment (Report No. 1), staff pointed out that like the rest of the "design criteria," the operations plan that established the operating parameters for the system was outdated. It was necessary to update the operating plan to include the physical characteristics of the system that have evolved with the civil and systems design (i.e., plan or profile changes in alignment, vehicle power or gear box changes, etc.).

We needed to determine that our assumptions about fleet size, station dwell times, meets (passage times), schedule, trackwork and operating plan were still valid before completing the staffing plan, formalizing power consumption estimates for operating costs and making input changes to the civil and procurement effort as required.

During the preparation of the Progress Statement (Report No. 2), the approach that would be taken in updating the Operations Plan was finalized and the appropriate RT, STDA, Foster Engineering, L.T. Klauder and PBQD staff identified to update and review the subject plan. These efforts have been initiated and will be completed and documented in the operability, reliability and maintainability task scheduled for later this month.

#### G. Operational Projections

The assessment of the project to date has been focused on the completion of the capital project and RT's preparation for Start-Up. We felt it appropriate to include in the final assessment a review of the operational and financial assumptions underlying the selection of light rail as the preferred alternative and recent updates of some of the calculations and assumptions.

The operational projections are summarized in Section IX of this report. Exhibit No.5 of the report reflects RT's most recent projections and Appendix B, the WSA Report, contains their assessment of the operating cost projections.

#### H. Future Extensions

As mentioned in Progress Statement (Report No. 2), the Sacramento Area Council of Governments (SACOG) is currently completing the Light Rail Extension Study. In this report, we included a status of their report as Exhibit No. 6 of this report.

The Executive Director reports that the proposed light rail expansion plan is now being reviewed by the Regional



Transit District and by the study's technical and policy committees. Phase I is expected to be completed in February 1985.

In Phase II, a consultant will be hired to determine the appropriate right-of-way alignment for each extension and to recommend the priority for future funding among the various extensions and double tracking. The priority and details of Phase II of the study will be monitored and reviewed by the Regional Transit District as STDA phases out and RT phases in. RT should play the lead role in future extension studies.



**SUMMARY OF THE TRANSFER PLAN**



V. SUMMARY OF THE TRANSFER PLAN

On December 19, 1984, the STDA Board of Directors approved the Progress Statement (Report No. 2) developed by the interim administration. Recommendation No. 1 in the subject report was that: "The Sacramento Transit Development Agency be gradually phased out and that the Regional Transit District (RT) be phased in as the responsible agency for completing and operating the light rail system." As a consequence, RT was requested to prepare the Transfer Plan. RT, in coordination with STDA, prepared the subject plan which is attached to this report as Exhibit No. 2.

The Transfer Plan outlines the general "road map" that must be followed to accomplish an orderly transfer of the Light Rail construction project from STDA to RT by July 1, 1985. The plan focuses on nine key areas which are as follows:

- I. Joint Oversight - (Transition and ongoing overview)
- II. Organizational Structure - ((Includes phase-over plan of STDA staff)
- III. Grant Contract Assumptions - (Assignment of STDA Grants to RT)
- IV. Service, Funding and Construction Contracts - (Assignment of STDA contracts to RT)
- V. Title Transfer of Real Property, Records and Drawings - (Transfer of tangible assessments from the STDA to RT)
- VI. Accounting - (Coordination requirements necessary to affect RT assumption of financial responsibility on July 1, 1985)
- VII. Policy Coordination - (Actions necessary by RT Board to modify/assimilate STDA Policy and implications)
- VIII. Office Space - (Consolidation of project staff)
- IX. Dissolution of STDA (Process)

Each section listed above provides a brief description of the key items to be addressed and resolved; provides an action list for key items; and is supported by a citation of the relevant documents in the appendix. Not all appendix items have been developed to date and are so noted. The summary of the plan and the schedule of key events are as follows:



### TRANSFER PLAN SUMMARY

In order to accomplish an orderly transfer of the Light Rail construction project from the Sacramento Transit Development Agency to the Sacramento Regional Transit District, the Plan proposes the following:

1. Maintains City and County involvement through an oversight committee;
2. Implements an organizational structure to both complete construction of and operate the Light Rail Project;
3. Provides for the assumption of outstanding grants;
4. Provides for the assumption of all service, supply and construction contracts;
5. Provides for the transfer of the project assets to RT;
6. Recognizes the transition of the accounting functions from the City of Sacramento to RT;
7. Provides a procedure for assimilation of STDA policies by RT;
8. Recognizes that office space changes are in order; and
9. Suggests a means by which STDA is dissolved.

#### I. JOINT OVERSIGHT (TRANSITION AND ONGOING OVERVIEW)

To preserve the active exchange of information and counsel to the Light Rail Project, RT staff proposes the following structure and actions:

##### Oversight.

- A. Joint LRT Oversight Committee made up of two RT Board members, one City Council member, and one Board of Supervisors member, each appointed by the respective Board chair; the RT General Manager; the City Manager; the County Executive; and, as ex officio members, the Executive Director of STDA and the Assistant General Manager for Transit System Development reports.

This panel would meet once a month to review and comment on the RT formal project status reports. The chair of the Oversight Committee would be elected by Committee members and the Committee would be advisory to the RT



Board of Directors. It would review matters relating to the LRT Project and operations, including a review of the annual RT budget.

- B. RT General Manager will, on a designated basis, make a status report to the full City Council and Board of Supervisors based on the Committee's assessment.

- ACTION:
- 1. RT Board, City and County takes action on Oversight Committee recommendations.
  - 2. Staff sets up administrative mechanisms to convene meetings of Oversight Committee and to make the periodical reports to the elected Boards.

## II. ORGANIZATIONAL STRUCTURE

RT staff proposes an organizational structure which accommodates completion of LRT construction and the planning and building of other transit facilities. Under this Plan, a position entitled Assistant General Manager in charge of Transit System Development (TSD) is established. The areas of responsibility of the Transit System Development Division could include both planning (long-range service and facilities) and actual implementation of construction projects, or, in the alternative, planning could be separated out. Both approaches are included for further deliberations by the RT Board. (Appendixes A-1, A-2) For purposes of the LRT development, the existing staff of two clerical people and the contingent of consultants would be assumed by RT. Changes would subsequently be made in accordance with the proposed organization phaseover. (Appendix B)

RT would not staff the Division at the level needed to complete the LRT construction project. Instead RT would continue to rely upon consultant services for the extraordinary effort which the LRT construction represents. Staff proposes to continue with the services of the LRT Project Coordinator consultant to head up the TSD Division during the transition period. By June 30, 1985, permanent TSD Assistant General Manager and other select staff positions would be filled through recruitment.

Operation of both the LRT and the bus system will be the responsibility of the Assistant General Manager in charge of Operations under the organizational structure which the RT Board has been discussing.

RT has always planned to operate the LRT System upon its completion. The staffing and operation are described in the LRT Metro Plan. The early assumption of the project, before completion, will affect several departments, such as Legal and Accounting, more than would have been the case through the turnkey approach. The additional help needed in these departments is a function of the increased role in contract management and claims administration, plus the



assumption of the complex accounting required by the various grants and construction activities.

- ACTION:**
1. RT Board discuss and adopt organizational structure for both construction of Light Rail and other future transit facility projects and finalize its integration with the operating structure which has previously been reviewed by the RT Board of Directors.
  2. RT Board approve job description and staffing levels for above organizational structures.
  3. Staff begin recruitment to fill said positions.

**CITATIONS:** Organizational charts and job descriptions attached as Appendixes A-1, A-2

Organizational phaseover - Appendix B

### III. GRANT CONTRACT ASSUMPTIONS

STDA is the recipient of grants from agencies other than the U. S. Department of Transportation, Urban Mass Transportation Administration. These grants must all be assigned to RT by formal action of STDA, the granting agencies, and RT.

RT is the grantee of the bulk of the Federal funds participating in the project (CA-90-0010 and CA-23-9001). Some of the terms of the grant should be changed, and these discussions should occur between UMTA, RT and STDA. These discussions should occur before transfer to RT in order to bring about a full understanding of the obligations remaining with RT. Those grants for which STDA is the grantee or an applicant must be assigned to RT. Those grants which SACOG holds need not be transferred.

- ACTION:**
1. RT and STDA staff discuss concerns with existing grant with UMTA to amend the Full-Funding Agreement to address time, scope, and funding restrictions.
  2. Pending transfer, all grant applications to be made in RT's name.
  3. STDA assigns rights and obligations in grants in which they are grantee to RT.
  4. RT Board takes action accepting assignment of grants to RT.
  5. Granting agencies take action recognizing assignment of grants to RT.



6. RT Board takes action ratifying applications for grants now in progress by STDA.
7. STDA communicates with granting agencies that RT is to be substituted as applicant for grants in progress.

CITATIONS: Listing of grants in place and in progress - Appendix C.

STDA resolution authorizing assignment of contracts and grants from STDA to RT - Appendix D

RT resolution authorizing assignment of contracts and grants from STDA to RT - Appendix E-1

RT resolution authorizing substitution of RT as applicant/grantee of STDA grant applications - Appendix E-2

#### IV. SERVICE, FUNDING AND CONSTRUCTION CONTRACTS

Presently STDA is carrying on the Light Rail Project through consulting contracts with the State of California and a number of private consulting firms. In addition, construction is underway through contracts which have been awarded through competitive bidding processes. Each of these contracts must be assigned to Sacramento Regional Transit District by affirmative action of the contractor, STDA and RT. All plans under development become the property of RT as well. All assignments will be made effective as of a certain date, such as July 1, 1985.

- ACTION:
1. Legal Department to review each contract regarding assignability.
  2. STDA Board to take action assigning to RT all contracts to which STDA is a party.
  3. Contractors each communicate acceptance of such assignment.
  4. RT Board takes action accepting the assignments.

CITATION: STDA resolution authorizing assignment of contracts and grants from STDA to RT - Appendix D

RT resolution authorizing assignment of contracts and grants from STDA to RT - Appendix E-1

Listing of contracts in place - Appendix F



V. TITLE TRANSFER OF REAL PROPERTY, RECORDS,  
AND DRAWINGS

STDA has taken title to many parcels of land which make up the LRT right of way. Also, much of the hardware and miscellaneous items required for the Light Rail Project has already been received. These items must be conveyed to RT as a part of the transfer to RT from STDA. Title insurance must be acquired for real estate parcels transferred.

In addition, the project records, plans and drawings must be transferred to RT. These must be inventoried, packaged and readied for transfer to RT.

- ACTION:
1. STDA conducts an audited inventory of all items acquired with project funds and identify all the records, plans and drawings.
  2. STDA staff acquires title insurance to real parcels conveyed to RT.
  3. STDA Board approves conveyance to RT of real property parcels and all hardware and other assets procured.
  4. RT Board accepts conveyance of property and other project assets.

CITATION: List of parcels and property assets - Appendix G  
(to be developed)

STDA resolution authorizing transfer to RT all real and personal property, plans and records in STDA's possession and control - Appendix H (to be developed)

RT resolution accepting transfer to RT of all real and personal property, plans and records in STDA's possession and control - Appendix I (to be developed)



## VI. ACCOUNTING

In order to smoothly complete construction of the LRT, the recordkeeping and MIS systems of STDA and RT must mesh. The City Controller is presently developing a budgetary, accounting and financial tracking system. The RT accounting department must participate in this process to assure compatibility with the RT system. This will require additional staff assistance to the RT accounting and MIS departments.

- ACTION:
1. City Controller's Office completes its documentary process.
  2. RT Accounting Department coordinates with City Controller's Office to assure compatibility with RT's system.
  3. STDA causes to be prepared all audited financial statements for project activities to date.
  4. All accounting and financial records transferred to RT.



## VII. POLICY COORDINATION

During its three years of existence, STDA has adopted policies and guidelines governing procurement, construction administration, and other related matters. To the extent that these policies and procedures deviate from RT's, the RT Board must take affirmative action to amend its policies to conform to those implemented by STDA or make it clear which policies will not be followed.

In addition, the RT Metro master start-up plan has been under development and it contemplates the promulgation of policies on which the RT Board has been commenting and preparing for adoption, to wit:

1. The RT Metro rule book
2. The Emergency Plan
3. LRT/Bus Integration
4. LRT Marketing Plan
5. Legislative Program

ACTION: 1. RT Legal Department to develop policy analysis.  
2. RT Board takes action on all above-referenced policies.

CITATIONS: RT Legal Department analysis of STDA policies - Appendix J

RT Metro Master Start-Up Plan - Appendix K

LRT Marketing Plan - (Under development)

Legislative Program - Appendix L

## VIII. OFFICE SPACE

Presently, consultants and others assigned to the Light Rail Project under the auspices of STDA are housed in three separate locations. In order to facilitate appropriate oversight of the project by RT, it is desirable that sufficient office space at or in the vicinity of RT headquarters be secured to house all those people and functions assigned to the project. Several options for this are available.

The first objective will be to consolidate all personnel associated with the construction effort in one locale as close as possible to RT. The second priority, if sufficient space close to RT cannot be secured, would be to consolidate LRT project administrative staff with design staff in one locale whether close to RT or not. close to RT or not.



- ACTIONS:
1. STDA staff to evaluate the space requirements which the project presently demands.
  2. RT staff to locate sufficient space in vicinity of RT to house LRT Project effort.
  3. RT Board to take action as required to secure space and authorize expanded administration building.

#### IX. DISSOLUTION OF STDA

STDA was created by a Joint Powers Agreement between the City, County, and RT. Once the details mentioned above have been accomplished, each agency should serve upon the other two a letter formally recognizing their discontinued participation in STDA.

- ACTION:
1. City Council, Board of Supervisors and RT Board of Directors approves discontinuation of Joint Powers Agreement and STDA.

CITATION: Joint Powers Agreement - Appendix M



SACRAMENTO LIGHT RAIL PROJECT  
TRANSFER PLAN  
SCHEDULE OF TASK MILESTONES

January 12, 1985

MONTHS 1985								
TASK	DESCRIPTION	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	COMMENTS
I.	<u>JOINT OVERSIGHT</u>							
1.	RT, City & County approve plan	—	△*					Joint Resolution
2.	Develop Admin. Mechanisms for meetings			—*	△			Adopt process & procedure and appoint representatives
3.	Have meetings					△	△	Once monthly
II.	<u>ORGANIZATION STRUCTURE</u>							
1.	RT Board approve structure	—	△*					Feb. COTW - 2/11/85
2.	Approve job desc. & staffing							
a.	Operations		△*	-----			2-----	Critical positions COTW 2/11/85 - cont. activity
b.	Capital (P&TSD)							
3.	Recruitment							
a.	Operation		△*	-----			2-----	2/11/85 start recruiting critical positions
b.	Capital							
III.	<u>GRANT CONTRACTS</u>							
1.	Discuss with UMTA & amend grants as necessary					△		Start at 1/28 quarterly management
2.	STDA assign grant rights	—	△	△				STDA 3/20 management



**SACRAMENTO LIGHT RAIL PROJECT  
TRANSFER PLAN  
SCHEDULE OF TASK MILESTONES**

January 12, 1985

		MONTHS 1985						COMMENTS
TASK	DESCRIPTION	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	
	3. RT Board accept assign.			—	△*			RT COTW 4/8/85
	4. Granting agency actions	—	—	—	△			
	5. RT approve submittal grants now in progress		—	△*	—	—	—	RT Board approve FY 85/86 CTC application - others as prepared
IV.	<u>STDA CONTRACTS</u>							
	1. RT legal review of assignability	—	—	△				
	2. STDA assignment to RT		—	—	△			STDA management 3/6
	3. Contractors OK			—	—	△		
	4. RT Board accepts assignment					—	△*	RT accept 5/20 mgt.
V.	<u>TITLE TRANSFER</u>							
	1. STDA develop audited inventory	—	—	—	△			
	2. STDA acquire title insurance for ROW	—	—	—	—	△		Would be "as of" specific day; all new items/ROW added to list
	3. STDA approve transfer of real property to RT				—	△		
	4. RT accept conveyance					—	△*	RT insurance to appropriate levels
IV.	<u>ACCOUNTING</u>							
	1. City complete documentation process	—	△	—	△	—	△	Complete 1/23; 2 updates



**SACRAMENTO LIGHT RAIL PROJECT  
TRANSFER PLAN  
SCHEDULE OF TASK MILESTONES**

January 12, 1985							
MONTHS 1985							
TASK	DESCRIPTION	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE
	2. RT participates				△		△
	3. STDA audits	△ (82-83)	△ (83-84)				
	4. All transferred to RT						△
VII.	<u>POLICY COORDINATION</u>						
	1. RT legal develop policy analysis		△				
	2. RT Board take approval action				△		△*
VIII.	<u>OFFICE SPACE</u>						
	1. STDA evaluation		△				
	2. RT locate space			△			
	3. RT Board authorization			△*			
IX.	<u>DISSOLUTION OF STDA</u>						
	1. City, County, RT agree disband STDA				△*		
<p>LEGEND</p> <p>△ Activity Date</p> <p>* Requires Board Approval</p>							

Transfer complete 6/30

STDA complete '83, '84 & '85

Transfer to RT 7/1/85

Approved per schedule; all on/before 6/1/85

"J", "I" & Poster

RT 2/18 Board mgt. or as necessary

Agencies notify each other of intent to disband STDA effective 7/1/85



**SUMMARY OF THE PROJECT DESIGN CRITERIA AND SCOPE**



## VI. SUMMARY OF THE PROJECT DESIGN CRITERIA AND SCOPE

During December and early January, PBQD, under contract to STDA, and WSA, under contract to the CTC, were supported by the staff in the development of technical audits of the project's "design criteria" and scope. Both firms developed an estimate of the cost to complete the project based on the updated baseline documents. The reports are attached as Appendices A and B, respectively. A summary of the consultants' findings are highlighted below:

A. PBQD Design Audit (Task Series 100) - The scope of the PBQD effort was focused on four major areas:

- o Task Group 100, Review and Update Project Baseline Documents
- o Task Group 200, Quality Assurance and Administration
- o Task Group 300, Peer Reviews
- o Task Group 400, Technical Evaluations

PBQD's initial submittal focused on Task Group 100. The remaining effort under the contract will be submitted and reviewed with the Board at a later date in accordance with the contract schedule.

The Task Series 100 effort focused upon the critical materials necessary to complete the Final Assessment Report and included:

- o Update Project Design Criteria (Task 110) - Review and update the design criteria for the project documenting changes occurring since its original issuance in December 1982.
- o Update Project Scope Definition (Task 120) - Review and update the scope for the project documenting changes occurring since April 1983 (Grant Scope).
- o Update Project Estimates and Budgets (Task 130) - Using the updated baselines developed in Task 110 and 120, prepare a detailed estimate of the cost of the project at completion and reconcile the new projection with the current baseline estimate.
- o Review the Final Environmental Impact Study (Task 140) - Compare the commitments in the FEIS and the current design and identify and document the changes categorized as an option exercised, minor clarification or significant change possibly requiring FEIS revision.



PBQD completed the draft of Task Group 100 on Tuesday, January 8, 1985, and the preliminary findings were reviewed with the STDA Board on January 9, 1985. Their conclusions by task are reflected below:

1. Task 110, Updated Project Design Criteria - PBQD concluded that there had been no significant changes or deviation from the baseline project design criteria. The comparison was between the milestone deliverables (reflected as Exhibit No. 13 in the Preliminary Assessment - Report No. 1) which served as the basis for the estimate contained in the UMTA Grant (CA-23-9001) and the most current contract packages. The changes to each milestone have been documented in the draft report. While no significant changes were highlighted, a number of minor deviations were noted, and the staff will review and respond as necessary in accordance with the change control procedure.
2. Task 120, Updated Project Scope Definition - PBQD compared the scope of the current contract packages to the original scope that served as the basis for Federal Grant CA-23-9001 and the companion FEIS. A scope change was defined as a change which results in:
  - o An overall project budget change.
  - o A critical path schedule change.
  - o A significant departure from the FEIS.

The definition excluded shifts between contract units that did not result in one of the above. Documentation has been assembled for all changes, including transfers, and are reflected on the summary worksheets by contract unit.

The PBQD effort concludes that the staff's assessment of the items that are clearly added scope is correct. The primary items of added scope are:

- o The Watt/80 Acceleration Lane.
- o The Proposed Bee Access.
- o Added Grade Crossing Signal Protection.
- o Operator Restrooms.
- o Median Barrier on Watt Avenue.
- o The RT Start-Up Cost.

In addition, there are items where the quantity of that item is greater than anticipated in the original budget (such as landscaping and access road improvements at stations). These are more subjective and require more research. The more distinguishable items were addressed in the cost reduction effort as eliminations.



3. Task 130, Updated Project Estimate and Budget - Based upon the updated baseline data review above, PBQD prepared an updated estimate that reflects their best judgement of the probable cost of the project. The estimate is \$156,924,000. The estimate highlights are reflected below:

Summary of Project Milestone Budgets  
(in thousands)

	1	2	3	4	<u>Variance</u>	
	STDA	STDA	STDA	Audit	Col 4	Col 1
	<u>June 1983</u>	<u>July 1983</u>	<u>Dec 1984</u>	<u>Dec 1984</u>	<u>\$</u>	<u></u>
Construction and Procurement (CU#1-21)	\$ 88,345 (67%)	\$ 98,309 (66%)	\$ 91,199 (69%)	\$ 98,360 (63%)	\$10,015	11%
Management, Engineering, Start-UP, Insurance, Right-of-Way, Utilities and Contingencies (CU# 40-99)	\$ 42,680 (33%)	\$ 50,723 (34%)	\$ 40,034 (31%)	\$ 58,564 (37%)	\$15,884	37%
TOTAL	\$131,205 (100%)	\$149,032 (100%)	\$131,233 (100%)	\$156,924 (100%)	\$25,719	20%



Contract Units with Budget Variances Greater than One Million Dollars

CU	Description	5	6	7	Variance	
		STDA	STDA	Audit	Col 7	Col 5
		<u>from 1983</u>	<u>Dec 1984</u>	<u>Dec 1984</u>	<u>\$</u>	<u></u>
4A	Line, Central City	-0-	\$ 8,237	\$ 9,435	\$9,435	--
5	Line, Folsom Corridor	\$ 5,190	\$ 8,054	\$12,496	\$7,306	141%
40	Mgmt and Engineering	\$14,950	\$17,156	\$23,610	\$8,660	58%
60	Right-of-Way	\$12,360	\$12,885	\$17,025	\$4,665	38%
70	Utility Reloc.	\$ 5,120	\$ 5,257	\$ 8,750	\$3,630	71%
99	Contingency	\$10,250	\$ 237	\$ 4,681	-\$5,569	--

The summary data is based on the preliminary review. The detailed comparison with the budget estimate will take place in the next few weeks. The estimate, along with the CTC estimate, was used as input in developing staff's assessment of the required Project Budget and is discussed further in Section VII of the report.

4. Task 140, Final Environmental Impact Study Review - The PBQD staff reviewed the FEIS, the updated baseline documentation developed in Task 110, 120, and 130 above and the latest contract documents for each of the contract units. Changes noted were then classified and documented in accordance with the following evaluation criteria:
  - a. The nature or scope of the change to the project appears, from its description, to be either covered by or substantially the same as the existing FEIS.
  - b. The magnitude of the change is sufficiently minor or is a clarification and does not warrant consideration of any further environmental documentation.



5. The CTC commitment is not affected by the \$2,300,000 in deferrals and deletions proposed by staff. However, no added CTC funds can be made available to complete items that were part of the original scope.
6. There are several significant scope additions that would qualify for added CTC funding subject to the availability of funding. The list is essentially the same as that highlighted above:
  - a. Watt Avenue Acceleration Lane
  - b. Added Cost of Bee Access
  - c. PCUC Requirement for Upgraded Railroad Crossing Protection
  - d. Operator Restrooms at Lay-Over Stations
  - e. RT Start-Up Cost
  - f. Watt Avenue Median Barrier

The WSA cost estimate and comparison is summarized below:

SUMMARY OF WSA COST FORECASTS  
(\$ Millions)

<u>Item</u>	<u>December STDA Budget</u>	<u>WSA Forecast</u>
9 Critical CU's <sup>(1)</sup>	\$ 87.689	\$109.919 (+25.3%)
29 Other CU's	43.544	44.372 (+1.9%)
TOTAL	<u>\$131.233</u>	<u>\$154.291 (+17.6%)</u>

<u>Item</u>	<u>Lowest Possible Cost</u>	<u>Worst Case Forecast</u>
9 Critical CU's <sup>(1)</sup>	\$102.334 (+16.7%)	\$116.604 (+33.0%)
29 Other CU's	43.221 (--)	45.759 (+5.1%)
TOTAL	<u>\$145.555 (+10.9%)</u>	<u>\$162.363 (+23.7%)</u>

In conclusion, the two independent consultant reports support the following assumptions:

- 1) The cost projections are within \$2,600,000 of each other (less than a 2% variance). An estimated project cost between \$154,300,000 (WSA) and \$156,900,000 is reasonable for budgeting and as a basis for the Financial Plan.
- 2) With the exception of the items, both firms identify as added scope, the project is in line with the original design criteria and project scope reflected in the baseline budget. The eliminations exercised by staff did not alter the original scope. The added scope items listed above should be eligible for the pursuit of additional funding.



- c. The change appears to be sufficiently major and significant to necessitate consideration of further environmental documentation and clearance.

The effort identified 20 changes, all but two of which were classified as category a or b. The changes are as follows:

#### SUMMARY OF PROJECT CHANGES

PROJECT CHANGE	ENVIRONMENTAL CATEGORY		
	a	b	c
a. Systemwide Changes			
1. Flag stops	X		
2. Bus-to-Bus Timed Transfers		X	
3. Reduction in Integrated Art Program		X	
4. Parking Space Reduction		X	
5. Landscaping Reductions		X	
6. Construction Noise Mitigation		X	
7. Bus Operator Restrooms		X	
b. Changes Affecting Northeast and Central City Corridor			
8. O Street Mall Traffic Provisions			X
9. American River Bridge Reconstruction		X	
10. Arcade Creek Construction	X		
11. Bus Acceleration Lane		X	
12. Central City Design Modifications		X	
13. Changes to Watt/I-80 Station		X	
14. Median Barrier on Watt Avenue Bridge		X	
15. Modifications to Northeast Stations		X	
16. Blocking Downtown Cross Streets			X
17. LRT in Mixed Traffic		X	
18. Train Speeds	X		
c. Folsom Corridor			
19. Butterfield Way Extension	X		
20. Access to R Street		X	

Two proposed changes appear at this time to require additional study and environmental clearance:

Change b.8 extends the double-track section from K to G Streets, necessitating a split station configuration between J and I Streets. This results in additional safety hazards to patrons crossing the tracks and altered traffic pattern with potential vehicular and pedestrian conflicts, and additional operational noise and visual impacts.



Change b.16 results from the decision to operate three and four-car trains which will cause additional and unanticipated blockage of certain downtown streets during peak hour traffic. The affected intersections are as follows:

- o 7th and K Streets - outbound three-car train blocks one lane in 8th Street
- o 8th and O Streets - inbound four-car train blocks two lanes in 9th Street
- o 12th Street - inbound four-car train blocks all of 13th Street
- o 23rd Street - inbound four-car train blocks all of 24th Street

Since the FEIS does not deal fully with these issues, additional study and documentation appears to be warranted. The staff is reviewing these two issues and will discuss them with UMTA and the CTC.

B. WSA's Preliminary Report on the Projected Capital Cost of the Sacramento Light Rail Project - The methodology employed by WSA in conducting their audit was similar to that employed by PBQD. WSA's primary conclusions are:

1. That inclusive of cost reductions, the most likely project cost will be approximately \$154,291,000.
2. There are several key uncertainties relating to the ultimate total cost of the project remaining:
  - a. the vehicle dispute
  - b. issue related to real estate condemnation
  - c. litigation over the ultimate responsibility for utility relocation
  - d. the impact of schedule slips or extensions
  - e. remaining design decisions
  - f. the impact of inflation

The project cost could exceed \$162,000,000 if these items transpire negatively. Conversely, the cost could be less if all these items are settled in our favor.

3. Most of the cost uncertainty relates to 9 of the 38 contract units. These are essentially the same items highlighted in the PBQD report above.
4. The \$2,000,000 in deductive options is not included in the WSA forecast but should be included for financial planning.



**SUMMARY OF THE REVISED PROJECT BUDGET**



# VII. SUMMARY OF THE REVISED PROJECT BUDGET

The January Revised Project Budget has been issued as a separate document and totals \$155.982M, an increase of \$24.749M from the December baseline budget of \$131.233M. The increase is explained in detail in the transmittal letter to the January budget but can be summarized as follows:

<u>Project Element</u>	<u>December Baseline Budget</u>	<u>January Revised Budget</u>	<u>Change</u>
Management & Eng.	\$20.105	\$25.181	\$ 5.076
Risk Management	1.550	1.550	-
Right-of-Way & Utility Reloc.	18.142	23.559	5.417
Light Rail Veh.	25.570	25.570	-
Other Procurements	17.913	18.268	.355
Construction	47.716	56.854	9.138
Subtotal	<u>\$130.996</u>	<u>\$150.982</u>	<u>\$19.986</u>
Contingency	<u>.237</u>	<u>5.000</u>	<u>4.763</u>
Total Budget	\$131.233	\$155.982	\$24.749

As can be seen from the above, the material increases relate to Management and Engineering (\$5.076M), Right-of-Way and Utility Relocation (\$5.417M), Construction (\$9.138M) and Project General Contingency (\$4.763M).

The \$155.982M budget recommendation is in the mid-range between the two independent consultant audits of the project reviewed previously. The firm of PBQD reviewed the project in detail and concluded that a reasonable project cost estimate was \$156.727M. Separately, the firm of Wilbur Smith and Associates concluded that the probable cost would be \$154.291M. These two independent reviews give a high degree of comfort to the current STDA staff estimate of \$155.982M. Further, it is staff's belief that the original \$131.030M budget was simply unrealistic. The \$155.982M budget more reasonably relates to the Final Environmental Impact Study and the project scope documents contained in the UMTA grant agreements.

In addition, the January Revised Project Budget includes greater detail with respect to funding source information by contract unit as well as by detail grants. The Summary Funding Chart at the beginning of the document indicates that additional grant and miscellaneous sources totaling \$4.289M have been identified, thus leaving an amount to be financed by local government long-term debt of \$20.460M. A plan to issue this indebtedness is discussed in Section VIII of this report.



**SUMMARY OF THE DEBT FINANCING PLAN**



#### VIII. SUMMARY OF THE DEBT FINANCING PLAN

The capital project financing plan has been prepared in conjunction with the Sacramento Transit Development Agency's Final Assessment Report No. 3. The purpose of the financing plan is to provide a mechanism for funding the estimated LRT project cost increase from \$131.233 (12/84 Budget) to \$155.982M (1/85 Forecast). This increase of \$24.749M can be funded through a combination of additional grants, short-term financing techniques and long-term debt.

The capital project financing plan has been prepared in the context of an anticipated Regional Transit District annual operating budget deficit which may require annual operating subsidies from the parent governmental jurisdictions.

The total Sacramento Light Rail Project funding shortfall is \$24.749M. \$4.262M in additional grants, etc., have been identified, leaving an amount to be financed from long-term debt of \$20.487M. The only practical way to raise local construction project capital of this magnitude is through permanent municipal bond financing. The \$20.487M will be required by June 1985 if the project is to proceed as planned.

The consulting firm of Paine Webber, Inc., has submitted a report dated January 11, 1985, titled "Report to the Sacramento Transit Development Agency on Alternative Methods for Financing the Sacramento Light Rail Project". This report was prepared under the direction of a joint committee with participating representatives from all affected local government jurisdictions. The report identifies nine financing techniques both short and long term in nature, which are available to finance the project.

The financing plan has been developed with the understanding that there is a likelihood that parent jurisdictions (i.e., the County and City of Sacramento) will be required to provide \$3.0M per year in operating subsidy payments to the Regional Transit District as highlighted in Section IX of this report. Consequently, the parent jurisdictions are unable and probably unwilling to additionally participate in the construction financing.

Finally, before a local long-term debt issue can be structured, STDA as a policy matter must define the security for the debt. More specifically, we need to know what assets are being pledged as debt security.



## Recommendations

1. The Paine Webber report discusses so called Safe Harbor Leasing. This is a technique allowed by the 1982 Federal Tax Act known as TEFRA. Qualified mass commuting property is leased to a transit authority which then can be financed through tax exempt bonds and the tax benefits on such property sold for cash to corporate investors. As Paine Webber points out (Item 5 of their transmittal letter), the net benefit to the project of Safe Harbor Leasing ranges from \$1-6M. This financing plan conservatively assumes \$1M but STDA staff should be directed to immediately retain Paine Webber to further study this matter so as to refine the amount of Safe Harbor Lease benefit to the project. This requires immediate priority because the amount received may reduce the local long-term debt issue by as much as \$5M. The key factor in determining the Safe Harbor Leasing benefit is what portion of the vehicle rolling stock can be funded with local funds. At this point, only the Federal Urban Mass Transit Agency (UMTA) can provide the answer.
2. If the answer to 1 above is \$6M, then STDA staff would recommend the following financing plan:
  - a. Issuance by STDA of Grant Anticipation Notes (GANS) to fund cash flow deficits during 1985/86 and to accrue positive interest arbitrage in the approximate amount of \$200,000.
  - b. Maximum Safe Harbor Leasing transaction (up to \$6M).
  - c. 25 or 30-year variable rate Equipment Trust Certificates (or Certificate of Participation) issued by the Sacramento Housing and Redevelopment Agency (SHRA) supported by grants and/or loans of tax increment funds from the Sacramento Housing and Redevelopment Agency.
    - o Net Construction Proceeds \$20M.
    - o Annual Debt Service \$2.2M (plus contingency payment of \$.7M).
    - o Would require SHRA to own the vehicles and a finding of benefit to the project.
    - o The City of Sacramento would agree to assume any contingent liability associated with a variable rate debt instrument by would require SHRA to make additional annual payments to the City for the purpose of funding the contingent liability reserve.
    - o A bond call feature would allow for early retirement of bonds if desired.



3. If the answer to 1 above is \$1M, then STDA staff would recommend the following financing plan:
- a. Issuance by STDA of GANS to fund cash flow deficits during 1985/86 and to accrue positive interest arbitrage in the approximate amount of \$200,000.
  - b. Minimum Safe Harbor Leasing transaction (\$1M).
  - c. Issuance of a variable rate 25 or 30 year Lease Revenue Bond (or Certificate of Participation) by SHRA supported by tax increment funds for the annual debt service of \$2.2M (plus contingency payment of \$.7M). The City of Sacramento would agree to assume any contingent liability associated with a variable rate debt instrument, but would require SHRA to make additional annual payments to the City for the purpose of funding the contingent liability reserve. Once again, a bond call feature would be incorporated in the issue.



## **SUMMARY OF THE OPERATIONAL PROJECTIONS**



## IX. SUMMARY OF THE OPERATIONAL PROJECTIONS

The Preferred Alternative Report dated June 1981 and the Final Environmental Impact Statement dated August 1983 contain the summary data on which the selection of the LRT/Bus alternative was based. The RT and STDA staffs accepted these analyses and all subsequent work was predicated on these earlier efforts. A summary of the earlier efforts is as follows:

### Background - Reason for Implementing LRT

#### A. Preferred Alternative Report, June 1981, (Year 2000 Horizon) outlined a three-step plan for implementing the locally preferred alternative.

1. Immediate construction of LRT Starter Line in I-80 and Folsom Corridor.
2. Restructuring of the existing bus service in Northeast Sacramento to provide an integrated LRT/Bus Network.
3. Gradual bus system expansion to the year 2000 levels analyzed in the study if, and as, additional operating revenues become available.

#### B. Primary goal is to capture larger share of total transportation market by:

1. Providing increased capacity.
2. Increasing system productivity to control transit operating cost.
3. Providing alternative to automobile travel and avoiding construction of new highway facilities.
4. Developing a transit system that can function effectively and efficiently in a range of future energy and transportation situations.
5. Supporting federal and state fuel conservation and environmental goals.
6. Serving as a catalyst around which further land use development can be focused.
7. Reducing potential negative economic and social impacts of automobile disincentive measures.

#### C. Some key assumptions supporting the selection of LRT based upon year 2000 projections (technical and quality of life preferences).

1. Current system near capacity; fleet deployed during peak hours.



2. Cannot increase capacity of current system without adding more buses, staff and facilities and without adding a new and more productive technology (weekday riders at 63,000 in late 1980s).
3. Current system can handle only 60% of projected year 2000 demand.
4. Strong local preference for expanding transit system rather than road network.
5. Freeways I-80 and Route 50 are congested for periods of 30 to 40 minutes twice a day, resulting in 5 to 10 minute delays in travel time in each direction.
6. Population of Sacramento Urbanized Area is projected to grow to over a million by year 2000; estimated at 763 thousand in 1980.
7. LRT would satisfy demand of 34,000 daily users; 10.9 million annually.
8. LRT will provide 993,000 vehicle service hours annually (114% over current).
9. Utilization measured as weekday trips by transit would be 112,000 per day (117% over current).
10. Transit productivity measured as passengers per vehicle service hour was projected at 36.

- D. RT endorsed the locally preferred alternative and has proceeded with the city, state and county, through STDA, to implement this alternative

The objective of subsequent RT efforts was to develop the plan for restructuring the existing bus service in Northeast Sacramento to provide an integrated LRT/Bus Network. Efforts were primarily focused on the five-year period starting with FY85 and continuing through FY89. Between November 1983 and November 1984, a network was generated consistent with the original baseline documents and RT's current operating philosophy, bus fleet and staffing objectives. This has been refined through a series of 14 updates.

During August the draft final network was reviewed with the RT Board and incorporated in RT's Transit Plan, 1985-89, which was adopted by the Board on August 27, 1984. At the time of adoption, the new Master Summary Schedule for the LRT project had not been completed and the analysis was based on the old start-up dates for the Northeast Line and Folsom Line (April 1986 and January 1987). FY89 was the first year of full system operation and consequently used as the point for intermediate system comparison. Some key



indicators were:

- o The bus/LRT network is estimated to carry 18,409,000 annual passengers; 2,594,000 (16%) more than the bus-only system.
- o The bus/LRT network is estimated to have an annual operating cost of \$34,360,000 or approximately 8% more than the bus-only system.
- o The cost per passenger for the bus/rail system was \$1.87 as compared to \$2.00 for the bus-only system.
- o The annual miles per vehicle were at 37,000 for the bus/LRT network as opposed to 43,000 for the bus-only system.
- o The annual deficits for the bus/LRT system and bus-only system (adjusted to provide a comparable level of service) are \$1,679,000 and \$3,323,000 respectively.

In summary, the bus/LRT system, when compared to the bus-only system, is estimated to haul 2,594,000 (16%) more passengers annually with only an 8% increase in cost. The cost per passenger is 13 cents less with the bus/LRT system. The bus/LRT system puts 6,000 miles annually per vehicle less on the fleet while hauling more passengers--an indicator of increased productivity. The deficit resulting from the bus/LRT system in FY89 is less than half that resulting from the bus-only system. Subsequent adjustments to the August network made in November added back more bus platform hours reducing slightly the comparative advantage of the bus/LRT system.

The productivity and efficiency advantages of the bus/LRT system over the bus-only system increase significantly as the population of the RT Service Area grows at 1.5% annually. The bus-only system is unable to meet demand in about 1994 with current funds. The bus/LRT system on the other hand, with double tracking and line extensions, is continuing to exhibit increasing productivity and efficiency.

WSA performed an assessment of RT's plan for funding guideway operating costs as part of their effort conducted for the CTC. The WSA report is attached as Appendix B. The WSA report concluded that the RT patronage projections and financial assumptions with minor exceptions are reasonable.

The WSA report goes on to state that their projections of the operating deficit of the proposed system in FY89 is \$2,971,000. The increase of \$1,292,000 in annual deficit over the RT projection of \$1,679,000 rests on the



difference in three primary assumptions. The assumptions are that there will be no federal funding in FY89, that farebox revenues will be lowered as a result of the elasticity factor resulting from a 10 cent fare increase in FY88 and that state local transit funds will be at a higher level than RT projected. These comparisons are made in the WSA Report.

The tables reflected in Exhibit No. 5 contain the detail information summarized above.



**EXHIBITS**



LIST OF EXHIBITS

- Exhibit No. 1 - 1982-83 STDA Financial Statements
- Exhibit No. 2 - Transfer Plan (STDA Phase-Out/RT Phase-in)
- Exhibit No. 3 - Project Master Schedule and Critical Path  
Diagram
- Exhibit No. 4 - Start-Up and Operations Staff Memorandum
- Exhibit No. 5 - Operational Projection Tables
- Exhibit No. 6 - Future Extensions Memorandum



EXHIBIT NO. 1

1983-83 STDA FINANCIAL STATEMENTS



SACRAMENTO TRANSIT DEVELOPMENT AGENCY

ANNUAL FINANCIAL REPORT

\* \* \* \* \*

JULY 1, 1983



SACRAMENTO TRANSIT DEVELOPMENT AGENCY

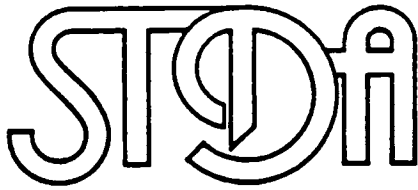
ANNUAL FINANCIAL REPORT

JULY 1, 1983

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# MEMORANDUM

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1201 I Street, Room 205 • Sacramento 95814 • (916) 445-6519

December 11, 1984

MEMORANDUM

TO: MEMBERS OF THE GOVERNING BOARD  
Sacramento Transit Development Agency (STDA)

FROM: JACK R. CRIST, STDA Controller

Transmitted herein is the annual financial report of the Sacramento Transit Development Agency for Fiscal Year 1982-83. The financial statements have been audited by our independent accountants, Price Waterhouse, whose report is included.

Questions may be directed to Phil Ezell, City Accounting Officer at 449-5769.

  
JACK R. CRIST  
STDA Controller



GOVERNING BOARD

Anne Rudin, Chairperson, Mayor - City of Sacramento  
William Bryan, Supervisor - County of Sacramento  
David M. Shore, Council Member, City of Sacramento  
Arthur E. Bauer, Regional Transit District  
Philip Flynn, Regional Transit District

ALTERNATE BOARD MEMBERS

Illa Collin, Supervisor - County of Sacramento  
Grantland Johnson, Council Member - City of Sacramento  
Bertha Gaffney Gorman, Regional Transit District

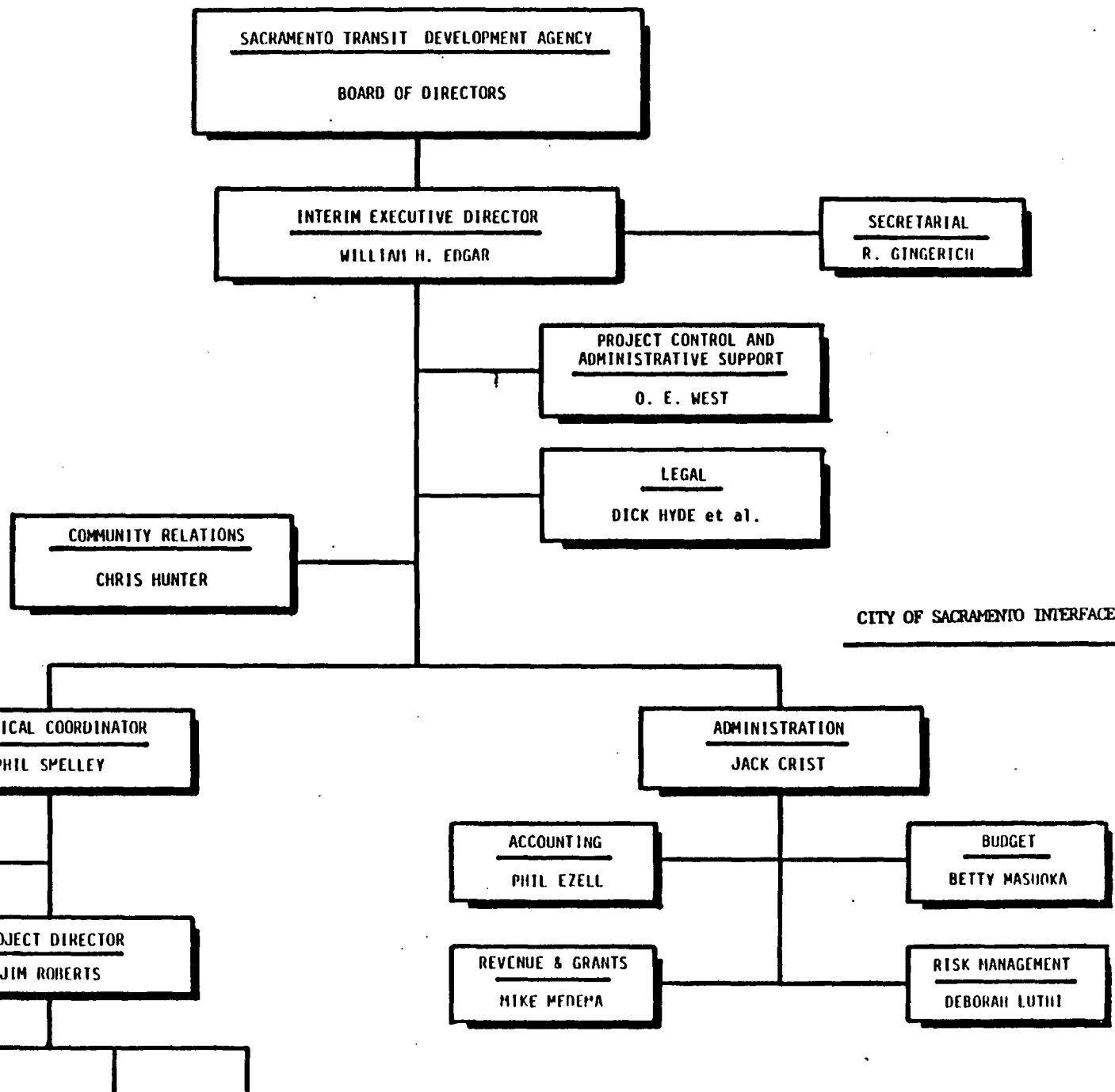
STAFF

William H. Edgar - Interim Executive Director  
Jack R. Crist, Director of Finance, STDA Controller  
Thomas P. Friery, City Treasurer, STDA Treasurer

Legal Counsel  
Hyde Miller & Savage, Sacramento

Independent Accountants  
Price Waterhouse, Sacramento



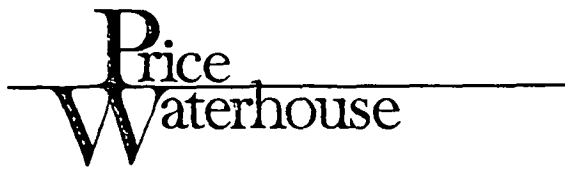


(NO CHANGE IN EXISTING ORGANIZATION)









455 CAPITOL MALL  
SACRAMENTO, CALIFORNIA 95814  
916 441-2370

October 18, 1984

To the Governing Board  
Sacramento Transit Development Agency

In our opinion, the accompanying balance sheet and related statement of revenue, expenditures and changes in fund balance present fairly the financial position of the Sacramento Transit Development Agency at July 1, 1983, and the results of its operations and changes in its financial position for the fifty-two weeks then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year. Our examination of these statements was made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

Our examination was made for the purpose of forming an opinion on the basic financial statements taken as a whole. The accompanying supplemental information as listed in the table of contents is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information has been subjected to the auditing procedures applied in the examination of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

*Price Waterhouse*



SACRAMENTO TRANSIT DEVELOPMENT AGENCY

BALANCE SHEET

JULY 1, 1983

(In Thousands)

	<u>Capital Project Fund</u>	<u>Fixed Assets Group</u>	<u>Totals (Memorandum Only)</u>
<u>A S S E T S</u>			
Cash	\$1,188		\$ 1,188
Accounts receivable	2,052		2,052
Accrued interest receivable	10		10
Construction in progress		\$10,873	10,873
	<u>\$3,250</u>	<u>\$10,873</u>	<u>\$14,123</u>
 <u>LIABILITIES AND</u> <u>FUND BALANCE</u>			
Liabilities:			
Accounts payable	\$2,897		\$ 2,897
Fund equity:			
Investment in fixed assets		\$10,873	10,873
Fund balance:			
Undesignated	<u>353</u>		<u>353</u>
	<u>\$3,250</u>	<u>\$10,873</u>	<u>\$14,123</u>



SACRAMENTO TRANSIT DEVELOPMENT AGENCY  
STATEMENT OF REVENUE, EXPENDITURES AND CHANGES  
IN FUND BALANCE

FIFTY-TWO WEEKS ENDED JULY 1, 1983

(In Thousands)

	<u>Budget</u>	<u>Actual</u>	<u>Over (Under) Budget</u>
Revenue:			
Grants:			
Urban Mass Transportation Administrative (UMTA)	\$ 2,255	\$2,255	\$ -
California Transportation Commission	5,210	4,916	( 294)
Public Utilities Commission	770	1,008	238
Regional Transit District	350	350	-
City of Sacramento	130	362	232
County of Sacramento	-	-	-
Other grants	378	378	-
Total grant revenue	9,093	9,269	176
Interest and miscellaneous	-	35	35
Total revenue	9,093	9,304	211
Expenditures:			
Management and engineering	6,500	7,958	1,458
Northeast corridor grade separations	10,450	1,008	( 9,442)
Mall demolition	-	-	-
Right of way acquisition	-	-	-
Rail acquisitions	-	-	-
Light rail vehicles	-	-	-
Signaling and communications	-	-	-
Grade stations	-	-	-
Equipment	-	-	-
Utility relocation	-	-	-
Maintenance building	-	-	-
Landscaping	-	-	-
General contingency	-	-	-
	\$ 16,950	8,966	(\$ 7,984)
Excess of revenue over expenditures		338	
Fund balance at July 2, 1982		15	
Fund balance at July 1, 1983		\$ 353	



## SACRAMENTO TRANSIT DEVELOPMENT AGENCY

### NOTES TO FINANCIAL STATEMENTS

#### NOTE A - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:

##### General

The Sacramento Transit Development Agency (STDA) was created pursuant to a joint powers agreement dated March 12, 1981 as amended March 6, 1984. The Agency is comprised of the City of Sacramento, County of Sacramento and Sacramento Regional Transit District.

The STDA is governed by a five member board. Two members are appointed by the City of Sacramento, two members are appointed by the Sacramento Regional Transit District and one member is appointed by the County of Sacramento. Each parent jurisdiction also has appointed alternates.

During fiscal 1982, STDA was primarily involved with identifying alternatives to the abandoned Interstate 80 By-Pass Freeway. Upon the selection of the Light Rail Project, STDA commenced concept resolution and preliminary engineering. During fiscal year 1983, STDA continued preliminary engineering, conducted an environmental impact study, began right of way acquisition and began construction of grade separations in the Northeast corridor.

The 18.3 mile Light Rail Transit starter line system is expected to begin passenger service in 1986. Upon its completion, the light rail transit facility will be solely owned and operated by the Sacramento Regional Transit District.

##### Basis of accounting

The Director of Finance of the City of Sacramento is the controller for the Sacramento Transit Development Agency. The fiscal records of STDA are maintained by the City of Sacramento as a governmental fund on the modified accrual basis of accounting. Modifications from the accrual basis are to record revenues when received in cash except for material revenues susceptible to accrual. Revenues susceptible to accrual are recognized in the accounting period in which they become available and measurable. Available means collectible within the current period or soon enough thereafter to be used to pay liabilities of the current period.

##### Fiscal year

The fiscal year of STDA begins on the first Saturday of each July, resulting in a 52-week fiscal year, except for every sixth year which contains 53 weeks.



### Cash and investments with City Treasurer

The Treasurer of the City of Sacramento is the Treasurer for the Sacramento Transit Development Agency. The City follows the practice of pooling cash and investments for all funds. Investments include demand deposits, repurchase agreements, time certificates of deposits, commercial paper, and U.S. Government securities, stated at amortized cost which approximates market.

### Description of funds and account groups

#### Capital project fund

The capital project fund is used to account for all revenue and expenditures of STDA including resources designated to design, construct or acquire fixed assets and other improvements.

#### Fixed assets group

The fixed assets group is used to account for those fixed assets of STDA which will be transferred to the Sacramento Regional Transit District. Costs incurred for planning, feasibility studies, design and construction associated with the Light Rail System are accounted for in the capital project fund of STDA and capitalized in the fixed asset group of accounts.

### NOTE B - FUNDING:

The project is being funded by capital grants through the Urban Mass Transportation Administration (UMTA), Transportation Development Act (TDA) funds and other federal, state and local monies received directly by STDA, as follows (in thousands):

Urban Mass Transportation Administration	\$ 98,510
California Transportation Commission	19,320
Public Utilities Commission	6,600
Regional Transit District (TDA)	2,530
City of Sacramento	1,860
County of Sacramento	1,160
Other	1,050
	<u>\$131,030</u>

### NOTE C - FIXED ASSETS:

A summary of total expenditures and equity in fixed assets is as follows (in thousands):

Equity in fixed assets June 30, 1982	\$ 1,907
Total expenditures during fiscal 1983	<u>8,966</u>
Equity in fixed assets July 1, 1983	<u>\$10,873</u>



SUPPLEMENTAL INFORMATION



SACRAMENTO TRANSIT DEVELOPMENT AGENCY

STATEMENT OF GRANT AGREEMENTS - BUDGETED, RECEIVED AND TO BE RECEIVED

BEGINNING OF PROJECT TO JULY 1, 1983

(In Thousands)

<u>Grant Agreement</u>	<u>Project Budget</u>	<u>Received</u>			<u>To Be Received July 1, 1983</u>
		<u>Inception to June 30, 1982</u>	<u>Fiscal 1983</u>	<u>Total</u>	
Urban Mass Transportation Administration (UMTA):					
Preliminary engineering	\$ 2,443	\$ 188	\$2,255	\$ 2,443	\$ 5,495
Environmental impact study	5,495				
Construction management and inspection	2,410				2,410
Light rail vehicles, right of ways, etc.	88,140				88,140
SACOG allocation	22				22
	<u>98,510</u>	<u>188</u>	<u>2,255</u>	<u>2,443</u>	<u>96,067</u>
California Transportation Commission:					
Preliminary engineering	120	120		120	
Northeast corridor	1,400	1,342	58	1,400	
Right of way acquisition	1,000	150	850	1,000	
Final engineering, materials acquisition	4,300		4,008	4,008	292
Light rail line construction	4,200				4,200
Light rail vehicles	2,800				2,800
Construction	5,500				5,500
	<u>19,320</u>	<u>1,612</u>	<u>4,916</u>	<u>6,528</u>	<u>12,792</u>
Public Utilities Commission:					
Grade separation	6,600		1,008	1,008	5,592
Regional Transit District					
Design/construction	2,530	113	350	463	2,067
City of Sacramento:					
Grade separation	700		300	300	400
Undesignated	1,160		62	62	1,098
	<u>1,860</u>		<u>362</u>	<u>362</u>	<u>1,498</u>
County of Sacramento:					
Undesignated	1,160				1,160
Other grants	1,050		378	378	672
	<u>\$131,030</u>	<u>\$1,913</u>	<u>\$9,269</u>	<u>\$11,182</u>	<u>\$119,848</u>



SACRAMENTO TRANSIT DEVELOPMENT AGENCY  
PROJECT-LENGTH SCHEDULE OF LIGHT RAIL PROJECT  
BEGINNING OF PROJECT TO JULY 1, 1983  
(In Thousands)

Total project authorization	\$131,030
<hr/>	
Revenue and other financial sources:	
Intergovernmental (Federal)	\$ 2,443
Intergovernmental (State)	7,536
Intergovernmental (Local)	825
Other grants	378
Interest and miscellaneous	44
	<hr/>
	\$ 11,226
<hr/>	
Capital project expenditures:	
Management and engineering:	
Engineering and architectural	\$ 9,330
Consulting services	167
Insurance	149
Legal and accounting	49
Project management	170
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	9,865
Construction:	
Northeast corridor grade separations	1,008
	<hr/>
	10,873
Undesignated fund balance	353
	<hr/>
	\$ 11,226
	<hr/>



EXHIBIT NO. 2

TRANSFER PLAN (STDA PHASE-OUT/RT PHASE-IN)





## Regional Transit

P.O. BOX 2110 • 1400 29TH STREET • SACRAMENTO, CA 95810-2110 • (916) 321-2800

January 14, 1985

Mr. William H. Edgar  
Interim Executive Director  
Sacramento Transit Development Agency  
926 J Street, Suite 611  
Sacramento, CA 95814

Re: TRANSFER PLAN  
File: 034.002.00

Dear Bill:

On December 19, 1984, the STDA Board of Directors approved the Progress Statement (Report No. 2) developed by the interim STDA administrative staff. Recommendation No. 1 in the subject report was that:

"The Sacramento Transit Development Agency be gradually phased out and that the Sacramento Regional Transit District be phased in as the responsible agency for completing and operating the light rail system."

After discussion of the transfer and its implications with the Sacramento Regional Transit District Board, staff was instructed to develop the Transfer Plan, a copy of which is attached for inclusion in the Final Assessment (Report No. 3).

The Transfer Plan outlines the general "road map" that we must follow to accomplish an orderly transfer of the Light Rail Construction Project from the STDA to RT by July 1, 1985. The Plan focuses on the following key areas:

- I. Joint Oversight (transition and ongoing overview).
- II. Organizational Structure (structure proposed by RT for Construction and Operation, including Transition Staff Plan).
- III. Grant Contract Assumptions (Reassignment of STDA grants to RT).
- IV. Service, Funding and Construction Contracts (Reassignment of STDA contracts to RT).
- V. Title Transfer of Real Property, Records and Drawings (transfer of tangible assets from STDA to RT).




Edgar, Mr. William H.  
January 14, 1985  
Page 2

- VI. Accounting (coordination requirements necessary to effect RT assumption of financial responsibilities on July 1, 1985).
- VII. Policy Coordination (actions necessary by RT Board to modify/assimilate STDA Policy and implications).
- VIII. Office Space (consolidation of project staff).
- IX. Dissolution of STDA.

Each section listed above provides a brief description of the key items to be addressed and resolved, provides an action list for key items, and is supported by a citation of the relevant documents in the appendix. Not all of the appendix items have been developed to date and are so noted in the Plan Summary. The document will require review and update as we move through the transition period.

The document, to the extent practical given the timeframe for development, has been coordinated between our staffs' functional counterparts. A rough schedule of key events is attached for discussion. We will have to continue to support each other closely as we move forward and implement the transition.

Sincerely yours,

  
David A. Boggs  
General Manager

Attachment

cc: RT Board of Directors  
RT Senior Staff



**SACRAMENTO LIGHT RAIL PROJECT  
TRANSFER PLAN  
SCHEDULE OF TASK MILESTONES**

January 12, 1985

MONTHS 1985								
TASK	DESCRIPTION	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	COMMENTS
I.	<u>JOINT OVERSIGHT</u>							
1.	RT, City & County approve plan	—	△*					Joint Resolution
2.	Develop Admin. Mechanisms for meetings			—*	△			Adopt process & procedure and appoint representatives
3.	Have meetings					△	△	Once monthly
II.	<u>ORGANIZATION STRUCTURE</u>							
1.	RT Board approve structure	—	△*					Feb. COTW - 2/11/85
2.	Approve job desc. & staffing							
a.	Operations		△*	-----	-----		2-----	Critical positions COTW 2/11/85 - cont. activity
b.	Capital (P&TSD)							
3.	Recruitment							
a.	Operation		△*	-----	-----		2-----	2/11/85 start recruiting critical positions
b.	Capital							
III.	<u>GRANT CONTRACTS</u>							
1.	Discuss with UMTA & amend grants as necessary					△		Start at 1/28 quarterly management
2.	STDA assign grant rights		⚡	—	△			STDA 3/20 management



**SACRAMENTO LIGHT RAIL PROJECT  
TRANSFER PLAN  
SCHEDULE OF TASK MILESTONES**

January 12, 1985

MONTHS 1985							COMMENTS
TASK	DESCRIPTION	JANUARY	FEBRUARY	MARCH	APRIL	MAY	
	3. RT Board accept assign.				△*		RT COTW 4/8/85
	4. Granting agency actions		—		△		
	5. RT approve submittal grants now in progress		△*		2		RT Board approve FY 85/86 CTC application - others as prepared
IV.	<u>STDA CONTRACTS</u>						
	1. RT legal review of assignability		△				
	2. STDA assignment to RT			△			STDA management 3/6
	3. Contractors OK				△		
	4. RT Board accepts assignment					△*	RT accept 5/20 mgt.
V.	<u>TITLE TRANSFER</u>						
	1. STDA develop audited inventory			△			
	2. STDA acquire title insurance for ROW				△		Would be "as of" specific day; all new items/ROW added to list
	3. STDA approve transfer of real property to RT					△	
	4. RT accept conveyance					△*	RT insurance to appropriate levels
IV.	<u>ACCOUNTING</u>						
	1. City complete documentation process		△		△		Complete 1/23; 2 updates



**SACRAMENTO LIGHT RAIL PROJECT  
TRANSFER PLAN  
SCHEDULE OF TASK MILESTONES**

January 12, 1985

MONTHS 1985							
TASK	DESCRIPTION	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE
	2. RT participates				△		△
	3. STDA audits	△ (82-83)	△ (83-84)				
	4. All transferred to RT						△
VII.	<u>POLICY COORDINATION</u>						
	1. RT legal develop policy analysis		△				
	2. RT Board take approval action						△*
VIII.	<u>OFFICE SPACE</u>						
	1. STDA evaluation		△				
	2. RT locate space			△			
	3. RT Board authorization			△*			
IX.	<u>DISSOLUTION OF STDA</u>						
	1. City, County, RT agree disband STDA					△*	
<b>LEGEND</b> △ Activity Date * Requires Board Approval							

Transfer complete 6/30

STDA complete '83, '84 & '85

Transfer to RT 7/1/85

Approved per schedule; all on/before 6/1/85

"J", "I" & Foster

RT 2/18 Board mgt. or as necessary

Agencies notify each other of intent to disband STDA effective 7/1/85







SACRAMENTO LIGHT RAIL TRANSIT PROJECT

TRANSFER PLAN

January 14, 1985

SACRAMENTO REGIONAL TRANSIT DISTRICT



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## TRANSFER PLAN SUMMARY

In order to accomplish an orderly transfer of the Light Rail construction project from the Sacramento Transit Development Agency to the Sacramento Regional Transit District, the Plan proposes the following:

1. Maintains City and County involvement through an oversight committee;
2. Implements an organizational structure to both complete construction of and operate the Light Rail Project;
3. Provides for the assumption of outstanding grants;
4. Provides for the assumption of all service, supply and construction contracts;
5. Provides for the transfer of the project assets to RT;
6. Recognizes the transition of the accounting functions from the City of Sacramento to RT;
7. Provides a procedure for assimilation of STDA policies by RT;
8. Recognizes that office space changes are in order; and
9. Suggests a means by which STDA is dissolved.

### I. JOINT OVERSIGHT (TRANSITION AND ONGOING OVERVIEW)

To preserve the active exchange of information and counsel to the Light Rail Project, RT staff proposes the following structure and actions:

#### Oversight.

- A. Joint LRT Oversight Committee made up of two RT Board members, one City Council member, and one Board of Supervisors member, each appointed by the respective Board chair; the RT General Manager; the City Manager; the County Executive; and, as ex officio members, the Executive Director of STDA and the Assistant General Manager for Transit System Development.

This panel would meet once a month to review and comment on the RT formal project status reports. The chair of the Oversight Committee would be elected by Committee members and the Committee would be advisory to the RT



Board of Directors. It would review matters relating to the LRT Project and operations, including a review of the annual RT budget.

- B. RT General Manager will, on a designated basis, make a status report to the full City Council and Board of Supervisors based on the Committee's assessment.

- ACTION:**
1. RT Board, City and County takes action on Oversight Committee recommendations.
  2. Staff sets up administrative mechanisms to convene meetings of Oversight Committee and to make the periodical reports to the elected Boards.

## II. ORGANIZATIONAL STRUCTURE

RT staff proposes an organizational structure which accommodates completion of LRT construction and the planning and building of other transit facilities. Under this Plan, a position entitled Assistant General Manager in charge of Transit System Development (TSD) is established. The areas of responsibility of the Transit System Development Division could include both planning (long-range service and facilities) and actual implementation of construction projects, or, in the alternative, planning could be separated out. Both approaches are included for further deliberations by the RT Board. (Appendixes A-1, A-2) For purposes of the LRT development, the existing staff of two clerical people and the contingent of consultants would be assumed by RT. Changes would subsequently be made in accordance with the proposed organization phaseover. (Appendix B)

RT would not staff the Division at the level needed to complete the LRT construction project. Instead RT would continue to rely upon consultant services for the extraordinary effort which the LRT construction represents. Staff proposes to continue with the services of the LRT Project Coordinator consultant to head up the TSD Division during the transition period. By June 30, 1985, permanent TSD Assistant General Manager and other select staff positions would be filled through recruitment.

Operation of both the LRT and the bus system will be the responsibility of the Assistant General Manager in charge of Operations under the organizational structure which the RT Board has been discussing.

RT has always planned to operate the LRT System upon its completion. The staffing and operation are described in the LRT Metro Plan. The early assumption of the project, before completion, will affect several departments, such as Legal and Accounting, more than would have been the case through the turnkey approach. The additional help needed in these departments is a function of the increased role in contract management and claims administration, plus the



assumption of the complex accounting required by the various grants and construction activities.

- ACTION:
1. RT Board discuss and adopt organizational structure for both construction of Light Rail and other future transit facility projects and finalize its integration with the operating structure which has previously been reviewed by the RT Board of Directors.
  2. RT Board approve job description and staffing levels for above organizational structures.
  3. Staff begin recruitment to fill said positions.

CITATIONS: Organizational charts and job descriptions attached as Appendixes A-1, A-2

Organizational phaseover - Appendix B

### III. GRANT CONTRACT ASSUMPTIONS

STDA is the recipient of grants from agencies other than the U. S. Department of Transportation, Urban Mass Transportation Administration. These grants must all be assigned to RT by formal action of STDA, the granting agencies, and RT.

RT is the grantee of the bulk of the Federal funds participating in the project (CA-90-0010 and CA-23-9001). Some of the terms of the grant should be changed, and these discussions should occur between UMTA, RT and STDA. These discussions should occur before transfer to RT in order to bring about a full understanding of the obligations remaining with RT. Those grants for which STDA is the grantee or an applicant must be assigned to RT. Those grants which SACOG holds need not be transferred.

- ACTION:
1. RT and STDA staff discuss concerns with existing grant with UMTA to amend the Full-Funding Agreement to address time, scope, and funding restrictions.
  2. Pending transfer, all grant applications to be made in RT's name.
  3. STDA assigns rights and obligations in grants in which they are grantee to RT.
  4. RT Board takes action accepting assignment of grants to RT.
  5. Granting agencies take action recognizing assignment of grants to RT.



6. RT Board takes action ratifying applications for grants now in progress by STDA.
7. STDA communicates with granting agencies that RT is to be substituted as applicant for grants in progress.

CITATIONS: Listing of grants in place and in progress - Appendix C.

STDA resolution authorizing assignment of contracts and grants from STDA to RT - Appendix D

RT resolution authorizing assignment of contracts and grants from STDA to RT - Appendix E-1

RT resolution authorizing substitution of RT as applicant/grantee of STDA grant applications - Appendix E-2

#### IV. SERVICE, FUNDING AND CONSTRUCTION CONTRACTS

Presently STDA is carrying on the Light Rail Project through consulting contracts with the State of California and a number of private consulting firms. In addition, construction is underway through contracts which have been awarded through competitive bidding processes. Each of these contracts must be assigned to Sacramento Regional Transit District by affirmative action of the contractor, STDA and RT. All plans under development become the property of RT as well. All assignments will be made effective as of a certain date, such as July 1, 1985.

- ACTION:
1. Legal Department to review each contract regarding assignability.
  2. STDA Board to take action assigning to RT all contracts to which STDA is a party.
  3. Contractors each communicate acceptance of such assignment.
  4. RT Board takes action accepting the assignments.

CITATION: STDA resolution authorizing assignment of contracts and grants from STDA to RT - Appendix D

RT resolution authorizing assignment of contracts and grants from STDA to RT - Appendix E-1

Listing of contracts in place - Appendix F



V. TITLE TRANSFER OF REAL PROPERTY, RECORDS,  
AND DRAWINGS

STDA has taken title to many parcels of land which make up the LRT right of way. Also, much of the hardware and miscellaneous items required for the Light Rail Project has already been received. These items must be conveyed to RT as a part of the transfer to RT from STDA. Title insurance must be acquired for real estate parcels transferred.

In addition, the project records, plans and drawings must be transferred to RT. These must be inventoried, packaged and readied for transfer to RT.

- ACTION:
1. STDA conducts an audited inventory of all items acquired with project funds and identify all the records, plans and drawings.
  2. STDA staff acquires title insurance to real parcels conveyed to RT.
  3. STDA Board approves conveyance to RT of real property parcels and all hardware and other assets procured.
  4. RT Board accepts conveyance of property and other project assets.

CITATION: List of parcels and property assets - Appendix G  
(to be developed)

STDA resolution authorizing transfer to RT all real and personal property, plans and records in STDA's possession and control - Appendix H (to be developed)

RT resolution accepting transfer to RT of all real and personal property, plans and records in STDA's possession and control - Appendix I (to be developed)



## VI. ACCOUNTING

In order to smoothly complete construction of the LRT, the recordkeeping and MIS systems of STDA and RT must mesh. The City Controller is presently developing a budgetary, accounting and financial tracking system. The RT accounting department must participate in this process to assure compatibility with the RT system. This will require additional staff assistance to the RT accounting and MIS departments.

- ACTION:**
1. City Controller's Office completes its documentary process.
  2. RT Accounting Department coordinates with City Controller's Office to assure compatibility with RT's system.
  3. STDA causes to be prepared all audited financial statements for project activities to date.
  4. All accounting and financial records transferred to RT.



## VII. POLICY COORDINATION

During its three years of existence, STDA has adopted policies and guidelines governing procurement, construction administration, and other related matters. To the extent that these policies and procedures deviate from RT's, the RT Board must take affirmative action to amend its policies to conform to those implemented by STDA or make it clear which policies will not be followed.

In addition, the RT Metro master start-up plan has been under development and it contemplates the promulgation of policies on which the RT Board has been commenting and preparing for adoption, to wit:

1. The RT Metro rule book
2. The Emergency Plan
3. LRT/Bus Integration
4. LRT Marketing Plan
5. Legislative Program

**ACTION:** 1. RT Legal Department to develop policy analysis.  
2. RT Board takes action on all above-referenced policies.

**CITATIONS:** RT Legal Department analysis of STDA policies - Appendix J

RT Metro Master Start-Up Plan - Appendix K

LRT Marketing Plan - (Under development)

Legislative Program - Appendix L

## VIII. OFFICE SPACE

Presently, consultants and others assigned to the Light Rail Project under the auspices of STDA are housed in three separate locations. In order to facilitate appropriate oversight of the project by RT, it is desirable that sufficient office space at or in the vicinity of RT headquarters be secured to house all those people and functions assigned to the project. Several options for this are available.

The first objective will be to consolidate all personnel associated with the construction effort in one locale as close as possible to RT. The second priority, if sufficient space close to RT cannot be secured, would be to consolidate LRT project administrative staff with design staff in one locale whether close to RT or not.



- ACTIONS:**
1. STDA staff to evaluate the space requirements which the project presently demands.
  2. RT staff to locate sufficient space in vicinity of RT to house LRT Project effort.
  3. RT Board to take action as required to secure space and authorize expanded administration building.

#### IX. DISSOLUTION OF STDA

STDA was created by a Joint Powers Agreement between the City, County, and RT. Once the details mentioned above have been accomplished, each agency should serve upon the other two a letter formally recognizing their discontinued participation in STDA.

- ACTION:**
1. City Council, Board of Supervisors and RT Board of Directors approves discontinuation of Joint Powers Agreement and STDA.

**CITATION:** Joint Powers Agreement - Appendix M



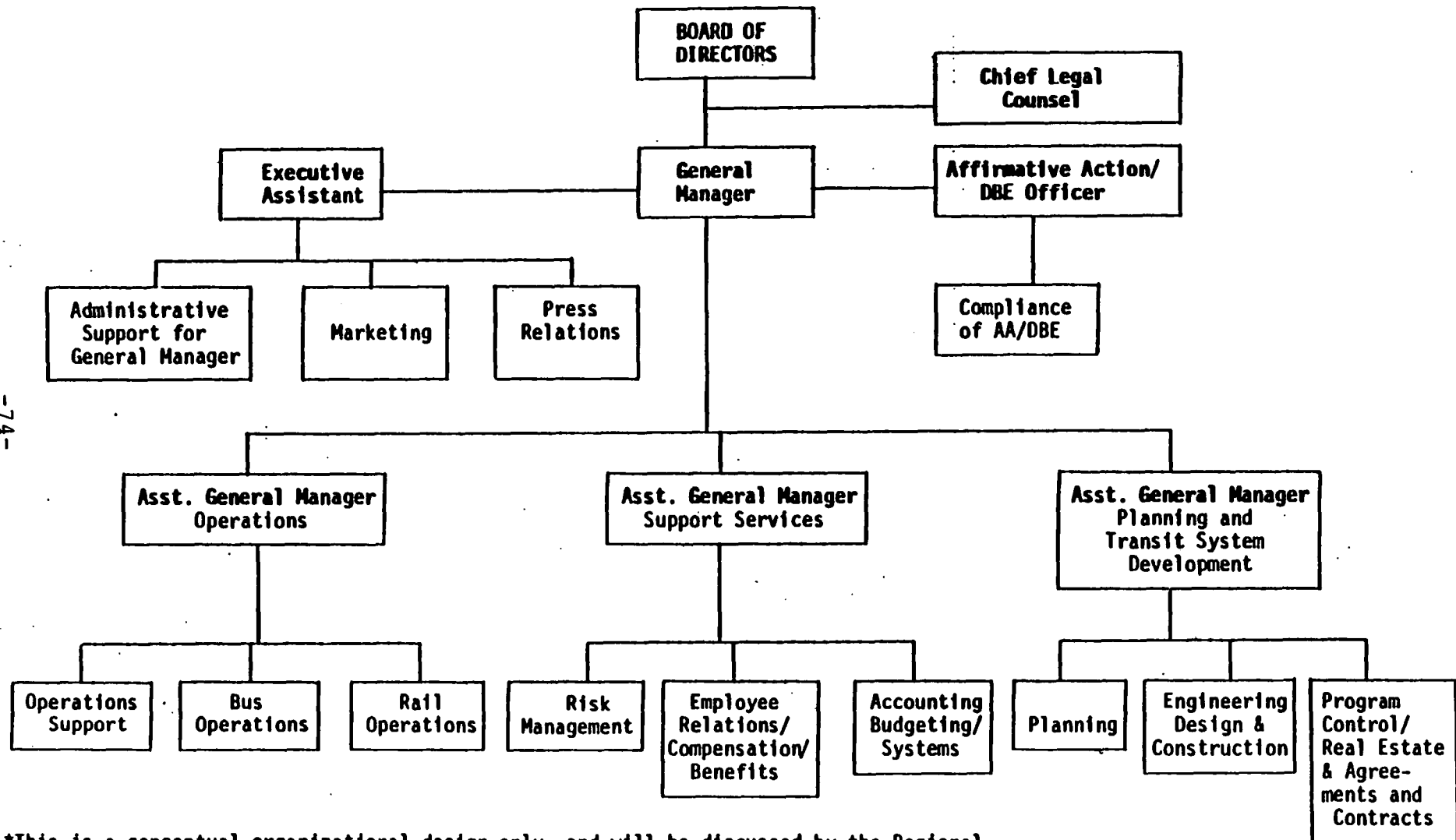
APPENDIX A-1

CONCEPTUAL RT ORGANIZATIONAL CHART

(Alternative No. 1)



CONCEPTUAL ORGANIZATION CHART BY FUNCTION - SACRAMENTO REGIONAL TRANSIT\*



\*This is a conceptual organizational design only, and will be discussed by the Regional Transit Board of Directors prior to their adoption of a final organizational structure

\*\*The Executive Assistant will serve as a coordinator to assist the General Manager on internal management matters







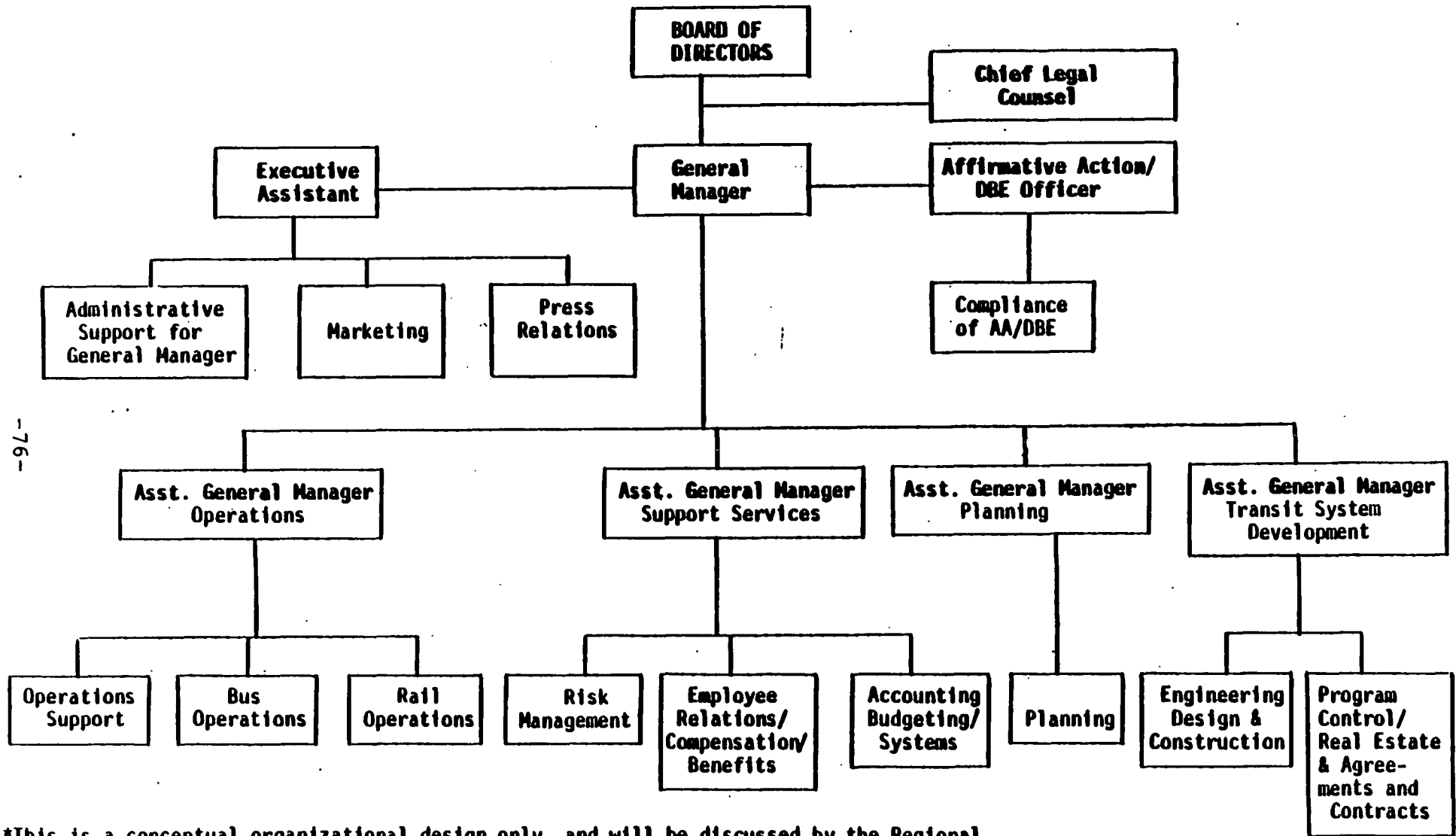
APPENDIX A-2

CONCEPTUAL RT ORGANIZATIONAL CHART

(Alternative No. 2)



# **CONCEPTUAL ORGANIZATION CHART BY FUNCTION - SACRAMENTO REGIONAL TRANSIT\***



\*This is a conceptual organizational design only, and will be discussed by the Regional Transit Board of Directors prior to their adoption of a final organizational structure.

\*\*The Executive Assistant will serve as a coordinator to assist the General Manager on internal management matters



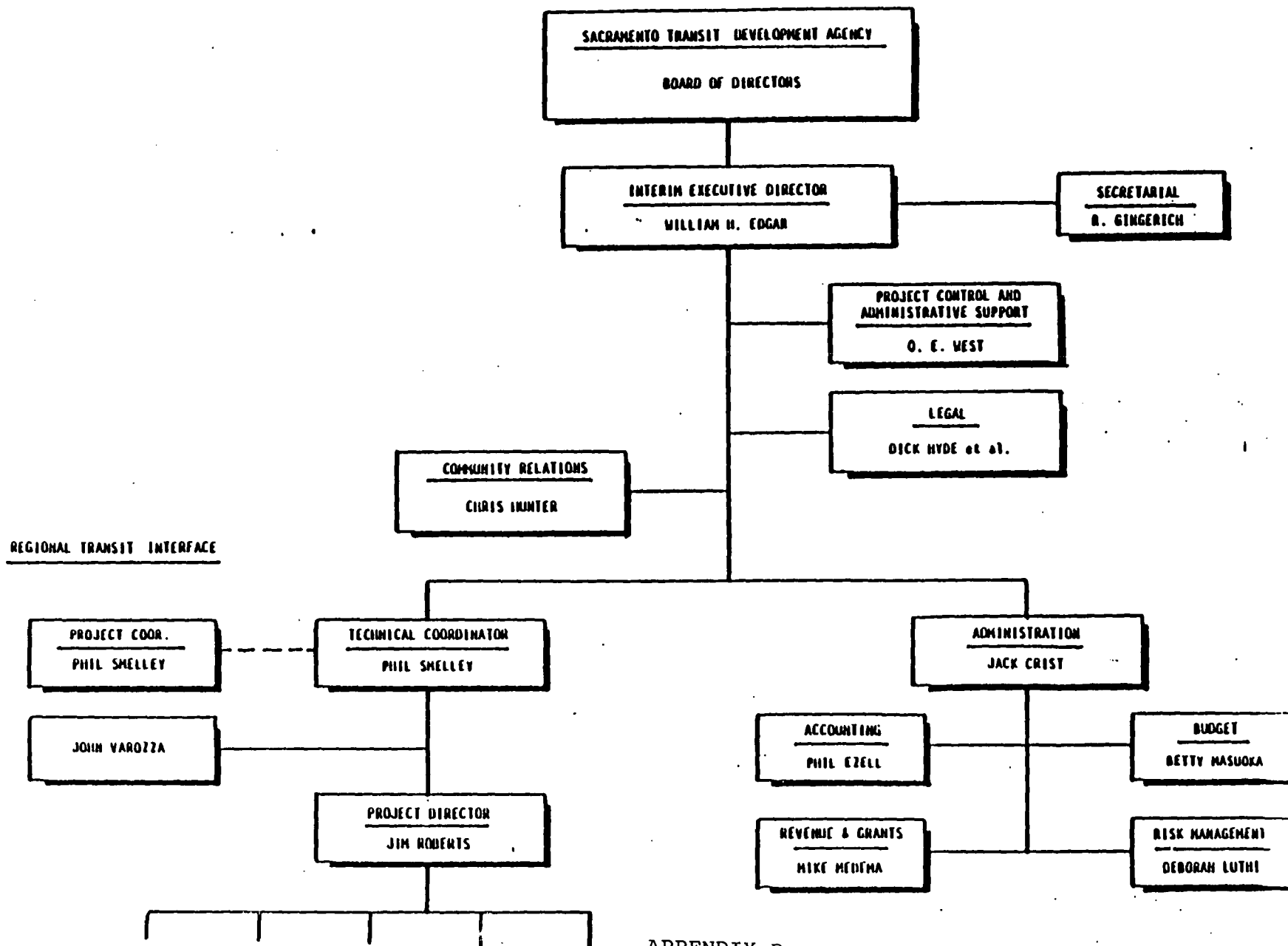




APPENDIX B

STDA STAFF PHASEOVER



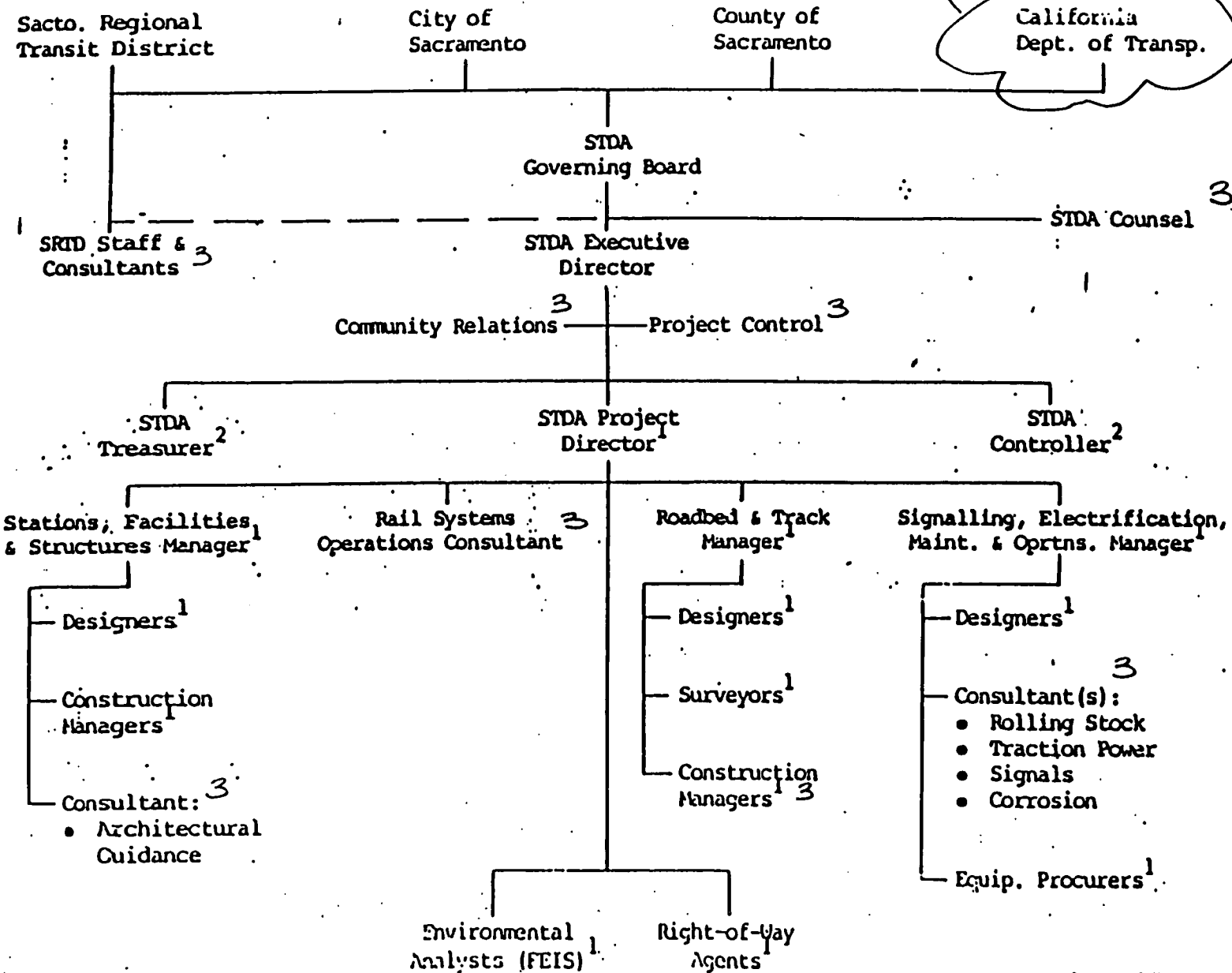




SACRAMENTO TRANSIT DEVELOPMENT AGENCY  
INTERRELATIONSHIPS WITH MEMBER JURISDICTIONS

DROPPED OUT OF  
JPA 1/84

California  
Dept. of Transp.



1 - Caltrans Employee(s); 2 - City Employee(s)  
 3 - CONSULTANT(S)  
 -79-



1/10/85

SACRAMENTO LIGHT RAIL PROJECT TRANSFER PLAN  
SECTION II - ORGANIZATIONAL STRUCTURE PHASEOVER;  
STDA EXECUTIVE & PROJECT OFFICES

SCOPE: RT is to absorb the responsibility for completing the LRT Project effective July 1, 1985. This task represents the first cut at phasing out the STDA executive office and project offices. The technical consultants performing the design and construction management and the construction and procurement contractors are not addressed in Section IV, Service, Funding and Construction Contracts.

EXECUTIVE OFFICE

<u>Position</u>	<u>Incumbent</u>	<u>Current Employer</u>	<u>Phase-Out Date</u>	<u>Comments</u>
Executive Director	William Edgar	City	March-June 1985	Duties will be assumed by AGM TSD (LRT consultant pending AGM recruitment).
Executive Secretary	Rita Gingerich	STDA (RT)	March-June 1985	As above; become RT employee.
Clerk (temporary)	Sandy Strike	STDA (RT)	March-June 1985	As above; become RT employee.
Project Control Consultant	O.E. West & Assoc. (WBE) Gene Burkman Laura Spatz Cost Engineer	Independent Contractor (Local Funds)	March-June 1985	As above; contract amended & assigned to RT. Services continued through 4/87.
Legal Counsel (Consultant)	Hyde, Miller & Savage	Independent Contractor	March-June 1985	Complete right-of-way condemnations. RT Legal will pick up effort. AGM TSD will need full-time legal support through 9/85. Must decide if pursuit of utility litigation to be handled internal or external.
Treasurer/Controller	Jack Crist	City	June 1985	City to complete development of financial plan, budget, revenue reconciliations, procedures & audits through FY 85. Assume City will handle bond consultant.



## Executive Office (continued)

<u>Position</u>	<u>Incumbent</u>	<u>Current Employer</u>	<u>Phase-Out Date</u>	<u>Comments</u>
Community Coordinator (Consultant)	Chris Hunter (WBE)	Independent Contractor	June-Sept. 1985	Duties will be assumed by RT after brief overlap.
<u>PROJECT OFFICES</u>				
Technical Coordinator (Consultant)	Phil Smelley	Independent Contractor	January 1985	Currently RT consultant with dual responsibility. Effective 2/1/85 assume RT function.
Technical Support (Consultant)	John Varozza	Independent Contractor	March-June 1985	Technical support during interim assessment with City & County. Continue with current contract. Would contract on an as needed basis in future.
Project Director	Jim Roberts	Caltrans	June 1985	Another assignment with Caltrans effective 7/1/85. Duties assumed at RT by AGM TSD or LRT consultant. Jim available for consultant.*
Deputy Director Rail Systems	Dick Weaver	Caltrans	Sept.-December 1985	Duties assumed by AGM TSD with consultant support.
Deputy Director Structures & Facilities	Bob Kershaw	Caltrans	Sept.-December 1986	Will need continued support through 9/12/86 pending deter- mination of permanent RT requirements.
Deputy Director Track & Roadbed	Jeff Gualco	Caltrans	Sept.-December 1985	Will need continued support through 9/12/85 pending deter- mination of permanent RT requirements.

\* Caltrans staff available for consultation



Project Offices (continued)

Page 3 of 3

<u>Position</u>				
Assoc. Transportation Engineer	Kevin Elcock	Caltrans	Sept.-December 1986	Will need continued support through 9/12/86 pending determination of permanent RT requirements.
Assoc. Transportation Engineer	John Valsecchi	Caltrans	Sept.-December 1986	Same as above.
Secretary	Bev Cruse	Caltrans	June 1985	Will leave to support Jim Roberts in his new Caltrans assignment.
Contract Administration	Al Gallardo	Independent Contractor	Sept.-December 1986	Will need continued support through 1986.
Design (general)	N/A	Caltrans	June 1985	All design currently scheduled for completion prior to June 1985. If schedule slips, will reassess prior to June.
Right-of-Way Acquisition Support	N/A	Caltrans	June 1985	All property scheduled for acquisition prior to June.







APPENDIX C  
LISTING OF STDA GRANTS



APPENDIX C

SACRAMENTO LIGHT RAIL TRANSIT PROJECT  
TRANSFER PLAN  
GRANT (FUNDING) LISTING

I. Summary of Established Funding Sources:

<u>Source</u>	<u>Amount</u> (in millions)
Federal	\$ 98.51
State	26.06
Local	<u>7.25</u>
	\$131.82

A. Federal Sources

<u>Grant No.</u>	<u>Grantee</u>	<u>Amount</u> (in millions)
CA-29-9002	SACOG	\$ 0.50
CA-29-9004	SACOG	1.96
CA-29-9005	SACOG	5.50
CA-90-0010	RT	2.41
CA-23-9001	RT	<u>88.14</u>
		\$98.51

B. State Sources

<u>Grant No.</u>	<u>Grantee</u>	<u>Amount</u> (in millions)
81-82 Art. XIX	STDA	\$ 2.26
81-82 TP&D	STDA	0.40
82-83 Art. XIX	STDA	4.30
82-83 CPUC	STDA	4.20
83-84 Art. XIX	STDA	4.20
83-84 TP&D	STDA	2.80
83-84 CPUC	STDA	2.40
84-85 Art. XIX	STDA	<u>5.50</u>
		\$26.06



C. Local Sources

<u>Source</u>	<u>Grantee/ Recipient</u>	<u>Amount</u> (in millions)
RT	STDA	\$2.520
City	STDA	2.104
County	STDA	1.160
SHRA	STDA	0.290
SPRR	STDA	0.600
Lumberjack	STDA	0.270
Culligan	STDA	0.090
Tom Harris	STDA	0.006
Rental Income	STDA	0.012
Interest Income	STDA	0.174
Miscellaneous	STDA	<u>0.027</u>
		\$7.253

II. Anticipated Additional Funding Sources

<u>Source</u>	<u>Grantee/ Recipient</u>	<u>Amount</u> (in millions)
Federal (FAI)	(1)	\$0.600
Federal (FAU)	(1)	1.533
State (RRXF)	(1)	0.500
State (General Services)	(1)	0.440
City	(1)	0.046
SHRA	(1)	0.750
Other	(1)	<u>0.615</u>
		\$4.484 (2)

(1) Pursuit of funding in various stages of preparation. When possible, RT should be designated Grantee.

(2) These are rough estimates; actual numbers will probably be less.



APPENDIX D

DRAFT STDA RESOLUTION  
AUTHORIZING ASSIGNMENT OF  
CONTRACTS AND GRANTS TO RT



RESOLUTION NO. 85-\_\_

Adopted by the Board of Directors of the Sacramento Transit Development Agency on the date of:

---

AUTHORIZING ASSIGNMENT OF CONTRACTS  
AND GRANTS FROM STDA TO RT

WHEREAS, the Sacramento Transit Development Agency ("STDA") was formed for the purpose of developing and implementing a Light Rail Transit line, by means of a Joint Powers Agreement, the current members of which are the City of Sacramento ("CITY"), the County of Sacramento ("COUNTY") and Sacramento Regional Transit District ("RT"); and

WHEREAS, it is the shared intention of the member agencies that the responsibility for implementing the Project be transferred from STDA to RT; and

WHEREAS, STDA has entered into numerous grants and professional service, construction, and supply contracts, all of which require assignment from STDA to RT.

NOW, THEREFORE, BE IT HEREBY RESOLVED BY THE BOARD OF DIRECTORS OF THE SACRAMENTO TRANSIT DEVELOPMENT AGENCY AS FOLLOWS:

THAT, STDA hereby assigns to RT all rights, obligations, and benefits conferred under those contracts listed in Exhibit "A" to this Resolution.

THAT, STDA hereby assigns to RT all rights, obligations, and benefits conferred under those grants listed in Exhibit "B" to this Resolution.

THAT, STDA authorizes its Executive Director to notify those contractors and grantor agencies listed in Exhibits "A" and "B" of the assignment; to request their concurrence to the transfer of STDA's obligations under such contracts and grants to RT; and to request their cooperation in the full and complete transfer of rights and benefits owed by such contractor or grantor agencies from STDA to RT.

---

ANNE RUDIN, Chairwoman



WILLIAM EDGAR  
Executive Director

Approved as to Legal Form:

By: CHRISTI PRIM  
STDA Legal Counsel



APPENDIX E-1

DRAFT RT RESOLUTION  
AUTHORIZING ACCEPTANCE OF GRANTS  
AND CONTRACTS FROM STDA



RESOLUTION NO. 85-\_\_\_\_

Adopted by the Board of Directors of the Sacramento Regional Transit District on the date of:

---

AUTHORIZING ASSIGNMENT OF CONTRACTS  
AND GRANTS TO RT FROM STDA

WHEREAS, the Sacramento Transit Development Agency ("STDA") was formed for the purpose of developing and implementing a Light Rail Transit line by means of a Joint Powers Agreement, the current members of which are the City of Sacramento ("CITY"), the County of Sacramento ("COUNTY") and Sacramento Regional Transit District ("RT"); and

WHEREAS, it is the shared intention of the member agencies that the responsibility for implementing the Project be transferred from STDA to RT; and

WHEREAS, STDA has entered into numerous grants and professional service, construction, and supply contracts, all of which require assignment from STDA to RT; and

WHEREAS, RT desires to accept the assignment of the rights, obligations, and benefits under such grants and contracts.

NOW, THEREFORE, BE IT HEREBY RESOLVED BY THE BOARD OF DIRECTORS OF THE SACRAMENTO REGIONAL TRANSIT DISTRICT AS FOLLOWS:

THAT, RT hereby accepts an assignment of all rights, obligations, and benefits conferred under those contracts listed in Exhibit "A" to this Resolution from STDA to RT.

THAT, RT hereby accepts an assignment of all rights, obligations, and benefits conferred under those grants listed in Exhibit "B" to this Resolution.

\_\_\_\_\_  
ROGER DICKINSON, Chairman

A T T E S T:

DAVID A. BOGGS, Secretary

By: \_\_\_\_\_

CHRIS RABICKOW  
Assistant Secretary



APPENDIX E-2

DRAFT RT RESOLUTION  
AUTHORIZING RT AS APPLICANT/GRANTEE  
FOR STDA GRANT APPLICATIONS



RESOLUTION NO. 85-\_\_

Adopted by the Board of Directors of the Sacramento Regional Transit District on the date of:

---

AUTHORIZING SUBSTITUTION OF RT AS  
APPLICANT/GRANTEE OF STDA GRANT APPLICATIONS

WHEREAS, the Sacramento Transit Development Agency ("STDA") was formed for the purpose of developing and implementing a Light Rail Transit line, by means of a Joint Powers Agreement, the current members of which are the City of Sacramento ("CITY"), the County of Sacramento ("COUNTY") and Sacramento Regional Transit District ("RT"); and

WHEREAS, it is the shared intention of the member agencies that the responsibility for implementing the Project be transferred from STDA to RT; and

WHEREAS, STDA has applied for those grants listed in Exhibit "A" to this Resolution, which grants have not yet been awarded; and

WHEREAS, RT intends to assume the status of applicant-grantee under these grant applications.

NOW, THEREFORE, BE IT HEREBY RESOLVED BY THE BOARD OF DIRECTORS OF THE SACRAMENTO REGIONAL TRANSIT DISTRICT AS FOLLOWS:

THAT, RT hereby authorizes the substitution of RT for STDA as applicant-grantee under all grant applications listed in Exhibit "A" to this Resolution.

THAT, RT authorizes the General Manager or his designee to notify those grantor agencies named in Exhibit "A" to request their acknowledgement and concurrence in the substitution of RT for STDA as applicant-grantee under their respective grant programs.

---

ROGER DICKINSON, Chairman

A T T E S T:

DAVID A. BOGGS, Secretary

By: \_\_\_\_\_  
CHRIS RABICKOW, Asst. Secretary



APPENDIX F

LIST OF STDA CONTRACTS IN PLACE



LIGHT RAIL PROJECT CONTRACTS  
PRESENTLY IN PLACE

SERVICE AGREEMENTS

1. Foster Engineering, Inc.	Operations/integration consultant
2. International Engineering Co.	Electrification substation and distribution system
3. L.K. Comstock	Rail signaling
4. L.T. Klauder & Associates	Vehicle specifications and procurement
5. P.S.G. Waters	Corrosion consultant
6. Stecher-Ainsworth	Mechanical/electrical design for maintenance building
7. CHNMB	Architectural consultant and architectural design
8. Illium & Associates	Graphics & signage
9. P.B.Q.D./D.M.J.M. & Associates	Design Review
10. City of Sacramento	Street signaling
11. County of Sacramento	
12. Price Waterhouse	Audit
13. State of California (Caltrans)	Specified civil and structural design
14. Paine Webber	Financial consultant
15. Chris Hunter	Community relations
16. Fred S. James	Risk management
17. O.E. West	Program control
18. J. Schumann	Continuity support
19. J. Varozza	City liaison
20. A. Gallardo	Contract administration

Revised 1/15/85



CONSTRUCTION AND SUPPLY CONTRACTS

<u>C.U.#</u>	<u>DESCRIPTION</u>	<u>CONTRACTOR</u>	<u>COMPL.</u>	<u>UNDERWAY</u>
1&1A	Grade separations - Marconi, El Camino, Arden	Granite	X	
2	At grade construction	PRC		12%
3	Maintenance Building	Continental-Heller		X
4	Mall Demolition	Zenith	X	
4B&C	K Street Trees	Northwest Shade Tree & E&F Nursery		X
8	Yard Grading	Anderson	X	
8A	Temporary Fencing (rental)	Golden State	Ongoing	
8B	Yard Site Security	(?)	Ongoing	
10	LRT Signaling	Wismer & Becker		X
12	Communications	Motorola		X
14A	Rail Procurement	Colorado Fuel & Iron	X	
14B	Other Track Material	A & K RR Material	X	
15	Tie Procurement	Niedermeyer-Martin	X	
16	Special Trackwork	L.B. Foster		90%
17	LRV's/Parts/Training	Siemens-Allis		X
18B	(Part) Major shop equipment; support vehicles	Bob Frink Chevrolet, Wayne Hoblet Motors		X
19	Substations	Controlled Power Corp.		50%
20	Catenary/Poles	Ohio Brass		X
21	Cable/Wire	Anaconda		X

Revised 1/15/85



APPENDIX G  
LIST OF STDA PROPERTY ASSETS  
(To Be Developed)



APPENDIX H

DRAFT STDA RESOLUTION  
AUTHORIZING TRANSFER OF  
PROPERTY ASSETS TO RT

(To Be Developed)



APPENDIX I

DRAFT RT RESOLUTION  
AUTHORIZING ACCEPTANCE OF  
PROPERTY ASSETS FROM STDA

(To Be Developed)



APPENDIX J

RT LEGAL DEPARTMENT  
ANALYSIS OF STDA POLICIES





# REGIONAL TRANSIT MEMO

DATE: January 11, 1985

TO: John T. Ketelsen, Chief Legal Counsel  
*Melanie J. Morgan*

FROM: Melanie J. Morgan, Consulting Attorney

SUBJECT: APPLICABILITY OF STDA BOARD POLICIES TO RT

Since its inception, STDA has adopted a total of 16 Board Policies. I have reviewed these policies to determine their usefulness and applicability to RT. This memorandum groups the policies according to five categories, and recommends that RT adopt or assimilate into its Administrative Code, in whole or in part, those policies included in two of the categories.

1. Policies which restate or direct compliance with Federal or State law and regulation:

- Policy #2: Environmental Quality (directs compliance with NEPA and CEQA).
- Policy #4: Construction Contract Administration - Contractor Assurances (partial list of Federal and State construction contract requirements).
- Policy #9: Acquisition of Real Property Interests (highlights key Federal and State real property acquisition requirements).
- Policy #12: Relocation Assistance Program (highlights key Federal and State relocation assistance requirements). (See Note below)

2. Policies which amplify or interpret Federal or State law and regulations:

- Policy #1: Public Information and Citizen Participation (establishing policy of continuous public information and involvement).
- Policy #15: Bid Protest Policy and Procedures (detailed mechanism for processing bid protest).

3. Policies which are not applicable or useful to RT:

- Policy #6: Testing, Inspections, and Quality Control (directs staff to follow Caltrans quality control techniques).



- Policy #11: Construction and Contract Administration - Bid and Award (directs staff to follow State Contract Act and Caltrans procedures).
- Policy #13: Personnel Policy (establishes wages, hours, and other terms of employment for STDA employees).
- Policy #14: Publication of official Notices (directs notices to be published in certain newspapers).

4. Policies of partial or limited applicability or usefulness to RT:

- Policy #3: Plans, Specifications, and Estimates (general policy re: P, S & Es; procedure for obtaining bids; \$10,000 limit on Executive Director's contracting authority).
- Policy #5: Construction and Procurement Contract Change Orders (requirements and guidelines for processing change orders).
- Policy #7: Negotiated Procurements (conditions for negotiated procurement).
- Policy #8: Proprietary Items (conditions for use of proprietary items).
- Policy #10: Utility Agreements and Relocation (general requirements for utility agreements).

5. Policies requiring Board consideration to determine usefulness to RT:

- Policy #16: Project Priority for Use of Federal Funds (gives highest priority to basic 18.3 mile starter line; lesser priority to enhancements).

My recommendations for RT's assimilation of STDA Board policies are:

1. The policies included in Category 1, being restatements of legal requirements already in effect, need not be adopted by RT.

2. The policies included in Category 2 are both useful and applicable to RT and should be adopted immediately for purposes of the Light Rail Project. After a careful review to determine their effects on existing RT code requirements, we may choose to apply them across-the-board.

3. The policies included in Category 3 should not be adopted by RT.



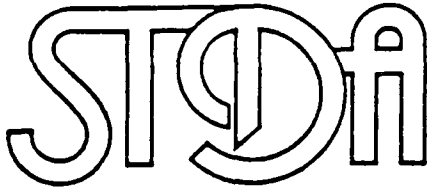
Memo to: J. Ketelsen  
January 11, 1985  
Page 3

4. The policies included in Category 4 should be examined for the purpose of drawing from them those elements which can and should be assimilated into the RT Administrative Code. Pending this review, staff should be directed to continue to follow these policies, with the exception of the dollar limits for change orders, which conflict with RT's procurement code.

5. The policy included in Category 5 may, at the RT Board's discretion, be adopted by RT.

NOTE: The STDA Relocation Assistance Policy (#12) does not go beyond a simple restatement of the law and is, therefore, not a necessary or useful Board policy. However, RT is required to implement a relocation assistance plan, in accordance with the statutes cited in Policy No. 12. Staff should take immediate steps to ensure compliance with these provisions; the simplest course would be to adopt the relocation assistance plan devised by the Caltrans Right-of-Way staff.





Policy Number 1; Page 1 of 2

Subject: Public Information & Citizen Participation

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1120 N Street, Room 1414 • Sacramento (916) 445-6519

POLICY:

The STDA shall conduct a continuous public information and involvement program so that the community may be informed of progress, and be involved in the early development process so that suggestions and concerns are known during project development studies.

The STDA shall, 1) conduct advertised public hearings at key stages, 2) solicit comments from the elderly and the handicapped during design and construction, and 3) work with established community groups to address social/economic and other concerns which may arise.

GUIDELINES:

These policies shall be carried out to address the following concerns:

1. To solicit citizen involvement by the "organized community", staff will work with community groups, planning entities, neighborhood associations, etc. Liaison with such organizations will be established during the planning phase, and will be continued.
2. To minimize the actual impacts of construction on the community (residents, merchants, visitors), the STDA will maintain ongoing liaison with contractors.
3. To minimize the perceived impacts of construction on the community, the STDA will disseminate informational, educational, and "public relations" materials and utilize other traditional public relations tools.
4. To address unsolicited citizen involvement, which may manifest itself as concerns or complaints expressed by citizens as individuals or as groups, the STDA will meet citizen concerns as they arise, on an individual basis, in order to satisfy them.



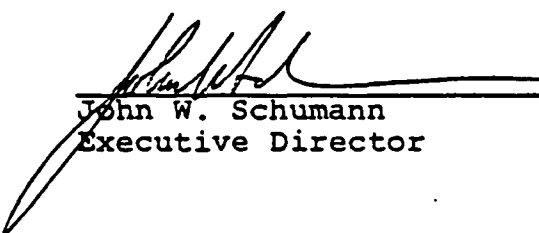
STDA Policy Number 1; Page 2 of 2

Subject: Public Information and Citizen Participation


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5. To enhance citizen involvement, the STDA will work with the existing SACOG Elderly and Handicapped Advisory Committee.

Recommended:

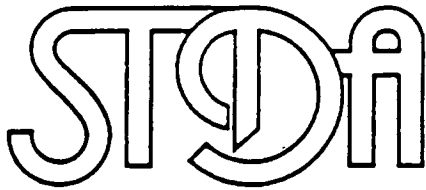
  
\_\_\_\_\_  
John W. Schumann  
Executive Director

Approved:

  
\_\_\_\_\_  
Anne Rudin  
Chairperson

Adopted: 6/8/81





Policy Number 2; Page 1 of 1  
Subject: Environmental Quality

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1120 N Street, Room 1414 • Sacramento (916) 445-6519

POLICY:

As a public agency it is the policy of the STDA to conform with the NEPA and the CEQA to protect the interest of the public in securing, maintaining, preserving, protecting, rehabilitating, and enhancing the environment within the STDA jurisdictional area.

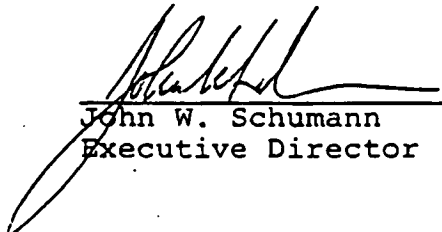
GUIDELINES:


The guidelines for implementing this policy are the attached. Local Guidelines implementing the California Environmental Quality Act, prepared by the Sacramento Regional Transit District and adopted by the STDA Governing Board.

Attachments (CEQA)

Recommended:

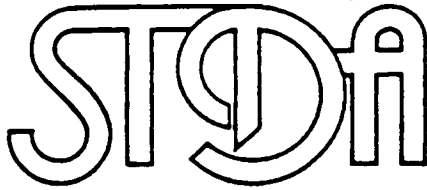
Approved:

  
\_\_\_\_\_  
John W. Schumann  
Executive Director

  
\_\_\_\_\_  
Anne Rudin  
Chairperson

Adopted: 6/6/81





Policy Number 3; Page 1 of 3

Subject: Plans, Specifications and  
Estimates (PS&E)

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168

POLICY:

Plans, specifications and estimates for STDA projects will be prepared in the most functional and timely manner possible under the general direction of the Project Director, by competent engineers organized in any combination of public agency staff, or consultants, or STDA staff as appropriate.

PS&E should generally be prepared using the directives contained in the current California Department of Transportation manuals, procedures and guidelines.

The design criteria followed shall contain accepted safety and engineering practices used in currently operating light rail transit and railroad systems.

The person under whose direction each element of the PS&E is prepared shall certify the respective element.

GUIDELINES:

Plans, specifications and estimates (PS&E) shall generally contain the following:

"Plans" refer to the official project plans and Standard Plans, profiles, typical cross sections, cross sections, working drawings and supplemental drawings, or reproductions thereof, approved by the Project Manager, which show the location, character, dimensions and details of the work to be performed.

"Specifications" refer to project special provisions and Standard Specifications.

"Estimates" refer to the Engineer's Estimate.

In the previous definitions, the following terms are defined as follows:



Subject: Plans, Specifications and Estimates (PS&E)

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- A. "Standard Plans" refer to the Standard Plans of various recognized public agencies, rail transit systems, and railroads.
- B. "Project Plans" refer to the specific details and dimensions peculiar to the work, supplemented by the Standard Plans insofar as the same may apply.
- C. "Standard Specifications" are the directions, provisions and requirements contained in published documents setting forth conditions and requirements that recur in like work, or as may be adopted and published by the STDA.
- D. "Special Provisions" are those specifications containing specific clauses setting forth conditions or requirements peculiar to the work and supplementary to the Standard Specifications.
- E. "Engineer's Estimate" refers to the list of estimated quantities and costs of work to be performed.

The STDA Governing Board shall approve the plans, specifications and estimates before proceeding to bid, construction or procurement. After Governing Board approval of the PS&E, the Project Director shall advertise for, receive and open bids, and issue a letter of intent to award to the lowest responsive and responsible bidder. The date of this letter shall start the 5-day protest period provided in Policy 15. STDA will not award a contract until the 5-day protest period has passed without receipt of a protest.

The STDA Governing Board shall award all contracts which obligate the Agency to spend Ten Thousand Dollars (\$10,000) or more. The Executive Director is authorized on behalf of the Agency to enter into contracts which obligate the Agency to spend less than Ten Thousand Dollars (\$10,000); provided that such funds are available in the Project Budget and no protest has been filed.

The STDA Governing Board may direct that all bids be rejected and the contract be re-advertised.



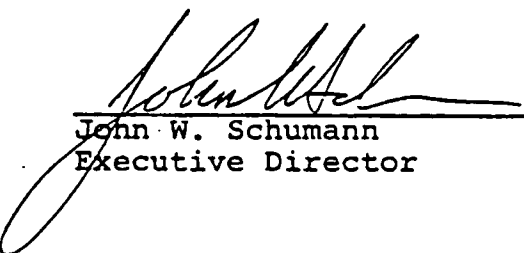
STDA Policy Number 3; Page 3 of 3

Subject: Plans, Specifications and Estimates (PS&E)

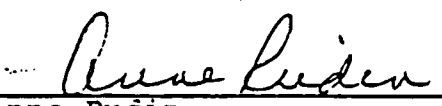
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The responsible person in charge of consultants or in charge of public agency staff under contract to STDA shall approve PS&E components prepared by the consultants or the public agency staff prior to approval by the STDA Project Director.

Recommended:

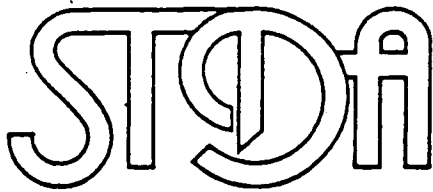
  
\_\_\_\_\_  
John W. Schumann  
Executive Director

Approved:

  
\_\_\_\_\_  
Anne Rudin  
Chairperson

Adopted 06/08/81  
Revised 07/30/84





Policy Number 4; Page 1 of 2

Subject: Construction Contract Administration Contractor Assurances

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1120 N Street, Room 1414 • Sacramento (916) 445-6519

POLICY:

STDA shall follow all applicable provisions of the State Contract Act. The STDA shall have requirements for contractor assurances which indicate that contractors meet all applicable laws concerning labor, labor rates, equal employment opportunity, and licenses. STDA shall ensure that the following requirements are carried out:

Contractors' Licensing Laws

All bidders and contractors shall be licensed in accordance with the laws of California and the Federal government. Additionally, contractor requirements shall be guided by the provisions of Chapter 9 of Division 3 of the Business and Professions Code concerning the licensing of contractors.

Labor Compliance

The contractor and his subcontractors shall not pay workers less than the stipulated prevailing rates paid for such work or craft as established by the Division of Industrial Relations or the Davis-Bacon Act, as applicable.

The contractor will be responsible for complying with the provisions of the Fair Labor Standards Act of 1938, as amended.

The contractor will be required to provide Workers' Compensation Insurance to his employees in accordance with the provisions of Section 3700 of the Labor Code. Prior to commencement of work, the contractor shall sign and file with the STDA a certificate of compliance.

In all cases, STDA requirements for contractor labor compliance shall be guided by the Labor Code and the State's Construction Manual, "Labor Compliance" section.



STDA Policy Number 4; Page 2 of 2

Subject: Construction Contract Administration Contractor  
Assurances

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Equal Employment Opportunity (EEO)

All contractors shall comply with the EEO requirements set forth by Title VI of the 1964 Civil Rights Act.

Contractors shall not discriminate in the employment of persons because of race, religious creed, color, national origin, ancestry, physical handicap, medical condition, marital status, or sex of such persons, except as provided in Section 1420 of the Labor Code.

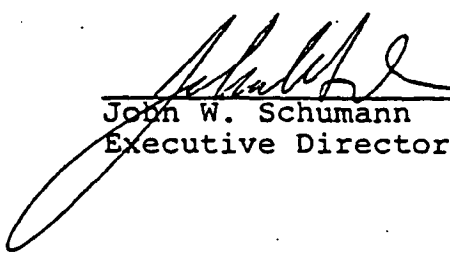
Contractors shall comply with the provisions of the California Administrative Code which prohibit labor discrimination.

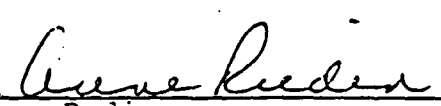
Additionally, contractors shall comply with the adopted STDA Affirmative Action Plan.

In the case of conflict between Federal and State law, Federal law will prevail.

Recommended:

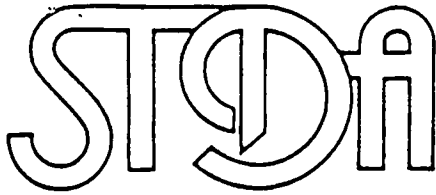
Approved:

  
John W. Schumann  
Executive Director

  
Anne Rudin  
Chairperson

Adopted: 6/6/81





Policy Number 5; Page 1 of 3

Subject: Construction and Procurement  
Contract Change Orders

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1120 N Street, Room 1414 • Sacramento (916) 445-6519

POLICY:

The Project Director may approve contract change orders which do not require additional contract funds, and which will not (1) exceed \$10,000 or 15% of the item amount included in the latest approved project budget, whichever is less, (2) will not alter the scope of the Project and/or (3) will not materially affect compliance with Section 16 of the RT/STDA Cooperative Agreement.

Contract change orders below the limit for approval by the "Project Director" shall be reported to the STDA Governing Board at their next regularly scheduled meeting.

Contract change orders which require additional contract funds or which exceed the requirements set down above, shall be submitted to the RT "General Manager" or his designee for review and comment prior to approval by the STDA. If no comments (oral or written) are received from RT within 15 days or submission, STDA may proceed with the change order or amendment.

If comments are received necessitating revision, STDA shall do all things necessary to resolve the difference, including, but not limited to, a delay in the distribution of said change orders or amendments. Where RT concurrence in change orders is required, and after such concurrence has been obtained, the change order shall be presented to the STDA Governing Board for their approval.

GUIDELINES:

Contract change orders shall be used:

1. To change STDA contract plans, specifying the method and the amount of payment and any changes in the time needed to complete the contract.
2. To change STDA contract specifications, including any changes in payment and in the time needed to complete the contract.



Subject: Construction and Procurement Contract Change Orders

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3. To change the order of the work, including any payment or changes in the time needed to complete the contract.
4. In an administrative capacity, to authorize an increase in extra work funds necessary to complete a previously authorized change.
5. In an administrative capacity, to establish the method of extra work payment and funds for work already called for the contract.
6. To cover adjustments to contract unit prices in case of overruns or underruns, when required by the specifications.
7. To bring about cost reduction incentive proposals.
8. To bring about payment after a claim settlement.

The change order becomes incorporated into the contract when approved by the Project Director or the Governing Board. If the contractor executes the approved change order, all of the provisions and terms are equally binding upon the parties as in the original contract.

Anyone may request revisions to the project.

A proposed contract change order to cover such other requests may be written only after the Project Director has given consideration to its necessity, its propriety, other methods of accomplishing the work, the method of compensation, the effect on contract time, the estimate of cost, the contractor's reaction to the proposed change, and the probability of final approval.

The contract change order must be clear, concise, and explicit. The change order shall tell the contractor: what is to be done; where, or within what limits; when the work is to be performed if the order of work is affected; how the contractor will be paid; and what consideration will be given to contract time.

The STDA reserves the right to make such alterations, deviations, additions to or omissions from the plans and specifications, including the right to increase or decrease the quantity of any item or portion of the work, as may be deemed



Subject: Construction and Procurement Contract Change Orders

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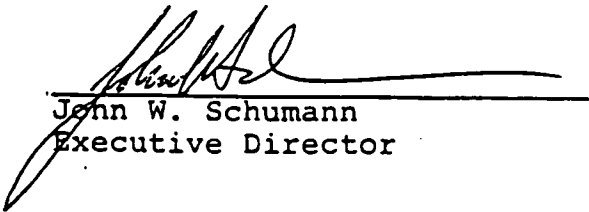
necessary or advisable by the Project Director and the Governing Board, and the right to require such extra work as may be determined by the Project Director and the Governing Board to be required for the proper completion or construction of the whole work contemplated.

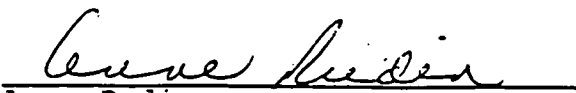
The STDA shall generally follow the procedures outlined in the following publications, with any modifications necessary for adaptation to STDA guideway projects:

- A. UMTA's current policies and regulations
- B. California Department of Transportation publications:
  - 1. Standard Specifications
  - 2. Right of Way Policy Manual
  - 3. Right of Way Procedural Handbook
  - 4. Construction Manual
  - 5. Miscellaneous Contracts Manual
  - 6. Local Programs Manual, Contract Administration Procedures
- C. City of Sacramento Standard Plans (for facilities to be maintained by the City)
- D. Uniform Building Code

Recommended:

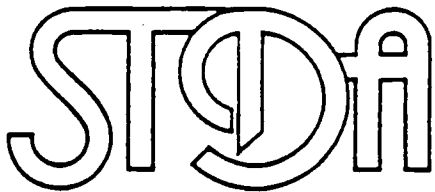
Approved:

  
John W. Schumann  
Executive Director

  
Anne Rudin  
Chairperson

Adopted: 6/8/81  
Revised: 11/30/83





Policy Number 6; Page 1 of 1

Subject: Testing, Inspections, and Quality Control

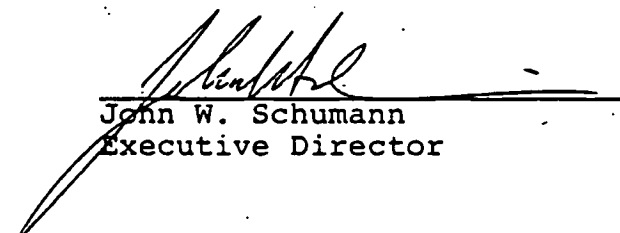
SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1120 N Street, Room 1414 • Sacramento (916) 445-6519

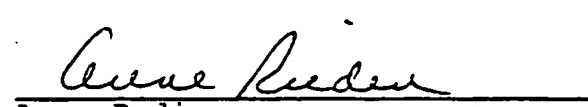
POLICY:

To the fullest extent feasible, the STDA will follow construction and procurement quality control techniques used by the California Department of Transportation.

Recommended:

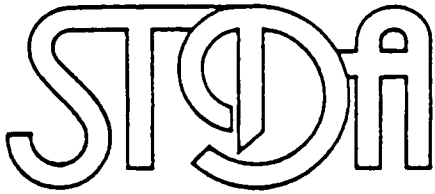
  
John W. Schumann  
Executive Director

Approved:

  
Anne Rudin  
Chairperson

Adopted: 6/8/81





Policy Number 7; Page 1 of 2  
Subject: Negotiated Procurement

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1120 N Street, Room 1414 • Sacramento (916) 445-6519

POLICY:

In those situations where it is necessary or desirable to acquire products without competitive bidding, these policies shall be followed:

1. In all cases where a negotiated procurement is indicated, prior concurrence of the STDA Governing Board shall be obtained after submittal of a statement setting forth the reasons a deviation from competitive bidding is warranted.
2. In all negotiated procurements more than one comparable product shall be evaluated.
3. Recommendations for award of negotiated procurement contracts shall include an analysis of all elements of cost for all products evaluated, as well as estimates of future availability and maintainability.

GUIDELINES:

The STDA shall use the following guidelines in carrying out the policy direction established above.

1. The STDA's accepted method of procurement of materials and supplies is competitive bidding.

As a result, deviations from the competitive bidding process are not desirable. Therefore, each request for such deviation must be fully documented. The STDA Governing Board will not routinely approve requests for deviation.

2. In order to approach, as nearly as possible, a competitive bidding climate when procurements are negotiated, a range of comparable products should be found and evaluated on a uniform and comprehensive basis.

Where nonmonetary evaluation factors are applied, a method of weighing these factors, and relating them to benefits the STDA would experience, shall also be provided.

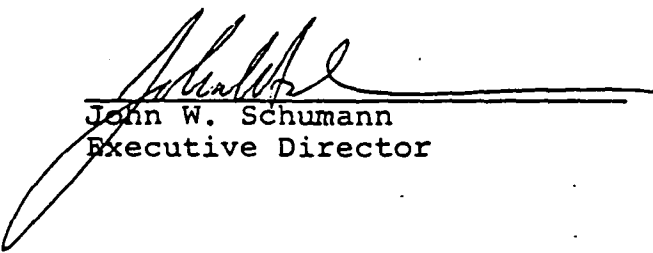


Subject: Negotiated Procurement


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3. In order to ensure that the best possible price has been negotiated, all elements of cost shall be set forth for all products evaluated. These may include such items as power consumption, anticipated life, maintenance costs, or other factors unique to the products being evaluated.
4. In order to avoid a repetitive negotiated procurement cycle, particular emphasis should be placed upon the future availability of the product, or components thereof, on the open market. Where necessary or desirable to avoid future negotiated procurements with a single manufacturer, sufficient spare units or maintenance components should be included in the original procurement to ensure an appropriate product life cycle.

Recommended:

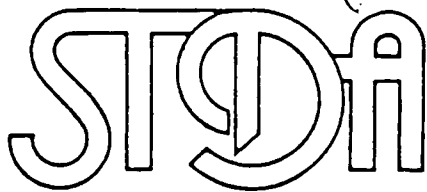
  
John W. Schumann  
Executive Director

Approved:

  
Anne Rudin  
Chairperson

Adopted: 6/8/81





Policy Number 8; Page 1 of 2

Subject: Proprietary Items

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1120 N Street, Room 1414 • Sacramento (916) 445-6519

POLICY:

In those situations where it is necessary or desirable to use proprietary items, these policies shall be followed. The use of proprietary materials, methods, or products will not be approved unless:

1. Such use is on an experimental basis, or
2. There is no other known material of equal or better quality, or
3. There are overwhelming reasons for using the material in the public's interest, or
4. It is essential for synchronization with existing guideway or adjoining facilities, or
5. A clearly defined plan is presented which indicates specific measures for follow-up, evaluation, and documentation.

The Project Director shall review and approve use of proprietary items and shall obtain approval of the STDA Governing Board prior to implementation.

GUIDELINES:

1. Except for architectural building work, trade names shall not be used in the special provisions or on the plans. Any exceptions must have the prior approval of the Project Director and the Governing Board. STDA may grant approval under the following circumstances:
  - a. When other agencies request a product by trade name to preserve uniformity with existing installations.
  - b. Color reference purposes for multicolor tile.
  - c. A trade name article being used on an experimental basis.



Subject: Proprietary Items

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2. For architectural building work, functional specifications shall be used whenever available (Federal standards, ANSI, etc.). They should also be used whenever they can be developed without excessive cost and can be worded so as to be easily understood by general building contractors.

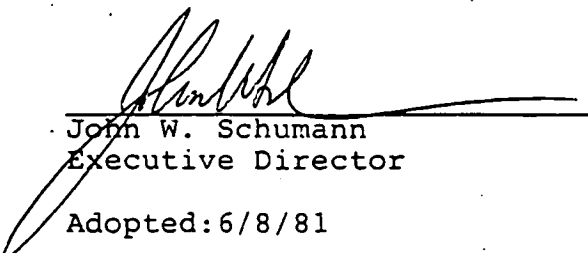
Trade names may be used for architectural work without prior approval when:


- a. Functional specifications are not available and cannot be reasonably developed, and
- b. The product is a standard off-the-shelf manufactured item which is sold by several competing firms, and
- c. At least two trade names are cited, followed by the words "or equal", (three trade names are cited for federally funded work), including all known acceptable products manufactured in California, and

When it is impossible to furnish more than one trade name for architectural work, the procedures as required under Paragraph 1 above shall be followed.

Recommended:

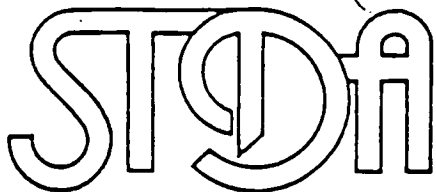
Approved:

  
John W. Schumann  
Executive Director

  
Anne Rudin  
Chairperson

Adopted: 6/8/81





Policy Number 9; Page 1 of 3

Subject: Acquisition of Real Property  
Interests

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1120 N Street, Room 1414 • Sacramento (916) 445-6519

POLICY:

The STDA's real property acquisition program will be administered in concert with applicable provisions of federal and state law and specifically within these policies:

1. All property owners will be dealt with fairly and equitably in the acquisition of lands or interests therein required by the STDA.
2. Settlements will be based on estimates of fair market value as supported by current appraisal practices.
3. The STDA shall pay title and escrow fees incidental to conveying real property to the STDA.
4. The STDA shall make every reasonable effort to acquire expeditiously by negotiation the required property interests.
5. Condemnation will be utilized where negotiations have reached an impasse.
6. The Relocation Assistance Program will be fairly administered to ensure that all owners receive any and all benefits to which they are legally entitled.

GUIDELINES:

The STDA or its agents shall utilize the following guidelines to ensure fair and equitable treatment of all property owners affected by STDA acquisitions.

1. The real property interests to be acquired shall be appraised and the fair market value established before the initiation of negotiations and the property owner shall be given the opportunity to accompany the appraiser during inspection of the property.



Subject: Acquisition of Real Property Interests

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2. The STDA or its agents shall make a prompt offer to the property owner for the full estimate of market value established by the STDA based upon the approved appraisal. The STDA shall also provide the property owner with a written statement of, and summary of the basis for, the amount established as just compensation. The summary shall contain the following elements:
  - a. The owner's name and address.
  - b. Zoning and present use of the property.
  - c. Highest and best use of the property.
  - d. Consideration to be paid by the STDA.
  - e. Total property area and amount to be acquired.
  - f. Market value of the property to be acquired based upon an appraisal prepared in accordance with accepted appraisal practices.
  - g. Amount of damages or a statement indicating that there are no compensable damages.
3. The STDA shall make every reasonable effort to acquire by negotiation the real property interests required so as to reduce the need for litigation. The STDA shall strive at all times to assure consistent treatment of property owner involved in public improvement projects and to promote public confidence in the STDA's acquisition practices.
4. The STDA shall schedule the construction or development of a public improvement, insofar as it is practicable, so that no person lawfully occupying real property shall be required to move from a dwelling or business, assuming a replacement dwelling is available, without at least 90 days written notice from the STDA.
5. The threat of condemnation shall not be used to coerce a property owner into agreement, but only when the original offer has been rejected and negotiations have reached an impasse.




STDA Policy Number 9; Page 3 of 3

Subject: Acquisition of Real Property Interests


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6. The STDA shall offer to acquire the entire property if the owner so desires where the acquisition of a portion of the property would leave the remaining portion in such shape or condition as to constitute an uneconomic remnant.

Recommended:

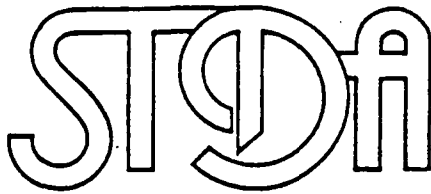
  
\_\_\_\_\_  
John W. Schumann  
Executive Director

Approved:

  
\_\_\_\_\_  
Anne Rudin  
Chairperson

Adopted: 6/8/81





Policy Number 10; Page 1 of 2

Subject: Utility Agreements & Relocation

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1120 N Street, Room 1414 • Sacramento (916) 445-6519

POLICY:

Utility agreements will be negotiated with each utility owner affected, or likely to be affected, by the STDA development program. These agreements shall establish the basis for determining costs, salvage and betterment credits, liabilities, methods of payment, encroachments and easements, and procedures for effecting specific and discrete elements of work.

Design and construction relative to STDA required utility relocations shall generally be performed by, or under contract to, the utility owner, subject to the Project Manager's review and approval. However, where the utility agrees to have such work performed by an STDA contractor, the utility will have final responsibility for accepting that portion of the contractor's work.

For the purpose of this policy statement, the term "utility facility" means any pole, poleline, pipeline, conduit, cable, aqueduct, or other structure or appurtenance thereof used for public or privately owned utility services or used by any mutual organization supplying water or telephone services to its members.

Every utility is entitled to a permit for such reasonable crossings of any guideway, as may be required for the proper discharge of the utility's service to the public.

The STDA shall exercise a reasonable discretion in acting on applications of utilities for permits to occupy guideways for longitudinal locations of facilities, as may be required for the proper discharge of their services to the public. The STDA may, however, refuse to grant any applications for any such longitudinal installation which would be inconsistent with public safety or the continued unobstructed use of the guideway for rail service, or for any type of utility structure inconsistent with the aesthetic values of any landscaped guideway within, or approaching within one mile of the limits of any city.



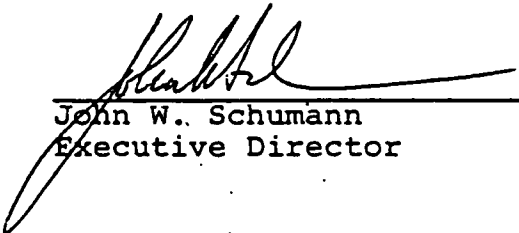
STDA Policy Number 10; Page 2 of 2

Subject: Utility Agreements & Relocation

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When necessary to relocate or remove utility facilities, the STDA shall be guided by applicable law.


Recommended:



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John W. Schumann  
Executive Director

Approved:

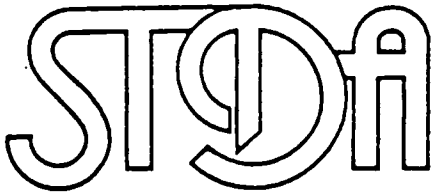


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Anne Rudin  
Chairperson

Adopted: 6/8/81





Policy Number 11; Page 1 of 1

Subject: Construction and Contract  
Administration - Bid and Award

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1120 N Street, Room 1414 • Sacramento (916) 445-6519

POLICY:

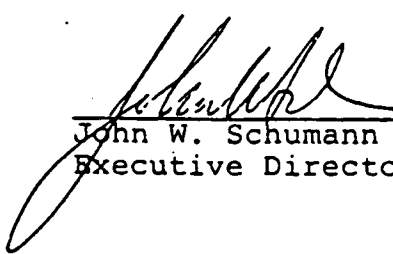
As part of its contract administration, the STDA shall follow all applicable provisions of the State Contract Act. Acting on behalf of the STDA Board of Directors, the Project Director shall carry out, or cause to be carried out, the applicable provisions of the State Contract Act.


The STDA shall generally follow the procedures outlined in the following publications, making the necessary modifications for adaptation to the guideway project:

- A. State Contract Act
- B. UMTA's current policies and regulations
- C. California Department of Transportation Publications:
  - 1. Right-of-Way Manual
  - 2. Construction Manual
  - 3. Standard Specifications
  - 4. Miscellaneous Contracts Manual
  - 5. Local Program Manual, Contract Administration Procedures.

Recommended:

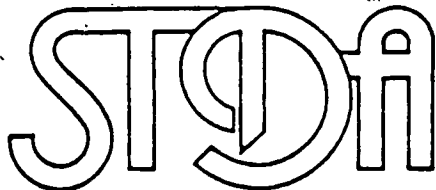
Approved:

  
John W. Schumann  
Executive Director

  
Anne Rudin  
Chairperson

Adopted: 6/8/81





Policy Number 12; Page 1 of 2

Subject: Relocation Assistance Program

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1120 N Street, Room 1414 • Sacramento (916) 445-6519

POLICY:

All persons and families who are displaced from their homes or businesses and farms that are displaced from their locations as a result of the acquisition of real property for public purposes shall receive fair, uniform, and equitable treatment and shall not suffer disproportionate injury as a result of projects designed for the benefit of the public as a whole. Therefore, the STDA shall provide an effective relocation assistance program so that:

1. No project shall be advertised for construction until each eligible displaced person has either obtained, or has the right of possession to, adequate replacement housing of the STDA has offered the person adequate replacement housing which is within the person's financial means and available for immediate occupancy.
2. No eligible occupant shall be required to move from the occupant's dwelling unit without first receiving at least 90 days notice in writing that the premises will be needed for construction.
3. Relocation payments are fairly and equitably determined and are paid to eligible displacees in a timely manner.
4. Relocation advisory services shall be offered to all displaced persons within the right of way and when determined necessary to those immediately adjacent thereto. It shall be furnished promptly to all persons requesting assistance.
5. Proper notices and information regarding the Relocation Assistance Program are furnished to the public on a timely basis.

GUIDELINES:

A. The Project Director shall develop a Relocation Assistance Program in compliance with Public Law 91-646, Uniform Relocation Assistance and Real Property Policies Act of 1970, as amended, and with California Government Code Sections



Policy Number 12; Page 2 of 2

Subject: Relocation Assistance Program

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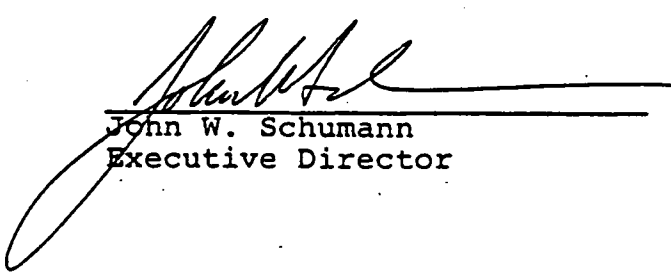
7260-7276, as amended, and shall act as or appoint a Right of Way Advisory Assistance Officer to carry out the Relocation Assistance Program.

B. The STDA shall generally follow the procedures outlined in the following publications.


- a. Title 49, Code of Federal Regulations, Part 25  
(Relocation Assistance and Land Acquisitions for  
Federal and Federally-Assisted Programs)
- b. Federal Aid Highway Manual, Volume 7
- c. Title 21, California Administrative Code, Subchapter  
3 (Relocation Assistance)
- d. California Department of Transportation:
  1. Right-of-Way Policy Manual
  2. Right-of-Way Procedural Handbook
  3. How to Make Relocation Studies and Plans

Recommended:

Approved:



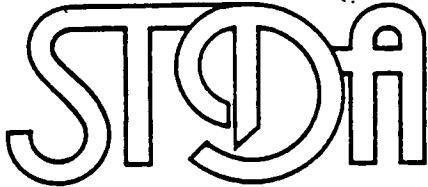
John W. Schumann  
Executive Director



Anne Rudin  
Chairperson

Adopted: 6/8/81





Policy Number 13; Page 1 of 2

Subject: Personnel Policy

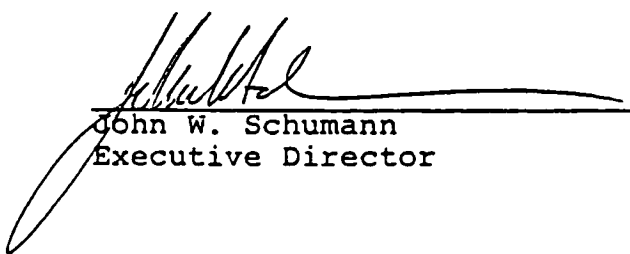
SACRAMENTO TRANSIT DEVELOPMENT AGENCY 926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168

POLICY:

This policy establishes wages, hours, disciplinary procedures, and other terms and conditions of employment for Executive Office Personnel as follows:

1. Wages -- See attached Table 13-1. The wage levels shown in the attached table shall be subject to periodic revision.
2. Hours -- The Executive Offices shall be open from 8:00 a.m. until 5:00 p.m., each weekday, except for holidays as established under Other Terms and Conditions.
3. Disciplinary Procedures -- All Executive Office employees work at the pleasure of the Agency's Governing Board. Under this policy, the governing Board delegates the disciplining of Executive Office employees to the Executive Director, who shall exercise his discretion on a case by case basis.
4. Other Terms and Conditions -- In all other personnel matters, the Agency shall follow the policies and procedures of its "employer of record".

Recommended

  
John W. Schumann  
Executive Director

Approved

  
Anne Rudin  
Chairperson

Revised: 07/30/84



relevant

Policy Number 13; Page 2 of 2

Subject: Personnel Policy

TABLE 13-1

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

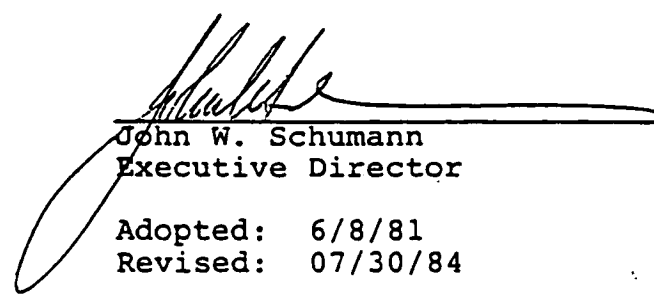
WAGE SCALES FOR EXECUTIVE OFFICE EMPLOYEES

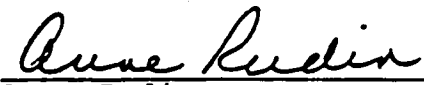
<u>Position</u>	<u>Basis</u>	<u>Minimum</u>	<u>Maximum</u>
Executive Director	Monthly	\$3,387.00	None
Executive Secretary II	Monthly	\$1,451.00	\$1,814.00
Secretary-Office Assistant	Hourly	\$5.50	None

Note: Rates in effect as of August 1, 1984.

Recommended:

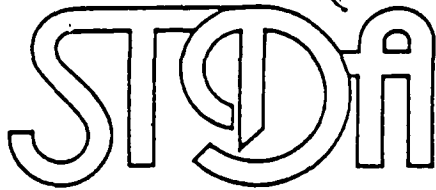
Approved

  
John W. Schumann  
Executive Director

  
Anne Rudin  
Chairperson

Adopted: 6/8/81  
Revised: 07/30/84





Policy Number 14; Page 1 of 1

Subject: Publication of Official Notices

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

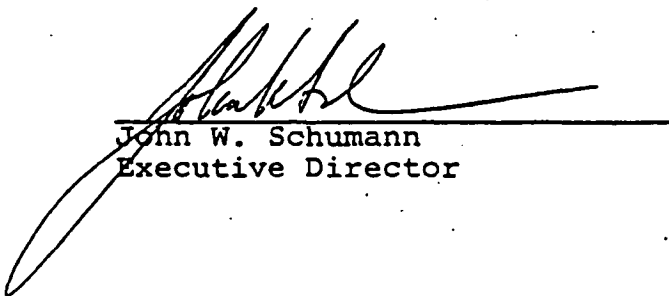
926 J Street, Suite 811 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1120 N Street, Room 1414 • Sacramento (916) 445-6519

POLICY:


Official notices of the Sacramento Transit Development Agency shall be published in the Sacramento Bee and the Sacramento Union, the two major newspapers of general circulation in the region, and in the major minority newspaper, The Observer.

Recommended:

Approved:



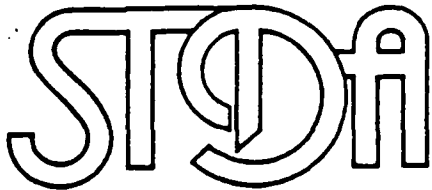
John W. Schumann  
Executive Director



Anne Rudin  
Chairperson

Adopted: 12/14/81





SACRAMENTO TRANSIT DEVELOPMENT AGENCY 926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168

POLICY:

As part of its contract administration, STDA shall provide procedures for formal protest of certain staff decisions regarding specifications, contract awards and bids by third party contractors in response to a STDA invitation for bids. In addition, STDA specifications normally provide an informal procedure to address questions regarding interpretation of the specifications and bid procedures. If time permits, interested parties are encouraged to first use this informal procedure prior to submission of a formal protest pursuant to this Policy.

PROCEDURE:

A. General

1. This Policy specifies procedures for the protest by bidders of the following staff actions:
  - (a) a written notice by the Project Director denying a bidder's request for a change in a specification requirement;
  - (b) a written recommendation to the Governing Board or decision by the Project Director or Executive Director to disqualify a bidder or subcontractor;
  - (c) a written recommendation by the Project Director or Executive Director to the Governing Board to award a contract to a particular bidder.
2. This Policy does not govern any STDA staff decision not listed in A-1 or any decision by the Governing Board. Nothing in this Policy shall preclude or otherwise restrict the challenge procedure specified in the STDA Disadvantaged Business Enterprise Program.
3. A bidder must file a protest in accordance with this Policy and the Governing Board must deny that protest before a bidder may seek review by the Urban Mass Transportation Administration (UMTA) if otherwise permitted by UMTA C. 4220.1A, and/or by a court of competent jurisdiction. All Governing Board decisions, including but not limited to a decision on a protest, are final and therefore appealable to UMTA and in a court if jurisdiction in those forums exists.



Subject: Bid Protest Policy and Procedures

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4. When a protest has been properly filed prior to contract award, the Governing Board shall not award the contract prior to deciding the protest. When a protest has been properly filed before the opening of bids, bids shall not be opened prior to a Governing Board decision on the protest.
5. Materials submitted as a part of the protest resolution process will be available to the public except to the extent that:
  - (a) the withholding of information is permitted or required by law or regulation; and
  - (b) the information is designated proprietary by the person submitting the information to STDA. If the person submitting material to STDA considers that the material contains proprietary material which should be withheld, a statement advising of this fact shall be affixed to the front page of the material submitted and the alleged proprietary information must be specifically identified in the body of the materials wherever it appears.

**B. Filing of a Protest**

1. Protests may be filed only by interested parties. Interested parties are defined as prospective bidders on a STDA contract and subcontractors or suppliers at any tier who have a substantial economic interest in an award, a provision of the specifications, or a bid submitted to STDA by a prime contractor, or in the interpretation of the provisions of such documents.
2. Protests to a specification requirement (See A-1-(a) above) must be filed at least ten (10) working days prior to bid opening. Protests to the staff actions described in A-1-(b) and A-1-(c) above must be filed within five (5) working days of receipt by the bidder of written notice of the staff action from the Executive Director or Project Manager.
3. Protests must be addressed to the STDA Executive Director, 926 J Street, Suite 611, Sacramento, California 95814.
4. Protests must be in writing and contain a statement of the ground(s) for protest. At least ten (10) copies of the protest must be submitted by the protestor in the time and manner specified in this Section B.



Subject: Bid Protest Policy and Procedures

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5. The Executive Director shall provide notice, by telephone or by letter, to all bidders known to STDA on the contract which is the subject of the protest. Such notice shall state that a protest has been filed with STDA and identify the name of the protestor. The notice shall be given not more than five (5) working days after receipt of a properly filed protest. The notice shall state that bidders will receive further information relative to the protest only by submitting a written request for further information to the Executive Director.
6. Any protest, together with all supporting information submitted with the protest, shall be forwarded by the Executive Director to the RT General Manager, the City Manager, the County Executive, and all Governing Boardmembers within 48 hours of receipt by the Executive Director of a properly filed protest.

C. STDA Preliminary Response to a Protest; Meeting with Staff to Attempt Early Resolution of the Protest

1. Not more than ten (10) working days after receipt of a properly filed protest, the Executive Director shall prepare and distribute to the protestor and all persons specified in B-5 and B-6 above:
  - (a) a written preliminary response to the protest. This response shall include a brief explanation of the reasons why the protested staff action is justified; and
  - (b) the time, date and place of the meeting described in C-2 below.
2. The Executive Director and/or appropriate STDA staff shall meet with the protestor to discuss and attempt to resolve the protest. Any person who submitted a written request pursuant to B-6 above may attend this meeting.
3. After the meeting, the protestor shall, within five (5) working days, give the Executive Director written notice that either the protest is withdrawn or, alternatively, that the protestor requests further consideration of the protest. In the event that the protestor fails to file this notice at the office of the Executive Director within five (5) working days after the meeting, the protest shall be deemed withdrawn.



Subject: Bid Protest Policy and Procedures

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D. Further Investigation

1. If a protest is not withdrawn pursuant to C-3 above, the Executive Director shall further investigate the protest with the assistance of STDA staff.
2. The Executive Director may contract for third-party consulting services when necessary to investigate a protest. The Executive Director may negotiate with the protestor and other interested parties the sharing of the cost of such consulting services.
3. As part of the investigation, the Executive Director shall establish reasonable times in which STDA, the protestor, and other interested parties shall exchange all documents and arguments relevant to the protest.

E. Intended Decision; Comments by Protestor and Other Parties

1. Following investigation, the Executive Director shall prepare and distribute to the protestor and all persons specified in B-5 and B-6 above:
  - (a) an intended decision recommending actions which the Executive Director believes the Governing Board should take to resolve the protest and specifying the reasons for the recommended Governing Board actions;
  - (b) a statement of the date within which the protestor and other persons must submit written comments with respect to the intended decision. Such date shall allow a reasonable period for rebuttal and shall vary according to the complexity of the particular protest; and
  - (c) notice of the time, date and place of the Governing Board hearing at which the protest will be considered.
2. The following materials shall be included in the agenda package sent to Governing Board members prior to a protest hearing and shall be available to any person at the STDA Executive Office at least five (5) working days before the hearing:
  - (a) the intended decision described in E-1-(a).



Subject: Bid Protest Policy and Procedures

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- (b) all written comments received within the submittal period described in E-1-(b).
- (c) if the Executive Director has revised his/her intended decision since its distribution pursuant to E-1-(a), a written description of the new intended decision and the reasons for revision.

F. Governing Board Consideration

1. At the hearing, staff and any person may present evidence relating to the protest. At the beginning of the hearing, the Chair of the Governing Board may announce time limits on testimony and any other procedural rules which, in the opinion of the Chair, are reasonably necessary to preclude repetitious or irrelevant testimony.
2. The Governing Board may elect to defer its decision and direct staff to:
  - (a) further investigate the protest, or
  - (b) hire an impartial hearing officer to conduct a hearing and prepare a written recommended decision, including findings of fact.
3. In rendering its decision on the protest, the Governing Board may adopt the intended decision recommended by the Executive Director, adopt the written recommendation and findings of fact prepared by a hearing officer, or adopt a separate decision.

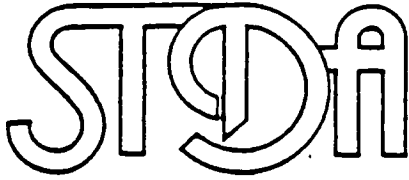
RECOMMENDED:

William H. Edgar  
WILLIAM H. EDGAR  
Interim Executive Director

APPROVED:

Anne Rudin  
ANNE RUDIN  
Chairperson





Policy Number 16; Page 1 of 1

Subject: Project Priority for Use of  
Grant Funds

SACRAMENTO TRANSIT DEVELOPMENT AGENCY 926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168

POLICY:

The STDA shall give priority in its use of project grant funds to completion of the basic components of the 18.3 mile Light Rail starter line. Priority basic components are those minimally required to make the full 18.3 mile system function and include such things as right-of-way, utility relocation, basic civil track construction, stations, signaling, propulsion power, vehicles, support equipment and a maintenance facility.

Only after the funding is assured for the minimum components of the starter system shall funding and contracts be released for items of an enhancement and/or embellishment nature. Enhancements/embellishments include such things as art in public places, mall pavers, benches, planters, and non-functional landscaping.

An exception to the above policy would be where additional new project revenue sources are obtained and these revenue sources are committed to specific aspects of the project without regard to funding priority.

GUIDELINES:

The STDA Executive Director shall identify and prioritize those contract units or portions thereof which are not included in and functionally necessary for the basic Light Rail starter line. Items so identified shall be communicated to the STDA Board for review and approval.

The priority list shall also be communicated to other interested parties.

Recommended:

Approved:

William H. Edgar  
WILLIAM H. EDGAR  
Interim Executive Director

Anne Rudin  
ANNE RUDIN  
Chairperson

Adopted 11/21/84



APPENDIX K

RT METRO MASTER START-UP PLAN

(Summary Attached)



## RT METRO MASTER START-UP PLAN

In preparation for revenue service of RT Metro, Regional Transit has identified 15 tasks which are essential to the successful implementation of light rail and its integration with the Bus System.

The basis for the current effort is Milestone 9, Demand and Operational Analysis, dated January, 1983 and generated by STDA during the preliminary engineering phase. The preliminary engineering effort identified several general tasks comprising the required effort for start-up. We have developed these tasks into a work program with milestone and activity dates identified. Task force members were organized and a task force leader assigned. It is the responsibility of the task force leader to coordinate the task activities and to insure that they are completed on schedule. Alan Storey has been designated Project Manager for the start-up effort.

The scope of the program is to provide Regional Transit with the vital support that will be needed to operate a light rail system. This system has a right of way that will initially include 18.6 miles of trackwork, signals, overhead electric power, passenger stations, power substations and adjacent property. Twenty six technically sophisticated light rail vehicles will be operating as part of an integrated bus/rail network. Maintenance requirements for both right of way and vehicles will have to be accomplished by proper staffing, training, tool and equipment procurement, identifying parts needed for re-supply and the operation of an adequate maintenance facility. Light rail vehicle operators must also be selected and trained. These operators will have to comply with rules and procedures that govern light rail operation which meet the Public Utility Commission standards.

Administratively, all operational aspects of the system must be developed. Items such as service timetables, operator run assignments, a staffing plan, job descriptions, an operating rule book, an emergency plan, standard operating procedures, a safety plan, start-up operating and maintenance costs, and an operating philosophy must be created, reviewed and finalized. The development of these items must be compatible, to the extent possible, with RT's existing philosophies and goals.

Items requiring Board approval, with a potential for policy implications, have been appropriately indicated on the milestone and activity schedule. All other tasks not indicated as requiring board approval will be reviewed with the Board during the development phase as an information item.

As light rail approaches completion, new activities may be identified. Those activities which are within the scope of an existing task will be included in that task; if not, a new task



will be created. Activity and milestone dates are based upon either the LRT master construction schedule or completion dates established by the task force leader.

As the master schedule changes, those related activity dates may also change and will be indicated by a revision date. Tasks which are not affected by the master schedule will retain their original activity dates.

The program is managed through the "overview" task which provides an ongoing critique by Senior Staff. The task force leader for the overview is the LRT project coordinator who is able to provide the task force members with up-to-date project information.

Most of the tasks will end with the completion of the inauguration of light rail revenue service. Those tasks which continue, such as marketing, operations control and orientation will become the responsibility of the appropriate RT department.

Each of the 15 essential tasks listed below are further defined in the following sections. These tasks are:

1. Orientation
2. Overview
3. Staffing and Recruitment
4. Operating Procedures
5. Integration of Bus Network
6. Emergency Procedures
7. Training
8. Peer Reviews
9. P.U.C. Compliance
10. RT Marketing
11. Systems Checkout
12. Simulated Revenue Service
13. Labor Negotiations
14. Legislation Development
15. Operations Control



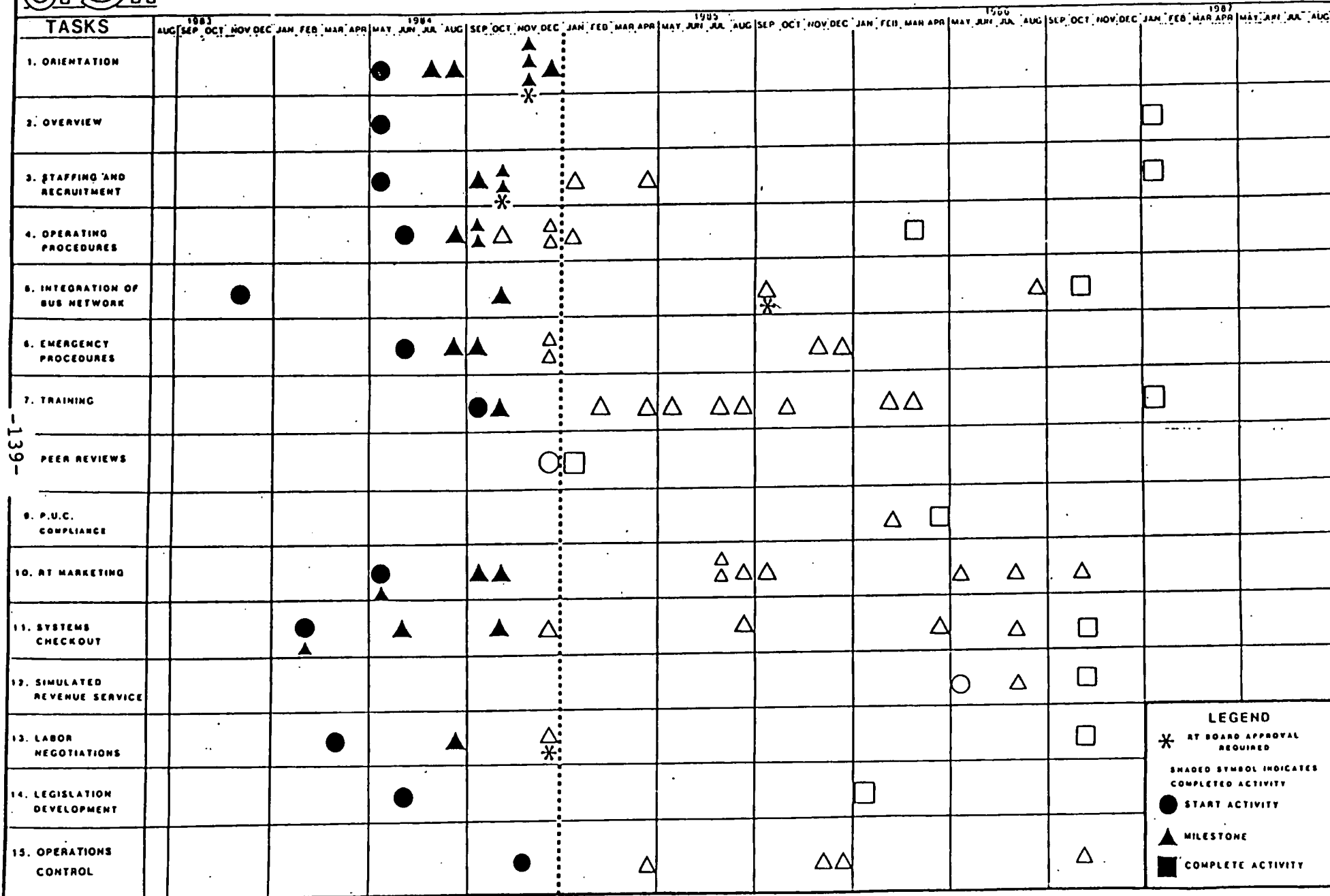


## SACRAMENTO LIGHT RAIL TRANSIT PROJECT

REGIONAL TRANSIT



## LRT OPERATIONS AND INTEGRATION WORK PROGRAM









# LRT OPERATIONS AND INTEGRATION WORK PROGRAM

TASK	PERSONS/DEPTS. INVOLVED	ACTIVITY START DATE	ACTIVITY END DATE
1. Orientation	Blymyer* LRT Project Dev. Team LRT PCO	5/84	8/84
The preparation and presentation of an informative program dealing with the progress and development of the light rail project (internal and external).			
2. Overview	Smelley* Senior Staff STDA	5/84	Completion
A comprehensive review of the tasks outlined in the light rail start-up process by senior staff at major milestones.			
3. Staffing and Recruitment Plan	Beach* Personnel	5/84	7/84 First Milestone to Completion
The development of various job classifications: defining tasks, requirements, pay grades and recommendations, and the selection of personnel needed for positions in the LRT Department.			
4. Operating Procedures	Beach* LRT PCO LRT Project Dev. Team Foster Engineering MIS Accounting Risk Management AGM - Operations	6/84	9/84
The implementation of the rules, policies and performance required for the routine operation of the LRT system.			
5. Integration of Bus Network	Lonergan* LRT Project Dev. Team Scheduling Transportation Planning	In Progress	10/84 Ready for Public Process
The development, coordination, and implementation of a viable bus network designed to operate in conjunction with the light rail system.			
6. Emergency Procedures	Beach* Risk Management	6/84	9/84 First Milestone



## Foster Engineering

Develop and maintain an extensive, coordinated plan which deals with operation and testing of the light rail system under emergency conditions.

- |    |          |   |      |  |
|----|----------|---|------|--|
| 7. | Training | Blevins* (11/7/84)<br>Risk Management<br>LRT Project Dev.<br>Team | 9/84 | 3/85 First<br>Milestone<br>to Completion |
|----|----------|---|------|--|

Establish criteria and perform the necessary training required for the development of LRT personnel.

- |    |              |  |      |      |
|----|--------------|--|------|------|
| 8. | Peer Reviews | Smelley*<br>STDA<br>LRT Project Dev.<br>Team | 7/84 | 8/85 |
|----|--------------|--|------|------|

Coordination of the evaluation process performed by outside agencies reviewing RT's engineering and operation plan for the light rail project.

- |    |                      |                |       |            |
|----|----------------------|----------------|-------|------------|
| 9. | P.U.C.<br>Compliance | Beach*<br>STDA | 12/85 | Completion |
|----|----------------------|----------------|-------|------------|

The process of working with the P.U.C. during various stages of development and the final application for approval of the LRT system.

- |     |                         |                               |      |            |
|-----|-------------------------|-------------------------------|------|------------|
| 10. | RT Marketing<br>Efforts | Blymyer*<br>Marketing<br>STDA | 5/84 | Completion |
|-----|-------------------------|-------------------------------|------|------------|

Develop and implement a marketing program by RT's marketing department designed toward the transition of LRT into RT's operating bus network and coordinate with Regional Transit's current and ongoing marketing programs.

- |     |                  |                       |      |                    |
|-----|------------------|-----------------------|------|--------------------|
| 11. | Systems Checkout | Beach*<br>LRT<br>STDA | 2/85 | 4/86 to Completion |
|-----|------------------|-----------------------|------|--------------------|

Evaluation and problem solving phase designed to test all components of the LRT system and correct all deficiencies resulting from non-compliance with the design specifications.

- |     |                              |  |      |                    |
|-----|------------------------------|--|------|--------------------|
| 12. | Simulated Revenue<br>Service | Beach*<br>LRT<br>Risk Management<br>Accounting | 4/85 | 4/86 to Completion |
|-----|------------------------------|--|------|--------------------|

The process in which the start-up and implementation tasks are completed and the LRT system is operational. Actual revenue service is duplicated to insure that service will be provided in a proficient manner.



13. Labor Negotiations    Beach\*                      5/84                      12/84 First  
                                 Labor Negotiating                      Milestone to  
                                 Team                                      to Completion  
                                 Legal

The process in which an agreement is finalized dealing with the labor conditions of the LRT system.

14. Legislation Dev.    Beach\*                      6/84                      4/20/86  
                                 Legal  
                                 Senior Staff

Initiate and seek approval for the necessary legislation required for the operation of the LRT system.

15. Operation Control    Smelley\*  
                                 LRT Project Dev. Team  
                                 Foster Engineering

Development of a vehicle maintenance and operation MIS system, system monitoring program, operating and maintenance cost and equipment list.

Revised: 10/24/84

\* Designated Project Development Team Coordinator



## TASKFORCE MILESTONE AND ACTIVITY DATES

### 1. Orientation (Blymyer)

- A. 5/84 Start activity
- B. 7/84 Present to Task Force
- C. 8/84 Present to Senior Staff
- D. 11/84 Orientation approval by RT Board (10/25/84) \*
- E. 11/84 Present to Labor organizations (10/25/84)
- F. 11/84 Start public presentations (10/25/84)
- G. 12/84 Complete RT orientation

### 2. Overview (Smelley)

- A. 5/84 Start process
- B. 1/87 Complete process

### 3. Staffing and Recruitment (Beach)

- A. 5/84 Start activity
- B. 9/84 Review final staffing plan
- C. 10/84 Staffing approval by RT Board \*
- D. 10/84 Start ATU & IBEW negotiations
- E. 1/85 Start non-union recruiting process
- F. 4/85 Union & Management Agreement
- G. 1/87 Complete staffing process

### 4. Operating Procedures (Beach)

- A. 6/84 Start activity
- B. 8/84 Draft operating rules
- C. 9/84 Develop operating plan
- D. 9/84 Start meetings with public safety agencies
- E. 10/84 Review rule book (11/7/84)
- F. 12/84 Finalize operating plan (10/23/84)
- G. 12/84 Complete peer reviews
- H. 1/85 Complete system start-up schedule (10/23/84)
- I. 3/86 Finalize agreement with public safety agencies

### 5. Integration of Bus Network (Loneragan)

- A. 11/83 Start activity
- B. 10/84 Complete preparation for public process
- C. 9/85 Network approved by RT Board \*
- D. 8/86 Complete sign-up preparation (11/27/84)
- E. 10/86 Implement bus network (11/27/84)

### 6. Emergency Procedures (Beach)

- A. 6/84 Start activity
- B. 8/84 Draft emergency procedures
- C. 9/84 Start meetings with public safety agencies
- D. 12/84 Develop system safety plan (10/23/84)
- E. 12/84 Complete peer review



- F. 11/85 Adopt emergency procedures
- G. 12/85 Commence emergency simulation

7. Training (Blevins) (11/7/84)

- A. 9/84 Start activity
- B. 10/84 Start negotiations for classes (coordinate with Luthi)
- C. 2/85 Schedule classes
- D. 4/85 Start Electro Mechanic training (Management)
- E. 5/85 Operations trainer qualified
- F. 7/85 Start operations training
- G. 8/85 Car delivery (testing)
- H. 10/85 Start Electro Mechanic training (Mechanics) (11/27/84)
- I. 2/86 Emergency simulation (testing)
- J. 3/86 Power, signal & track repair, complete operator training
- K. 1/87 Revenue service (11/27/84)

8. Peer Review (Smelley)

- A. 12/84 System safety and assurance
- B. 1/85 Operations and start-up

9. P.U.C. Compliance (Beach)

- A. 2/86 File for final certification (11/27/84)
- B. 4/86 Complete certification (11/27/84)

10. Marketing (Blymyer/Cain)

- A. 5/84 Start activity
- B. 5/84 Provide general information to public
- C. 9/84 Establish specific goals with Marketing
- D. 10/84 Start public orientation (coordinate with Marketing)
- E. 8/85 P/R - receive first LRV
- F. 7/85 P/R - receive fare vending equipment
- G. 7/85 Start preparation for K St. Mall ceremony
- H. 9/85 P/R - K St. Mall ceremony
- I. 5/86 Complete preparation for simulated revenue service (11/27/84)
- J. 7/86 Simulated revenue service (open house) (11/27/84)
- K. 10/86 I-80 revenue service (inauguration) (11/27/84)

11. System Checkout (Beach)

- A. 2/84 Start activity
- B. 2/84 First vehicle design review
- C. 6/84 Second vehicle design review
- D. 10/84 Substation test review
- E. 12/84 Start buff strength design review
- F. 8/85 Start vehicle testing



- G. 4/86 Start system checkout process (11/27/84)
- H. 7/86 Simulated revenue service (11/27/84)
- I. 10/86 Revenue service (11/27/84)

12. Simulated Revenue Service (Beach)

- A. 5/86 Start activity (11/27/84)
- B. 7/86 Start simulated revenue service (11/27/84)
- C. 10/86 Complete activity (11/27/84)

13. Labor Negotiations (Beach)

- A. 3/84 Start activity
- B. 8/84 Establish negotiating guidelines
- C. 12/84 Approval of negotiating guidelines by RT Board  
(10/25/84) \*
- D. 10/86 Complete activity (11/27/84)

14. Legislation Development (Beach)

- A. 6/84 Start activity
- B. 1/86 Complete activity

15. Operation Control (10/22/84) (Smelley)

- A. 11/84 Start vehicle maintenance and operating M.I.S.  
development
- B. 4/85 Complete equipment list
- C. 11/85 Finalize operating and maintenance cost
- D. 12/85 Develop operation monitoring criteria
- E. 4/86 Start operation monitoring

\* Activity requiring Board approval



APPENDIX L  
DRAFT LEGISLATIVE PROGRAM





# REGIONAL TRANSIT MEMO

DATE: January 11, 1985

TO: John T. Ketelsen, Chief Legal Counsel  
*Melanie*

FROM: Melanie J. Morgan, Consulting Attorney

SUBJECT: ENFORCEMENT LEGISLATION FOR LRT OPERATIONS

This is a summary report of the legislation currently in effect which defines and prohibits illegal conduct on transit systems; the applicability of this legislation to RT; and additional steps which RT can take to supplement existing legislative prohibitions.

## EXISTING LEGISLATION

### Criminal Code:

Section 241.3: Establishes a fine of up to \$1000 or imprisonment for up to one year or both for assaulting a bus or rail transit vehicle operator or station or ticket agent, if victim is on duty and person committing offense knows or should have known the victim is on duty.

Section 594: Vandalism prohibited (felony).

Section 625C: Tampering with passenger transit vehicle with intent to cause great bodily harm; willfully placing an obstruction on any part of transit system; willfully setting vehicle in motion is a felony.

Section 640: Creates an infraction with fine of up to \$50 or 20 hours community service for:

1. fare evasion
2. misuse of transfers, passes, tickets, or tokens with the intent to evade fares
3. playing sound equipment
4. smoking, eating, or drinking if those activities are prohibited by the transit system
5. expectorating
6. willfully disturbing others by engaging in boisterous or unruly behavior

Section 836.5: Permits "public officers or employees" to arrest any person committing a misdemeanor [or infraction] which is a violation of a statute or ordinance which the officer or employee has the duty to enforce.



Section 1463.11: County treasurer shall pay to transit district 85% of fines collected as a result of violations of law on or around transit vehicles or property.

APPLICABILITY TO RT:

Regional Transit has the authority to adopt ordinances which establish the fare structure and a procedure for its enforcement and which establish parking regulations for use of RT's off-street parking facilities at stations. (Ref. Section 102107 and 102121(e), Public Utilities Code). In order to permit RT's Inspector/Controllers to issue citations for engaging in the conduct prohibited by Section 640 (fare evasion, etc.), a fare ordinance should be adopted which explicitly classifies these employees as "public officers or employees," pursuant to Section 836.5, and places upon them a duty to enforce Section 640. A parking ordinance should likewise explicitly describe those actions which are prohibited (e.g., exceeding time limit, use of facility by non-patrons, parking in unauthorized areas); the fines for engaging in the actions; and the Inspector/Controller's status as a public officer or employee with a duty to enforce the ordinance, pursuant to Section 836.5.

I have spoken at some length with Jack Limber, General Counsel at MTDB, which also operates a barrier-free system. Mr. Limber strongly advocates early and extensive involvement of local law enforcement officers, including police, district attorneys, and traffic court judges, prior to adopting a fare or parking ordinance. He emphasizes that, in order for smooth, effective fare and parking control procedures to be implemented, the impacted agencies must have input into the process and be inclined to cooperate enthusiastically with the operator in solving the day-to-day problems that arise as the control procedures are implemented.

The local law enforcement agencies will be enforcing the more serious crimes listed above. RT's Inspector/Controllers will be instructed to call them in, whenever they witness such crimes. No additional legal authority is needed to bring about the enforcement of these statutes.

SUPPLEMENTARY ENFORCEMENT AUTHORITY

MTDB has added an article to their authorizing legislation entitled "Penalties." This article establishes fines for nonpayment of fares which exceed the fines in Section 640 on the second offense (P.U.C. § 120450); creates an infraction (\$50) and a second-offense misdemeanor (\$500/6 months) for (1) giving false information to a public officer or employee enforcing the article (P.U.C. § 120450.5); (2) unauthorized operation, manipulation, tampering or interference with a transit facility (P.U.C. § 120452); and (3) unauthorized climbing or holding onto transit vehicles operated on an exclusive transit guideway.



Memo to: J. Ketelsen  
January 11, 1985

The other rail transit operators in the state have used existing state statutes and their own enabling legislation to adopt ordinances which govern their enforcement practices. The MTDB system is the most similar to RT's, in that RT employees will not act as peace officers or "transit police." Like MTDB, we will be referring all serious crimes to the local authorities.

#### SUMMARY

RT's options with regard to enforcement procedures and legislation are:

1. Utilize existing legislation, adopting fare and parking ordinances, with the assistance of local enforcement authorities, which authorize certain RT employees to enforce existing state legislation. Refrain from adopting specific enforcement legislation, unless and until the need for such legislation is demonstrated.
2. Utilize existing legislation, as in #1, but also seek to amend our enabling legislation to add offenses specifically tailored to light rail operation (as in San Diego).
3. Utilize existing legislation, as in #1, but also seek to enact state-wide legislation creating additional offenses, such as those enacted for MTDB.

My recommendation is to follow Option #2, in order to have in place, at the outset, a comprehensive enforcement package for the light rail system. If we decide to wait until a legislative proposal which includes other needed changes in our enabling legislation is ready to go to the legislature, I recommend Option #1.



APPENDIX M  
JOINT POWERS AGREEMENT



March 12, 1981

JOINT POWERS AGREEMENT  
SACRAMENTO TRANSIT DEVELOPMENT AGENCY

This Agreement is entered into pursuant to the provisions of Title 1, Division 7, Chapter 5, Article I (§ 6500 et seq.) of the Government Code relating to the joint exercise of powers among the following parties:

The City of Sacramento, a municipal corporation, herein referred to as "CITY";

The County of Sacramento, herein referred to as "COUNTY";

The Sacramento Regional Transit District, herein referred to as "DISTRICT"; and

The State of California, acting by and through the Department of Transportation, herein referred to as "STATE".

R E C I T A L S

STATE, CITY, COUNTY, and DISTRICT are each empowered by law to provide for the planning and development of public transportation in said area; and

The parties have determined that the purposes and objectives of planning and developing public transportation in said area will serve and be of benefit to the residents of the city, county and state as a whole;

Now, therefore, the parties mutually agree as follows:

APR 02 1981

I. T. K.



## Section 1. Definitions

Unless the context otherwise requires, the terms defined in this section shall for all purposes of this Agreement have the meanings herein specified.

"Agreement" means this joint powers agreement as it now exists or as it may hereafter be amended.

"Agency" means the Sacramento Transit Development Agency and the governing board thereof.

"Project" means any transportation alternative that may be selected for implementation as an alternative to the Interstate 80 Bypass. The Agency shall have no responsibility whatsoever for Project selection.

## Section 2. Purpose

The purpose of this Agreement is to establish an organization to be responsible for the development and implementation of any project, if a decision to implement such project is made by the officials responsible for authorizing such implementation.

## Section 3. Term

This Agreement shall be effective upon execution, and shall continue in full force and effect until one year after the completion of the project or such other date as the parties mutually agree upon. In no event shall it be effective after December 31, 1990, unless expressly extended by the consent of all parties to this Agreement.

## Section 4. Creation of the Agency

There is hereby created the Sacramento Transit Development Agency as a public entity separate and apart from



CITY, COUNTY, DISTRICT and STATE, known as the SACRAMENTO TRANSIT DEVELOPMENT AGENCY. The governing board of the Agency shall consist of seven members appointed as follows:

(a) Two (2) members appointed by the Director of Transportation of the STATE.

(b) Two (2) members of the city council appointed in the manner provided by the charter of the CITY for the appointment of members of city boards, commissions and agencies.

(c) One (1) member of the COUNTY Board of Supervisors appointed by the COUNTY Board of Supervisors.

(d) One (1) member of the Board of Directors of the DISTRICT appointed by the Board of Directors of the DISTRICT.

(e) One (1) member selected by majority vote of the other members of the Agency.

Each member shall serve in his or her individual capacity, but at the pleasure of the party appointing him or her. An alternate may be selected for each member by his or her appointing authority. The CITY and COUNTY alternates must be council members or supervisors, respectively. The alternate for the member selected by the Agency shall also be selected by the Agency.

#### Section 5. Powers

The governing board shall be the policy making body of the Agency and shall have power to implement the Project.

The Agency is hereby authorized, in its own name, to do all acts it deems necessary or convenient for the exercise of



said power, including but not limited to any or all of the following:

To make and enter into contracts; to employ agents and employees, to lease, acquire, construct, manage, and maintain any land, buildings, works or improvements; to acquire by the powers of eminent domain, in the name of the Agency, by and through the DISTRICT (Pub. Util. Code, §§ 102240-102242) or otherwise, hold or dispose of property; to lease facilities to any person; to incur debts, liabilities or obligations which do not constitute a debt, liability or obligation of the STATE, CITY, COUNTY or the DISTRICT; and to sue and be sued in its own name.

Pursuant to Government Code section 6509, the power of the Agency is subject to the restrictions upon the manner of exercising the power of DISTRICT.

The Agency may apply for, receive, and utilize state, local and federal funding and funds from all other sources given to it for the purpose of accomplishing the Project.

Section 6. Meeting of the Agency

A. Regular and Special Meetings. The Agency shall hold at least one (1) regular meeting each year. The date upon which, and the hour and place at which, each such regular meeting shall be held shall be fixed by resolution of the Agency. The bylaws referred to in section 7 may provide for additional regular meetings and special meetings.

B. Conduct of Meetings. All meetings of the Agency shall be held subject to the provisions of section 54950 et seq. of the Government Code of the State of California.



C. Minutes. The secretary shall cause minutes of all meetings of the Agency to be kept and shall, as soon as possible after each meeting, cause a copy of the minutes to be forwarded to each member of the Agency.

D. Quorum. A majority of the members of the Agency shall constitute a quorum for the transaction of business, except that less than a quorum may adjourn from time to time. No action may be taken by the Agency except upon the affirmative vote of four or more members of the Agency.

#### Section 7. Bylaws

The Agency shall have the power to adopt such bylaws that it, in its sole discretion, may deem necessary or desirable for the conduct of the business of the Agency.

#### Section 8. Officers and Employees

A. The Agency shall elect a chairperson and a vice-chairperson from among its members, each to serve at the pleasure of the Agency. The Agency shall also appoint a secretary who may, but need not be, a member of the Agency. The Agency shall select independent legal counsel to provide general legal assistance relative to Agency matters.

B. The CITY Treasurer shall be the treasurer of the Agency and shall have custody of all the moneys of the Agency from whatever source and shall perform the function of treasurer and have all the powers, duties, and responsibilities as set forth in Government Code section 6505.5.

C. The CITY Finance Director shall act as controller of the Agency and shall perform the functions and have the powers, duties, and responsibilities set forth in Government



Code section 6505.5. The controller shall draw warrants to pay demands against the Agency when the demands have been approved by the Agency or the Project Manager pursuant to authorization of the Agency.

D. The chairperson of the Agency and the Executive Director are designated as the public officers or persons who have charge of handling, or have access to any property of the Agency.

Section 9. Staff Assistance

A. Executive Director. The Agency shall be served by an Executive Director, who shall be the chief executive officer of the Agency. The Executive Director shall be selected by the Agency, and shall serve at the pleasure of the Agency. The Executive Director shall be solely responsible to and report directly to the Agency on all matters relating to the Project. The Executive Director shall assume such other functions as directed by the Agency on matters related to the Project. The duties of the Executive Director may include, but need not be limited to, analyzing and making recommendations to the Agency on policy matters, obtaining necessary funding for the Project, and taking responsibility for necessary administrative services and public information.

B. Project Manager. The Agency shall be served by a Project Manager. The role of Project Manager shall be performed by STATE. The Project Manager shall report to the Agency through the Executive Director, and, subject to the provisions



of section 9C, shall have overall responsibility for development and delivery of the Project.

The work to be performed by the Project Manager shall be specified pursuant to the provisions of section 9C, and may include, but need not be limited to, project management; environmental planning; preliminary project planning and engineering; preparation of plans, specifications and estimates; surveying; geotechnical work; right-of-way acquisition; utility relocation; operational planning; equipment procurement; and contract administration.

STATE, subject to concurrence by the Agency, shall appoint an individual to serve as Project Director. STATE shall retain the right to replace the Project Director from time to time, subject to Agency concurrence with the STATE's replacement nominee. The Agency also may require the removal and replacement of a Project Director for cause. Cause shall include, but not be limited to, incompetence, neglect of duty and misconduct in office.

C. The details of the work and services to be performed by STATE and the cost of said work and services shall be determined by subsequent agreement or agreements between the Agency and STATE. Said agreement or agreements shall provide for submission by STATE to Agency of a master work plan defining the work to be performed, together with an operational procedure for revising and updating said plan. Such work plan, and any revisions and updates thereof, shall be subject to review and approval by the Agency. The decisions on which portions of the



work or services will be performed by outside consultants, or parties other than the STATE, shall be included as part of the work plan and shall be subject to mutual agreement by the STATE and Agency, provided that STATE shall not be authorized to proceed with portions of work or services which Agency wants to be performed by outside consultants or other persons until mutual agreement is reached.

D. The Agency may establish any advisory committees and employ whatever staff it deems necessary or appropriate to carry out its functions.

E. Prior to hiring outside consultants the Agency shall give first consideration to using employees of the parties to accomplish all elements of the Project.

#### Section 10. Federal Funds

The Agency shall apply for all funds made available under the Federal Interstate Substitution Program. The application shall be forwarded to the Federal Department of Transportation through the Sacramento Area Council of Governments and the Governor of the State of California.

#### Section 11. Project Funds

The parties agree that should any member agency still possess or obtain in the future any moneys specifically required to be expended for the Project from any source, that money shall be forwarded to the Agency.

#### Section 12. Zoning Responsibility

Nothing in this Agreement shall be construed as in any way removing or lessening any existing authority or responsibility of the CITY or COUNTY in zoning, community planning or redevelopment.



Section 13. Fares

To the extent that project development requires decisions on matters pertaining to fares, including details of fare collection methods and facilities, such decisions will be made by DISTRICT in cooperation with the Agency.

Section 14. Ownership and Operation of Facilities

If the Alternative to the Interstate 80 Bypass project chosen includes a light rail facility, and if said light rail facility is completed pursuant to the terms and conditions of this Joint Powers Agreement, the completed light rail facility shall be solely owned and operated by the DISTRICT.

Section 15. Withdrawal from Agency

Any party may withdraw from this Agreement upon ninety (90) days' prior written notice to the other parties, in which event the Agency shall nevertheless continue to exist, but with membership adjusted to reflect such omissions, providing, however, that if three or more of the parties to this Agreement withdraw, then this Agreement shall terminate upon expiration of the 90-day notice given by the third party to withdraw from the Agreement.

Section 16. Disposition of Property and Funds

At such time as this Agreement is terminated, any property interest remaining in the Agency following discharge of all obligations due by the Agency shall be disposed of and the proceeds or property shall be returned to the source from which funds or property were obtained.



Section 17. Accounts and Reports

The Agency shall establish and maintain such funds and accounts as may be required by good accounting practice. The books and records of the Agency shall be open to inspection at all reasonable times to the parties to this Agreement and their representatives. The Agency, within one hundred twenty (120) days after the close of each fiscal year (which shall be the period from July 1 of each year to and including the following June 30), shall give a complete written report of all financial activities for such fiscal year to the parties. The Controller shall prepare and maintain such accounts and reports.

Section 18. Obligations of the Agency

The debts, liabilities and obligations of the Agency shall not be debts, liabilities and obligations of any of the parties to this Agreement unless and to the extent specifically provided by agreement in writing with any of such parties.

Section 19. Indemnification

The Agency shall acquire such insurance protection as is necessary to protect the interests of the Agency, the parties to this Agreement and the public. The Agency created by this Agreement shall assume the defense of and indemnify and save harmless each party to this Agreement and its respective officers, agents and employees, from all claims, losses, damages, costs, injury and liability of every kind, nature and description directly or indirectly arising from the performance of any of the activities of the Agency, or the activities undertaken pursuant to this Agreement.



Section 20. Amendments

This Agreement may be amended at any time by agreement of all of the parties.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their proper officers thereunder duly authorized as of the date below written.

STATE OF CALIFORNIA,  
Department of Transportation

By Adrian G. Gantner  
Director  
Department of Transportation

Date 3-12-81

Approved as to Form and  
Legality

By T. Carroll  
Attorney  
Department of Transportation

Date 3/12/81

CITY OF SACRAMENTO,  
a municipal corporation

By Phyllis L. Bentley

Date 3/30/81

Approved as to Form and  
Legality

By James P. Jackson

Date 3-26-81

COUNTY OF SACRAMENTO

By Gene Galloway

Date 3/26/81

Approved as to Form and  
Legality

By DEI

Date March 26, 1981

SACRAMENTO REGIONAL  
TRANSIT DISTRICT

By Montford Lee Johnson

Date 3-23-81

Approved as to Form and  
Legality

By John T. Kellum

Date 3/24/81

FOR  
1.  
2.



FIRST AMENDMENT TO THE  
SACRAMENTO TRANSIT DEVELOPMENT AGENCY  
JOINT POWERS AGREEMENT

Section 4 of the Sacramento Transit Development Agency Joint Powers Agreement, dated for purposes of identification March 12, 1981, is hereby amended to read as follows:

Section 4. Creation of the Agency

There is hereby created the Sacramento Transit Development Agency as a public entity separate and apart from the CITY, COUNTY, DISTRICT and STATE, known as the SACRAMENTO TRANSIT DEVELOPMENT AGENCY. The governing board of the Agency shall consist of (5) members appointed as follows:

(a) One (1) member appointed by the Director of Transportation of the STATE.

(b) One (1) member of the City Council appointed in the manner provided by the charter of the CITY for the appointment of members of City boards, commissions and agencies.

(c) One (1) member of the COUNTY Board of Supervisors appointed by the COUNTY Board of Supervisors.

(d) One (1) member of the Board of Directors of the DISTRICT appointed by the Board of Directors of the DISTRICT.

(e) One (1) member selected by majority vote of the other members of the Agency.

Each member shall serve in his or her individual capacity, but at the pleasure of the party appointing him or her. An alternate may be selected for each member by his or her appointing authority. The CITY and COUNTY alternates must be council members or supervisors, respectively. The alternate for the member selected by the Agency shall also be selected by the Agency.



IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their proper officers thereunder duly authorized as of the date below written.

STATE OF CALIFORNIA  
Department of Transportation

BY: Leo J. Tambatore

Date: 6-28-83

Approved as to Form and Legality:

BY: T. Carroll  
Attorney  
Department of Transportation

CITY OF SACRAMENTO  
A Municipal Corporation

BY: Walter J. Slips  
CITY MANAGER

Date: 8-3-83

Approved as to Form and Legality:

BY: James P. Jackson  
Attorney  
City of Sacramento

COUNTY OF SACRAMENTO

BY: Paul M. M...

Date: July 27, 1983

Approved as to Form and Legality:

BY: L. El...  
Attorney  
County of Sacramento

Date: 7-27-83

SACRAMENTO REGIONAL TRANSIT  
~~DEVELOPMENT~~ DISTRICT

BY: David A. Bagg

Date: JUL 19 1983

Approved as to Form and Legality:

BY: John P. K...  
Attorney  
Sacramento Regional Transit District

Date: 7/18/83



**SECOND AMENDMENT TO THE  
SACRAMENTO TRANSIT DEVELOPMENT AGENCY  
JOINT POWERS AGREEMENT**

THIS AMENDMENT made this 6th day of March, 1984, is by and between the CITY OF SACRAMENTO ("City"), COUNTY OF SACRAMENTO ("County") and the SACRAMENTO REGIONAL TRANSIT DISTRICT ("SRTD").

**WITNESSETH:**

WHEREAS, the City, County, SRTD and the State of California ("State") entered into a Joint Powers Agreement ("Agreement") creating the Sacramento Transit Development Agency ("STDA") on March 12, 1981; and amended said Agreement on August 3, 1983;

WHEREAS, the State withdrew from STDA by a letter dated November 1, 1983 (effective February 1, 1984), submitted to the remaining STDA member agencies pursuant to Section 15 of the Agreement; and

WHEREAS, the City, County, and SRTD desire to further amend the Agreement.

**NOW, THEREFORE THE PARTIES HERETO AGREE AS FOLLOWS:**

1. All reference to the State is hereby deleted from Page 1 of the Agreement and Paragraph 3 of Section 5 of the Agreement.

2. Section 4 of the Agreement, as amended in August 1983, is hereby deleted in its entirety and a new Section 4 is hereby added to read as follows:

**Section 4. Creation of the Agency**

There is hereby created the Sacramento Transit Development Agency as a public entity separate and apart from CITY, COUNTY, AND DISTRICT, known as the SACRAMENTO TRANSIT DEVELOPMENT AGENCY. The Governing Board of the Agency shall consist of five (5) members appointed as follows:

- A. Two (2) members of the City Council appointed in the manner provided by the charter of the City, for the appointment of members of City boards, commissions and agencies.
- B. One (1) member of the COUNTY Board of Supervisors appointed by the COUNTY Board of Supervisors.



- C. Two (2) members of the Board of Directors of the DISTRICT appointed by the Board of Directors of the DISTRICT.

Each member shall serve in his or her individual capacity, but at the pleasure of the party appointing her. An alternate may be selected for each member by his or her appointing authority. CITY and COUNTY alternates must be council members or supervisors, respectively. DISTRICT alternates must be members of the Board of Directors.

3. The second sentence of Section 9B of the Agreement is hereby amended to read as follows:

"The role of Project Manager shall be performed by the State of California, acting by and through the Department of Transportation, hereinafter referred to as "STATE".

4. Section 10 of the Agreement is hereby deleted in its entirety and a new Section 10 is hereby added to read as follows:

Section 10. Federal Funds.

The Agency shall apply for all funds made available under the Federal Interstate Substitution Program. The applications shall be forwarded to the Federal Department of Transportation through the Sacramento Area Council of Governments, the Governor of the State of California, or any of the parties to this Agreement as may be appropriate.

5. Except as expressly amended herein, the Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, the parties hereto have caused this Second Amendment to the Agreement to be executed by their proper officers thereunder duly authorized as of the date below written.

CITY OF SACRAMENTO,  
a municipal corporation

SACRAMENTO REGIONAL TRANSIT  
DISTRICT

By: Walter J. Slize

Date: \_\_\_\_\_

By: Betha Gorman

Date: \_\_\_\_\_



APPROVED AS TO FORM & LEGALITY

By: James P. Jackson  
Date: Mar 22, 1984

APPROVED AS TO FORM & LEGALITY

By: John H. Ketchum  
Date: April 2, 1984

COUNTY OF SACRAMENTO

By: Landra P. Smoley  
Date: \_\_\_\_\_

APPROVED AS TO FORM & LEGALITY

By: \_\_\_\_\_  
Date: \_\_\_\_\_



THIRD AMENDMENT TO THE  
SACRAMENTO TRANSIT DEVELOPMENT AGENCY  
JOINT POWERS AGREEMENT

THIS AMENDMENT made this 3rd day of October, 1984, is by and between the CITY OF SACRAMENTO ("City"), COUNTY OF SACRAMENTO ("County") and the SACRAMENTO REGIONAL TRANSIT DISTRICT ("SRTD").

WITNESSETH:

WHEREAS, the City, County, SRTD and the State of California ("State") entered into a Joint Powers Agreement ("Agreement") creating the Sacramento Transit Development Agency ("STDA") on March 12, 1981; and amended said Agreement on August 3, 1983 (First Amendment); and on March 6, 1984 (Second Amendment);

WHEREAS, the City, County, and SRTD desire to further amend the Agreement.

NOW, THEREFORE THE PARTIES HERETO AGREE AS FOLLOWS:

1. Section 6D of the Agreement is hereby amended to read as follows:

D. Quorum A majority of the members of the Agency Governing Board shall constitute a quorum for the transaction of business, except that less than a quorum may adjourn from time to time. No action may be taken by the Agency except upon the affirmative vote of three or more members of the Agency Governing Board

2. Except as expressly amended herein, the Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, the parties hereto have caused this Third Amendment to the Agreement to be executed by their proper officers thereunder duly authorized as of the date below written.

CITY OF SACRAMENTO,  
a municipal corporation

SACRAMENTO REGIONAL TRANSIT  
DISTRICT

By: John Winkler, Jr.

By: Debbie Gorman

Date: 11-13-84

Date: 10/10/84



APPROVED AS TO FORM & LEGALITY

By: James P. Jackson

Date: 10-29-84

APPROVED AS TO FORM & LEGALITY

By: John T. Ketchum

Date: 10/10/84

COUNTY OF SACRAMENTO

By: Lardner R. Smoley

Date: Nov. 27, 1984

APPROVED AS TO FORM & LEGALITY

By: LSL

Date: Nov. 23, 1984

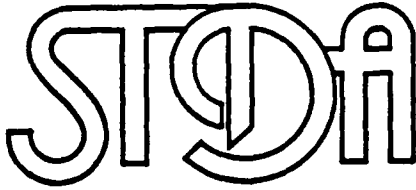


EXHIBIT NO. 3  
PROJECT MASTER SCHEDULE  
AND  
CRITICAL PATH DIAGRAM



EXHIBIT NO. 4  
START-UP AND OPERATIONS  
STAFF MEMORANDUM





# MEMORANDUM

SACRAMENTO TRANSIT DEVELOPMENT AGENCY

926 J Street, Suite 611 • Sacramento, California 95814 • (916) 442-3168  
Project Office: 1201 I Street, Room 205 • Sacramento 95814 • (916) 445-6519

Transmittal Date: January 4, 1985

Meeting Date: January 9, 1985

TO: Members of the Governing Board

FROM: William H. Edgar, Interim Executive Director

SUBJECT: LRT Operations and Start-Up Plan

## SUMMARY

This information briefing is presented to apprise the Governing Board on the status of the LRT operations and start-up plan. The goals, responsibilities, activity schedule and plan scope will be presented in this briefing.

## BACKGROUND

In preparation for revenue service of RT Metro, Regional Transit has identified 15 tasks which are essential to the successful implementation of light rail and its integration with the bus system. The basis for this effort is Milestone 9, Demand and Operational Analysis, dated January, 1983 and generated by STDA during the preliminary engineering phase.

The scope of this program is to provide Regional Transit with the vital support that will be needed to operate the RT Metro system.

This program is managed through the "overview" task which provides an ongoing critique by RT Senior Staff. The LRT project coordinator acts as the task force leader for the overview and provides those task force members with up-to-date project information. Most of the tasks will end with the inauguration of light rail revenue service. Those tasks which continue, such as marketing, operations control and orientation will become the responsibility of the appropriate RT department. Each of the 15 essential tasks are listed below. The taskforce members, taskforce leaders, task definitions and milestone and activity dates are outlined in Attachment 1, LRT Operations and Integration Work Program, and Attachment 2, Taskforce Milestone and Activity Dates. These tasks are:

Agenda Item 4



1. Orientation
2. Overview
3. Staffing and Recruitment
4. Operating Procedures
5. Integration of Bus Network
6. Emergency Procedures
7. Training
8. Peer Reviews
9. P.U.C. Compliance
10. RT Marketing
11. Systems Checkout
12. Simulated Revenue Service
13. Labor Negotiations
14. Legislation Development
15. Operations Control

#### STATUS

The 15 tasks have been developed into a work program with milestone and activity dates identified. Taskforce members were organized and a taskforce leader assigned. It is the responsibility of the taskforce leaders to coordinate the task activities and insure that they are completed on schedule. At present, 12 of the 15 tasks have started an activity, and all but three of these activities are on schedule. Attachment 3, LRT Operations and Integration Work Program Schedule indicates those activities which have been completed to date. Those task activities which require RT Board approval have been reviewed with the Board during the development phase. As light rail approaches completion, new activities may be identified. Those activities which are within the scope of an existing task will be included in that task; if not, a new task will be created. Milestone and activity progress is being monitored by the project manager.

#### ISSUES

1. Time allowances for completion of some tasks are dependent upon outside agencies, (e.g. legislation development and labor negotiations). These tasks will require continuous monitoring to insure their scheduled completion.
2. The RT Marketing task needs to be closely coordinated with the STDA Marketing effort.
3. The staffing levels need to be adequate to accommodate phased LRT operation but not excessive resulting in unnecessary operating costs.
4. Integration of the RT Bus Network needs to be coordinated with light rail start-up.



5. Training needs must be adequate to satisfy the initial operating requirements.

**CONCLUSION**

In order for RT Metro to be operated in a safe, dependable and efficient manner, a realistic and credible start-up plan must be implemented. Upon completion of the 15 tasks outlined in this plan, Regional Transit will have satisfied that requirement.

Respectfully submitted,

*William H. Edgar*

**WILLIAM H. EDGAR**  
Interim Executive Director

**Attachments**



## LRT OPERATIONS AND INTEGRATION WORK PROGRAM

TASK	PERSONS/DEPTS. INVOLVED	ACTIVITY START DATE	ACTIVITY END DATE
1. Orientation	Blymyer* LRT Project Dev. Team LRT PCO	5/84	8/84
The preparation and presentation of an informative program dealing with the progress and development of the light rail project (internal and external).			
2. Overview	Smelley* Senior Staff STDA	5/84	Completion
A comprehensive review of the tasks outlined in the light rail start-up process by senior staff at major milestones.			
3. Staffing and Recruitment Plan	Beach* Personnel	5/84	7/84 First Milestone to Completion
The development of various job classifications: defining tasks, requirements, pay grades and recommendations, and the selection of personnel needed for positions in the LRT Department.			
4. Operating Procedures	Beach* LRT PCO LRT Project Dev. Team Foster Engineering MIS Accounting Risk Management AGM - Operations	6/84	9/84
The implementation of the rules, policies and performance required for the routine operation of the LRT system.			
5. Integration of Bus Network	Lonergan* LRT Project Dev. Team Scheduling Transportation Planning	In Progress	10/84 Ready for Public Process
The development, coordination, and implementation of a viable bus network designed to operate in conjunction with the light rail system.			
6. Emergency Procedures	Beach* Risk Management	6/84	9/84 First Milestone



## Foster Engineering

Develop and maintain an extensive, coordinated plan which deals with operation and testing of the light rail system under emergency conditions.

- |             |   |      |  |
|-------------|---|------|--|
| 7. Training | Blevins* (11/7/84)<br>Risk Management<br>LRT Project Dev.<br>Team | 9/84 | 3/85 First<br>Milestone<br>to Completion |
|-------------|---|------|--|

Establish criteria and perform the necessary training required for the development of LRT personnel.

- |                 |  |      |      |
|-----------------|--|------|------|
| 8. Peer Reviews | Smelley*<br>STDA<br>LRT Project Dev.<br>Team | 7/84 | 8/85 |
|-----------------|--|------|------|

Coordination of the evaluation process performed by outside agencies reviewing RT's engineering and operation plan for the light rail project.

- |                         |                |       |            |
|-------------------------|----------------|-------|------------|
| 9. P.U.C.<br>Compliance | Beach*<br>STDA | 12/85 | Completion |
|-------------------------|----------------|-------|------------|

The process of working with the P.U.C. during various stages of development and the final application for approval of the LRT system.

- |                             |                               |      |            |
|-----------------------------|-------------------------------|------|------------|
| 10. RT Marketing<br>Efforts | Blymyer*<br>Marketing<br>STDA | 5/84 | Completion |
|-----------------------------|-------------------------------|------|------------|

Develop and implement a marketing program by RT's marketing department designed toward the transition of LRT into RT's operating bus network and coordinate with Regional Transit's current and ongoing marketing programs.

- |                      |                       |      |                    |
|----------------------|-----------------------|------|--------------------|
| 11. Systems Checkout | Beach*<br>LRT<br>STDA | 2/85 | 4/86 to Completion |
|----------------------|-----------------------|------|--------------------|

Evaluation and problem solving phase designed to test all components of the LRT system and correct all deficiencies resulting from non-compliance with the design specifications.

- |                                  |  |      |                    |
|----------------------------------|--|------|--------------------|
| 12. Simulated Revenue<br>Service | Beach*<br>LRT<br>Risk Management<br>Accounting | 4/85 | 4/86 to Completion |
|----------------------------------|--|------|--------------------|

The process in which the start-up and implementation tasks are completed and the LRT system is operational. Actual revenue service is duplicated to insure that service will be provided in a proficient manner.



13. Labor Negotiations	Beach*	5/84	12/84 First
	Labor Negotiating		Milestone to
	Team		to Completion
	Legal		

The process in which an agreement is finalized dealing with the labor conditions of the LRT system.

14. Legislation Dev.	Beach*	6/84	4/20/86
	Legal		
	Senior Staff		

Initiate and seek approval for the necessary legislation required for the operation of the LRT system.

15. Operation Control	Smelley*
	LRT Project Dev. Team
	Foster Engineering

Development of a vehicle maintenance and operation MIS system, system monitoring program, operating and maintenance cost and equipment list.

Revised: 10/24/84

\* Designated Project Development Team Coordinator



## TASKFORCE MILESTONE AND ACTIVITY DATES

1. Orientation (Blymyer)

- A. 5/84 Start activity
- B. 7/84 Present to Task Force
- C. 8/84 Present to Senior Staff
- D. 11/84 Orientation approval by RT Board (10/25/84) \*
- E. 11/84 Present to Labor organizations (10/25/84)
- F. 11/84 Start public presentations (10/25/84)
- G. 12/84 Complete RT orientation

2. Overview (Smelley)

- A. 5/84 Start process
- B. 1/87 Complete process

3. Staffing and Recruitment (Beach)

- A. 5/84 Start activity
- B. 9/84 Review final staffing plan
- C. 10/84 Staffing approval by RT Board \*
- D. 10/84 Start ATU & IBEW negotiations
- E. 1/85 Start non-union recruiting process
- F. 4/85 Union & Management Agreement
- G. 1/87 Complete staffing process

4. Operating Procedures (Beach)

- A. 6/84 Start activity
- B. 8/84 Draft operating rules
- C. 9/84 Develop operating plan
- D. 9/84 Start meetings with public safety agencies
- E. 10/84 Review rule book (11/7/84)
- F. 12/84 Finalize operating plan (10/23/84)
- G. 12/84 Complete peer reviews
- H. 1/85 Complete system start-up schedule (10/23/84)
- I. 3/86 Finalize agreement with public safety agencies

5. Integration of Bus Network (Lonergan)

- A. 11/83 Start activity
- B. 10/84 Complete preparation for public process
- C. 9/85 Network approved by RT Board \*
- D. 8/86 Complete sign-up preparation (11/27/84)
- E. 10/86 Implement bus network (11/27/84)

6. Emergency Procedures (Beach)

- A. 6/84 Start activity
- B. 8/84 Draft emergency procedures
- C. 9/84 Start meetings with public safety agencies
- D. 12/84 Develop system safety plan (10/23/84)
- E. 12/84 Complete peer review



- F. 11/85 Adopt emergency procedures
- G. 12/85 Commence emergency simulation

7. Training (Blevins) (11/7/84)

- A. 9/84 Start activity
- B. 10/84 Start negotiations for classes (coordinate with Luthi)
- C. 2/85 Schedule classes
- D. 4/85 Start Electro Mechanic training (Management)
- E. 5/85 Operations trainer qualified
- F. 7/85 Start operations training
- G. 8/85 Car delivery (testing)
- H. 10/85 Start Electro Mechanic training (Mechanics)  
(11/27/84)
- I. 2/86 Emergency simulation (testing)
- J. 3/86 Power, signal & track repair, complete operator training
- K. 1/87 Revenue service (11/27/84)

8. Peer Review (Smelley)

- A. 12/84 System safety and assurance
- B. 1/85 Operations and start-up

9. P.U.C. Compliance (Beach)

- A. 2/86 File for final certification (11/27/84)
- B. 4/86 Complete certification (11/27/84)

10. Marketing (Blymyer/Cain)

- A. 5/84 Start activity
- B. 5/84 Provide general information to public
- C. 9/84 Establish specific goals with Marketing
- D. 10/84 Start public orientation (coordinate with Marketing)
- E. 8/85 P/R - receive first LRV
- F. 7/85 P/R - receive fare vending equipment
- G. 7/85 Start preparation for K St. Mall ceremony
- H. 9/85 P/R - K St. Mall ceremony
- I. 5/86 Complete preparation for simulated revenue service (11/27/84)
- J. 7/86 Simulated revenue service (open house) (11/27/84)
- K. 10/86 I-80 revenue service (inauguration) (11/27/84)

11. System Checkout (Beach)

- A. 2/84 Start activity
- B. 2/84 First vehicle design review
- C. 6/84 Second vehicle design review
- D. 10/84 Substation test review
- E. 12/84 Start buff strength design review
- F. 8/85 Start vehicle testing



- G. 4/86 Start system checkout process (11/27/84)
- H. 7/86 Simulated revenue service (11/27/84)
- I. 10/86 Revenue service (11/27/84)

12. Simulated Revenue Service (Beach)

- A. 5/86 Start activity (11/27/84)
- B. 7/86 Start simulated revenue service (11/27/84)
- C. 10/86 Complete activity (11/27/84)

13. Labor Negotiations (Beach)

- A. 3/84 Start activity
- B. 8/84 Establish negotiating guidelines
- C. 12/84 Approval of negotiating guidelines by RT Board (10/25/84) \*
- D. 10/86 Complete activity (11/27/84)

14. Legislation Development (Beach)

- A. 6/84 Start activity
- B. 1/86 Complete activity

15. Operation Control (10/22/84) (Smelley)

- A. 11/84 Start vehicle maintenance and operating M.I.S. development
- B. 4/85 Complete equipment list
- C. 11/85 Finalize operating and maintenance cost
- D. 12/85 Develop operation monitoring criteria
- E. 4/86 Start operation monitoring

\* Activity requiring Board approval





SACRAMENTO LIGHT RAIL TRANSIT PROJECT  
LRT OPERATIONS AND INTEGRATION WORK PROGRAM

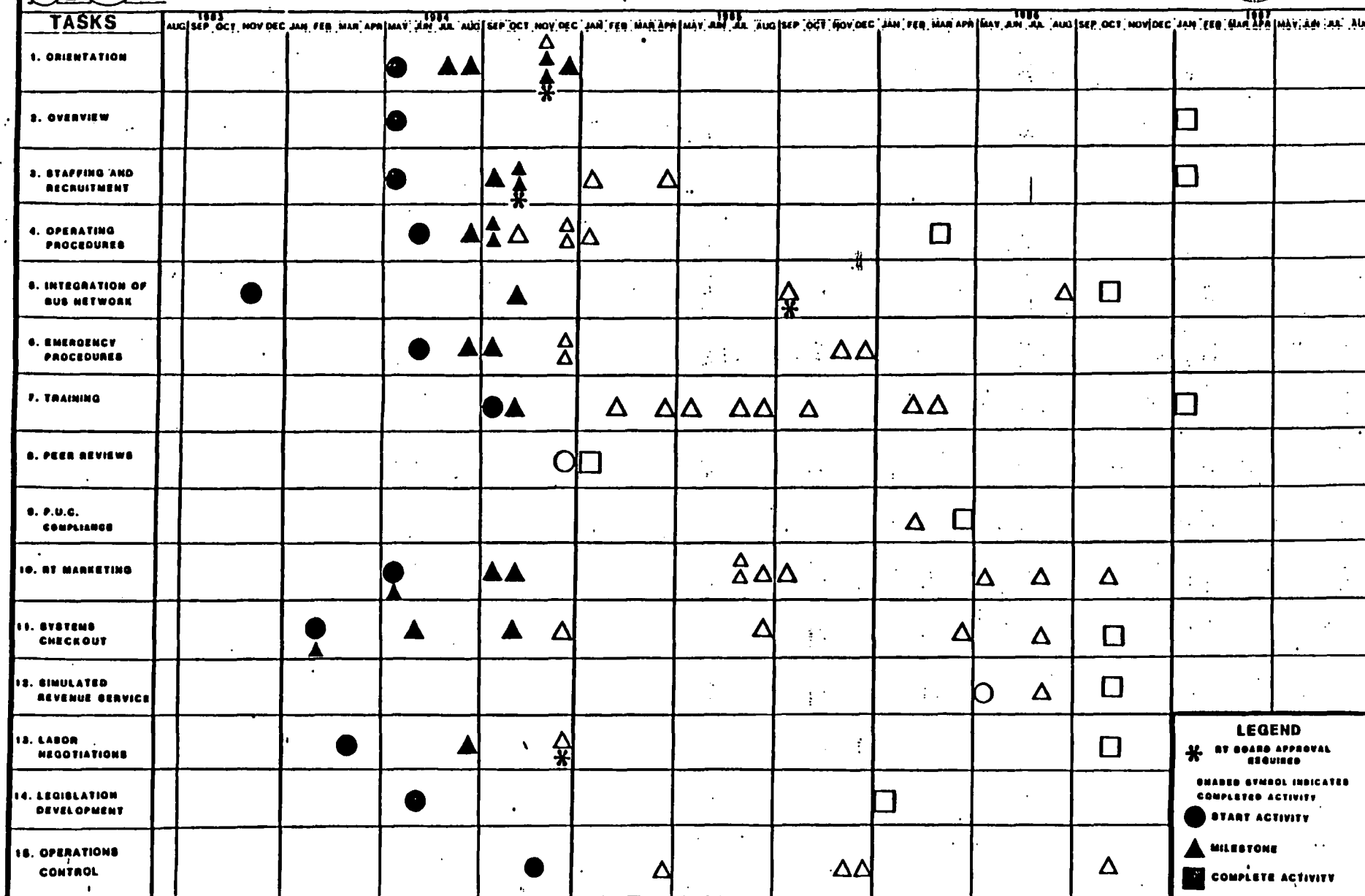








EXHIBIT NO. 5  
OPERATIONAL PROJECTION  
TABLES



**TABLE I**  
**SACRAMENTO LIGHT RAIL TRANSIT PROJECT OPERATIONAL PROJECTION\***

(FY 1985 - FY 2004 BUS ONLY SYSTEM)  
(\$ 000)

	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>
Farebox Revenue	\$ 7300	7727	8543	9893	10056	11520	12584	13711	14534	15406	16330	17310	18349	19450	20617	21854	23165	24555	26028	27590
Operating Expenses Bus Only	\$ 25975	27302	30074	32091	34644	37808	41299	44999	47699	50561	53595	56810	60219	63832	67662	71722	76025	80586	85422	90547
Excess of Operating Expenses Over Passenger Fares	-\$18675	-19575	-21531	-22198	-24588	-26288	-28715	-31288	-33165	-35155	-37265	-39500	-41870	-44382	-47045	-49868	-52860	-56031	-59394	-62957
Other Revenue	\$ 450	300	318	337	357	379	401	426	451	478	507	537	569	604	640	678	719	762	808	856
Federal Funding	\$ 5609	3705	3365	3036	2739	2466	2238	2033	1848	1682	1532	1397	1277	1167	1068	980	901	829	764	707
State and Local Funding	\$ 19735	18941	18615	14842	18169	19403	20701	22104	23618	25254	26910	28689	30603	32523	34577	36776	39127	41644	44337	47219
Projected Surplus/Deficit	\$ 7119	3372	767	-3983	-3323	-4040	-5374	-6725	-7249	-7742	-8316	-8877	-9421	-10089	-10760	-11434	-12114	-12797	-13485	-14175

\*This information reflects an update of the August 1984 data in the 1985-89 Transit Plan.



**TABLE 2**  
**SACRAMENTO LIGHT RAIL TRANSIT PROJECT OPERATIONAL PROJECTIONS\***  
**(FY 1985 - FY 2004 SUB/LIGHT RAIL SYSTEM)**

(\$ 000)

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
PASSENGER FARES	\$ 7,300	\$ 7,727	\$ 8,543	\$ 9,893	\$ 10,056	\$ 10,658	\$ 11,298	\$ 11,976	\$ 12,694	\$ 13,456	\$ 14,263	\$ 15,119	\$16,026	\$16,988	\$ 18,007	\$ 19,088	\$ 20,233	\$ 21,447	\$ 22,734	\$24,098
OPERATING EXPENSES:																				
Bus	25,975	27,302	26,817	26,284	27,536	29,188	30,939	32,796	34,764	36,849	39,060	41,404	43,888	46,521	49,313	52,272	55,408	58,732	62,256	65,992
Light rail			4,087	5,204	5,464	5,792	6,129	6,508	6,898	7,312	7,751	8,216	8,709	9,231	9,785	10,372	10,995	11,654	12,354	13,095
Total operating expenses	<u>25,975</u>	<u>27,302</u>	<u>30,904</u>	<u>31,488</u>	<u>33,000</u>	<u>34,980</u>	<u>37,068</u>	<u>39,304</u>	<u>41,662</u>	<u>44,161</u>	<u>46,811</u>	<u>49,620</u>	<u>52,597</u>	<u>55,752</u>	<u>59,098</u>	<u>62,644</u>	<u>66,403</u>	<u>70,386</u>	<u>74,610</u>	<u>79,087</u>
EXCESS OF OPERATING EXPENSES OVER PASSENGER FARES	-18,675	-19,575	-22,361	-21,595	-22,944	-24,322	-25,700	-27,328	-28,968	-30,703	-32,548	-34,501	-36,571	-38,764	-41,091	-43,556	-46,170	-48,939	-51,876	-54,989
OTHER REVENUES:																				
Federal funding	5,609	3,705	3,365	3,036	2,739	2,464	2,238	2,033	1,848	1,682	1,532	1,397	1,277	1,167	1,068	980	901	829	764	707
State and local funding	12,616	15,570	18,615	14,842	18,169	19,403	20,701	22,104	23,618	25,254	26,910	28,689	30,603	32,523	34,577	36,776	39,127	41,644	44,337	47,219
Other	450	300	318	337	357	379	401	426	451	478	507	537	569	604	640	678	719	762	808	856
UNMATCHED SURPLUS/DEFICIT	-	-	-63	-3,380	-1,679	-2,074	-2,440	-2,765	-3,051	-3,291	-3,599	-3,878	-4,122	-4,470	-4,806	-5,122	-5,423	-5,704	-5,967	-6,207

\*This information reflects an update of the August 1984 data in the 1985-89 Transit Plan.



TABLE 3

## SACRAMENTO LIGHT RAIL TRANSIT PROJECT OPERATIONAL PROJECTION\*

(FY 1985 - FY 2004 BUS/EXTENDED LIGHT RAIL SYSTEM)

(\$ 000)

	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>
Farebox Revenue	\$ 7750	8027	8861	10230	10413	10815	11463	13324	14124	14971	19734	20937	22210	29309	31085	32968	34964	37079	39323	41699
Operating Expenses Bus/Extended LRT Expense	<u>\$25975</u>	<u>27302</u>	<u>30904</u>	<u>31488</u>	<u>33000</u>	<u>34250</u>	<u>36305</u>	<u>38483</u>	<u>40792</u>	<u>43240</u>	<u>46609</u>	<u>49406</u>	<u>52370</u>	<u>56436</u>	<u>59822</u>	<u>63411</u>	<u>67216</u>	<u>71249</u>	<u>75524</u>	<u>80055</u>
Excess of Operating Expenses Over Passenger Fares	-\$18225	-19275	-22043	-21258	-22587	-23435	-24842	-25159	-26668	-28269	-26875	-28469	-30160	-27127	-28737	-30443	-32252	-34170	-36201	-38356
Federal Funding	\$ 5609	3705	3365	3036	2739	2733	2733	2733	2733	2733	2733	2733	2733	2733	2733	2733	2733	2733	2733	2733
State and Local Funding	\$19735	18941	18615	14842	18169	19403	20701	21004	23618	25254	19410	28689	30603	29523	34577	36776	39127	41644	44337	47219
Projected Surplus/Deficit	\$ 7119	3372	-63	-3380	-1679	-1299	-1407	-1422	-318	-283	-4732	2953	3176	5130	8573	9066	9608	10207	10869	11596

\*This information reflects an update of the August 1984 data in the 1985-89 Transit Plan.







EXHIBIT NO. 6  
FUTURE EXTENSIONS  
MEMORANDUM





RECEIVED  
JAN 10 1985  
S.T.D.A.

**Sacramento Area  
Council of Governments**

Suite 300, 800 "H" Street  
Sacramento, California 95814  
(916) 441-5930

Mailing Address:  
P.O. Box 808  
Sacramento, California 95804

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Supervisor  
Sutter County

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(Vice Chairman)  
Councilman, City of  
Marysville

CHARLES D. CENTER  
Supervisor  
Yuba County

GEORGE P. DeMARS  
Supervisor  
Yolo County

LAWRENCE MARK  
Councilman, City of  
Yuba City

ROGER S. MOSIER  
Councilman, City of  
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LYNN ROBIE  
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RICHARD ROCCUCCI  
Councilman, City of  
Roseville

FRED V. SCHEIDEGGER  
Councilman, City of  
Folsom

TED SHEEDY  
Supervisor  
Sacramento County

JAMES E. WILLIAMS  
(Executive Director)

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City of Roseville  
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City of Live Oak  
City of Yuba City  
Yolo County  
City of Davis  
City of Winters  
City of Woodland  
Yuba County  
City of Marysville  
City of Wheatland

January 10, 1985

Mr. William H. Edgar  
Interim Executive Director  
Sacramento Transit Development Agency  
926 J Street, Suite 611  
Sacramento, CA 95814

Dear Bill:

We have recommended that the enclosed map be adopted as depicting the expanded light rail transit system. This recommendation is being reviewed by Regional Transit and by the study's technical and policy committees. The approval of this map, anticipated in February, will end Phase I of the study.

In Phase II a consultant will be hired to determine the appropriate right-of-way alignment for each extension and to recommend the priority for future funding between the various extensions and double tracking.

If you have any questions, please call Gary Stonehouse or Dave Young of my staff.

Sincerely,

JAMES E. WILLIAMS  
Executive Director

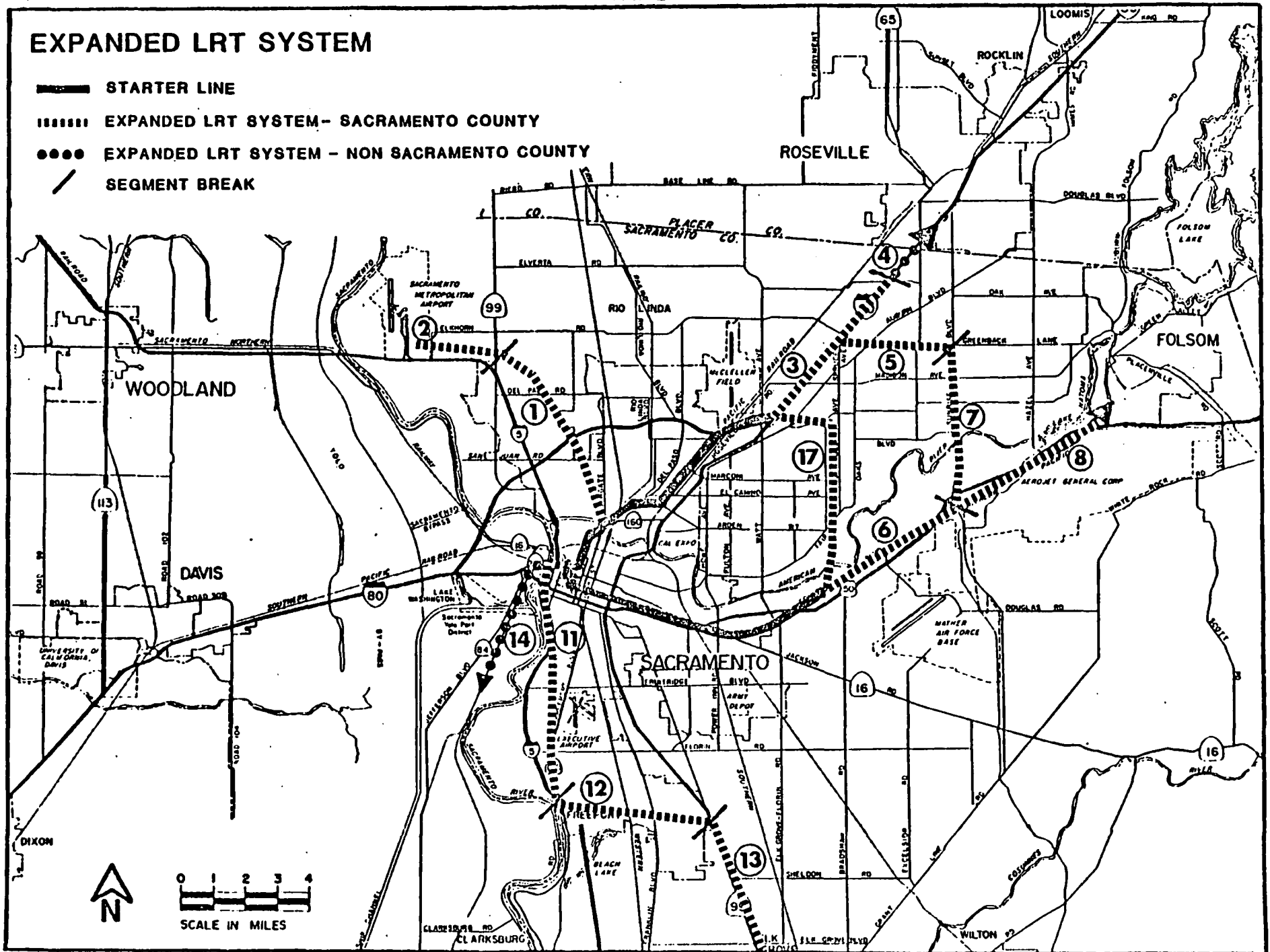
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Enclosure



MAP 2

# EXPANDED LRT SYSTEM

- STARTER LINE**
- EXPANDED LRT SYSTEM - SACRAMENTO COUNTY**
- EXPANDED LRT SYSTEM - NON SACRAMENTO COUNTY**
- SEGMENT BREAK**

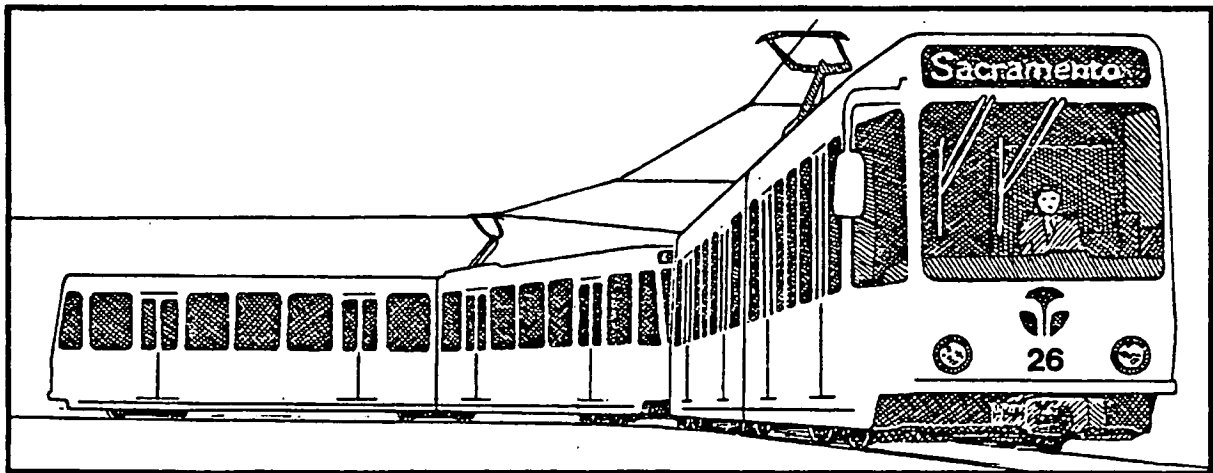








**SACRAMENTO  
TRANSIT DEVELOPMENT  
AGENCY**



**APPENDIX A  
TO  
FINAL ASSESSMENT REPORT NO. 3  
(DESIGN AUDIT AND TECHNICAL SUPPORT)  
(TASK SERIES 100 - PBQD)**



**STDA - SACRAMENTO TRANSIT DEVELOPMENT AGENCY**

**DESIGN AUDIT AND TECHNICAL SUPPORT**

**TASK SERIES 100**

**(DRAFT)**

**January 9, 1985**

**Prepared by:**

**Parsons Brinckerhoff Quade & Douglas, Inc.  
Daniel Mann Johnson & Mendenhall  
Don Todd Associates  
Myra L. Frank & Associates**



## TASK 110



## TASK 110 UPDATE PROJECT CRITERIA:

### I. Scope of Task Work

Review and update the design criteria for the project documenting changes that have occurred since the original issuance in December 1982. Include in the review consideration of the deliverables described in Exhibit 13 of the Preliminary Assessment Report.

### II. Methodology

- A. Identified Consultant staff members expert in the fields of trackwork, architecture, landscaping, structures, civil works, LRT signaling, LRT vehicles, traffic signaling, corrosion control, traction power system, communications, utility relocation and contract administration.
- B. Assembled copies of criteria milestone deliverables 1 through 10, and procurement and construction documents (CUs 1 - 21). Distributed appropriate documents to individual team members.
- C. Team members compared CUs to related Milestone Deliverables in order to identify changes to design criteria. For example, our LRT signaling expert, Mr. Ray Hornbuckle compared the LRT signaling information contained in CU 10 with the criteria as set forth in Milestone Deliverable 4, Chapter 10; and Milestone Deliverable 6a.
- D. Obtained additional background information related to criteria changes from the Project Director and members of his STDA staff.

### III. Summary of Findings and Conclusions

Attached is a List of Criteria Updates for the 10 Milestone Deliverables which constitute the design criteria of the Project. In cases where criteria changes affected the scope or budget of the Project, appropriate entries have been made under Tasks 120 and 130, respectively. Significant deviations from the FEIS are noted under Task 140. Entries under Task 110 are limited to those which reflect specific changes from the criteria as set forth in the Milestone Deliverables. In general, detailed design information set forth in the CUs was not regarded as a criteria change unless it specifically contradicted information set forth in a Milestone Deliverable.

### IV. Appendix

- A. List of Criteria Updates



## LIST OF CRITERIA UPDATES

Milestone Deliverable Number	Description	Documents Attached (See Code)
1A	Management and Control Plan	1
1B	General Provisions and Standards for Contracts	2
2A	Reports on Compatible Land Use and Development Programs	1
2B	Report on Corrosion Control and Protection	2
2D	Utility Relocation	2
3A	Right-of-Way and Track Maps, including special drainage	2
3B	Plans for Major Structures	2
4	Design Criteria dated 12/29/82	
	General Information (Chapter 1)	2
	Vehicle Characteristics (Chapter 2)	2
	Clearance Requirements (Chapter 3)	1
	Trackwork (Chapter 4)	1
	Traction Power (Chapter 5)	1
	Civil Work (Chapter 6)	2
	Structural (Chapter 7)	2
	Station Design (Chapter 8)	1
	Landscaping (Chapter 9)	1
	Signaling (Chapter 10)	1
	Communications (Chapter 11)	2
	Shop and Yard (Chapter 12)	1
5A	Typical LRT Station Platform and Shelter Layouts	2
5B	Major Bus Transfer and Park-and- Ride Station Plans	2
5C	Downtown Transit Mall Plans - K and O Streets	2
6A	Preliminary Plans for Train Protection, Local Supervision and Control, Traffic Coordination and Highway Crossing Protection Signaling	2
6B	Preliminary Plans for Substations Including Recommended Spacing and Typical Layout	1
6C	Preliminary Plans for Traction Power Distribution System	1

### Code

1. Criteria Update Attached
2. Supporting documents in preparation



## LIST OF CRITERIA UPDATES

Milestone Deliverable Number	Description	Documents Attached (See Code)
6D	Request for Technical Proposals for Light Rail Transit Vehicles	2
6E	Preliminary Plans for Other Sub- systems including Communications, Fare Collection, Safety and Fire Protection	2
7	Yard and Shop Layouts (Functional) (needs review, contract awarded)	2
8A	Technical Memorandum on Capital Cost Estimating Methodology	2
8B	Technical Memorandum on Operating and Maintenance Cost Methodology	2
8C	Preliminary Engineering Capital Cost Estimate and Financial Plan for LRT System	2
8D	LRT Project Implementation Schedule (Final)	2
9B	Technical Memorandum on Confir- mation of LRT Operating Plan (Design Criteria Chapter 1, 3; Reports 1 and 1A)	2
9C	Technical Memorandum on Track Fasteners and Configuration Study	2
9C	Technical Memorandum on Operable Segments, including impacts of future extensions	2
9G	Technical Memorandum on Study of Single Versus Double Track Operation and Its Impact	2
9H	Preliminary System Start-up Plan	2
10	The Final Environmental Impact Statement	1

### Code

1. Criteria Update Attached
2. Supporting documents in preparation



## MILESTONE DELIVERABLE NO. 1A

Title: Management and Control Plan dated April 1983

### Summary of Original Milestone:

1. Sets forth general objectives and policy guidelines intended to govern all aspects of the Project including expenditures, scheduling, procurement of services, scope changes, design and construction quality, force account work, cost allocation, documents, record-keeping, reporting, labor relations, insurance risks, right-of-way acquisition, outreach program, change orders, safety, utility agreements, environmental quality, proprietary items, sole source procurement, relocation problems, personnel matters and startup.
2. Also describes project and planned organizational and management structure.
3. Relies on Caltrans handbooks and manuals for specific procedures required to implement policies and achieve objectives.

### Changes:

None

### Methodology:

Compared Milestone '1A' with many recent documents, including, in particular, minutes of Board meetings and bi-weekly reports. Discussed with STDA staff.

### Summary of Milestone as Amended:

No changes.

### Comments:

1. Information in Milestone '1A' is mostly general and has not been updated. Some of the State procedures referred to in "1A" may have been modified.
2. One identified such procedural change involves modification approval authority, while the upper limits for approving modifications are not covered in the milestone. They have changed, and therefore are presented here for information. The record of this item is as follows: According to Management and Control Plan as revised on 11/30/83:
  - (1) Caltrans' Policy 5, referred to in Management and Control Plan, dated Apr. 83, sets STDA Project Director's approval limit at \$50,000 for construction change orders and \$10,000 for procurement contract change orders. (If requested funds exceed those available in the Contract contingency amount, or if a significant scope change is involved, approval of the STDA Governing Board must be obtained.)



- (2) STDA Project Director's approval limit for contract modifications is the lesser of \$10,000 or 15% of the Contract. (If requested funds exceed those available in the Contract contingency amount, the General Manager of the R.T. must also approve.)
- (3) The STDA Project Director states that his approval authority limit is \$20,000.



## MILESTONE DELIVERABLE NO. 2A

**Title:** Reports on Compatible Land Use and Development

**Summary of Original Milestone:** (Compatible Land Use and Development Study, Phase I - dated March 1983)

1. Summary of access condition, current land use and development trends of land near LRT stations.
2. Identification of land uses which would be "supportive of and compatible with" the LRT System.
3. Recommended policies and financing methods designed to encourage appropriate development along the Corridor.

**Changes:**

None

**Methodology:**

- Discussion with STDA staff
- General review of CUs

**Summary of Milestone as Amended:**

No changes

**Comments:**

Phase II was not undertaken



**MILESTONE DELIVERABLE NO. 4, CHAPTER 3**

**Title: Clearance Requirements**

**Summary of Original Milestone:**

1. Clearance requirements
2. Clearance envelope

**Changes:**

None.

**Methodology:**

Compared deliverable with CU17, Light Rail Vehicles.

**Comments:**

Contract and shop drawings will show actual vehicle dimensions and vehicle envelope. These dimensions need only equal or fall within clearance requirements of design criteria.



**MILESTONE DELIVERABLE NO. 4, CHAPTER 4**

**Title:       Trackwork**

**Summary of Original Milestone:**

- 1.     Trackwork**
- 2.     Main line track**
- 3.     Yard track**

**Changes:**

**None.**

**Methodology:**

**Compared deliverable with:**

- CU2 At Grade Line - NE Corridor**
- CU4A At Grade Line - Central City**
- CU5 At Grade Line - Folsom Corridor**

**Comments:**

**Recommend the reference to a 6.23-foot axle spacing be deleted from Figure 4-1 of subject milestone. Contract Units 2 and 5 do not include the required maintenance access points as specified in Section 4.1.16 of the subject milestone.**



**MILESTONE DELIVERABLE NO. 4, CHAPTER 5**

**Title:      Traction Power**

**Summary of Original Milestone:**

- 1.    General requirements**
- 2.    LRT System operations and parameters affecting traction power system**
- 3.    Substations**
- 4.    DC Distribution System**

**Changes:**

**None**

**Methodology:**

**Compared deliverables with**

- CU #19 Substation Procurement Contract dated Nov. '83**
- CU #20 Catenary System/Pole Procurement Contract dated July '84**
- CU #21 Cable/Wire Procurement Contract dated March '84**

**Summary of Milestone as Amended:**

**No changes**

**Comments:**

- 1.    Number of substations reduced from 16 in Preliminary Engineering to 14 in Final Design.**
- 2.    Total Preliminary Engineering Cost Estimate of CUs #19, 20 and #21 is \$13,788,000. Actual Procurement Cost was \$6,089,000.**



**MILESTONE DELIVERABLE NO. 4** Chapter 8: Station Design  
Chapter 9: Landscaping

**Title:** Change No. 1: Codes and Standards

**Summary of Original Criteria:**

Major codes and standards were sited.

**Changes:**

Reviewing agencies having jurisdiction or input not previously identified

- o Modern Transit Society
- o Sacramento Transit Society
- o Independent Living Group
- o Alkali Flat Pac
- o City of Sacramento
- Planning Commission
- Architectural Review Board and Preservation Board
- Public Works Department
- Fire Department
- Redevelopment Agency
- Community Services (Landscape Department)
- o Sacramento Tree Foundation
- o Sacramento Metropolitan Arts Commission
- o Office of the State Architect
- o California Department of General Services
- o Office of Facilities Planning Development
- o Capital Area Development Authority

**Methodology:**

The analysis contained herein, resulted from review and comparison between Milestone No. 4 Design Criteria, Chapters 8 and 9 and drawings available as of 12/12/84. Information was also obtained from reports papers and minutes of meetings. A list of these documents is provided in The appendix to this report. Additional information became available through meetings with STDA staff and STDA consultants.



Summary of Criteria as of 12/12:

At present, the complex interaction of various groups interested in the Northeast Corridor and Central City areas appears to be identified and working. This has set a precedent for the Folsom Corridor area and most issues addressed in the Northeast Corridor are responsive and appropriate for the Folsom Corridor. It is possible that additional local interest groups may come to the forefront as work in this area progresses.

Comment:

Initial understandings or assumptions that the decisions of the STDA would not require review and/or approval by State or local agencies resulted in several cycles of redesign, extensive meetings, cost increases and some delays to the Project.



MILESTONE DELIVERABLE NO. 4 Chapter 8: Station Design  
Chapter 9: Landscaping

Title: Change No. 2: Platform distance from centerline of track (8.2.2.3)

Summary of Original Criteria:

The edge of platform shall be 4'-6" from the centerline of the adjacent track. No requirement for a warning band is mentioned.

Change

The platforms are generally 6'-6" from the edge of track inclusive of a 1'-0" warning band. In addition all areas between side platforms, whether in a street or an exclusive right-of-way, are paved with asphalt; at single track to side platform, the area between the track and the adjacent rail is paved.

Methodology:

The analysis contained herein resulted from review and comparison between Milestone No. 4 Design Criteria, Chapters 8 and 9 and drawings available as of 12/12/84. Information was also obtained from reports, papers and minutes of meetings. A list of these documents is provided in the Appendix to this report. Additional information became available through meetings with STDA staff and STDA consultants.

Summary of Criteria as of 12/12:

Status quo

Comment:

This design concept evolved from concerns about the dynamic movement of the vehicle. The warning stripe serves as the demarcation of the 'safe' platform or sidewalk area versus the LRV right-of-way area. This concept has been reviewed by the PUC and given tacit verbal approval.



MILESTONE DELIVERABLE NO. 4

Chapter 8: Station Design  
Chapter 9: Landscaping

Title: Change No. 3: Platform widths, deletion of platforms

Summary of Original Criteria:

Platform widths as follows: (8.2.2.3)

Terminal	12'-0"	average clear width
Downtown	10'-0"	average clear width
	(8'-0"	if absolutely necessary)
Suburban	10'-0"	average clear width

Side platforms shall be used (8.2.2.1)

Platform shall be 320'-0" in length.

Change:

- o Platforms in the downtown area are the existing sidewalk plus 2'-6" to 7'-6" in width extensions
- o Platforms in the Mall are incorporated into a design for the entire malls at 'K' and 'O' Streets
- o Side platforms are of 4 types:
  - 1.) side designed for future additional side, approximately 12' to 20' wide
  - 2.) primary side plus secondary side, approximately 20' to 30' total width
  - 3.) paired side platforms, approximately 24'-0" wide
  - 4.) two directional side platform, approximately 400'-0" long
- o Variation side platforms also serving busses and kiss-n-ride, approximately to 24'-0" wide.
- o Center platforms
- o Terminal platforms
- o No platform provided at 12th and I (inbound)
- o Asphalt overface, no facilities, lights or E&H access at Roseville.

Methodology:

The analysis contained herein, resulted from review and comparison between Milestone No. 4 Design Criteria, Chapters 8 and 9 and drawings available as of 12/12/84. Information was also obtained from reports papers and minutes of meetings. A list of these documents is provided in the appendix to this report. Additional information became available through meetings with STDA staff and STDA consultants.



Current Status as of 12/12:

Site specific solutions, station areas range between 6,000-9,000 s.f; 20,000 s.f. exclusive of mall areas.

Comment:

Criteria did not specifically take into account the fact that side platforms require double the designated platform amount. Some platforms are extensions of existing sidewalks; some share bus/LRT transfer; some are constrained by unusual site conditions; and some are complicated by relationships to park-w-ride lots and the SP Railroad trackway. Therefore, the stations have greater square footage than might have been expected.

At the 12th and I Station, the design does not provide Elderly and Handicapped access thus the design may not be acceptable to the community or funding sources. In addition, it requires special signals and train control and it may not meet the approval of the PUC or patrons.

The station at Roseville appears to be an emergency stop only. There are no ticket vending machines, lighting, or other patron facilities. This "down treatment" corresponds to the reduction of the associated median parking and other measures taken to reduce overall project cost. However, it may not be acceptable to the community or various agencies.



MILESTONE DELIVERABLE NO. 4 Chapter 8: Station Design  
Chapter 9: Landscaping

Title: Change No. 4: Shelter and Weather Protection

Summary of Original Criteria:

Shelters (8.2.3) providing Weather Protection (8.3.5) and incorporated except at downtown stations, shall be modular, easily expansion, standardized components, etc. Terminal Shelters shall provide a minimum of 1,000 s.f. Cover and windscreens shall be provided at the stair and elevator areas.

Changes:

- o Shelter designs came under review by the Sacramento Architectural Review Board, Neighborhood interest groups and various local agencies. Four typical shelter types evolved.
- o As a result of value-engineering study ( \_\_\_\_\_ ) Watt/1-80 station changed
  - delete windscreen at the stairwell
  - delete landscaping and planter boxes
  - delete elevator enclosures
  - delete station shelters

Methodology:

The analysis contained herein resulted from review and comparison between Milestone No. 4 Design Criteria, Chapters 8 and 9 and drawings available as of 12/12/84. Information was also obtained from reports, papers, and minutes of meetings. A list of these documents is provided in the Appendix to this report. Additional information became available through meetings with STDA staff and STDA consultants.

Comment:

Between October and December 1983, Caltrans reviewed the STDA design for the station areas at the overpass. Caltrans requested that the structure be redesigned to be of more substantial material. The costs associated with this approved request were not identified at that time. The design of the Terminal was ultimately adjusted such that the terminal costs were within the original overall budget.



**MILESTONE DELIVERABLE NO. 4** Chapter 8: Station Design  
Chapter 9: Landscaping

**Title:** Change No. 5: Elevation of platforms to top of rail (8.2.2.4)

**Summary of Original Criteria:**

The elevation of platform and top of rail shall be the same. Platforms do slope away from tracks. No mention of a vertical gap between the top of the platform and the skirt of the LRV is made.

**Change:**

There appears to be at least 3 different platforms to track cross sections

**Methodology:**

The analysis contained herein resulted from review and comparison between Milestone No. 4 Design Criteria, Chapters 8 and 9 and drawings available as of 12/12/84. Information was also obtained from reports, papers, and minutes of meetings. A list of these documents is provided in the Appendix to this report. Additional information became available through meetings with STDA staff and STDA consultants.

**Summary of Status as of 12/12:**

Different cross sections as the status quo.

**Comment:**

Relationships of the following may be problematic

- 1.) Varying vertical rise from grade to LRV
- 2.) Drainage ditch/gutter located between platform and LRV
- 3.) Area suitable for walking is within the dynamic and static envelope of the LRV



MILESTONE DELIVERABLE NO. 4 Chapter 8: Station Design  
Chapter 9: Landscaping

Title: Change No. 6: Standard Materials (8.3.4)

Summary of Original Criteria:

Paving materials included paver tiles, buck pavers, or paving blocks, etc.

Change:

Current bid documents for the Center City establish seven (7) separate bid packages. The base bid packages provides for the construction of all trackwork and base below the surface pavers. Package 1 incorporates the pavees and foundations for the 'K' Street Mall; Package 2 includes planting for the 'K' Street Mall; Package 3 includes the benches, and other station amenities for the 'K' Street Mall; Packages 4, 5, and 6 are for the same items, respectively for the 'O' Street Mall. Other sources of funding are currently being investigated.

Methodology:

The analysis contained herein resulted from review and comparison between Milestone No. 4 Design Criteria, Chapters 8 and 9 and drawings available as of 12/12/84. Information was also obtained from reports, papers, and minutes of meetings. A list of these documents is provided in the Appendix to this report. Additional information became available through meetings with STDA staff and STDA consultants.

Status of Criteria as of 12/12:

Status quo of changes

Comments:

The limits of the pavement work are not specified in the criteria dated 1/82. Therefore, the design of 'K' Street, 'O' Street; North 12th street and along segments of 7th, 8th and 12th streets was assumed as critical to cooperation with the Downtown Merchants, meeting the special needs of these areas, or resulted from negotiations with various jurisdictional agencies or groups. An approved value engineering recommendation suggested removal of the treatment.



MILESTONE DELIVERABLE NO. 4 Chapter 8: Station Design  
Chapter 9: Landscaping

Title: Change No. 7: Coordination with Alkali Flat Guidelines (9.3.4)

Summary of Original Criteria:

Coordination with the Alkali Flat Urban Design Guidelines along 12th Street Corridor between the S.P. underpass and G Street

Changes:

STDA designed the modifications to the east side of 12th Street per the guidelines. The Redevelopment Agency through the local Alkali Flat Pac group agreed to pay \$500,000 for the design and construction of the west side of 12th Street to be compatible with the LRV project. STDA agreed. STDA was approached by the Downtown Merchant's Association to "upgrade" the remaining area along 12th Street to the Mall. Initially, STDA agreed to the \$30,000 program.

Methodology:

The analysis contained herein resulted from review and comparison between Milestone No. 4 Design Criteria, Chapters 8 and 9 and drawings available as of 12/12/84. Information was also obtained from reports, papers, and minutes of meetings. A list of these documents is provided in the Appendix to this report. Additional information became available through meetings with STDA staff and STDA consultants.

Status of Criteria as of 12/12:

The LRV project improvements for alignment and stations will proceed. The design of the west side of 12th Street, funded by the Redevelopment Agency, will proceed. The improvements for the remaining area are not included in the Bid Documents.

Comment:



MILESTONE DELIVERABLE NO. 4 Chapter 8: Station Design  
Chapter 9: Landscaping

Title: Change No. 8: Parking (8.1.3 & 9.3)

Summary of Original Criteria:

Number of spaces shall be according to STDA staff, where possible planting shall be placed among the stalls to further subdivide the areas.

Changes:

- o Parking at Roseville: delete 600 cars
- o Parking at Marconi: deductive alternative of 143 cars
- o Parking at Swanston: deductive alternative of 184 cars
- o Add off-street parking at Del Paso/Globe: 30 cars
- o Add off-street parking at Alkali Flat: 70 cars
- o Add barrier wall and glare screen at Watt/80 parking

Methodology:

The analysis contained herein resulted from review and comparison between Milestone No. 4 Design Criteria, Chapters 8 and 9 and drawings available as of 12/12/84. Information was also obtained from reports, papers, and minutes of meetings. A list of these documents is provided in the Appendix to this report. Additional information became available through meetings with STDA staff and STDA consultants.

Summary of Criteria as of 12/12:

Status quo

Comment:

None



MILESTONE DELIVERABLE NO. 4 Chapter 8: Station Design  
Chapter 9: Landscaping

Title: "O" Street Mall (9.3.3)

Summary of Original Criteria:

'O' Street Mall was to be completely closed to vehicular traffic; maximum coordination with vested interest groups was required to develop aesthetic and functional LRT/pedestrian malls within budget constraints.

Changes:

'O' Street Mall has limited access by vehicular traffic.

Bid Contracts organized to exclude surface finishes, planting and amenities.

Methodology:

The analysis contained herein resulted from review and comparison between Milestone No. 4 Design Criteria, Chapters 8 and 9 and drawings available as of 12/12/84. Information was also obtained from reports, papers, and minutes of meetings. A list of these documents is provided in the Appendix to this report. Additional information became available through meetings with STDA staff and STDA consultants.

Summary of Criteria as of 12/12:

Status quo

Comment:

Approved by all relevant agencies, if other funding cannot be found, deletions may have to be funded by Project.



MILESTONE DELIVERABLE NO. 4 Chapter 8: Station Design  
Chapter 9: Landscaping

Title: Change No. 10: "K" Street Mall

Summary of Original Criteria:

Maximum coordination is required to develop aesthetic and functional LRT/pedestrian malls.

Changes:

- o Trackway alignments generally towards the center of the mall area, such that sidewalks have been extended to allow platforms to be closer to the LRV.
- o Bid documents are organized to exclude surface finishes, planting and amenities.
- o Landscaping is more often potted than planted.
- o Extension of Mall finish at K and 12th to respond to focal point.

Methodology:

The analysis contained herein, resulted from review and comparison between Milestone No. 4 Design Criteria, Chapters 8 and 9 and drawings available as of 12/12/84. Information was also obtained from reports, papers, and minutes of meetings. A list of these documents is provided in the Appendix to this report. Additional information became available through meetings with STDA staff and STDA consultants.

Summary of Criteria as of 12/12:

Status quo

Comments:

Location of underground vaults restricted placement of trackway, therefore platforms had to be extended to meet LRV.

Deletion of mall finishes, planting and amenities may not be acceptable if other funding sources can not be found.

Landscaping in pots is more costly and difficult to irrigate. However, this design was the result of agreements with all agencies particularly the Fire Department and the Public Works Department.

Cathedral Square is an important focal point of the 'K' Street Mall. Location of the LRV alignment offered the opportunity to address the aesthetic needs of this area. At this time, the Bid documents include the design for this area, but the work is not-in-the-contract.



MILESTONE DELIVERABLE NO. 4 Chapter 8: Station Design  
Chapter 9: Landscaping

Title: Change No. 11: Art Program (8.6)

Summary of Original Criteria:

Artworks in various media should be part of the Light Rail System.

Change:

Artwork in the 'K' Street and 'O' Street Malls has been deleted from the project. Other funding sources are being sought.

Methodology:

The analysis contained herein resulted from review and comparison between Milestone No. 4 Design Criteria, Chapters 8 and 9 and drawings available as of 12/12/84. Information was also obtained from reports, papers, and minutes of meetings. A list of these documents is provided in the Appendix to this report. Additional information became available through meetings with STDA staff and STDA consultants.

Summary of Criteria as of 12/12:

Status quo

Comment:

None



MILESTONE DELIVERABLE NO. 4 Chapter 8: Station Design  
Chapter 9: Landscaping

Title: Change No. 12: Landscaping

Summary of Original Criteria:

Landscaping specified for stations and park-n-ride areas required mature trees at perimeters and along major pedestrian walkways and, where possible, groupings of trees in the parking stall areas. Landscaping of the LRT right-of-way to be minimized.

Changes:

- o Landscaping objectives revised to meeting Sacramento City and County shade ordinance.
- o Landscaping is provided on platforms.
- o Landscape provided in right-of-way in some residential areas.

Methodology:

The analysis contained herein resulted from review and comparison between Milestone No. 4 Design Criteria, Chapters 8 and 9 and drawings available as of 12/12/84. Information was also obtained from reports, papers, and minutes of meetings. A list of these documents is provided in the Appendix to this report. Additional information became available through meetings with STDA staff and STDA consultants.

Current Status:

Landscaping subject to 25% reduction. No evidence of City of Sacramento agreement of change.

Comment:

Landscaping on platforms may increase platform sizes to LRV clearance and pedestrian circulation requirements. 'Shade Ordinance' may also be a factor.

Board action on the issue of compliance with City Shade Ordinance is unknown at this time.



MILESTONE DELIVERABLE NO. 4 Chapter 8: Station Design  
Chapter 9: Landscaping

Title: Change No. 13: Irrigation

Summary of Original Criteria:

Plant material shall require minimal or no general maintenance and only limited irrigation.

Methodology:

The analysis contained herein resulted from review and comparison between Milestone No. 4 Design Criteria, Chapters 8 and 9 and drawings available as of 12/12/84. Information was also obtained from reports, papers, and minutes of meetings. A list of these documents is provided in the Appendix to this report. Additional information became available through meetings with STDA staff and STDA consultants.

Current Status:

Irrigation provided

Comments:

Standard practice includes providing for irrigation to protect investment and meet community and project landscape goals. This became even more extensive with the need to meet the "Shade Ordinance"

Coordination with fire department, and planning commission required special irrigation on the Malls.



MILESTONE DELIVERABLE NO. 4 Chapter 8: Station Design  
Chapter 9: Landscaping

Documents Reviewed for Subject Deliverable:

A. Reports

STDA Design Criteria, Chapter 8, Station Design Chapter 9, Landscape	12/29/82
"Facilities Design Team" Work Flow Chart	May 83
STDA "K" St. Mall Design Philosophy" -	Aug 83
Final E.I.S. Appendices	Aug 83
"Proposed Sacramento LRT" System Route Map	Aug 83
Reduced set of 50 dwgs. of station plans and details	8/31/83 (latest)
STDA/CHNMB "12th St. Improvements Design Philosophy"	Oct 83
STDA/CHNMB "O" St. Transit Mall Design Philosophy"	Oct 83
STDA "Station Design Assumptions"	Mar 84
Sacramento L.R. Proj. Northeast Corridor Landscaping Est.	7/2/84
STDA Memo "Minutes of Kick-off Mtg. for Design Audit and Technical Support Effort"	12/8/84
STDA "Progress Statement, Report No. 2"	12/12/84
STDA Memo "Technical Briefing, Northeast Corridor Sta. Design	12/14/84



B. Drawings

CENTRAL CITY

A1.1	TITLE SHEET		7/27/84
A2.1	GLOBE STATION	PLATFORM PLAN - PLATFORM SECTIONS	7/27/84
A2.2	GLOBE STATION	LAYOUT PLAN -PLATFORM SECTIONS	7/27/84
A2.3	ALKALI FLAT STA.	PLATFORM PLAN - PLATFORM SECTIONS	7/27/84
A2.4	ALKALI FLAT STA.	LAYOUT PLAN -PLATFORM SECTIONS	7/27/84
A2.5	12th & I ST. STA.	PLATFORM PLAN - PLATFORM SECTIONS	7/27/84
A2.6	7th ST. STA.	PLATFORM PLAN - PLATFORM SECTIONS	7/27/84
A2.7	8th ST. STA.	PLATFORM PLAN - PLATFORM SECTIONS	7/27/84
A2.8	12th ST. STA.	PLATFORM PLAN - PLATFORM SECTIONS	7/27/84
A2.9	12th ST. STA.	PLATFORM PLAN - PLATFORM SECTIONS	7/27/84
A2.10	16th ST. STA.	LAYOUT PLAN -PLATFORM SECTIONS	7/27/84
A2.11	16th ST. STA.	PLATFORM PLAN - PLATFORM SECTIONS	7/27/84
A3.1	GENERAL SITE DETAILS		7/27/84
A3.2	GENERAL SITE DETAILS		7/27/84
A3.3	GENERAL SITE DETAILS		7/27/84
A3.4	GENERAL SITE DETAILS		7/27/84
A3.5	GENERAL SITE DETAILS		7/27/84
A3.6	GENERAL SITE DETAILS		7/27/84
A3.7	ALKALI FLAT STA., MASONARY WALL ELEVATION, DETAILS		7/27/84
A4.1	PLATFORM SHELTER TYPE 2		7/27/84
A4.2	PLATFORM SHELTER TYPE 2		7/27/84
A4.3	PLATFORM SHELTER TYPE 2		7/27/84
A4.4	PLATFORM SHELTER TYPE 2		7/27/84
A4.5	PLATFORM SHELTER TYPE 2		7/27/84
A5.1	HANDICAPPED/ELDERLY RAMP AND PLATFORM TYPE 4		7/27/84
A5.2	HANDICAPPED/ELDERLY RAMP AND PLATFORM TYPE 4		7/27/84
A5.3	HANDICAPPED/ELDERLY RAMP AND PLATFORM TYPE 5		7/27/84
A5.4	HANDICAPPED/ELDERLY RAMP AND PLATFORM TYPE 3, TYPE 2		7/27/84
A5.5	HANDICAPPED/ELDERLY RAMP AND PLATFORM TYPE 2		7/27/84
A5.6	HANDICAPPED/ELDERLY RAMP AND PLATFORM TYPE 2		7/27/84
A5.7	HANDICAPPED/ELDERLY RAMP AND PLATFORM TYPE 3, TYPE 6		7/27/84
A5.8	HANDICAPPED/ELDERLY RAMP AND PLATFORM TYPE 7		7/27/84
A5.9	HANDICAPPED/ELDERLY RAMP AND PLATFORM DETAILS		7/27/84
A5.10	HANDICAPPED/ELDERLY RAMP AND PLATFORM TYPE 10		7/27/84
A5.11	HANDICAPPED/ELDERLY LIFT AND PLATFORM TYPE 11		7/27/84
A5.12	HANDICAPPED/ELDERLY LIFT AND PLATFORM SECTIONS		7/27/84
A5.13	HANDICAPPED/ELDERLY LIFT AND PLATFORM DETAILS		7/27/84
A6.1	PLATFORM LIGHTING AND BANNER POLE		7/27/84



## NORTHEAST CORRIDOR

A1.1	TITLE SHEET	11/20/84
A2.1	MARCONI/ARCADE STATION, PLATFORM PLAN - PLATFORM SECTIONS	11/20/84
A2.2	MARCONI/ARCADE STATION, LAYOUT PLAN - PLATFORM SECTIONS	11/20/84
A2.3	MARCONI/ARCADE STATION, LAYOUT PLAN - PLATFORM SECTIONS	11/20/84
A2.4	SWANSTON STATION, PLATFORM PLAN - PLATFORM SECTIONS	11/20/84
A2.5	SWANSTON STATION, LAYOUT PLAN - PLATFORM SECTIONS	11/20/84
A2.6	ROYAL OAKS STATION, PLATFORM PLAN - PLATFORM SECTIONS	11/20/84
A2.7	ROYAL OAKS STATION, LAYOUT PLAN - PLATFORM SECTIONS	11/20/84
A2.8	DEL PASO STATION, PLATFORM PLAN - PLATFORM SECTIONS	11/20/84
A2.9	DEL PASO STATION, LAYOUT PLAN - PLATFORM SECTIONS	11/20/84
A3.1	GENERAL SITE DETAILS	11/20/84
A3.2	GENERAL SITE DETAILS	11/20/84
A3.3	GENERAL SITE DETAILS	11/20/84
A3.4	GENERAL SITE DETAILS	11/20/84
A3.5	GENERAL SITE DETAILS	11/20/84
A3.6	GENERAL SITE DETAILS	11/20/84
A5.1	HANDICAPPED/ELDERLY RAMP AND PLATFORM TYPE 1	11/20/84
A5.2	HANDICAPPED/ELDERLY RAMP AND PLATFORM TYPE 1	11/20/84
A5.3	HANDICAPPED/ELDERLY RAMP AND PLATFORM TYPE 1	11/20/84
A5.4	HANDICAPPED/ELDERLY RAMP AND PLATFORM TYPE 2, TYPE 3	11/20/84
A5.5	HANDICAPPED/ELDERLY RAMP AND PLATFORM TYPE 2	11/20/84
A5.6	HANDICAPPED/ELDERLY RAMP AND PLATFORM TYPE 2	11/20/84
A5.7	HANDICAPPED/ELDERLY RAMP AND PLATFORM TYPE 3,	11/20/84
A5.8	HANDICAPPED/ELDERLY RAMP AND PLATFORM DETAILS	11/20/84
A6.1	PLATFORM LIGHTING AND BANNER POLES	11/20/84
A7.1	OPERATORS TOILET	11/20/84
A7.2	OPERATORS TOILET	11/20/84
A7.3	OPERATORS TOILET	11/20/84

## ARDEN WAY/S.P. R-O-W STATIONS

-	MAP SHEET	N.D.
S-1	SWANSTON STATION STRIPING PLAN	N.D.
S-2	MARCONI/ARCADE SIGN AND STRIPING PLAN	N.D.
S-3	MARCONI/ARCADE SIGN AND STRIPING PLAN	N.D.
S-4	SWANSTON STATION STRIPING PLAN, CITY STREETS	N.D.
S-5	SWANSTON STATION STRIPING PLAN, CITY STREETS	N.D.
S-6	MISC. QUANTITIES AND PROJECT SIGN DETAILS	N.D.



## LANDSCAPING/NORTHEAST CORRIDOR

-	PLANT LIST AND PLANT SPECIFICATIONS	N.D.
-	PLANT LIST AND PLANT SPECIFICATIONS	N.D.
-	PLANTING QUANTITIES	N.D.
-	PLANTING QUANTITIES	N.D.
P-1	PLANTING PLAN, ARDEN/DEL PASO STATION	N.D.
P-2	PLANTING PLAN, ROYAL OAKS STATION AND EVERGREEN ST.	N.D.
P-3	PLANTING PLAN, SWANSTON STATION	N.D.
P-4	PLANTING PLAN, SWANSTON STATION	N.D.
P-5	PLANTING PLAN, SWANSTON STATION	N.D.
P-6	PLANTING PLAN, MARCONI/ARCADE STATION	N.D.
P-7	PLANTING PLAN, MARCONI/ARCADE STATION	N.D.
P-8	PLANTING PLAN, MARCONI/ARCADE STATION	N.D.
P-9	PLANTING PLAN, MARCONI/ARCADE STATION	N.D.
-	IRRIGATION LEGEND AND NOTES, SPRINKLER SCHEDULE	N.D.
I-1	IRRIGATION PLAN, ARDEN/DEL PASO STATION	N.D.
I-1a	IRRIGATION PLAN, ARDEN WAY	N.D.
I-1b	IRRIGATION PLAN, ARDEN WAY	N.D.
I-2	IRRIGATION PLAN, ROYAL OAKS STATION AND EVERGREEN ST.	N.D.
I-3	IRRIGATION PLAN, SWANSTON STATION	N.D.
I-4	IRRIGATION PLAN, SWANSTON STATION	N.D.
I-5	IRRIGATION PLAN, SWANSTON STATION	N.D.
I-6	IRRIGATION PLAN, MARCONI/ARCADE STATION	N.D.
I-7	IRRIGATION PLAN, MARCONI/ARCADE STATION	N.D.
I-8	IRRIGATION PLAN, MARCONI/ARCADE STATION	N.D.
I-9	IRRIGATION PLAN, MARCONI/ARCADE STATION	N.D.
-	IRRIGATION QUANTITIES	N.D.
-	IRRIGATION QUANTITIES	N.D.
-	PLANTING DETAILS	
-	IRRIGATION DETAILS	N.D.
-	IRRIGATION DETAILS	N.D.
-	IRRIGATION DETAILS	N.D.
-	IRRIGATION DETAILS	N.D.
-	E.A.C. INSTALLATION	N.D.



MILESTONE DELIVERABLE NO. 4, CHAPTER 10: SIGNALING

Title: Change No. 1: Power Supply for Signal System

Summary of Original Criteria:

A standby power supply design is not required. The system will provide an exterior power-off indication at signal locations.

Changes:

The highway crossing protection systems will be powered directly by batteries to avoid power surges during operation. The battery chargers will draw power from the main power supply and trickle charge the battery as required.

Methodology:

Review of Chapter 10, "Design Criteria" dated December 29, 1982; Signal System Preliminary Design, by L.K. Comstock Engineering Co., dated January 28, 1983; and Contract No. 84-10, "Wayside Signaling and Grade Crossing Systems".

Comments:

None.



## MILESTONE DELIVERABLE NO. 4, CHAPTER 10: SIGNALING

Title: Change No. 2: Location of Highway Crossing Protection

### Summary of Original Criteria:

The signal subsystems shall provide flashing lights, bells, and gates for highway protection at highway crossings where the right-of-way is fenced between grade crossings and the maximum permitted speed is 45 mph or more. (Watt/I-80 to Swanston; and Stockton Blvd. to Butterfield Way)

### Changes:

The design includes six (6) additional gate-protected crossings where the maximum permitted speed is less than 45 mph. There are: 12th-16th St. connector, 29th St., Evergreen St., 15th St., 16th St., and Alhambra St.

### Methodology:

Review of Chapter 10, "Design Criteria" dated December 29, 1982 and Contract No. 84-10, "Wayside Signaling and Grade Crossing Systems".

### Comments:

None.



MILESTONE DELIVERABLE NO. 4, CHAPTER 10: SIGNALING

Title: Change No. 3: Re-Use of Existing Signal Equipment

Summary of Original Criteria:

All equipment shall be new or in new condition.

Changes:

Where existing crossing gate mechanisms are to be replaced, the Contractor will be allowed to re-use existing gate mast and foundation with the approval of STDA. The Contractor shall also re-use the existing cantilever signal located at Manlove and the two existing cantilever signals located at 65th Street.

Methodology:

Review of Chapter 10, "Design Criteria" dated December 29, 1982 and Contract No. 84-10, "Wayside Signaling and Grade Crossing Systems".

Comments:

None.



## MILESTONE DELIVERABLE NO. 4, CHAPTER 10: SIGNALING

Title: Change No. 4: Traffic Signal Preemption on Transit Malls

### Summary of Original Criteria:

On transit malls, the provision of Section 10.5.1 shall apply, except that maximum permitted LRT speed shall not exceed 10 mph.

Section 10.5.1 reads "The signal subsystem shall provide preemptive control of traffic signals where the maximum permitted LRT speed does not exceed parallel traffic except that maximum permitted LRT speed in this case shall not exceed 35 mph.

### Changes:

The FEIS states that the maximum permitted LRT speed on the O Street Mall is 25 mph. Para. 10.5.2 of the Design Criteria should be reviewed as to apply only to the K Street Mall.

### Methodology:

Review of Chapter 10. "Design Criteria", dated December 29, 1982 and FEIS dated August 1983.

### Comments:

None.



MILESTONE DELIVERABLE NO. 4, CHAPTER 12

Title: Shop and Yard

Summary of Original Milestone:

1. Shop and yard
2. Design codes and standards
3. General maintenance philosophy
4. Major repair
5. Inspection, preventive maintenance and general service repairs
6. Vehicle cleaning
7. Activities and areas of responsibility
8. Yard
9. Shop
10. Machinery and equipment

Changes:

None.

Methodology:

Compared deliverable with CU3 Maintenance Building

Comments:

Section 12.8.1 of subject milestone requires a six-work position (3 service days with 2 work positions each) service capability. CU3 shows an eight work position layout, although the drawings indicate that the fourth service bay is a "deductive option".



## MILESTONE DELIVERABLE NO. 6B

Title: Request for Technical Proposal for LRT Vehicle

### Summary of Original Milestone:

The RFTP specifies intent to procure six axle articulated vehicles with a proven performance history. The document then specifies in detail the general system requirements (performance requirements) which the vehicle must meet.

### Methodology:

Review of Request for Technical Proposal (RFTP) by knowledgeable manager of systems engineering.

### Comments:

#### 2.3 Traction Voltage:

- o Substation supply frequency should be maintained (60 Hz or 50 Hz).
- o Substation rectified dc supply should be monitored from how many pulses are derived (ex. 12 pulse).

#### 2.4 Track and Wayside Limitations: In addition to existing provisions the following is recommended:

- o Minimum simultaneous lateral and vertical curve lateral 82 feet vertical 2000 feet (attached diagram).
- o Maximum grade 7% for 400 feet.

### Section 13 - Vehicle Communications:

1. Should be completed with provisions in support of communication equipment such as:
  - o low voltage dc power supply and power wiring for the radio (detailed)
  - o audio trainline (detailed)
  - o transfer switch for selection and activation of the appropriate radio control unit



2. Interior and exterior accessories:

- o passenger station stop request signaling system
- o \_\_\_\_ system for the \_\_\_\_ of the car, and side signs exterior and exterior
- o run number sign
- o special provisions for elderly and handicapped persons
- o interior and exterior mirrors for operator's cab
- o warning devices, horn \_\_\_\_ gong type
- o street alarm switch in connection with the communication equipment (two-way radio equipment)

Section 16 - Inspection and Testing: Should be completed with:

- o traction gear unit qualification test including 100 hours test on one gear unit with load simulation (dynamic braking)
- o motor-generator/alternator qualification test
- o couplers and draft gear qualification tests.

Component Acceptance Tests for All Units: Should be included for the following: traction motor, traction gear, motor generator detenator, couplers and draft gear.



**MILESTONE DELIVERABLE NO. 6B AND 6C**

**Title: Preliminary Plans for Substations and Traction Power Distribution System dated April '83**

**Summary of Original Milestone:**

- 1. System voltage**
- 2. Catenary type**
- 3. Pole type**
- 4. Conductor type**
- 5. Substation description**
- 6. Section break description**
- 7. Grounding technique**

**Changes:**

**None**

**Methodology:**

**Compared deliverables 6b and 6c with:**

- CU #19 Substation Procurement Contract dated Nov. '83**
- CU #20 Catenary System/Pole Procurement Contract dated July '84**
- CU #21 Cable/Wire Procurement Contract dated March '84**

**Summary of Milestone as Amended:**

**No changes**

**Comments:**

- 1. Number of substations reduced from 16 in Preliminary Engineering to 14 in Final Design.**
- 2. Total Preliminary Engineering Cost Estimate of CUs #19, 20 and #21 is \$13,788,000. Actual Procurement Cost was \$6,089,000.**



## MILESTONE DELIVERABLE NO. 10

Title: Final Environmental Impact Statement

### Summary of Original Milestone:

Address environmental issues in standard format required by Federal and State regulations, as of 6/83.

### Changes:

Seven systemwide changes, eleven changes affecting the Northeast and Central City Corridor and two changes affecting the Folsom Corridor have been identified. See Preliminary Report on Environmental Implications of Project Changes, December 20, 1984, by Myra L. Frank & Associates.

### Methodology:

The changes were evaluated against the FEIS and government regulations. Only two were identified as being significant enough to necessitate consideration of further environmental documentation and clearance. There are the addition of some double track section and the potential for stopped four-car trains (peak periods) to block cross streets at 8th St., 9th St., 13th St., and 24th St. Discussion with STDA staff revealed that design changes were already in process to mitigate the problem of stopped trains blocking cross streets.

### Summary of Milestone as Amended:

Additional study and documentation appear warranted.



**TASK 120**



## TASK 120 UPDATE PROJECT SCOPE DEFINITION:

### I. Scope of Task Work

"Review and update the project scope definition for the 32 contract units. Document for each contract unit the evolution of its scope since the final Environmental Impact Statement."

### II. Methodology

- A. Reviewed documents related to original scope of project such as the FEIS, Federal Grant Application (CA-23-9001), and engineer's preliminary estimate dated June 30, 1983.
- B. Reviewed contract procurement and construction documents (CU's 1-21) and compared them with the original scope documents.
- C. Reviewed bi-weekly reports, assessment reports, current baseline budget, findings of Tasks 110, 130 and 140, and identified additional scope items when appropriate.
- D. Reviewed agenda, minutes, resolutions and memoranda related to meetings of the Governing Board between December 1982 and December 1984.
- E. Interviewed the STDA Project Director and members of his staff; obtained additional background information and to verify changes identified from research when appropriate.

### III. Summary of Findings and Conclusions

- A. Following is a summary of contract unit (CU) changes which reflect Project scope changes. A Project scope change is defined as a change which results in:
  - o An overall Project budget change,
  - o A critical path schedule change, or
  - o A significant departure from the FEIS.

Excluded from Project Scope Changes are items which reflect transfers of work between CU's but do not affect the overall project budget (transfer items are shown in the individual "Record of Changes to Contract Units" forms - see Attachment A of Task 120).

- B. CU changes which did not result in Project scope changes are listed in the individual CU Updates (*Attachment A*).

### IV. List of Attachments

- A. Record of Change and CU Update
- B. Supporting Documents
- C. Budget Discrepancies



# LIST OF CONTRACT UNITS AND ATTACHED DOCUMENTS

CU	Description	Documents Attached (See Code)
1	No. Sac Grade Separation	2
1A	No. Sac SPRR Relocation	2
2	At Grade Line NE Corridor	2,3
2A	Watt/80 Median	2
3	Maintenance Building	2,3
4	Mall Demolition	2
4A	At Grade Line-Central City	2,3
4B/C	Tree Procurement-K St	2
4D	Central City Parking Lots	2
5	At Grade Line-Folsom	2
6	At Grade Station-Watt/80	2,3
7	At Grade Station-NE	2,3
7A	At Grade Stations-Folsom	2
7B	Tree Procurement-Folsom	2
7C	Art Program	2
7D	Station Graphics	2
7E	Station Shelters	2
8	Yard Grading	2
8A	Temp Fencing-Yard Storage	2
9	Electrification	2
10	LRT Signaling	2
11	Traffic Signals	2
12	Communications - Radio Proc.	2
14A	Rail Procurement	2
14B	Other Track Mat'l Proc.	2
15	Tie Procurement	2
16	Spec Trackwork Proc.	2
17	Light Rail Vehicles	2
18A	Fare Vending Equip Proc.	2
18B	Major Shop Equip Proc.	2
19	Substation Proc.	2
20	Catenary System/Pole Proc.	2
21	Cable/Wire Proc.	2
40	Management and Engineering	
45	SRTD Mgmt/System Start up	
50	Risk Management	
60	R-O-W Acquisition	
70	Utility Relocation	
98	Construction Contingency	
99	General Contingency	

## Code

1. Updated Project Scope Definitions.
2. Record of Changes and Updated Project Scope Definitions.
3. Supporting Documents.



# PROJECT SCOPE CHANGES

CU	Description	Description Project Scope Change	Effect On Project Budget	Comment
1	No. Sac Grade Separation	None	None	None
1A	No. Sac SPRR Relocation	None	None	None
2	At Grade Line-NE Corridor	Bid above EE	+\$40,000	Budget change okayed on 10/10/84.
2A	Watt/80 Median	Additional landscaping/drainage features	+\$2,590,000	Budget change okayed in 4/84.
		Deleted station features	-\$1,640,000	Budget change okayed on 10/10/84.
3	Maintenance Building	Bid above EE	+\$1,101,000	Budget change okayed in 4/84.
4	Mall Demolition			
4A	At Grade Line-Central City	City and State req'd enhancements to K&O St. malls	+\$3,624,000	Budget change okayed in 8/84.
		Deleted amenities from K&O St. malls	-\$1,415,000	Budget change okayed on 10/10/84.
4B/C	Tree Proc. - K St.	None	None	None
4D	Central City Parking Lots	None	None	None
5	At Grade Line-Folsom	None	None	None
6	At Grade Station-Watt/80	Added median barrier	+\$150,000	Budget change okayed in 4/84.
		Reduced costs of station features	-\$677,000	Budget change okayed on 10/10/84.
7	At Grade Station-NE	Reduced number of parking spaces and costs of station features	-\$695,000	Budget change okayed on 10/10/84.
7A	At Grade Station-Folsom	None	None	None



**PROJECT SCOPE CHANGES (Continued)**

<b>CU</b>	<b>Description</b>	<b>Description Project Scope Change</b>	<b>Effect On Project Budget</b>	<b>Comment</b>
7B	Tree Procurement-Folsom	Bid below EE	-\$45,000	Contract Awarded by Board on 11/15/83.
7C	Art Program	Deferred art work.	-\$338,000	Budget change okayed on 10/31/84.
7D	Station Graphics	None	None	None
7E	Station Shelters	None	None	None
8	Yard Grading	Added cost of force account work	+\$19,000	Budget change okayed in 10/84.
		Reduced earthwork	-\$6,000	Budget change okayed in 8/84.
8A	Temp Fencing - Yard Storage	None	None	None
9	Electrification	Bid above EE	+\$804,000	Budget change okayed in 10/84.
10	LRT Signaling	Bid below EE	-\$1,348,000	Budget change okayed in 10/84.
11	Traffic Signals	None	None	None
12	Communications - Radio Proc.	None	None	None
14A	Rail Procurement	Bid below EE	-\$9,000	Budget change okayed in 4/84.
14B	Other Track Mat'l Proc.	None	None	None
15	Tie Procurement	Bid above EE	+\$8,000	Budget change okayed in 4/84.
16	Spec Trackwork Proc.	Bid above EE	+\$41,000	Budget change okayed in 10/84.
17	Light Rail Vehicles	Bid below EE	-\$2,018,000	Budget change okayed in 4/84.
18A	Fare Vending Equip Proc.	None	None	None
18B	Major Shop Equip Proc.	None	None	None
18C	Line Maint Equip Proc.	None	None	None



**PROJECT SCOPE CHANGES (Continued)**

<b>CU</b>	<b>Description</b>	<b>Description Project Scope Change</b>	<b>Effect On Project Budget</b>	<b>Comment</b>
19	Substation Procurement	Bid below EE	-\$677,000	Budget change okayed in 4/84.
20	Catenary System/Pole Proc	Bid below EE	-\$399,000	Budget change okayed in 10/84.
21	Cable/Wire Procurement	Bid below EE	-\$712,000	Budget change okayed in 10/84.
40	Management and Engineering			Under investigation.
45	SRTD Mgmt/System Start up			Under investigation.
50	Risk Management			Under investigation.
60	R-O-W Acquisition			Under investigation.
70	Utility Relocation			Under investigation.
98	Construction Contingency			Under investigation.
99	General Contingency			Under investigation.



**ATTACHMENT A**



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

### Contract Unit No. 1

Title: North Sacramento Grade Separation Structures

Summary of Original Scope: This contract includes the grade separation structures, approaches, traffic signals, any necessary utility relocation and any necessary railroad work including structure removal at El Camino for Marconi/Arcade, El Camino and Arden Way.

Changes: Southern Pacific Railroad relocation work was separated out into a separate contract unit (No. 1A), but in October ~~1977~~ Contract Unit 1A was recombined into CU1.

Methodology: Discussions with STDA staff and budget analyses.

Evaluation and Comments: No comment.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS			PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES				CUI NORTH SACRAMENTO GRADE SEPARATION STRUCTURES	
			Date: Dec. 12, 1984					
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/83	Separated SP RR Force Account work to form CUIA	Budget procedure.	Executive Director	-386	6/83	0	0	N
6/30/83				6,284 <u>1/</u>				
10/84	Recombined SP RR Force Account with Grade Separation, CUI Budget	Budget procedure.	Executive Director	+386	10/84	0	0	N
1/85	Increased costs.	Construction contingency and change order.	Board	1286	10/84	0	0	N
1/85				6,956 <u>6/</u>				
<u>1/</u> Contract budget, 6/30/83 <u>6/</u> Audit team estimate (column 6 in cost comparison of Task 130).								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

### Contract Unit No. 1A

Title: North Sacramento SPRR Relocation

Summary of Original Scope: This contract includes the relocation of portions of SPRR track associated with the grade separation structures at Marconi/Arcade, El Camino, and Arden Way.

Changes: This contract was folded back into Contract Unit 1 in October 1984. CUIA no longer exists.

Methodology: Discussions with STDA staff and budget analyses.

Evaluation and Comments: Track relocation to be performed by Southern Pacific by force account. Track relocation work is directly associated with grade separation structures, and therefore an integral part of CUI.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS			PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES				CUIA NORTH SACRAMENTO SPRR RELOCATION	
			Date: Dec. 12, 1984					
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/83	Created CUIA from a portion of CUI.	Budget Procedure	Executive Director	+386	6/83	0	0	N
6/30/83				386 <u>1/</u>				
10/84	Recombined CUIA with CUI.	Budget Procedure	Executive Director	-386	10/84	0	0	N
12/12/84				0 <u>2/</u>				
1/85				0 <u>6/</u>				
<u>1/</u> Contract budget, 6/30/83 <u>2/</u> Contract budget (w/o contingency), 12/12/84 <u>6/</u> Audit team estimate (column 6 in cost comparison of Task 130).								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

### Contract Unit No. 2

Title: At Grade Line - Northeast Corridor

Summary of Original Scope: This construction contract includes grading, drainage, the Arcade Creek structure, and site preparation for the storage yard in the Northeast Corridor, installation of track, ties, ballast and special trackwork. Work also includes conduit installation and foundations for signals and overhead catenary system. Contract limits will begin at the east side of Del Paso Boulevard at Arden Way and terminate at the southwest end of Grand Avenue OH structure including grading for approach road from the Winters Street, Grand Avenue intersection. All trackwork to the end of the line at Watt/I-80 will be included in this contract.

Changes: Watt/Interstate 80 median work was separated out into a separate contract unit (CU2A). Track on bridges, a car washer, grading, drainage of the maintenance yard, and welding of rail were added to this CU.

Methodology: Discussions with STDA staff and budget analyses.

Evaluation and Comments: Transfer of \$800,000 from CU2 to CU2A for median work was insufficient to cover CU2A project costs.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS			PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES			CU2 AT GRADE LINE - NORTHEAST CORRIDOR		
			Date: Dec. 12, 1984					
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/83	Transferred work in Interstate Freeway Median to CU2A.	Different type work for 1 1/2 miles in I-80 median.	Project Director	-800	6/83	0	0	N
6/30/83				2,980 <u>1/</u>				
4/84	Transferred work from other contracts:		Project Director		4/84	0	0	N
	o track on bridge	o Transfer from CU3.		+100				
	o car washer	o Transfer from CUI8B.		+134				
	o grading and drainage for maintenance yard	o Transfer yard grading from CU3.		+410				
	o welding rail	o Transfer of funds from CUI4A.		+300				
8/84	Increase in cost	Bld over previous budget.	Advertisement approved by Board on 4/11/84.	+40	10/84	Reduced "General Contingency" (CU99) by \$40	0	N
12/12/84				3,964 <u>2/</u>				
1/85				+23 <u>4/</u>				
1/85				3,987 <u>6/</u>				
<u>1/</u> Contract budget, 6/30/83 <u>2/</u> Contract budget (w/o contingency), 12/12/84 <u>4/</u> Potential change order and/or claim. <u>6/</u> Audit team estimate (column 6 in cost comparison of Task 130).								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

### Contract Unit No. 2A

Title: Watt Avenue/Interstate 80 Median

Summary of Original Scope: This contract includes barriers to separate the work area and the freeway traffic, cutting and removing existing concrete pavement, grading, drainage, paving, curbs, platforms and related work, lighting, signing and landscaping.

Changes: Funds from CU6 and CU7 were shifted into CU2A in order to incorporate parking. Additional landscaping, irrigation and drainage was added per City Planning Department requirements. Fencing and landscaping were added to Grand Avenue Overhead per State and Federal requirements. Station graphics and shelters were shifted to CU7D and CU7E, respectively. Reductions were made to facilities associated with Winter Street and Watt/80 West Station.

Methodology: Discussions with STDA staff, budget analyses, and review board minutes.

Evaluation and Comments: Several items, i.e. shelters, graphics, parking, have been shifted into and from this contract unit. Scope change occurred with addition of fencing and landscaping to Grand Avenue Overhead. CU costs have increased \$2.59 million after a re-estimate was performed. Stricter adherence to City landscaping requirements have increased estimated costs associated with the irrigation and drainage of landscaped areas in the proposed parking lots.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS			PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES				CU2A WATT AVENUE/ I-80 MEDIAN	
			Date: Dec. 12, 1984					
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/83	Transfer work in Interstate Freeway median from CU2.	Different type work for 1½ miles on I-80 median.	Project Director	+800	6/83	0	0	N
6/30/83				800 1/				
10/27/83	Added parking.	Transferred from CU6 and 7 to achieve construction efficiency in I-80 median.	Project Director	+998 (CU6) +871 (CU7)	4/84	0	0	N
4/84	Add additional landscaping, irrigation and drainage to parking areas.	Required by City Planning Dept.	Project Director	+2,590	4/84	Reduced "General Contingency" (CU99) by 2,590	0	N
4/84	Added fencing and landscaping to Grand Avenue overhead.	State and Federal requirement.	Caltrans	(300 included in 2,590 above)	4/84	Included in 2,590 above.	0	N
8/30/84	Transferred Shelters to CU7E.	Similar work.	Board 10/10/84	-22 (-42)		0	0	N
8/31/84	Transferred Station Graphics to CU7D.	Single contract for uniform graphics.	Board	-20	10/84	0	0	N
10/5/84	Reduced parking, landscaping and shelters.	Cost saving measures.	Board 10/10/84	-1,640 (INCLUDES -20 OF THE -42 SHOWN ABOVE)	10/10/84	Returned to "General Contingency" (CU99). See Attachment B, Exhibit I.	0	Minor - See Task 140.
1/85				+652.056 3/				
1/85				4,221.056 6/				
1/ Contract budget, 6/30/83 3/ Audit team adjustment. Audit team made separate construction cost estimates for CU's 2, 4A, 5, 6, 7E and 7A. In these cases an adjustment figure was used to match the estimate as developed in Task No. 130. 6/ Audit team estimate (column 6 in cost comparison of Task 130).								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

### Contract Unit No. 3

Title: Maintenance Building

Summary of Original Scope: This construction contract is for the maintenance and operations building including paving, lighting, fencing, utilities and other related work. Work will include building electrification, and appropriate anchors and provisions for future maintenance equipment installation and DC power conduit.

Changes: Yard grading was transferred to CU2. Built-in shop equipment was added to this contract from CU18B.

Methodology: Discussions with STDA staff and budget analyses.

Evaluation and Comments: Re-estimate of building in April 1984 indicates a potential cost increase of \$1.101 million.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS			PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES				CU3 MAINTENANCE BUILDING	
			Date: <u>Dec. 12, 1984</u>					
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/30/83				2,618 <u>1/</u>				
6/83	Shop equipment included in building. Transferred from CU18B.	Construction efficiency for built-in equipment.	Project Director	+518	6/83	0	0	N
4/84	Transferred Yard Grading to CU2.	Combine with grading contract.	Project Director	-410	4/84	0	0	N
4/84	Cost increase.	Low bid exceeded approved Project Budget.	Transfer approved by Board on 5/16/84.	+1,101	4/84	Reduced "General Contingency" (CU99) by -1,101. See Attachment B, Exhibit 2.	0	N
12/12/84				3,827 <u>2/</u>				
1/85				+55.8 <u>4/</u>				
1/85				3,882.8 <u>6/</u>				
<u>1/</u> Contract budget, 6/30/83 <u>2/</u> Contract budget (w/o contingency), 12/12/84 <u>4/</u> Potential change order and/or claim. <u>6/</u> Audit team estimate (column 6 in cost comparison of Task 130).								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

Contract Unit No. 4

Title: Mall Demolition

Summary of Original Scope: This contract consists of demolition of existing structures on the "K" Street Mall.

Changes: No scope changes since August 1983.

Methodology: Discussions with STDA staff and budget analyses.

Evaluation and Comments: Contract redefined to include only demolition of K Street Mall. Remaining work and budget funds shifted to CU4A and CU5.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS			PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES			CU4 MALL DEMOLITION		
			Date: Dec. 12, 1984					
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/30/83				8,748 <u>1/</u>				
7/83	Contract redefined. Major work shifted to CU4A and CU5.	Different kind of work and improvement to scheduling.	Board	-8,248	4/84	0	0	N
10/84	Reduced cost.	Bid under estimate.	Board	-157	10/84	0	0	N
12/12/84				343 <u>2/</u>				
1/85				15.8 <u>4/</u>				
1/85				357.8 <u>6/</u>				
<u>1/</u> Contract budget, 6/30/83 <u>2/</u> Contract budget (w/o contingency) 12/12/84 <u>4/</u> Potential change order and/or claim. <u>6/</u> Audit team estimate (column 6 in cost comparison of Task 130).								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

### Contract Unit No. 4A

Title: At Grade Line - Central City

Summary of Original Scope: This construction contract will include station stops, grading, drainage, structures and trackwork for the Central City segment and reconstruction of the K Street Mall. Contract limits will extend from the Arden Way/Del Paso Boulevard intersection southwesterly through the Central City and easterly along "R" Street to 18th Street. Work will include on-site preparation, trackwork and necessary conduit and foundation work for signals and electrification.

Changes: Art program, station graphics, and station shelters were transferred to CU7C, CU7D and CU7E, respectively. Major enhancements were added to "K" Street and "O" Street per State and City requests. Reductions were made to paving, planters, benches, landscaping and station amenities for both the "K" and "O" Street Malls.

Methodology: Discussions with STDA staff, budget analyses, and review of board minutes.

Evaluation and Comments: Features associated with the arts program and station graphics and shelters were shifted to individual contract units. Cost increases (\$3.624 million) has occurred as a result of major mall enhancements. Subsequent cost saving measures have reduced budget by \$1.415 million.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS...			PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES				CU4A AT GRADE LINE - CENTRAL CITY	
			Date: Dec. 12, 1984					
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/30/83				0 1/				
7/83	CU4A created from a portion of CU4.	Improved scheduling.	Board	+6,000	4/84	0	0	N
4/84	Transfer of Art Program to CU7C.	Combine all Art Work for administration by Arts Commission.	Board	-326	4/84	0	0	N
4/84	Transfer of Parking Lots to CU4D.	Building parking lots prior to removing on-street parking.	Board	-150	4/84	0	0	N
6/84	Cost increase.	Re-estimate based on final design and major enhancements on K St. and O St. Malls.	Board	+3,624	8/84	Reduced "General Contingency" (CU99) by -3,624	0	Not specified but is an improvement.
8/31/84	Transferred Station Graphics to CU7D.	Single contract for Station Graphics CU7D.	Board	-40	10/84	0	0	N
8/31/84	Shifted Shelter to CU7E.	Similar work.	Board 10/10/84	-18 (-102)	10/84	0	0	N
9/84	Reduced cost.	Cost saving measures.	Board 10/10/84	-1,415 (INCLUDES -84 OF -102 SHOWN ABOVE)	10/5/84	Increased "General Contingency" (CU99) by +1,415. See Attachment B, Exhibit 3.	0	Minor - See Task 140.
11/1/84	Recombined CU4D.	Delay in CU4D work negated justification of contract split.	Board 11/7/84	+150	12/84	0	0	N
1/85				+1,160.312 3/				
1/85				8,185.312 6/				
1/ Contract budget, 6/30/83 3/ Audit team adjustment. Audit team made separate construction cost estimates for CUs 2, 4A, 5, 6, 7E and 7A. In these cases an adjustment figure was used to match the estimate as developed in Task No. 130. 6/ Audit team estimate (column 6 in cost comparison of Task 130).								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

Contract Unit No. 4B/4C

Title: Tree Procurement - K Street Mall

Summary of Original Scope: CU4B/4C was created after August 1983 and was part of CU4A at the time of grant funding. This contract unit now provides for the procurement of approximately 180 Sycamore, Red Oak and Red Maple trees for the K Street Mall landscaping.

Changes: No changes have occurred to scope since CU4B/4C was shifted from CU4A.

Methodology: Discussions with STDA staff and budget analyses.

Evaluation and Comments: No comment.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS				PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES			CU4B/4C TREE PROCUREMENT - K STREET MALL	
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/30/83	Transfer of funds from CU4.	Different kind of work.	Project Director	0 <u>1</u> /	Awarded 11/15/83	0	0	N
7/83				32 <u>1</u> /				
12/12/84				32 <u>2</u> /				
1/85				32 <u>6</u> /				
<u>1</u> / Contract budget, 6/30/83								
<u>2</u> / Contract budget (w/o contingency), 12/12/84								
<u>6</u> / Audit team estimate (column 6 in cost comparison of Task 130).								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

### Contract Unit No. 4D

Title: Central City Parking Lots

Summary of Original Scope: CU4D was created after August 1983 and was part of CU4A at the time of grant funding. This contract unit (parking lots) since its creation has been reincorporated back into CU4A.

Changes: None - CU4D is now closed and the work has become part of CU4A.

Methodology: Discussions with STDA staff and budget analysis.

Evaluation and Comments: None.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS			PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES				CU4D CENTRAL CITY PARKING LOTS	
			Date: <u>Dec. 12, 1984</u>					
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/30/83				0 <u>1</u> /				
4/84	Transfer of Parking Lots from CU4A.	Building Parking Lots to remove on-street parking.	Board	+150	4/84	0	0	N
11/1/84	Recombined with CU4A.	High bids caused schedule slip in the rainy season.	Board 11/7/84	-150	12/84	0	0	N
12/12/84				0 <u>2</u> /				
1/85				0 <u>6</u> /				
<u>1</u> / Contract budget, 6/30/83 <u>2</u> / Contract budget (w/o contingency), 12/12/84 <u>6</u> / Audit team estimate (column 6 in cost comparison of Task 130).								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

### Contract Unit No. 5

Title: At Grade Line - Folsom Corridor

Summary of Original Scope: This construction contract will include grading, drainage and structures, installation of track, ties, ballast and special trackwork. Work will also include conduit installation and foundations for signals and overhead catenary system. Portions of Southern Pacific's Folsom Branch track will be relocated. Contract limits will extend from 18th Street east along the Southern Pacific Railroad line to the Butterfield Station.

Changes: Moved contract limits from Alhambra and "R" Streets to 18th and "R" Streets to create operable segments (Central City and Folsom Corridor). \$100,000 transferred to CU2 to cover track on bridge.

Methodology: Discussions with STDA staff.

Evaluation and Comments: A portion of the original CU4 work was transferred to this contract unit.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS			PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES				CU5  AT GRADE LINE - FOLSOM CORRIDOR	
			Date: Dec. 12, 1984					
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
7/83	Moved contract limit from Alhambra and R Street to 18th and R Street (relates to CU4).	Conforms with "Operable Segments" Report and construction schedule.	Board	+2,248	4/84	0	0	N
6/30/83				5,190 <u>1/</u>				
4/84	Track on Bridge.	Transfer funds to cover work included in CU2.	Project Director	-100	4/84	0	0	N
1/85				+ 4562,720 <u>3/</u>				
1/85				11,900,720 <u>6/</u>				
<u>1/</u> Contract budget, 6/30/83								
<u>3/</u> Audit team adjustment. Audit team made separate construction cost estimates for CU's 2, 4A, 5, 6, 7E and 7A. In these cases an adjustment figure was used to match the estimate as developed in Task No. 130.								
<u>6/</u> Audit team estimate (column 6 in cost comparison of Task 130).								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

### Contract Unit No. 6

Title: At Grade Station - Watt/80 Terminus

Summary of Original Scope: This construction contract will include bridge reconstruction, elevators, stairs, crew and restroom facilities, and related amenities at the Watt Avenue/80 Station.

Changes: Art program and station graphics were transferred to CU7C and CU7D, respectively. Parking facilities were shifted to CU2A. Median barrier was added to Watt Avenue bridge. Reductions were made to shelters, planters, lighting, phones, benches and elevator enclosures.

Methodology: Discussions with STDA staff, budget analyses, and review of board minutes.

Evaluation and Comments: Median barrier for Watt Avenue bridge was added per a verbal request from the County Traffic Department. Cost is estimated at \$150,000. Cost saving measures (\$677,000) were approved October 1984. Measures included reductions to shelters, planters, lighting, phones, benches, and elevator enclosures.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS..				PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES			CU6 AT GRADE STATIONS - WATT/80 TERMINUS	
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/30/83				2,447 <u>1/</u>				
10/27/83	Transferred parking to CU2A.	Construction efficiency in I-80 median separated specialty work.	Board	-998	4/84	0	0	N
4/84	Transferred Art Program to CU7C.	Combine all Art Work for administration by Arts Commission.	Board	-77	4/84	0	0	N
4/84	Addition of median barrier on bridge.	Verbal request of County Traffic Department.	Board	+150	4/84	+150 Additional funding available from FAU highway funds.	0	N
8/31/84	Transferred station graphics to CU7D.	Single contract for uniform graphics.	Board	-10	10/84	0	0	N
10/5/84	Cost savings measures: o shelters o landscaping  o elevator enclosure material	Budget constraint.	Board 10/10/84	-677	10/84	Increased "General Contingency" (CU99) by +677. See Attachment B, Exhibit 4.	0	Minor - See Task 130.
1/85				+ 451,896 <u>2/</u>				
1/85				1286,896 <u>6/</u>				
<u>1/</u> Contract budget, 6/30/83								
<u>3/</u> Audit team adjustment. Audit team made separate construction cost estimates for CU's 2, 4A, 5, 6, 7E and 7A. In these cases an adjustment figure was used to match the estimate as developed in Task No. 130.								
<u>6/</u> Audit team estimate (column 6 in cost comparison of Task 130).								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

### Contract Unit No. 7

Title: At Grade Stations - Northeast Corridor

Summary of Original Scope: This construction contract will include all grading, drainage, construction, lighting and landscaping for the stations and park-and-ride lots for the Northeast Corridor. The contract will also include platforms, shelters, E&H ramps, and related amenities for the Northeast Corridor.

Changes: Art program, station graphics, and station shelters were transferred to CU7C, CU7D and CU7E, respectively. Parking facilities were shifted to CU2A. Reductions were made to street improvements, parking spaces, bus aprons, traffic control signs, shelters, plantings and landscaping.

Methodology: Discussions with STDA staff, budget analyses, and review of board minutes.

Evaluation and Comments: Cost saving measures (\$695,000) were approved October 1984. Measures included reductions in street improvements, parking spaces, bus aprons, traffic control signs, shelters, plantings and landscapings.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS				PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES			CU7 AT GRADE STATIONS - NORTHEAST CORRIDOR	
						Date: Dec. 12, 1984		
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/83	Separated Folsom Corridor Stations to create CU7A.	Contract size and construction schedule.	Board	-3,872	6/83	0	0	N
6/30/83				3,503 <u>1/</u>				
10/27/83	Transferred parking to CU2A.	Construction efficiency in I-80 median.	Board	-871	4/84	0	0	N
4/84	Transferred Art to CU7C.	Combine all Art Work for administration by Arts Commission.	Board	-77	4/84	0	0	N
8/31/84	Transferred Station Graphic to CU7D.	Single contract for uniform graphics.	Board	-30	10/84	0	0	N
8/31/84	Transferred Station Shelters to CU7E.	Similar work.	Board 10/10/84	+8		0	0	N
10/5/84	Cost saving measures: o bus parking apron at Swanston Station o parking spaces o landscaping	Budget constraints. Change in bus operating plan.	Board 10/10/84	-695	10/84	Increased "General Contingency" (CU99) by +695. See Attachment B, Exhibit 5.	0	Minor on landscaping. See Task 140.
1/85				- 417.048 <u>3/</u>				
1/85				1,920.952 <u>6/</u>				
<u>1/</u> Contract budget, 6/30/83								
<u>3/</u> Audit team adjustment. Audit team made separate construction cost estimates for CUPs 2, 4A, 5, 6, 7E and 7A. In these cases an adjustment figure was used to match the estimate as developed in Task No. 130.								
<u>6/</u> Audit team estimate (column 6 in cost comparison of Task 130).								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

### Contract Unit No. 7A

Title: At Grade Stations - Folsom Corridor

Summary of Original Scope: This construction contract will include all grading, drainage, construction, lighting and landscaping for the stations and park-and-ride lots for the Folsom Corridor. This contract will also include platforms, shelters, elderly and handicapped ramps, and related amenities for the Folsom Corridor.

Changes: Art program, station graphics, and station shelters were transferred to CU7C, CU7D and CU7E, respectively.

Methodology: Discussions with STDA staff and budget analysis.

Evaluation and Comments: Features associated with the arts program and station graphics and shelters were shifted to individual contract units.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS			PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES			CU7A AT GRADE STATIONS - FOLSOM CORRIDOR		
			Date: Dec. 12, 1984					
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/83	Separate Folsom Corridor Stations to create CU7A from CU7.	Contract size and construction schedule.	Board	+3,872	6/83	0	0	N
6/30/83				3,872 1/				
4/84	Transferred Art Program to CU7C.	Combined all art work for administration by Arts Commission.	Board	-80	4/84	0	0	N
8/31/84	Transferred Station Shelters to CU7E.	Similar work.	Board	-183	4/84	0	0	N
8/31/84	Transferred Station Graphics to CU7D.	Single contract for uniform graphics.	Board 10/10/84	-50	10/84	0	0	N
1/85				+ 48 2/				
1/85				3607 6/				
1/ Contract budget, 6/30/83								
3/ Audit team adjustment. Audit team made separate construction cost estimates for CUs 2, 4A, 5, 6, 7E and 7A. In these cases an adjustment figure was used to match the estimate as developed in Task No. 130.								
6/ Audit team estimate (column 6 in cost comparison of Task 130).								



RECORD OF CHANGES TO CONTRACT UNITS			PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES				CU78 TREE PROCUREMENT - FOLSOM CORRIDOR	
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/30/83 11/83  12/12/84 1/85	Reduced cost.	Bid under estimate.	Board Awarded 11/15/83	80 <u>1</u> / -45  33 <u>2</u> / 33 <u>6</u> /	4/84	Increased "General Contingency" (CU99) by +45	0	N
<u>1</u> / Contract budget, 6/30/83 <u>2</u> / Contract budget (w/o contingency), 12/12/84 <u>6</u> / Audit team estimate (column 6 in cost comparison of Task 130).								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

### Contract Unit No. 7C

Title: Art Program

Summary of Original Scope: This contract unit is an art program for the entire LRT system. It was created from portions of CU4A, 6, 7 and 7A and will include pavement pieces, tree grates, barriers, and station graphics at Power Inn, Cathedral Square at 11th and K Streets, K Street Mall, 7th and K Streets, and the Q Street Mall.

Changes: Several features associated with the arts program have been deferred.

Methodology: Discussions with STDA staff and budget analyses.

Evaluation and Comments: Components of the arts program which are not an integral part of permanent features to be constructed with the present contract units were deferred. These cost savings are estimated at \$338,000. New funding sources are being sought out.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS				PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES			CU7C ART PROGRAM	
				Date: Dec. 12, 1984				
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/30/83				0 1/				
4/84	Transfer Art Program from CU4A.	Combine all Art Work for administration by Arts Council.	Board	+326	4/84	0	0	N
4/84	Transfer Art Program from CU6.	Combine all Art Work for administration by Arts Council.	Board	+77	4/84	0	0	N
4/84	Transfer Art Program from CU7.	Combine all Art Work for administration by Arts Council.	Board	+77	4/84	0	0	N
4/84	Transfer Art Program from C7A.	Combine all Art Work for administration by Arts Council.	Board	+80	4/84	0	0	N
8/31/84	Deferred art work which is not integral to buildings or other construction.	Budget constraint.	Board 10/31/84	-338	10/84	Increased "General Contingency" (CU99) by +338.	0	Minor - See Task 140.
12/12/84				222 2/				
1/85				222 6/				
1/ Contract	budget, 6/30/83							
2/ Contract	budget (w/o contingency), 12/12/84							
6/ Audit team estimate	(column 6 in cost comparison of Task 130).							



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

Contract Unit No. 7D

Title: Station Graphics

Summary of Original Scope: This contract was created from portions of CU2A, 4A, 6, 7 and 7A to provide uniform systemwide graphics.

Changes: No scope changes have occurred to this contract unit since its created in October 1984.

Methodology: Discussions with STDA staff and budget analyses.

Evaluation and Comments: Contract unit was created to provide uniform systemwide graphics for stations. Funds from CU2A, CU4A, CU6, CU7 and CU7A were utilized to provide funding for this contract unit.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS..			PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES				CU7D STATION GRAPHICS	
Date: Dec. 12, 1984								
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/30/83				0 <u>1/</u>				
8/31/84	Transfer Station Graphics from CU2A.	Single contract for Uniform Graphics.	Board	+20	10/84	0	0	N
8/31/84	Transfer Station Graphics from CU4A.	Single contract for Uniform Graphics.	Board	+40	10/84	0	0	N
8/31/84	Transfer Station Graphics from CU6.	Single contract for Uniform Graphics.	Board	+10	10/84	0	0	N
8/31/84	Transfer Station Graphics from CU7.	Single contract for Uniform Graphics.	Board	+30	10/84	0	0	N
8/31/84	Transfer Station Graphics from CU7A.	Single contract for Uniform Graphics.	Board	+50	10/84	0	0	N
12/12/84				150 <u>2/</u>				
1/85				150 <u>6/</u>				
<u>1/</u> Contract budget, 6/30/83 <u>2/</u> Contract budget (w/o contingency), 12/12/84 <u>6/</u> Audit team estimate (column 6 in cost comparison of Task 130).								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

Contract Unit No. 7E

Title: Station Shelters

Summary of Original Scope: This contract unit was created from portions of CU2A, 4A, 7 and 7A to provide uniform systemwide shelters.

Changes: No scope changes have occurred to this contract unit since its creation in October 1984.

Methodology: Discussions with STDA staff and budget analyses.

Evaluation and Comments: Contract unit was created to provide uniform systemwide station shelters. Funds from CU2A, CU4A, CU7, and CU7A were utilized to provide funding for this contract work.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS			PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES			CU7E STATION SHELTERS		
			Date: Dec. 12, 1984					
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/30/83				0 <u>1/</u>				
8/30/84	Transfer Shelters from CU2A.	Similar work.	Board 10/10/84	+42	(Not reflected in budget)	0	0	N
8/31/84	Transfer Shelters from CU4A.	Similar work.	Board 10/10/84	+102	10/84	0	0	N
8/31/84	Transfer Shelters from CU7.	Similar work.	Board 10/10/84	+76	(Not reflected in budget)	0	0	N
8/31/84	Transfer Shelters from CU7A.	Similar work.	Board 10/10/84	+183	(Not reflected in budget)	0	0	N
12/12/84				403 <u>2/</u>				
1/85				180 <u>3/</u>				
1/85				583 <u>6/</u>				
<u>1/</u> Contract budget, 6/30/83 <u>2/</u> Contract budget (w/o contingency), 12/12/84 <u>3/</u> Audit team adjustment. Audit team made separate construction cost estimates for CU's 2, 4A, 5, 6, 7E and 7A. In these cases an adjustment figure was used to match the estimate as developed in Task No. 130. <u>6/</u> Audit team estimate (column 6 in cost comparison of Task 130).								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

**Contract Unit No. 8**

**Title:** Yard Grading

**Summary of Original Scope:** Work will include grading of area for maintenance building and temporary storage area. Fencing and lighting included.

**Changes:** Fencing was transferred to new CU8A. Yard grading was performed on force account at an increased cost due to wet weather. Reduced quantities of earthwork resulted in cost savings.

**Methodology:** Discussions with STDA staff and budget analyses.

**Evaluation and Comments:** CU8 work was performed during wet weather in order to have storage yard in place and ready for track material storage the following spring.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS				PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES			CU8 YARD GRADING	
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/30/83				46 <u>1/</u>				
1/84	Change Orders for extra work.	Force account to grade storage yard; storage yard needed prior to dry weather.	Board	+25	10/84	Reduced "General Contingency" (CU99) by -25	0	N
4/84	Transfer Fencing to CU8A.	Timing and cost saving measure.	Board	-8	4/84	0	0	N
5/84	Reduced cost.	Contract completed. Earthwork quantity reduced.	Board	-6	10/84	Increased "General Contingency" (CU99) by +6	0	N
12/12/84				57 <u>2/</u>				
1/85				+14 <u>5/</u>				
1/85				71 <u>6/</u>				
<u>1/</u> Contract budget, 6/30/83								
<u>2/</u> Contract budget (w/o contingency) 12/12/84								
<u>3/</u> Adjustment to match actual or projected contract expenditure.								
<u>6/</u> Audit team estimate (column 6 in cost comparison of Task 130).								



RECORD OF CHANGES TO CONTRACT UNITS				PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES			CUBA TEMPORARY FENCING YARD STORAGE AREA	
				Date: Dec. 12, 1984				
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/30/83	Transferred Fencing from CU8.	Timing and cost savings measure.	Board	0 1/				
4/84				+8	4/84	0	0	N
12/12/84				8 2/				
1/85				8 6/				
1/ Contract budget, 6/30/83 2/ Contract budget (w/o contingency), 12/12/84 6/ Audit team estimate (column 6 in cost comparison of Task 130).								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

Contract Unit No. 9

Title: Electrification

Summary of Original Scope: This construction contract will include DC power, substations, poles, conduit, and the overhead catenary distribution system (OCS) for the electrification of the entire LRT route and yard.

Changes: No significant scope changes have occurred.

Methodology: Discussions with STDA staff and budget analyses.

Evaluation and Comments: Original contract (prior to 9/83) was to include wire, traction power substations, poles and the overhead catenary system (OCS) and the installation of all such electrification facilities. Contract unit's scope was reduced to only an installation contract in order to separate out specialty types of work into separate contracts. Other work associated with the wire, substations, poles and OCS and the actual savings realized from low bids on this work were transferred to the general contingency and not the remaining installation work. Re-estimated installation work in October 1984 indicates original budgeted amount to be insufficient by \$804,000.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS			PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES			CU9 ELECTRIFICATION		
			Date: Dec. 12, 1984					
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/30/83	Re-estimate.	More definitive quantities.	Board	1,390 <u>1/</u>	10/84	Reduced "General Contingency" (CU99) by -80%	0	N
10/10/84				+80%				
12/12/84				2,194 <u>2/</u>				
1/85				2,194 <u>6/</u>				
<u>1/</u> Contract budget, 6/30/83 <u>2/</u> Contract budget (w/o contingency), 12/12/84 <u>6/</u> Audit team estimate (column 6 in cost comparison of Task 130).								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

### Contract Unit No. 10

Title: Light Rail Transit Signaling

Summary of Original Scope: This contract will include all wayside signal installation and testing for the entire LRT system. This contract will also include grade crossing protective devices and switch machines.

Changes: The procurement of cable and wire was shifted to CU21 in April 1984.

Methodology: Discussions with STDA staff and budget analyses.

Evaluation and Comments: Signal wire and power wire were shifted to a separate contract unit (No. 21). Actual bid for CU10 was \$1.348 million below engineer's estimate.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS			PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES			CU10 LIGHT RAIL TRANSIT SIGNALING		
			Date: Dec. 12, 1984					
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/30/83				5,760 <u>1</u> /				
4/84	Transferred Procurement of cable and wire to CU21.	Combine signal wire and power wire for combined wire bid.	Board	-484	10/84	0	0	N
8/10/84	Reduced cost.	Bid under estimate.	Board	-1,348	10/84	Increased "General Contingency" (CU99) by +1,348	0	N
1/85				3,928 <u>6</u> /				
<u>1</u> / Contract budget, 6/30/83 <u>6</u> / Audit team estimate (column 6 in cost comparison of Task 130).								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

Contract Unit No. 11

Title: Traffic Signals

Summary of Original Scope: This construction contract will include all street signals and modifications to existing street signals for the entire LRT route.

Changes: No change in scope.

Methodology: Discussions with STDA staff and budget analyses.

Evaluation and Comments: No comment.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS				PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES			CU11 TRAFFIC SIGNALS	
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
1/85	NO CHANGE.			2,385 <u>1</u> / 2,385 <u>6</u> /				
		<u>1</u> / Contract budget <u>6</u> / Audit team estimate (column 6 in cost comparison of Task 130).						



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

### Contract Unit No. 12

Title: Communications - Radio Procurement

Summary of Original Scope: This contract will include procurement and installation of the mobile radios in vehicles, modification of the existing base station and procurement and installation of slow scan TV monitors, monitors at stations and the operations center.

Changes: "Slow scan" TV monitors were originally planned to protect the fare vending system. It was later decided to replace TV monitors with an alarm system of equivalent cost.

Methodology: Discussions with STDA staff and budget analyses.

Evaluation and Comments: No comment.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS				PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES			CU12 COMMUNICATIONS - RADIO PROCUREMENT	
				Date: Dec. 12, 1984				
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/30/83				280 <u>1</u> /				
10/27/83	Removed slow-scan TV. Added electronic fare vending surveillance devices.	Improvement; labor reduction.	Project Director	0	N/A	0	0	N
12/12/84				280 <u>2</u> /				
1/85				280 <u>6</u> /				
<u>1</u> / Contract budget, 6/30/83 <u>2</u> / Contract budget (w/o contingency), 12/12/84 <u>6</u> / Audit team estimate (column 6 in cost comparison of Task 130).								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

### Contract Unit No. 13

Title: Equipment Installation

Summary of Original Scope: This contract unit has not been effected and all equipment installations, to date, have been included in other contracts.

Changes: No changes in scope.

Methodology: Discussions with STDA staff and budget analyses.

Evaluation and Comments: No comment.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS			PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES				CU13 EQUIPMENT INSTALLATION	
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
	NO CHANGE. No budget established.							



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

Contract Unit No. 14A .

Title: Rail Procurement

Summary of Original Scope: The contract unit covers the procurement of 115 lb. rail to the LRT system.

Changes: Welding of rails was transferred to CU2.

Methodology: Discussions with STDA staff and budget analyses.

Evaluation and Comments: Actual bid was \$9,000 below engineer's estimate.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS			PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES				CU14A RAIL PROCUREMENT	
			Date: Dec. 12, 1984					
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/30/83				2,740 <u>1/</u>				
4/84	Welding Rail	Transfer of funds to CU2.	Project Director	-300	4/84	0	0	N
4/84	Reduced cost.	Bid under estimate.	Board approved construction specifications 9/21/83	-9	4/84	Increased "General Contingency" (CU99) by +9	0	N
1/85				+300 <u>2/</u>				
1/85				2,731 <u>6/</u>				
<u>1/</u> Contract budget, 6/30/83 <u>2/</u> Adjustment to match actual or projected contract expenditure. <u>6/</u> Audit team estimate (column 6 in cost comparison of Task 130).								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

Contract Unit No. 14B

Title: Other Track Material Procurement

Summary of Original Scope: This contract unit was created in June 1983 from CU14 (14A) and includes plates, bars, spikes, anchors, and tie pads for the LRT system.

Changes: No changes in scope.

Methodology: Discussions with STDA staff and budget analyses.

Evaluation and Comments: No comment.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS				PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES		CU14B OTHER TRACK MATERIALS		
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
1/85	NO CHANGE.			1,180 1/ 1,180 6/				
	1/ Contract budget							
	6/ Audit team estimate (column 6 in cost comparison of Task 130).							



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

Contract Unit No. 15

Title: Tie Procurement

Summary of Original Scope: This contract unit covers the procurement of ties for the LRT system.

Changes: No changes in scope.

Methodology: Discussions with STDA staff and budget analyses.

Evaluation and Comments: No comment.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS				PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES		CU15 TIE PROCUREMENT		
				Date: Dec. 12, 1984				
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/30/83	Cost Increase.	Bid over estimate.	Board awarded contract 9/21/83	1,140 <u>1/</u>	4/84	Reduced "General Contingency" (CU99) by -8	0	N
10/83				+8				
12/12/84				1,148 <u>2/</u>				
1/85				1,148 <u>6/</u>				
<u>1/</u> Contract budget, 6/30/83 <u>2/</u> Contract budget (w/o contingency), 12/12/84 <u>6/</u> Audit team estimate (column 6 in cost comparison of Task 130).								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

Contract Unit No. 16

Title: Special Trackwork Procurement

Summary of Original Scope: This contract unit, created October 1983, includes the procurement of turnouts and special hardware.

Changes: No changes in scope.

Methodology: Discussions with STDA staff and budget analyses.

Evaluation and Comments: Actual bid was \$41,000 above engineer's estimate.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS				PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES			CU16 SPECIAL TRACKWORK PROCUREMENT	
Date: Dec. 12, 1984								
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/30/83 6/84	Cost Increase.	Bid over estimate.	Board awarded bid 12/14/83	650 <u>1</u> / +41	10/84	Reduced "General Contingency" (CU99) by -41	0	N
12/12/84 1/85				691 <u>2</u> / 691 <u>6</u> /				
<u>1</u> / Contract budget, 6/30/83 <u>2</u> / Contract budget (w/o contingency), 12/12/84 <u>6</u> / Audit team estimate (column 6 in cost comparison of Task 130).								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

Contract Unit No. 17

Title: Light Rail Vehicles

Summary of Original Scope: This purchase contract will include purchase of twenty-six light rail vehicles and appropriate spare parts and components.

Changes: No changes in scope.

Methodology: Discussions with STDA staff and budget analyses.

Evaluation and Comments: Actual bid was \$2.018 million below engineer's estimate. However, a potential claim of \$3.6 million is outstanding.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS				PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES		CU17 LIGHT RAIL VEHICLES		
				Date: Dec. 12, 1984				
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/30/83				26,370	1/			
1/17/84	Reduced cost.	Bid under estimate.	Board awarded bid 1/25/84	-2,018	4/84	Increased "General Contingency" (CU99) by +2,018	0	N
12/12/84				24,352	2/			
1/85				<del>3,600</del>				
1/85				<del>27,952</del>				
				24,352				
<p>1/ Contract budget, 6/30/83</p> <p>2/ Contract budget (w/o contingency), 12/12/84</p> <p>3/ Potential change order and/or claim. (SETTLED JAN '85 AT NO INCREASED COST)</p> <p>6/ Audit team estimate (column 6 in cost comparison of Task 130).</p>								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

Contract Unit No. 18A

Title: Fare Vending Equipment Procurement

Summary of Original Scope: This contract unit includes the procurement of 42 fare vending machines for installation of others.

Changes: No changes in scope.

Methodology: Discussions with STDA staff and budget analyses.

Evaluation and Comments: No comment.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS			PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES				CU18A FARE VENDING EQUIP- MENT	
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
1/85	NO CHANGE.			520 <u>1/</u> 520 <u>6/</u>				
		<u>1/</u> Contract budget <u>6/</u> Audit team estimate (column 6 in cost comparison of Task 130).						



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

Contract Unit No. 18B

Title: Major Shop Equipment Procurement

Summary of Original Scope: This contract unit includes the procurement of major shop equipment: a set of LRV jacks, eight body stands, a 1-ton forklift, a 2-5 ton forklift, an assortment of shop tools and equipment, a wheel-truing machine, car wash equipment and equipment for an in-floor jacking system.

Changes: Car wash equipment transferred to CU2. Procurement of equipment for an in-floor jacking system associated with the maintenance building was transferred to CU3 (\$518,000). Portable hydraulic re-railing equipment was added.

Methodology: Discussions with STDA staff and budget analyses.

Evaluation and Comments: No comments.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS..				PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES			CU18B MAJOR SHOP EQUIP- MENT PROCUREMENT	
				Date: Dec. 12, 1984				
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/30/83				1,336 <u>1/</u>				
7/83	Shop equipment included in building transferred to CU3.	Construction efficiency for built-in equipment.	Project Director	-518	4/84	0	0	N
4/84	Car Wash.	Transfer to CU2.	Project Director	-134	4/84	0	0	N
1/85				+106 <u>2/</u>				
1/85				790 <u>6/</u>				
<u>1/</u> Contract budget, 6/30/83 <u>2/</u> Adjustment to match actual or projected contract expenditure. <u>6/</u> Audit team estimate (column 6 in cost comparison of Task 130).								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

Contract Unit No. 18C

Title: Line Maintenance Equipment Procurement

Summary of Original Scope: This contract unit includes the procurement of line maintenance equipment: sedans, pickup trucks, a boom truck, and auxiliary work carts.

Changes: No changes in scope.

Methodology: Discussions with STDA staff and budget analyses.

Evaluation and Comments: No comment.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS			PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES				CU18C  LINE MAINTENANCE EQUIPMENT PROCUREMENT	
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
1/85	NO CHANGE.			240 <u>1</u> / 240 <u>6</u> /				
		<u>1</u> / Contract budget <u>6</u> / Audit team estimate (column 6 in cost comparison of Task 130).						



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

Contract Unit No. 19

Title: Substation Procurement

Summary of Original Scope: This furnish and install contract will include all traction power substations for the system.

Changes: No changes in scope.

Methodology: Discussions with STDA staff and budget analyses.

Evaluation and Comments: Actual bid was \$677,000 below engineer's estimate.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS...				PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES		CU19 SUBSTATION PROCUREMENT		
				Date: Dec. 12, 1984				
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/30/83				4,150 <u>1/</u>				
12/83	Reduced cost.	Bid under estimate.	Board Notice to Proceed 1/17/84	-677	4/84	Increased "General Contingency" CU99) by +677	0	N
12/12/84				3,473 <u>2/</u>				
1/85				3,473 <u>6/</u>				
<u>1/</u> Contract budget, 6/30/83 <u>2/</u> Contract budget (w/o contingency), 12/12/84 <u>6/</u> Audit team estimate (column 6 in cost comparison of Task 130).								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

Contract Unit No. 20

Title: Catenary System/Pole Procurement

Summary of Original Scope: This furnish and install contract will include all overhead catenary system components except pole foundations.

Changes: No changes in scope.

Methodology: Discussions with STDA staff and budget analyses.

Evaluation and Comments: Actual bid was \$399,000 below engineer's estimate.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS			PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES			CU20 CATENARY SYSTEM/ POLE PROCUREMENT		
			Date: Dec. 12, 1984					
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/30/84				1,880 <u>1/</u>				
9/84	Reduced cost.	Bid under estimate.	Board approved for advertisement 4/11/84	-399	10/84	Increased "General Contingency" (CU99) by +399	0	N
12/12/84				1,481 <u>2/</u>				
1/85				1,481 <u>6/</u>				
<u>1/</u> Contract budget, 6/30/83 <u>2/</u> Contract budget (w/o contingency) 12/12/84 <u>6/</u> Audit team estimate (column 6 in cost comparison of Task 130).								



## TASK 120 UPDATE PROJECT SCOPE DEFINITION

### Contract Unit No. 21

Title: Cable Wire Procurement

Summary of Original Scope: This contract unit includes the procurement of feeder cable, contract wire, steel cable and signal wire used in traction power and signaling installations.

Changes: Procurement of cable and wire was transferred from CU10 in April 1984.

Methodology: Discussions with STDA staff and budget analyses.

Evaluation and Comments: Actual bid was \$712,000 below engineer's estimate.

Date of Update: 1/09/85



RECORD OF CHANGES TO CONTRACT UNITS			PARSONS BRINCKERHOFF QUADE & DOUGLAS DANIEL MANN JOHNSON & MENDENHALL DON TODD ASSOCIATES MYRA L. FRANK & ASSOCIATES			CU21 CABLE/WIRE PROCUREMENT		
			Date: Dec. 12, 1984					
Date of Revision Request	Description of Change	Reason for Change and Reference to Supporting Documents	Directed by	Cost of Change \$(1,000)	Date CU Budget was Changed	Impact on Total Project Budget \$(1,000)	Impact on Project Schedule (Weeks)	Departure from FEIS? (YES OR NO)
6/30/83				1,370 <u>1/</u>				
4/84	Transferred procurement of cable and wire from CU10.	Combine signal wire and power for combined wire bid.	Board 3/21/84	+484	10/84	0	0	N
8/84	Reduced cost.	Bid under estimate.	Board	-712	10/84	Increased "General Contingency" (CU99) by +712	0	N
12/12/84				1,142 <u>2/</u>				
1/85				1,142 <u>6/</u>				
<u>1/</u> Contract budget, 6/30/83 <u>2/</u> Contract budget (w/o contingency) 12/12/84 <u>6/</u> Audit team estimate (column 6 in cost comparison of Task 130).								



**ATTACHMENT B**



Revised

CD#2A-WATT/80 MEDIAN STATIONS

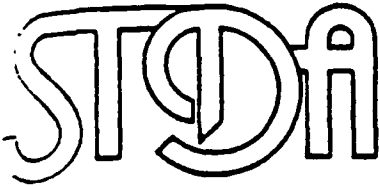
Item	Deductive Option	Reduce	Eliminate	Remarks
<u>Winter Street Access</u>				
Lighting, Signals, and Roadway	\$100,000*		\$199,000*	Provide Del Paso Hgts access at Marconi/ Arcade Station.
Landscaping			48,000*	
<u>Watt/80 West Station</u>				
Civil, Drainage, Roadwork			\$440,000	Remove station entire and provide some over flow parking spaces.
Platform			159,000	
Lighting			200,000	
Landscaping			202,000	
<u>Overall</u>				
Nonfunctional Planting	\$273,000			Shrubs, etc.
Roseville Road Shelter		\$20,000		Future separate contract
	<u>\$373,000*</u>	<u>\$20,000</u>	<u>\$1,248,000*</u>	

		(\$Mil)
<u>Budget</u>	Original Budget 4/84	.810
	Adjusted Budget	.810
	Construction Contingency	.040
	Total Budget	\$0.850
<u>Estimate</u>	Current Estimate	3.269
	Deductive Options, Reductions and Eliminations	1.640
	Estimated Cost	3.629
	Construction contingency (5%)	.181
	Total Estimate	\$3.810

Needed from General Contingency \$2.960

\*Revised per 10/10/84 Board Action.





## MEMORANDUM

TRANSIT DEVELOPMENT AGENCY

92E J Street Suite 611 • Sacramento California 95814 • (916) 442-3168  
Project Office: 1201 I Street Room 205 • Sacramento 95814 • (916) 445-6515

June 26, 1984

TO: Members of the Governing Board

FROM: J. W. Schumann *[Signature]*

SUBJECT: Maintenance Building Contract Unit #3

ISSUE

Should the Governing Board award Contract Unit #3 to Continental-Heller?

PROPOSED ACTION

Adopt Resolution 84-06-08 awarding Contract Unit #3, Maintenance Building, to Continental-Heller with the "deduct" option taken.

FISCAL IMPACT

Award of this contract will require the substantial use of contingency funds. Fortunately, "savings" from recent low bids are available to make up much of the difference. The calculations below determine the amounts of General Contingency that must be committed to Contract Unit #3, Maintenance Building, if the "deduct" option (fourth track in the shop) is or is not exercised.

ITEM	\$000's
Low bid, CU#3, Maintenance Building	\$3,827 <sup>a</sup>
Funds available:	
Approved budget	2,726
Transfer fr. CU#4, Mall Demolition	164
Transfer fr. CU#21, Cable & Wire	719
Subtotal	<u>\$3,609</u>
Shortfall from General Contingency	\$ 218 <sup>a</sup>
Add: deduct option	<u>366</u>
Shortfall from General Contingency	<u>\$ 584<sup>b</sup></u>

a - Assumes "deduct" option exercised.

b - Assumes "deduct option not exercised.



Revised

CU#4A-CENTRAL CITY

Item	Deductive Option	Reduce	Eliminate	Remarks
K Street mall	\$ 765,365*	\$ 0*	\$ 0	See Exhibit A
O Street mall	465,215*	\$ 0*	0	See Exhibit B
<u>GENERAL</u>				
Shelters (Tot 4)	84,000			Future Separate Contract
Non-functional Planting		10,000		
N. 12th Street Open Track			11,000	
Landscape G-K Streets			29,000	
Paving 7th, 8th, 12th Streets			50,000	
	<u>\$1,314,580*</u>	<u>\$10,000*</u>	<u>\$90,000</u>	
	TOTAL		<u>\$1,414,580</u>	

<u>Budget</u>	Original Budget (4/84)	\$6.000
	Adjusted Budget	5.524M
	Construction Contingency (5%)	<u>0.293</u>
	Total Budget	\$5.817

<u>Estimate</u>	Current Estimate (9/84)	9.148
	Deductive Options, Reductions and Eliminations	1.415
	Estimated Cost	7.733
	Construction Contingency (5%)	<u>.387</u>
	Total Estimate	\$8.120M

Needed from General Contingency \$2.303M

\*Revised per 10/10/84 Board Action.



Revised

CD#4A-K Street Mall (Exhibit A)

Item	Deductive Option	Reduce	Eliminate	Remarks
Track Area	\$152,250	\$	\$	Place AC in lieu of pavers.
Remove Pavers	117,230			<u>No</u> work outside track area.
Remove New Concrete	62,070			<u>No</u> work outside track area.
<u>Planters</u>				
Large	22,000			
Small	19,800			
<u>Benches</u>				
Type A	37,500			
Type B	137,500			
Trees	21,600			
Grates	4,375			
Leaning Rail	31,500			
Light Pole With Banner	56,000*			
Planting (Other than Trees	21,210			
Irrigation	38,130			
<u>Miscellaneous</u>				
Telephone Kiosk	22,000			
Drinking Fountain	5,400			
Trash Receptacle	13,300			
Bike Rack	1,250			
News Rack Rail	2,250			
	\$ 765,365*	\$ 0*	\$ 0	
		<u>TOTAL</u>		\$765,365

Note: These items are not listed in any priority or order.

\*Revised per 10/10/84 Board Action.



Revised

CU#4A-O STREET MALL (Exhibit B)

Items	Deductive Options	Reduce	Eliminate	Remarks
Track Area	\$157,040	\$	\$	Place AC in lieu of pavers
Remove Pavers	138,800			No work outside track area
Remove New Concrete	42,870			No work outside track area
<u>Planters</u>				
Large	6,000			
Small	5,400			
Benches (Type A)	30,000			
Trees	2,100			Cost is shipping and installation only
Light Pole With Banner	26,000*	0*		Retain minimum lighting only
Planting (Other than trees)	9,200			
Irrigation	29,680			
<u>Miscellaneous</u>				
Telephone Kiosk	8,800			
Drinking Fountain	1,800			
Trash Receptacle	6,650			
Bike Rack	500			
News Rack Rail	375			
	\$465,215*	\$ 0*	\$ 0	
			TOTAL:	<u>\$465,215</u>

Note: These items are not listed in any priority or order.

\*Revised per 10/10/84 Board Action.



CU#6 - WATT/80 TERMINUS

<u>Item</u>	<u>Deduc- tive Option</u>	<u>Reduce</u>	<u>Elimi- nate</u>	<u>Remarks</u>
Shelters (Upper)	\$135,000	\$	\$	Include as a deductive alternative
Shelters (Lower)	250,000			
Bridge Median Barrier	150,000			Seeking FAU funds for this item
RT Utility Space		20,000		
Windscreen on Top and Stairways	58,000			
Landscape Planters	21,000			
Lighting Reduction		1,000		
Custom Phones			4,000	
Benches			9,000	
Elevator Enclosures			20,000	
Future Escalator Footings			9,000	
	<u>\$614,000</u>	<u>\$21,000</u>	<u>\$42,000</u>	
	<u>TOTAL</u>			<u>\$677,000</u>

<u>Budget</u>		(\$mil)
	Original Budget (4/84)	\$2.440
	Adjusted Budget	2.363
	Construction Contingency (5%)	.122
	Total Budget	\$2.485
<u>Estimate</u>	Current Estimate (9/84)	1.515
	Deductive Options, Reductions and Eliminations	- .677
	Estimated Cost	.838
	Construction Contingency (5%)	+ .042
	Total Estimate	.880
	Transfer to General Contingency	\$1.605



CU#7 - Northeast Corridor Stations

<u>Item</u>	<u>Deductive Option</u>	<u>Reduce</u>	<u>Eliminate</u>	<u>Remarks</u>
180 Parking (Reduce <sup>140</sup> 100 spaces at Marconi and 150 spaces at Swanston Stations)	\$	\$265,000	\$	Include as a deductive alternate
Street Improvements	75,000			Seeking City funds for this work
Concrete Bus Apron (Swanston Station)			130,000	
Construction/Traffic Control Signs			40,000	
Shelters	84,000			Future separate contract
Nonfunctional Planting		81,000		
*Landscape along Arden Way			20,000	Place irrigation only (\$13K)
	\$159,000	\$346,000	\$190,000	
		<b>TOTAL</b>		<b>\$695,000</b>

\*Working with North Sacramento groups; recommend we do irrigation and they do the planting.

others

<u>Budget</u>	Original Budget (4/84)	(\$mil)
	Adjusted Budget	\$3.500
	Construction Contingency (3%)	3.423
	Total Budget	.175
		<u>\$3.598</u>
<u>Estimate</u>	Current Estimate (9/84)	\$2.352
	Deductive Options, Reductions and Eliminations	.695
	Estimated Cost	<u>1.857</u>
	Construction Contingency (3%)	.093
	Total Estimate	<u>1.950</u>
Transfer to General Contingency		<u>\$1.648</u>



ATTACHMENT C



**ATTACHMENT C**  
**BUDGET DISCREPANCIES**

The following list summarizes the differences found between the "Current Baseline Budget", dated December 12, 1984, and the "Record of Changes to Contract Units" given in Appendix A, for each contract unit:

- CU1: No difference.
- CU1A: No difference.
- CU2: No difference.
- CU2A: Transfer of shelters (\$22,000 to CU7E) was not reflected in Baseline Budget. Re-estimate (\$10,000) was not recognized by Project Director and, therefore, not reflected in Record of Changes.
- CU3: No difference.
- CU4: Transfer of \$32,000 to CU4A/4B was not shown in Baseline Budget.
- CU4A: Transfer of shelters (\$18,000 to CU7E) was not reflected in Baseline Budget.
- CU4B/4C: No difference.
- CU4D: No difference.
- CU5: \$2,248,000 was transferred from CU4 to CU5. Note: A total of \$8,248,000 was transferred from CU4 (\$6,000,000 to CU4A and \$2,248,000 to CU5). A portion of the track work (\$100,000) was transferred to CU2. This transfer was acknowledged in the Baseline Budget in CU2 (+100,000) but not in CU5.
- CU6: Re-estimate (\$7,000) was not recognized by Project Director and, therefore, not reflected in Record of Changes.
- CU7: Transfer of shelters (\$8,000 to CU7E) was not reflected in Baseline Budget. \$30,000 and \$50,000 were transferred from CU7 and CU7A, respectively, per Project Director, rather than at total of \$80,000 entirely from CU7. Re-estimate (\$3,000) was not recognized by Project Director and, therefore, not reflected in Record of Changes.
- CU7A: Only \$50,000 was transferred from CU7A to CU7E per Project Director. Remaining \$30,000 was transferred from CU7. Re-estimate (\$2,000) was not recognized by Project Director and, therefore, not reflected in Record of Changes.



CU7B: No difference.

CU7C: No difference.

CU7D: No difference.

CU7E: No difference.

CU8: Re-estimate (\$2,000) was not recognized by Project Director and, therefore, not reflected in Record of Changes. Transfer of \$8,000 from CU8 to CU8A was not shown on CU8 of Baseline Budget. Force account work was reported to be \$25,000 by Project Director.

CU8A: No difference.

CU9: No difference.

CU10: \$484,000 was transferred to CU21 from CU10.

CU11: Re-estimate (\$5,000) was not recognized by Project Director and, therefore, not reflected in Record of Changes.

CU12: No difference.

CU13: No difference.

CU14A: Transfer of \$300,000 from CU14A to CU2 was not reported in Baseline Budget.

CU14B: No difference.

CU15: No difference.

CU16: No difference.

CU17: No difference.

CU18A: No difference.

CU18B: Re-estimate (\$62,000) was not recognized by Project Director and, therefore, not reflected in Record of Changes. Transfer of \$134,000 from CU18B to CU2 was not reflected in both CU's of Baseline Budget.

CU18C: No difference.

CU19: No difference.

CU20: No difference.

CU21: No difference.



**TASK 130**



## TASK 130 UPDATE PROJECT BUDGET

### I. Scope of Task Work

Rearrange the Baseline Project Estimate into the current contract unit structure and categories such as engineering and design, project management, etc. Use the UMTA MAC's code format.

Using the revised project scope definition from TASK 120 review and prepare a detailed estimate of the project's scope for the current contract units and categories. Use the cost listing to date plus estimates of costs to complete in base year and inflated dollars.

Make a detailed reconciliation of the baseline, estimate to the updated estimate and document all changes.

### II. Methodology

- A. For procurement and construction contracts for which no contract price yet exists, detailed construction estimates were prepared based upon the plans and specifications provided by the STDA. In cases where the plans and specifications were too preliminary to serve as an adequate basis for an independent construction cost estimate, the budget amount was entered for the CU as set forth in the Current Baseline Budget dated December 12, 1984. CU's in this category are 1A, 5, 7A, 7E and 18B.

Actual bid contract prices were used for CU's 1, 1A, 2, 3, 4, 4B, 4C, 7C, 7D, 8, 8A, 10, 12, 13, 14A, 14B, 15, 16, 17, 18C, 19, 20 and 21.

- B. A summary cost table was developed permit direct comparison with:

- (a) individual CU entries in the original budget dated 6/83, and,
- (b) the Current Baseline Budget dated December 12, 1984.

- C. Contingency amounts and inflation factors were included in our estimates as appropriate to facilitate these comparisons. In general, a 5% construction contingency item was added for all CUs for which design is complete. Higher amounts of contingency were used for CUs still in the design phase.

For contracts not yet awarded, an inflation factor was added based upon the number of months between the date of the estimate (December 1984) and the assumed midpoint of construction. For the purposes of completing this study, a yearly inflation rate of 6% was assumed; no inflation was added to the contract price of awarded contracts.

- D. The amount shown for anticipated change orders and claims was estimated after discussions with the Project Director and Mr. Clarence Otte, STDA's Chief of Construction.



- E. The costs related to completed and forthcoming real estate transactions were included based upon discussions with Mr. Oz West and Mr. Gene Burkman, who, in turn, obtained information from the County real estate and legal departments.
- F. Information related to anticipated utility relocation costs was obtained from Mr. Robert Inman of the STDA staff and Mr. Jim Roberts, the Project Director.

Consultant costs were based upon the actual amounts of the outstanding contracts augmented by anticipated design change orders. In-house costs, allocatable to the Project, were obtained from Mr. Ozra West. Insurance costs were also obtained from Mr. West.





### SUMMARY OF FINDINGS AND CONCLUSIONS:

#### General

The projected Project cost as developed by the Audit Team exceeds the June 1983 Estimate by <sup>25,899,318</sup>~~\$29,676,995~~ and the December 1984 Estimate by <sup>25,691,322</sup>~~\$29,470,995~~. Cost comparisons are set forth in the Cost Comparison (Attachment A) and further detailed where appropriate in individual CU cost breakdowns (Attachment B).

Included in the Project cost, as developed by the Audit Team are <sup>4,109,589</sup>~~\$4,289,266~~ in Construction Contingency and \$4,680,700 in General Contingency for a combined contingency of <sup>8,798,289</sup>~~\$8,869,966~~ representing about 6% of the currently anticipated Project cost. Construction Contingency has been determined based upon the status of the individual CU's. A General Contingency of 3% has been added because of the following factors:

- (1) Uncertainty over the final amount of Caltrans charges against the Project.
- (2) Similar uncertainty over the final tally of R.T., City of Sacramento, Sacramento County and SACOG charges.
- (3) The possibility that additional in-house design or consultant work, not anticipated at this time, will be needed.
- (4) Unanticipated problems in the real estate acquisition and contract claims areas.
- (5) Unanticipated start-up costs.

The recommended Project Total Budget of <sup>156,924,318</sup>~~\$160,703,995~~, including contingency, is considered adequate to compensate for these uncertainties.



### Differences in Individual CU's

The major differences between the Audit Team's entries (column 9 of the Cost Summary) and the December 1984 STDA figures (column 7) are summarized and explained below:

CU2a	Watt/So. Median	+ \$ 650,509
CU4a	At Grade Line Central City	+ \$1,197,662
CU5	At Grade Line Folsom Avenue	+ \$4,441,756
CU6	At Grade Station Watt/So. Terminal	+ \$ 481,241
CU7	At Grade Station NE Corridor	- \$ 378,000
CU17	Light Rail Vehicles	+ <del>\$3,779,677</del> 0
CU40	Management and Training	+ \$6,454,000
CU60	Right-of-Way Acquisition	+ \$4,140,000
CU70	Utility Relocation	+ \$3,492,700
CU99	General Contingency	+ \$4,680,700

#### CU2a - Watt/So. Median

Increase in cost results from increase in scope and an adjustment due to higher anticipated construction costs (see breakdown under Task 120).

#### CU4a - At Grade Line Central City

Same as 2a.

#### CU5 - At Grade Line Folsom Avenue

Same as 2a.

#### CU6 - At Grade Station Watt/So. Terminal

Same as 2a.



CU7 - At Grade Station NE Corridor

Increase in cost resulting from decrease in scope of CU, partially offset by higher anticipated construction costs for remaining work (see breakdown under Task 120).

CU17 - Light Rail Vehicles

~~Increase due to outstanding claim from the supplier.~~

CU40 - Management and Training

Information relative to the currently anticipated total charges against the Project on the part of Caltrans, the City of Sacramento, the RT, the County of Sacramento and SACOG was provided by the STDA Project Director (in the case of the anticipated Caltrans charges) and by the City's Finance Department. Information concerning the past, present and anticipated consultant costs were obtained from the bi-weekly reports prepared by the firm of Oz West and Associates and verified by the STDA Project Director.

It appears that the budget estimates of the Project did not adequately cover those management and engineering charges.

CU60 - Right-of-Way Acquisition

The total "worst case" cost of this CU is currently estimated to be \$17,025,000.

CU70 - Utility Relocation

The \$8,700,000 amount shown is a "worst case" estimate and is based upon the current total charges against the Project anticipated by the utilities and upon two conservative assumptions; namely:

- (a) That the current claims of the utilities include only the "workarounds" actually required because of the Sacramento Light Rail Transit Project; and
- (b) That the STDA will ultimately be responsible for all workarounds.



The STDA staff believes that even if the STDA should lose the pending lawsuit and thus have to pay utility workaround costs, the total payment to the utilities will be no more than \$6,000,000 once the costs of utility betterments are disallowed.

#### CU99 - General Contingency

Construction contingencies were reduced for CU's where it was felt that the status of the work and knowledge of existing field conditions justified it. However, as indicated above, the continuing uncertainty over the accrual rate of certain administrative charges against the Project caused us to add a General Contingency of \$4,680,700. For further information about the individual CU's see CU Cost Estimates (Attachment B).

#### Conclusion

As indicated above, the entries shown in column 8 under CU60, Real Estate and CU70, Utility Relocation represent the "worst case" conditions. If the STDA's legal advisor is correct, the parcels yet to be acquired will cost about \$3,000,000 less than the Audit Team estimate. The amounts due the utility companies could be lower than currently anticipated levels. If the STDA should win its lawsuit against the utility companies, the agency could conceivably avoid paying any utility relocation costs, estimated to total \$8,700,000. Moreover, there is additional potential for savings in reduced use of construction contingency. Despite these factors, it is recommended that for the purposes of establishing a new Project Budget, the total amount of \$156,924,318 shown at the bottom of column 8 in the Cost Summary be used.



IV. List of Attachments

- A. Task 130 - Cost Comparison Summary
- B. CU 7A - Cost Estimate
- C. CU 4A - Cost Estimate
- D. CU 5 - Cost Estimate
- E. CU 6 - Cost Estimate
- F. CU 7 - Cost Estimate
- G. CU 7A - Cost Estimate
- H. CU 7E - Cost Estimate
- I. CU 9 - Cost Estimate
- J. CU 11 - Cost Estimate
- K. CU 18A - Cost Estimate
- L. CU 18B - Cost Estimate



## COST SUMMARY

PARSONS BRINCKERHOFF QUADE &amp; DOUGLAS

DANIEL MANN JOHNSON &amp; MENDENHALL

DON TODD ASSOCIATES, INC.

MYRA L. FRANK &amp; ASSOCIATES

TASK : 130-A

CONTRACT NAME: DESIGN AUDIT &amp; TECHNICAL SUPPORT

DATE: JANUARY 5, 1985

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
			X	STDA 6-83	AUDIT TM.	STDA 12-84	AUDIT TM.	(7)+(8)
			DES.	ESTIMATE	ESTIMATE	ESTIMATE	ESTIMATE	
CUM	DESCRIPTION	STATUS	COMPI	(see (a))	(see (b))	(see (c))	(see (d))	VARIANCES
1	No. Sac. Gr. Sep. Str.	A 3/23/83	97	6284000	6956000	6956000	6956000	0
1A	No. Sac. SPRR Reloc.		97	386000	(see (e))	(see (e))	(see (e))	-
2	At Gr. Line - NE Corr.	NTP 8/10/84	12	2980000	3987000	4071000	4186350	+115350
2A	Watt/80 Median	Design	95	800000	4229056	3790000	4440509	+650509
3	Maintenance Building	NTP 8/9/84	7	2618000	3882800	3963000	4076940	+113940
4	Mall Demolition	NTP 4/16/84	100	8748000	357800	360000	357800	-2200
4A	At Gr. Line Cent'l City	Design	65	-	8985392	8237000	9434662	+1197662
4B/C	Tree Proc'mt K St. Mall	Awd 1/3/84	47	-	32000	32000	33600	+1600
4D	Cent'l City Pkg Lots	Cancelled	-	-	-	-	-	-
5	At Gr. Line Folsom Corr.	Design	60	5190000	11900720	8054000	12495756	+4441756
6	At Gr. Sta. Watt/80 Term.	Design	100	2447000	1286896	870000	1351241	+481241
7	At Bra. Sta. NE Corr.	Design	85	3503000	1420952	1870000	1492000	-378000
7A	At Gr. Sta. Folsom Corr.	Hold	30	3872000	3607000	3791000	3967700	+176700
7B	Tree Proc'mt Folsom Corr.	Awd 11/7/83	58	80000	35000	35000	36750	+1750
7C	Art Program	Ongoing	30	-	222000	222000	233100	+11100
7D	Station Graphics	Hold	-	-	150000	150000	157500	+7500
7E	Shelters	Est 10/31/84	85	-	583440	423000	612612	+189612
8	Yard Grading	Cpl 5/11/84	100	46000	71000	71000	71000	0
8A	Temp. Fencing Yd. Sto.	Awd 3/12/84	100	-	8000	8000	8200	+200
9	Electrification	Design	100	1390000	2194000	2304000	2303700	300
10	LRT Signaling	NTP 10/1/84	100	5760000	3928000	4147000	4124400	-22600
11	Traffic Signals	D. Review	100	2385000	2385000	2509000	2504250	-4750
12	Comm. Radio Proc'mt	NTP 8/28/84	100	280000	280000	280000	294000	+14000
13	Equipment Installation	Hold	-	-	-	-	-	-
14A	Rail Procurement	Awd 11/4/83	100	2740000	2731000	2731000	2731000	0
14B	Other Trk Mat'l Proc'mt	Cpl 10/10/84	100	1180000	1180000	1180000	1180000	0
15	Tie Procurement	Cpl 6/26/84	100	1140000	1148000	1148000	1148000	0
16	Spec. Trackwork Proc'mt	Awd 1/17/84	60	650000	691000	691000	708275	+17275
17	Light Rail Vehicles	NTP 2/3/84	29	26370000	27952072	25570000	29349677	+1779677
18A	Fare Vdg Equip't Proc'mt	Tech. Review	100	520000	520000	520000	546000	+26000
18B	Major Shop Equip't Proc.	Board Appr.	N/A	1336000	790000	880000	829500	-50500
18C	Line Maint. Equip't Proc.	PS&E	23	240000	240000	240000	252000	+12000
19	Substation Procurement	NTP 1/16/84	50	4150000	3473000	3473000	3559825	+86825
20	Catenary Sys./Pole Proc.	NTP 10/1/84	100	1880000	1481000	1481000	1555050	+74050
21	Cable/Wire Procurement	NTP 6/27/84	98	1370000	1142200	1142000	1142200	+200
40	Mgmt and Engr'g	N/A		14950000	23610000	17156000	23610000	+6454000
45	SRTD Mgmt & Sys. Sta-Up	N/A		-	2949000	2949000	2949000	0
50	Risk Management	N/A		-	1550000	1550000	1550000	0
60	Right-of-Way Acquis.		31	12360000	17025000	12885000	17025000 (see (f))	+4140000
70	Utility Relocation		20	5120000	8749700	5257000	8749700 (see (g))	+3492700
9B	Construction Contingency	N/A		-	4680700	-	-	-
99	General Contingency	N/A		10250000	4680700	237000	4680700	+4443700
	TOTAL			131025000	164743995	131233000	164743995	+25470995

156 924 318

156 924 318

25,691,322



## COST SUMMARY

### Notes

- (a) The amounts in column 5 are the STDA June 1983 budget entries as shown in the Current Baseline Budget Report dated December 12, 1984. Contract estimates include escalation to the mid-point of construction. All contingency is lumped under CU99.
- (b) The numbers used in column 6 were developed by the Audit Team. Where applicable, actual contract prices were used. Detailed construction estimates of CU's 2a, 4a, 5, 6, 7 and 7e were made by the Audit Team and escalated to the mid-point of construction (see Project Schedule dated November 30, 1984). Amounts for CU's 7b, 9, 11 and 18a, as shown in the Current Baseline Budget were found to be accurate and were used. Definitive design information about CU7a was unavailable; therefore, the entry for this item was derived from information shown in the Current Baseline Budget. For 8b, the amount shown in the Current Baseline Budget was adjusted to reflect the actual bid price of the wheel truing machine and updated costs of the other shop equipment to be acquired under the CU. These amounts also include escalation to the mid-point of construction.

The amount of the construction contingency applied varies from 0 percent in cases where the contract work was completed (with no claims outstanding) to 10 percent for procurement on construction contracts not yet under way. Because CU's 5 and 70 are still under design, contingencies of 10 percent and -5 percent, respectively, were used for these two entries. In cases where significant modifications or claims were outstanding, the contingency allowances were raised accordingly. In the case of CU17, the construction contingency exceeds 5 percent because of a large potential claim from the supplier.

All contingency is lumped under CU99.



- (c) The numbers shown in column 7 are the STDA 12/84 budget entries as shown in the Current Baseline Budget Report dated December 12, 1984. Estimates for procurement and construction work not yet under contract were escalated to the mid-point of construction. Contingency is included in the individual procurement and construction CU's.
- (d) The numbers used in column 8 were developed by the Audit Team. Column 8 is similar to column 6 except that in column 8 the construction contingency has been individually applied to CU's 1-21 where in column 6 it has been included under CU99.

<u>CU#</u>	<u>Percent Contingency</u>	<u>Amount of Contingency</u>
1	--	0
1a	--	0
2	5	199,350
2a	5	211,553
3	3	119,140
4	--	0
4a	5	449,270
4b/c	5	1,600
4d	5	595,036
5	5	64,345
6	5	71,048
7	10	360,700
7a	2.5	1,750
7b	5	11,100
7c	5	7,500
7d	5	29,172
7e	--	0
8	2.5	200
8a	5	109,700
9	5	196,400
10	5	119,250
11	5	14,000
12	--	0
13	--	0
14a	--	0
14b	--	17,275
15	2.5	1,397,604
16	5	26,000
17	5	39,500
18a	5	12,000
18b	5	86,825
18c	2.5	74,050
19	5	0
20	--	0
21	--	0



(e) Amount included in CUI.

(f) Amount is based upon seller's asking prices for parcels not yet acquired and upon actual prices for parcels already under control of STDA.

(g) Amount is based upon amounts claimed by utilities.



SACRAMENTO TRANSIT DEVELOPMENT AGENCY  
CONTRACT UNIT #2A

Bid Item No.	Description	Dwg. #	Unit	Quantity	Unit Price	Price Total
<b>1. BASE ITEMS</b>						
1	Construction Area Signs	SS019	LS	1	10000	10000
2	Traffic Control System		LS	1	60000	60000
3	Type III Barricade	SSD28	EA	6	100	600
4	Temporary Field Office		LS	1	5000	5000
5	Temporary Traffic Stripes (Tape)		EA	1300	1	650
6	Portable Delineator	SSD25	EA	55	20	1100
7	Temporary Railing (Type K)	SSD28	LF	740	20	14800
8	Abandon Culvert and Underdrain		EA	6	200	1200
9	Abandon Inlet		EA	5	200	1000
10	Remove Painted Traffic Stripes	SSD19	Sq. Ft.	6185	2	12370
11	Remove Thermoplastic Traffic Stripes and Pavement Marking	SSD19	Sq. Ft.	1415	2	2830
12	Remove Roadside Sign		EA	3	100	300
13	Remove Headwall		EA	1	250	250
14	Remove Asphalt Concrete Pad		CY	1550	5	7750
15	Remove Base and Surfacing	CR-1	CY	6045	25	151125
16	Salvage Frame and Grate		EA	2	200	400
17	Salvage Metal Beam Guard Railing	L4	LF	2100	4	8400
18	Salvage Bridge Approach		LF	70	5	350
19	Salvage Single Metal Beam Barrier	L4	LF	400	3	1200
20	Salvage Double Metal Beam Barrier	L4	LF	5400	4	21600
21	Salvage Sign Structure	SSD20	EA	2	1000	2000
22	Reconstruct Metal Beam Guard Railing	SSD2,7	LF	50	10	500
23	Reconstruct Sign Structure	SSD20	EA	5	3000	15000
24	Reconstruct Removable Sign Panel Frame	SSD20	EA	3	250	750
25	Relay 42" Reinforced Concrete Pipe		LF	36	60	2160
26	Relay Concrete Flared End Section		EA	3	250	750
27	Reset Frame and Grate		EA	11	300	3300
28	Relocate Sign Structure	SSD20	EA	6	5000	30000
29	Relocate Sign Panel and Frame	SSD20	EA	10	150	1500
30	Modify Sign Structure	SSD20	EA	5	1500	7500
31	Remodel Inlet		EA	10	500	5000
32	Shatter Concrete	LO4	SQYD	900	5	4500
33	Cap Inlet		EA	2	100	200
34	Clearing and Grubbing		LS	1	5000	5000
35	Roadway Excavation		CY	23766	5	118830
36	Highway Planting		LS	1	88000	88000
37	Erosion Control (Type C)		Acres	7	2500	16250
38	Plant Establishment Work		LS	1	15000	15000
39	Modify Irrigation System		LS	1	10000	10000
40	Irrigation System		LS	1	359200	359200
41	Class 2 Aggregate Subbase		CY	5720	9	51480
42	Class 2 Aggregate Base		CY	7512	12	90144



SACRAMENTO TRANSIT DEVELOPMENT AGENCY

BY: DON TODD ASSOCIATES, INC.

SACRAMENTO TRANSIT DEVELOPMENT AGENCY  
CONTRACT UNIT #2A

Bid Item No.	Description	Dwg. #	Unit	Quantity	Unit Price	Price Total
43	Lean Concrete Base		CY	383	95	36385
44	Slurry Seal	25000	6QYD	25000	1	20000
45	Aggregate (Type B Asphalt Concr.)	17050	TON	17050	18	306900
46	Aggregate (Type B Asphalt Concrete Base)	12900	TON	12900	20	258000
47	Paving Asphalt (Asphalt Concrete)	955T	TON	955	150	143250
48	Place Asphalt Concrete (Miscellaneous Area)		6QYD	146	45	6570
49	Place Asphalt Concrete Dike (Type A)		LF	3675	1	3675
50	Asphaltic Emulsion (Paint Binder)		TON	6	400	2400
51	Concrete Pavement (0.60' Thick)		CY	650	90	58500
52	Concrete Pavement (0.85' Thick)		CY	660	85	56100
53	Minor Concrete (Minor Structure)		CY	98	700	68600
54	Furnish Sign Structure (Truss)	8SD20	LB	16770	1	21801
55	Install Sign Structure (Truss)	8SD20	LB	14770	1	7385
56	Furnish Sign Structure (Bridge Mounted Without Walkway) (Laminated Panel)	8SD27	LB	145	3	435
57	Install Sign Structure (Bridge Mounted Without Walkway) (Laminated Panel)	8SD27	LB	145	4	580
58	30" Cast-In-Drilled-Hole Concrete Pile (Sign Foundation)	8SD20	LF	32	200	6400
59	36" Cast-In-Drilled-Hole Concrete Pile (Sign Foundation)	8SD20	LF	186	200	37200
60	Roadside Sign - One Post	8SD19	EA	78	100	7800
61	Roadside Sign - Two Post	8SD19	EA	9	150	1350
62	Install Sign (Strap and Saddle Bracket Method)	8SD19	EA	2	50	100
63	Install Sign Overlay	8SD20	EA	17	25	425
64	Install Overhead Formed Panel Over Existing Sign Panel	8SD20	SQFT	670	3	2010
65	Install Framed Sign Panel	8SD20	EA	3	100	300
66	18" Reinforced Concrete Pipe		LF	5485	30	164550
67	24" Reinforced Concrete Pipe		LF	460	35	16100
68	30" Reinforced Concrete Pipe		LF	1150	40	46000
69	12" Corrugated Steel Pipe (.064" Thick)		LF	42	25	1050
70	18" Corrugated Steel Pipe (.064" Thick)		LF	40	40	1600
71	18" Concrete Flared End Section		EA	10	400	4000
72	Minor Concrete (Curb, Type A1-6)	L4	LF	8798	5	43990
73	Minor Concrete (Curb, Type A2-6)	L4	LF	10376	7	72632
74	Minor Concrete (Curb, Type A3-6)	L4	LF	2273	6	13638
75	Minor Concrete (Gutter)		LF	360	6	2160
76	Minor Concrete (Sidewalk)	L4	SQFT	77850	2	175163
77	Miscellaneous Iron and Steel	L4	LB	23368	1	23368
78	Motorcycle Tie-Down		EA	12	200	2400



SACRAMENTO TRANSIT DEVELOPMENT AGENCY

BY: DON TODD ASSOCIATES, INC.

SACRAMENTO TRANSIT DEVELOPMENT AGENCY  
CONTRACT UNIT #2A

Bid Item No.	Description	Dwg. #	Unit	Quantity	Unit Price	Price Total
79	Chain Link Fence (Type CL-4)	L4	LB	6240	4	24960
80	Delineator (Class 1)		EA	55	30	1650
81	Object Marker (Type K)		EA	1	30	30
82	Concrete Barrier (Type 50)		LF	22500	12	270000
83	Headlight Glare Screen		LF	20195	6	121170
84	Cable Anchor Assembly (Breakway, Type A)	SSD20	EA	3	300	900
85	Cable Anchor Assembly (Breakway, Type B)	SSD20	EA	4	350	1400
86	Crash Cushion, Frangible Cartridge		EA	1	20000	20000
87	8" Thermoplastic Traffic Stripe	SSD19	LF	6400	1	6400
88	Thermoplastic Pavement Marking	SSD19	SQFT	2250	3	6750
89	Paint Traffic Stripe (2-Coat)	SSD19	LF	105000	0	5250
90	Pavement Marker (Non-Reflective)	SSD19	EA	4050	1	4050
91	Pavement Marker (Reflective)	SSD19	EA	2760	3	8280
92	Parking Bumper (Precast Concrete)		EA	28	15	420
93	30" Cast-In-Drilled-Hole Concrete Pile (Signal Foundation)		LF	14	200	2800
94	Signal and Lighting (Location 4)		LS	1	28000	28000
95	Signal (Location 3)		LS	1	7500	7500
96	Cabinet Adapter		EA	2	750	1500
97	Modify Lighting and Sign Illumination		LS	1	75000	75000
98	3/4" Conduit		LF	13160	6	78960
99	1" Conduit		LF	2870	7	20090
100	1 1/2" Conduit		LF	1095	9	9855
101	No. 12 AWG Conductor		LF	14865	0	4460
102	No. 10 AWG Conductor		LF	23450	1	11725
103	No. 8 AWG Conductor		LF	39490	1	23694
104	Lighting Standard Type P		EA	105	1130	118650
105	Lighting Standard Type 15 (Twin Arm)		EA	27	2537	68499
106	Lighting Standard Type 15 (15' Arm)		EA	40	1870	74800
107	Lighting Standard Type 15 (8' Arm)		EA	15	1730	25950
108	Lighting Standard Type 15 (Slip Base)		EA	3	1830	5490
109	Service Equipment Cabinets		LS	1	11320	11320
110	Building Work		LS	1	86055	86055
111	Suppl Work & State Furnished Mat'l		Lt	1	100000	100000
112	Mobilization		Lt	1	100000	100000

TOTAL

4066413



SACRAMENTO TRANSIT DEVELOPMENT AGENCY  
CONTRACT UNIT #2A

Bid Item No.	Description	Dwg. #	Unit	Quantity	Unit Price	Price Total
II. OPTION 1						
A	Construction Area Signs		LS	1	500	500
B	Traffic Control System		LS	1	2500	2500
C	Type III Barricade		EA	1	100	100
D	Chain Link Railing		LF	0	0	0
E	Roadway Excavation			4206	5	21030
F	Class 2 Aggregate Base		CY	1489	12	17868
G	Aggregate (Type B Asphalt Concrete)		TON	2254	18	40572
H	Paving Asphalt (Asphalt Concrete)		TON	124	150	18600
I	Place Asphalt Concrete Misc. Areas		SQYD	4	45	180
J	Place Asphalt Concrete Dike (Type A)		LF	544	1	544
K	Minor Concrete (Minor Structure)		CY	3	700	2100
L	18" Reinforced Concrete Pipe		LF	98	30	2940
M	12" Corrugated Steel Pipe		LF	8	25	200
N	18" Concrete Flared End Section		EA	2	400	800
O	Minor Concrete (A1-6 Curb)		LF	20	5	100
P	Minor Concrete (A2-6 Curb)		LF	1422	7	9954
Q	Minor Concrete (Sidewalk)		SQFT	6157	2	13853
R	Miscellaneous Iron and Steel		LB	708	1	708
S	Delineator (Special)		EA	34	30	1020
T	Paint Traffic Stripe (2 Coat)		LF	12000	0	600
U	Pavement Marker (Reflective)		EA	300	3	900
V	Lighting		LS	1	44000	44000
W	Modify Signal and Lighting (Location 1)		LS	1	32500	32500
X	Modify Signal and Lighting (Location 2)		LS	1	12500	12500
Y	Mobilization		Lt	1	10000	10000
	TOTAL					234069



BY: DON TODD ASSOCIATES, INC.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
PRELIMINARY ESTIMATE OF COST  
CONTRACT UNIT #4A

CIVIL ROAD SECTION

Item No.	Item Code	Item Description	Dwg. #	Unit (Alt)	Quantity	Price	Amount
1	019669A	Fire Alarm & Data Circ. Reloc.		LB	1	110000	110000
2	120090	Construction Area Signs		LB	1	18000	18000
3	120100	Traffic Control System		LB	1	70000	70000
4	129000	Temporary Railing (Type K)		LF	6497	25	162425
5	150207A	Abandon Pipe		EA	244	175	42700
6	150224	Abandon Manhole		EA	52	300	15600
7	150224A	Abandon Vault		EA	3	1000	3000
8	150717	Remove Traffic Stripes and Pmnt Marking		SQFT	2648	2	5296
9	150742	Remove Roadside Sign		EA	51	100	5100
10	150775A	Relocate Vent Cap		EA	4	500	2000
11	150780	Remove Gutter Drain		EA	42	300	12600
12	150811	Remove Corrugated Metal Pipe		LF	29	5	145
13	150826A	Remove Access Manhole		EA	3	500	1500
14	150827	Remove Catch Basin		EA	12	200	2400
15	150846	Remove Concrete Pavement		SQYD	5190	15	77850
16	150858	Remove Asphalt Concrete Overlay		SQYD	2330	3	6990
17	150858A	Sawcut Concrete Pavement		LF	1673	2	3346
18	151272	Salvage Metal Beam Guard Railing		LF	102	3	306
19	151572	Reconstr. Metal Beam Guard Railing		LF	348	15	5220
20	152310A	Reset Barricade		LF	18	10	180
21	152381	Relocate Gate		EA	2	500	1000
22	152390	Relocate Roadside Sign		EA	17	150	2550
23	152440	Adjust Manhole to Grade		EA	15	250	3750
24	152455	Adjust Valve Box to Grade		EA	44	150	6600
25	152780	Clean Drainage Facility		LF	1224	15	18360
26	153110	Cold Plane Asph. Conc. Pmnt (.101 Maximum)		SQYD	1270	2	2540
27	153209A	Remove Island		CY	539	15	8085
28	153214A	Remove Concrete Curb and Butter (5' to 8' Gutter Pans)		LF	1899	10	18990
29	153215A	Remove Concrete Curb and Cutter (1' to 4' Gutter Pans)		LF	6036	6	36216
30	153218	Remove Concrete Sidewalk		SQFT	55591	1	55591
31	157560	Bridge Removal (Portion)		LS	1	8000	8000
32	159010	Reconst. Metal Railing (Bridge)		EA	9	150	1350
33	043093	Modify Abutment Diaphragm		LS	1	38000	38000
34	160101	Clearing and Grubbing		LS	1	20000	20000
35	190101	Roadway Excavation		CY	32690	11	359590
36	192001	Structure Excavation		CY	1375	50	68750
37	193001	Structure Backfill		CY	725	45	32625
38	203017	Fiber (Eros. Cont'l - Type D)		LB	680	0	170
39	203018	Seed (Erosion Control - Type D)		LB	15	8	120
40	203019	Commercial Fertilizer (Erosion Control - Type D)		LB	102	0	41



BY: DON TODD ASSOCIATES, INC.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
PRELIMINARY ESTIMATE OF COST  
CONTRACT UNIT #4A

CIVIL ROAD SECTION

Item No.	Item Code	Item Description	Dwg. #	Unit (Alt)	Quantity	Price	Amount
41	203020	Stabilizing Emulsion (Erosion Control - Type D)		LB	102	2	153
42	250301	Class 3 Aggregate Subbase		TON	920	9	8280
43	260201	Class 2 Aggregate Base		TON	6131	12	73572
44	280001	Concrete Base		CY	130	100	13000
45	390301	Aggregate (Type B Asph. Conc.)		TON	12288	35	430080
46	391001	Paving Asphalt (Asphalt Concrete)		TON	715	150	107175
47	391003	Paving Asphalt (Paint Binder)		TON	21	150	3210
48	394002	Place Asphalt Conc. (Misc.) (Area)		SQYD	12	45	540
49	394040	Place Asph. Conc. Dike (Type A)		LF	2763	2	4145
50	394044	Place Asph. Conc. Dike (Type C)		LF	3456	1	3456
51	401000	Concrete Pavement		CY	1085	110	119350
52	043094	Concrete Track Bed		LF	2147	100	214700
53	510050	Structural Concrete		CY	206	550	113300
54	510501B	Minor Concrete (Underground Duct)		CY	1500	135	202500
55	510501C	Class A Concrete (Pole Foundation)		CY	560	375	210000
56	510501D	Pull Box (Type A)		EA	34	1705	57970
57	510501E	Pull Box (Type B)		EA	34	970	32980
58	510501F	Pull Box No. 5		EA	18	250	4500
59	510502	Minor Concrete (Minor Structure)		CY	56	1000	56000
60	510504	Minor Concrete (Pipe Encasement)		CY	1	100	100
61	511102	Drill and Grout Dowel		LF	2694	12	32328
62	043095	Drill and Grout Threaded Rod		LF	224	15	3360
63	043097	Prep. Conc. Bridge Deck Surface		SQFT	7270	2	10905
64	520101	Bar Reinforcing Steel		LB	38000	1	22800
65	520102	Bar Reinforcing Steel (Bridge)		LH	49000	1	31850
66	568022	Install Roadside Sign		EA	149	50	7450
67	575003A	Metal Post		EA	97	100	9700
68	640310A	16" ASB Pipe (Class 3300)		LF	150	35	5250
69	650311A	12" Reinf. Conc. Pipe (Class III)		LF	268	35	9380
70	650311A	18" Reinforced Concrete Pipe (Class III) Casing		LF	84	35	2940
71	650316A	24" Reinf. Conc. Pipe (Class III) Casing		LF	24	45	1080
72	650320A	30" Reinforced Concrete Pipe (Class III) Casing		LF	72	50	3600
73	650324A	36" Reinforced Concrete Pipe (Class III) Casing		LF	54	55	2970
74	652307A	12 Reinforced Concrete Pipe (Class III - Rubber Gasket Joint) Calcareous Aggregate)		LF	35	40	1400
75	652311A	18" Reinforced Concrete Pipe (Class III - Rubber Gasket Joint) Calcareous Aggregate)		LF	516	45	23220



BY: DON TODD ASSOCIATES, INC.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
PRELIMINARY ESTIMATE OF COST  
CONTRACT UNIT #4A

CIVIL ROAD SECTION

Item No.	Item Code	Item Description	Dwg. #	Unit (Alt)	Quantity	Price	Amount
76	652407	12" Reinforced Concrete Pipe (Class IV, Rubber Gasket Joint)		LF	198	30	5940
77	652411	18" Reinforced Concrete Pipe (Class IV, Rubber Gasket Joint)		LF	22	35	770
78	652416A	24" Reinforced Concrete Pipe (Class IV - Rubber Gasket Joint) Calcareous Aggregate)		LF	60	50	3000
79	652420A	30" Reinforced Concrete Pipe (Class IV - Rubber Gasket Joint) Calcareous Aggregate)		LF	46	60	2760
80	652424A	36" Reinforced Concrete Pipe (Class IV - Rubber Gasket Joint, Calcareous Aggregate)		LF	1699	80	135920
81	655316	Jacked 24" Reinforced Concrete Pipe (Class III)		LF	72	300	21600
82	634999A	4" Slotted Plastic Pipe Underdrain		LF	31491	6	188946
83	685001A	Underdrain Cleanout Cover		EA	110	300	33000
84	685001B	Reconstruct Roof Drains		LF	196	10	1960
85	690110	12" Corrugated Steel Pipe Downdrain		LF	4	20	80
86	714034	8" Clay Sewer Pipe		LF	94	30	2820
87	714037	15" Clay Sewer Pipe		LF	68	45	3060
88	714039	21" Clay Sewer Pipe		LF	64	45	2880
89	717000A	4" PVC Sewer		LF	850	20	17000
90	717005A	6" PVC Sewer		LF	72	25	1800
91	717010A	8" PVC Sewer		LF	6400	27	172800
92	717015A	10" PVC Sewer		LF	138	28	3864
93	717020A	12" PVC Sewer		LF	5197	30	155910
94	719190A	Std. M.H. Frame and Cover 1-A		EA	7	250	1750
95	719190B	Std. M.H. Frame and Cover 3-B		EA	18	300	5400
96	719215A	Saddle Type Manhole		LF	74	180	13266
97	719216A	Standard Manhole No. 3		LF	324	200	64820
98	719216B	Standard Manhole No. 3-A		LF	25	200	5000
99	719217A	Standard Manhole No. 4		LF	97	250	24125
100	719218A	Flat Top Manhole		LF	3	700	1750
101	043096	Install Manhole		EA	6	1000	6000
102	719531A	Gutter Drain (No. 20)		EA	20	350	7000
103	719531B	Gutter Drain (No. 22)		EA	46	225	10350
104	719531C	Gutter Drain (No. 24)		EA	9	225	2025
105	731510	Minor Concrete (Curb, Gutter, Sidewalk and Driveway)		CY	556	125	69500
106	740550	Pumping Plant Equipment		LB	1	80000	80000
107	750008A	Frame and Cover (Type - DB)		EA	11	100	1100
108	750030A	Inlet Frame/Grate (Gutter Drain)		EA	1	150	150
109	750038	Inlet Frame/Grate (Type 24-12X)		EA	16	150	2400
110	750050A	Inlet Grate (Gutter Drain)		EA	35	150	5250
111	750090	Miscellaneous Metal (Bridge)		LB	4520	2	7380



BY: DON TODD ASSOCIATES, INC.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
PRELIMINARY ESTIMATE OF COST  
CONTRACT UNIT #4A

CIVIL ROAD SECTION

Item No.	Item Code	Item Description	Dwg. #	Unit (Alt)	Quantity	Price	Amount
112	750520	Pumping Plant Metal Work		LB	2840	2	5680
113	762000A	8" PVC Casing Pipe		LF	560	20	11200
114	800320	Chain Link Fence (Type CL-4)		LF	245	5	1225
115	800360	Chain Link Fence (Type CL-6)		LF	2208	6	12144
116	883162	Concrete Barrier (Type 278)		LF	1216	60	72960
117	833165	Conc. Barrier (Type 27B Modif.)		LF	1791	60	107460
118	833182	Concrete Barrier (Type 27B)		LF	2442	40	97680
119	839490	Conc. Barrier (Type 50D Modif.)		LF	171	25	4275
120	839510	Headlight Glare Screen		LF	2442	7	17094
121	839531	Cable Anchor Assembly (Breakway, Type A)		EA	3	400	1200
122	839550	Terminal Section (Type A)		EA	3	75	225
123	839594	Crash Cushion, Frangible Cartridge		EA	2	22000	44000
124	840504	4" Thermoplastic Traffic Stripes		LF	3710	2	7420
125	840515	Thermoplastic Pavement Marking		SQFT	10285	5	51425
126	840656	Paint Traffic Stripes (2-Coat)		SQFT	9950	1	9950
127	840660	Paint Pavement Marking		SQFT	114	1	114
128	850101	Pavement Marker (Non-Reflective)		EA	3710	2	7420
129	850102	Pavement Marker (Reflective)		EA	870	4	3480
130	991041A	Remove and Salvage Track		TF	4468	5	22340
131	991041B	Ballast No. 4		TON	5263	14	73682
132	991041C	Ballast No. 5		TON	29176	14	408464
133	991041D	Geotextile Fabric		SQYD	58817	1	67640
134	991041F	Construct Track		TF	34763	15	521445
135	991041G	Restraining Rail		LF	4918	15	73770
136	991041H	Insulated Joint		EA	14	175	2450
137	991041I	Install No. 20 Turnout		EA	1	13000	13000
138	991041J	Install No. 8 Turnout (Street)		EA	3	8000	24000
139	991041K	Install No. 6 Turnout		EA	3	7000	21000
140	991041L	Install No. 6 Crossover		EA	1	15000	15000
141	991041M	Install No. 10 Turnout		EA	2	12000	24000
142	991041N	Field Rail Welds		EA	743	275	204325
143	991041O	Straighten or Cut Back Rail Ends		EA	81	75	6075
144	991047	Telephone Facility		LS	1	38000	38000
145	991062A	4" PVC Water Main		LF	30	16	480
146	991062B	6" PVC Water Main		LF	790	16	12640
147	991062C	8" PVC Water Main		LF	4124	19	78356
148	991062D	12" PVC Water Main		LF	555	30	16650
149	001063A	16" Welded Steel Water Main		LF	45	80	3600
150	991063B	18" Welded Steel Water Main		LF	70	90	6300
151	991063C	20" Welded Steel Water Main		LF	80	100	8000
152	991063D	24" Welded Steel Water Main		LF	160	120	19200
153	991063E	36" Welded Steel Water Main		LF	165	145	23925
154	991064A	2" PVC Casing Pipe		LF	285	5	1425
155	991064B	4" PVC Casing Pipe		LF	80	8	640
156	991064C	10" PVC Casing Pipe		LF	20	20	400



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STATE OF CALIFORNIA  
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PRELIMINARY ESTIMATE OF COST  
CONTRACT UNIT #4A

CIVIL ROAD SECTION

Item No.	Item Code	Item Description	Dwg. #	Unit (Alt)	Quantity	Price	Amount
157	991064D	12" PVC Casing Pipe		LF	524	25	13100
158	991064E	15" PVC Casing Pipe		LF	801	30	24030
159	991065A	18" Steel Casing Pipe		LF	270	35	9450
160	991065B	20" Steel Casing Pipe		LF	35	45	1575
161	991065C	24" Steel Casing Pipe		LF	125	45	5625
162	991065D	36" Steel Casing Pipe		LF	117	60	7020
163	991065E	42" Steel Casing Pipe		LF	135	65	8775
164	991066A	1" Service		EA	22	250	5500
165	991066B	1.5" Service		EA	4	300	1200
166	991066C	2" Service (110 LF)		EA	1	1000	1000
167	991066D	2" Services		EA	8	400	3200
168	991066E	2" Metered Services		EA	3	895	2685
169	991067A	6" Gate Valve		EA	9	500	4500
170	991067B	8" Gate Valve		EA	33	600	19800
171	991067C	12" Gate Valves		EA	3	1100	3300
172	991067D	24" Butterfly Valves		EA	2	3000	6000
173	991068A	Relocate Hydrant		EA	2	1200	2400
174	991068B	Double Pumper Fire Hydrant		EA	12	1500	18000
175	991069A	Corros. Test Sta. Type B		EA	17	755	12835
176	991069B	Corros. Test Sta. Type L		EA	2	530	1060
177		Maintain Traffic		LS	1	30000	30000
178		Signs and Traffic Control		LS	1	20000	20000
179		Remove Unsuitable Materials		LS	1	5000	5000
180		Landscape Modification		LS	1	30000	30000
181		Additional Asphalt Concrete		LS	1	5000	5000
182		Additional Signing		LS	1	2000	2000
183		Additional Drainage Work		LS	1	10000	10000
184		Additional Striping and Pmnt Mkg.		LS	1	2000	2000
185		"K" & "O" Street Improvements		LS	1	1931334	1931334
186	999990	Mobilization		Lt	1	200000	200000
187		TOTAL					8639753

"K" & "O" STREET IMPROVEMENTS:  
DEMOLITION

178		Sawcut Concrete Pavement		LF	4177	2	7310
179		Remove Concrete 4" Pavement & Aggregate Base		SF	78668	1	51134
180		Remove Light Standards (Exist.)		EA	9	150	1350
181		Remove Concrete Curb and Gutter		LF	3571	2	5357
182		Remove Unit Pavers		SF	640	1	320
183		Remove Existing Trees		EA	57	250	14250
184		Tree Pruning		EA	16	150	2400
185		Tree Barrier		EA	66	25	1650



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CONTRACT UNIT #4A

CIVIL ROAD SECTION

Item No.	Item Code	Item Description	Dwg. #	Unit (Alt)	Quantity	Price	Amount
186		Remove Slab Over Grade		SF	624		
187		Remove Rest. Pad		SF	1152		
188		Remove Asphalt Concrete & Aggregate Base		SF	159070	0	39768
189		Remove Granite Planters		SF	2	500	1000

PAVING

190		Interlocking Pavers/Aggregate Base		SF	136726	4	574249
191		Broom Finish Concrete Paving		SF	33186	2	66372
192		Expansion Joints		LF	4710	2	7065
193		Conc. Curb or Flush Band 12x6 In.		LF	8	2	16
194		Concrete Dike		LF	1820		2950
195		Safety Strips (BT) Tile/Fdn.		LF	1637	44	72028
196		Concrete Trench Drain w/Tile		LF	4526	62	280612
197		Trench Drain Pull Out w/Grate		EA	30	250	7500
198		Metal Headers at Planters		LF	2999	3	8997
199		Handicap Ramp (Station)		EA	8	22000	176000
200		Track Angle Supports		LF	13140	4	52560
201		Pedestrian Sidewalk Ramps		EA	11	385	4235

PLANTING AND IRRIGATION

202		Trees		EA	233	500	116500
203		Groundcover		SF	8375	0	2931
204		Annuals		SF	1800	10	18000
205		Sod		SF	4450	1	2670
206		Soil		CY	28	60	1680
207		Pop-Up Low Angle 4 In. Heads		EA	164	20	3280
208		Pop-Up Flat Spray 6 In. Heads		EA	608	18	10944
209		Flood Bubbler		EA	134	15	2010
210		Spider Bubbler		EA	145	15	2175
211		Remote Control Valve		EA	43	200	8600
212		Controller		EA	8	750	6000
213		Quick Coupling Valve or Hose Bib		EA	84	75	6300
214		Back Flow Preventer		EA	8	650	5200
215		Bronze Gate Valve		EA	8	150	1200
216		Pot Groups		EA	72	100	7200
217		Point of Connection		EA	3	150	450
218		Main Line PVC Sched. 40		LF	9550		5549
219		Lateral Line PVC CL. 200 3/4 In.		LF	1948	2	3896
220		Lateral Line PVC CL. 200		LF	18955		2820
277		Sleeves 4 In.		LF	1130	6	6780
278		Conduit for Controller		LF	1293	2	2586
279		Shrubs for Containers		SF	350		0



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CONTRACT UNIT #4A

CIVIL ROAD SECTION

Item No.	Item Code	Item Description	Dwg. #	Unit (Alt)	Quantity	Price	Amount
280		1/2" Ball Valves		EA	53		0

ELECTRICAL

281		Conduit 1 In. - 2 #8 & 1 #10		LF	50	2	100
282		Conduit 1 In. - 3 #10		LF	990	2	1980
283		Conduit 1 1/2 In. - 5 #8 & 1 #10		LF	945	3	2835
284		Conduit 1 1/2 In. - 4 #8 & 1 #10		LF	1210	3	3630
285		Conduit 1 1/2 In. - 2 #8 & 1 #10		LF	85	2	170
286		Conduit 1 In. - NT		LF	60	2	120
287		Conduit 2 In. - NT		LF	445	3	1335
288		Conduit 4 In. - NT		LF	55	5	275
289		Pullbox #P52		EA	11	800	8800
290		Electrical Connections		EA	72	60	4320

STREET FURNITURE

291		Telephone Kiosk		EA	15	2200	33000
292		Drinking Fountain		EA	5	1800	9000
293		Ticket Vendor		EA	8	150	1200
294		Trash Receptacle		EA	72	350	25200
295		Large Planter		EA	15	500	7500
296		Small Planter		EA	38	450	17100
297		Bench A		EA	27	2500	67500
298		Bench "B"		EA	25		
299		Bench "C"		EA	7		
300		Bike Rack		EA	9	250	2250
301		News Rack Rail		EA	7	375	2625
302		Tree Well w/o Grate		EA	48	125	6000
303		Tree Well w/Grate		EA	48		
304		Tree Well w/Plants		EA	20		
305		Removable Bollard		EA	1	300	300
306		Area Drain		EA	18	275	4950
307		Light Pole w/Lights and Banner		EA	64	2000	128000
308		Traffic Sign (PAINT)					
309		Ped. Sign (PAINT)		EA	14		
310		Artist Tree Grate		EA	48		
311		Catenary Pole (Paint Only)		EA	44	200	8800
312		Install Pole		EA	1	350	350
313		Install Grates		EA	4	25	100

TOTAL

1931334



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STATE OF CALIFORNIA  
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PRELIMINARY ESTIMATE OF COST  
CONTRACT UNIT #5

Item No.	Item Code	Item Description	Dwg. #	Unit (Alt)	Quantity	Price	Amount
1	019669A	Fire Alarm & Data Circuit Relocation		LB	1	5000	5000
2	120090	Construction Area Signs		LB	1	10000	10000
3	120100	Traffic Control System		LB	1	15000	15000
4	120120	Type III Barricade		EA	100	100	10000
5	129000	Temporary Railing (Type K)		LF	80	20	1600
6	150207A	Abandon Pipe		EA	12	175	2100
7	150224	Abandon Manhole		EA	4	300	1200
8	150742	Remove Roadside Sign		EA	50	50	2500
9	150806	Remove Pipe		LF	208	10	2080
10	152320	Reset Roadside Sign		EA	15	80	1200
11	153210	Remove Concrete		LB	1	3000	3000
12	160101	Clearing and Grubbing		LB	1	30000	30000
13	190101	Roadway Excavation		CY	108250	4	378875
14	193013	Structure Backfill (Retaining Wall)		CY	2650	25	66250
15	194001	Ditch Excavation		CY	78	10	780
16	250201	Class 2 Aggregate Base		TON	950	12	11400
17	390123	Asph. Conc. (Type B, 3/4" Max. Gr.)		TON	6601	35	231035
18		Paving Asphalt		TON	370	150	55500
18	394002	Place Asphalt Concrete (Miscellaneous Area)		SOYD	972	45	43740
19	401000	Concrete Pavement		CY	70	90	6300
20	510102	Class A Concrete (Structure)		CY	174	500	87000
21	510501C	Class A Concrete (Pole Foundation)		CY	450	400	180000
22	510502	Minor Concrete (Minor Structure)		CY	41	700	28560
23	510504	Minor Concrete (Pipe Encasement)		CY	4	100	400
24	520103	Bar Reinforcing Steel (Retaining Wall)		LB	7600	1	7600
25	565011	Roadside Sign - One Post		EA	35	100	3500
26	610102A	Subballast		TON	29520	8	221400
27	610103A	Ballast No. 4 (1 1/2" Max.)		TON	90220	14	1263080
28	610104A	Ballast No. 5 (1" Max.)		TON	10450	13	135850
29	610302A	Prefabricated Grade Crossing		LF	1760	300	528000
30	611003A	Insulated Joint		EA	110	150	16500
31	611004A	Construct Track		TF	66530	9	598770
32	611004B	Construct Track (Direct Fixation)		TF	4160	9	37440
33	611005A	Install No. 20 Turnout		EA	5	10000	50000
34	611006A	Construct Track (SPTC)		TF	18670	9	168030
35	611009A	Rail Welds (Plant or Field)		EA	1427	250	356750
36	611010A	Install No. 9 Turnout		EA	8	9000	72000
37	611011A	Install No. 6 Turnout		EA	2	6000	12000
38	611014A	Straighten or Cut Back Rail Ends		EA	43	100	4300
39	611015A	Sand Pit		EA	1	3000	3000
40	611016A	Furnish Rail (SPTC)		LF	7460	30	223800
41	611017A	Furnish Ties (SPTC)		EA	10675	14	149450
42	611020A	Install No. 10 Turnout		EA	4	10000	40000
43	611021A	Install No. 7 Turnout		EA	2	7000	14000
44	611022A	Construct Track (Freight)		TF	5070	10	50700
45	612000A	Remove and Salvage Track		TF	31100	10	311000



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PRELIMINARY ESTIMATE OF COST  
CONTRACT UNIT #5

Item No.	Item Code	Item Description	Dwg. #	Unit (Alt)	Quantity	Price	Amount
46	612007A	Remove Railroad Track		TF	20780	10	207800
47	650316A	24" RCP III Casing		LF	32	45	1440
48	650320A	30" RCP III Casing		LF	54	50	2700
49	650336	54" Reinforced Concrete Pipe (Class III)		LF	48	100	4800
50	652307	12" Reinforced Concrete Pipe (Class III, Rubber Gasket Joint)		LF	4215	30	126450
51	652311	18" Reinforced Concrete Pipe (Class III, Rubber Gasket Joint)		LF	1513	35	52958
52	652311A	18" Reinforced Concrete Pipe (Rubber Gasket, Calcareous Agg III)		LF	100	45	4500
53	652316	24" Reinforced Concrete Pipe (Class III, Rubber Gasket Joint)		LF	792	40	31680
54	652324	36" Reinforced Concrete Pipe (Class III, Rubber Gasket Joint)		LF	40	60	2400
55	680223A	4" Slotted Plastic Pipe Underdrain		LF	11416	4	45664
56	680224A	Underdrain Cleanout Cover		EA	168	300	50400
57	680225A	6" Slotted Plastic Pipe Underdrain		LF	9526	5	47630
58	680227A	8" Slotted Plastic Pipe Underdrain		LF	15085	6	90510
59	681996A	Geotextile Fabric		SQYD	118600	1	118600
60	705201	12" Concrete Flared End Section		EA	32	300	9600
61	705204	18" Concrete Flared End Section		EA	26	350	9100
62	705206	24" Concrete Flared End Section		EA	3	400	1200
63	714035	10" Clay Sewer Pipe		LF	36	40	1440
64	717010A	8" PVC Sewer		LF	1900	27	51300
65	717011A	8" Plastic Pipe (SD-16)		LF	200	25	5000
66	717020A	12" PVC Sewer		LF	850	30	25500
67	719302A	Sac. City Standard Manhole No. 3		EA	29	1500	43500
68	719532A	Cutter Drain (No. 20)		EA	5	200	1000
69	719532B	Butter Drain (No. 22)		EA	4	225	900
70	731502	Minor Concrete (Miscellaneous Construction)		CY	91	225	20475
71	731510	Minor Concrete (Curb, Gutter, Sidewalk and Driveway)		CY	180	225	40500
72	750001	Miscellaneous Iron and Steel		LB	17925	2	26888
73	750050A	Inlet Grate (Butter Drain)		EA	6	150	900
74	800359A	Remove and Relocate (Type CL-6) Chain Link Fence)		LF	1569	5	7845
75	800360	Chain Link Fence (Type CL-6)		LF	6744	5	33720
76	800710A	Item Description Not Found		LS	1	5000	5000
77	802660A	Remove and Relocate 20' Chain Link Gate (Type CL-6)		EA	1	500	500
78	833000	Metal Railing		LF	3950	20	79000
79	839481	Concrete Barrier (Type 50)		LF	1180	80	94400
80	840660	Paint Pavement Marking		SQFT	500	5	2500
81	880000A	City Water Facility Modifications		LS	1	400000	400000
82	890000A	WPRR/LRT Separation (Structure)		LS	1	2122000	2122000
83	890000B	SPRR/LRT Separation (Structure)		LS	1	1824000	1824000
84		Right of Way Obligation		LS	1	30000	30000



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STATE OF CALIFORNIA  
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PRELIMINARY ESTIMATE OF COST  
CONTRACT UNIT #5

Item No.	Item Code	Item Description	Dwg. #	Unit (Alt)	Quantity	Price	Amount
85		Protect Existing Ungrd Facilities		LS	1	2000	2000
86		Maintain Traffic		LS		10000	0
87		Remove Unsuitable Materials		LS	1	20000	20000
88		Additional Asphalt Concrete		LS	1	5000	5000
89		Additional Drainage Work		LS	1	25000	25000
90		Relocate No. 10 Turnouts		EA	1	40000	40000
91		Track Connection to Clearpoint		LS	1	36500	36500
84	999990	Mobilization		LT	1	250000	250000
TOTAL							11442987



STATE OF CALIFORNIA  
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PRELIMINARY ESTIMATE OF COST  
CONTRACT UNIT #6

Item No.	Item Description	Dwg. #	Unit (Alt)	Quantity	Price	Amount
1	Footings		CY	126	150	18900
2	Grade Beams		CY	13	150	1950
3	Escalator Pit		CY	4.5	300	1350
4	Escalator Pit		CY	5.1	150	765
5	Escalator Pit		CY	5.1	300	1530
6	Elevator Pit		CY	14.88	150	2232
7	Elevator Pit		CY	44.44	300	13332
8	Demolition		LS	1	6000	6000
9	Slab on Grade		CY	227	150	34050
10	Slab Upper Level East		CY	87	300	26100
11	Slab Upper Level West		CY	54	300	16200
12	Stairways		EA	2	12000	24000
13	Handicapped Ramp		EA	2	12500	25000
14	Safety Strip		LF	400	10	4000
15	Planters		SQFT	800	10	8000
16	12" Walls		SQFT	3674	10	36740
17	8" Walls		LF	1820	6	10920
18	Slab		CY	19	300	5700
19	Roof		SQFT	1000	2	2000
20	Skylight		EA	8	300	2400
21	Doors		EA	13	300	3900
22	Toilet Tiles		SQFT	600	5	3000
23	Toilet Partitions		LS	1	2000	2000
24	Hardware		LS	1	2000	2000
25	Landscape		LS	1	21000	21000
26	Electrical		LS	1	150000	150000
27	Plumbing		LS	1	23000	23000
28	Railing		CY	43	340	14620
29	Windscreen		SQFT	2870	20	57400
30	Windscreen Frame		LF	7010	1	7010
31	Stair Rail		LF	204	60	12240
32	Bollards		EA	14	500	7000
33	Benches		LF	184	50	9200
34	Handicapped Rail		LF	252	22	5544
35	Expansion Joint		LF	138	40	5520
36	Elevators		EA	2	100000	200000
37	Painting		LS	1	20000	20000
38	Canopy Col. 1 to 6		AS PER DETAILS			45000
39	Canopy Col. 7 to 14		AS PER DETAILS			56370
40	Canopy Col. 14a to 14g		AS PER DETAILS			49800
41	Canopy Col. 15 to 22		AS PER DETAILS			56370
42	Canopy Col. 23 to 25		AS PER DETAILS			31370
43	Canopy Col. 26 to 29		AS PER DETAILS			68000
44	Canopy 35 to 39		AS PER DETAILS			70200
45	Metal Fence		LF	58	20	1160
46	Telephone		LS	1	800	800
47	Fence, Pipes		LS	1	1000	1000
48	Columns to Upper Level		CY	24	300	7200
49	DOMESTIC PLUMBING		LS	1	15500	15500
50	Mobilization		Lt	1	50000	50000
TOTAL						1227373



BY: DON TODD ASSOCIATES, INC.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
PRELIMINARY ESTIMATE OF COST  
CONTRACT UNIT #7

Item No.	Item Code	Item Description	Dwg. #	Unit (Alt)	Quantity	Price	Amount
1	071320	Temporary Chain Link Fence (Type C1-6)	05/1	LF	175	10	1750
2	120090	Construction Area Signs		LB	1	11400	11400
3	120100	Traffic Control System		LB	1	20000	20000
4	150210A	Abandon 6" Iron Pipe		EA	1	100	100
5	150210B	Abandon 8" Corrugated Steel Pipe		EA	1	100	100
6	150742	Remove Roadside Sign		EA	1	50	50
7	150810	Remove Reinforced Concrete Pipe		LF	750	20	15000
8	150810A	Remove 8" Reinforced Concrete Pipe		LF	10	15	150
9	150813A	Remove 8" Corrugated Steel Pipe		LF	30	15	450
10	150821	Remove Headwall		EA	1	200	200
11	152255	Reset Mailbox	05/2	EA	7	100	700
12	152361	Relocate Corrugated Steel Pipe		EA	1	500	500
13	152390	Relocate Roadside Sign	05/2	EA	5	75	375
14	152430	Adjust Inlet		EA	5	200	1000
15	152440	Adjust Manhole to Grade		EA	28	275	7700
16	152441	Adjust Valve Box Frame and Cover to Grade		EA	30	100	3000
17	153216	Remove Concrete Curb and Sidewalk	05/2	CY	50	20	1000
18	160120	Remove Tree	05/2	EA	2	250	500
19	190101	Roadway Excavation		CY	12900	10	129000
20	190185	Shoulder Backing		LF	4500	1	4500
21	250201	Class 2 Aggregate Subbase	05/2	CY	279	21	5859
22	260201	Class 2 Aggregate Base		TON	13760	15	206400
23	280000	Lean Concrete Base	05/2	CY	243	90	21870
24	390301	Aggregate (Type B Asphalt Concrete)		TON	40	15	600
25	390304	Aggregate (Type B Asphalt Concrete, 1/2" Maximum Grading)		TON	15600	15	234000
26	391001	Paving Asphalt (Asphalt Concrete)		TON	960	35	33600
27	394002	Place Asphalt Concrete (Miscellaneous Area)	05/2	SQYD	1454	45	65430
28	401000	Concrete Pavement	05/1	CY	423	100	42300
29	510502	Minor Concrete (Minor Structure)		CY	25	410	10250
30	620060	12" Alternative Pipe Culvert		LF	100	28	2800
31	620100	18" Alternative Pipe Culvert		LF	2470	30	74100
32	620140	24" Alternative Pipe Culvert		LF	924	37	34188
33	650010	12" Reinforced Concrete Pipe		LF	14	25	350
34	684999A	4" Plastic Pipe		LF	40	15	600
35	685100A	8" Plastic Pipe		LF	260	20	5200
36	714034	8" Clay Sewer Pipe		LF	16	35	560
37	719216A	48" Precast Manhole (Type 3)		EA	2	1500	3000
38	719216B	48" Precast Manhole (Type 3A)		EA	2	2000	4000
39	719217A	60" Precast Saddle-Type Manhole		EA	1	2000	2000
40	719531A	Gutter Drain (No. 20)		EA	2	100	200
41	721516	Concrete-Rock Slope Protection (Cobble, Method A)		CY	2	250	500
42	731504	Minor Concrete (Curb and Gutter)	05/1	CY	720	250	180000
43	731511	Minor Concrete (Island Paving)	05/1	CY	10	100	1000
44	731521	Minor Concrete (Sidewalk)	05/1	CY	540	250	135000
45	750001	Miscellaneous Iron and Steel		LB	20	2	20



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CONTRACT UNIT #7

Item No.	Item Code	Item Description	Dwg. #	Unit (Alt)	Quantity	Price	Amount
46	750038	Inlet Frame and Grate (Type 24-12X)		EA	16	400	6400
47	800360	Chain Link Fence (Type CL-6)	08/1	LF	5685	7	39795
48	802560	10' Chain Link Gate (Type CL-6)	08/1	EA	4	350	1400
49	840656	Paint Traffic Stripes (2-Coat)		LF	27600	0	2760
50	840666	Paint Pavement Marking (2-Coat)		SQFT	2100	2	4200
51	994912	Parking Bumper (Precast Concrete)	08/2	EA	20	20	400
52		Mobilization		Lt	1	50000	50000

TOTAL

1366267

ALTERNATE A

Item No.	Item Code	Item Description	Dwg. #	Unit (Alt)	Quantity	Price	Amount
1	071320	Temporary Chain Link Fence (Type CL-6)		LF	175	10	1750
2	120090	Construction Area Signs		LS	1	11400	11400
3	120100	Traffic Control System		LS	1	20000	20000
4	150210A	Abandon 6" Iron Pipe		EA	1	100	100
5	150210B	Abandon 8" Corrugated Steel Pipe		EA	1	100	100
6	150742	Remove Roadside Sign		EA	1	50	50
7	150810	Remove Reinforced Concrete Pipe		LF	750	20	15000
8	150810A	Remove 8" Reinforced Concrete Pipe		LF	10	15	150
9	150813A	Remove 8" Corrugated Steel Pipe		LF	30	15	450
10	150821	Remove Headwall		EA	1	200	200
11	152255	Reset Mailbox		EA	7	100	700
12	152361	Relocate Corrugated Steel Pipe		EA	1	500	500
13	152390	Relocate Roadside Sign		EA	5	75	375
14	152430	Adjust Inlet		EA	5	200	1000
15	152440	Adjust Manhole to Grade		EA	28	275	7700
16	152441	Adjust Valve Box Frame and Cover to Grade		EA	30	100	3000
17	153216	Remove Concrete Curb and Sidewalk		CY	50	20	1000
18	160120	Remove Tree		EA	2	250	500
19	190101	Roadway Excavation		CY	12625	10	126250
20	190185	Shoulder Backing		LF	4500	1	4500
21	250201	Class 2 Aggregate Subbase		CY	279	9	2511
22	260201	Class 2 Aggregate Base		TON	10660	12	127920
23	280000	Lean Concrete Base		CY	243	90	21870
24	390301	Aggregate (Type B Asphalt Concrete)		TON	40	15	600
25	390304	Aggregate (Type B Asphalt Concrete, 1/2" Maximum Grading)		TON	12800	15	192000

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BY: DON TODD ASSOCIATES, INC.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
PRELIMINARY ESTIMATE OF COST  
CONTRACT UNIT #7

Item No.	Item Code	Item Description	Dwg. #	Unit (Alt)	Quantity	Price	Amount
26	391001	Paving Asphalt (Asphalt Concrete)		TON	780	35	27300
27	394002	Place Asphalt Concrete (Miscellaneous Area)		SQYD	1455	45	65475
28	401000	Concrete Pavement		CY	310	100	31000
29	510502	Minor Concrete (Minor Structure)		CY	22	410	9020
30	620060	12" Alternative Pipe Culvert		LF	64	28	1792
31	620100	18" Alternative Pipe Culvert		LF	2194	30	65820
32	620140	24" Alternative Pipe Culvert		LF	924	37	34188
33	650010	12" Reinforced Concrete Pipe		LF	14	25	350
34	684999A	4" Plastic Pipe		LF	40	15	600
35	685100A	8" Plastic Pipe		LF	260	20	5200
36	714034	8" Clay Sewer Pipe		LF	16	35	560
37	719216A	48" Precast Concrete Manhole (Type 3)		EA	2	1500	3000
38	719216B	48" Precast Concrete Manhole Type 3A)		EA	2	2000	4000
39	719217A	60" Saddle Type Manhole		EA	1	2000	2000
40	719531A	Gutter Drain (No. 20)		EA	2	100	200
41	721516	Concrete-Rock Slope Protection (Cobble, Method A)		CY	2	250	500
42	731504	Minor Concrete (Curb and Gutter)		CY	528	250	132000
43	731511	Minor Concrete (Island Paving)		CY	7	100	700
44	731521	Minor Concrete (Sidewalk)		CY	428	250	107000
45	750001	Miscellaneous Iron and Steel		LB	10	2	15
46	750038	Inlet Frame and Grate (Type 24-12X)		EA	14	400	5600
47	800360	Chain Link Fence (Type CL-6)		LF	5755	7	40285
48	802560	10' Chain Link Gate (Type CL-6)		EA	2	350	700
49	840656	Paint Traffic Stripes (2-Coat)		LF	20750	0	2075
50	840666	Paint Pavement Marking (2-Coat)		SQFT	1900	2	3800
51	994912	Parking Bumper (Precast Concrete)		EA	20	20	400
52		Mobilization		Lt	1	50000	50000
		TOTAL					1133206







**TASK 140**



## TASK 140 ENVIRONMENTAL IMPLICATIONS OF PROJECT CHANGES

### I. Scope of Task Work

Review the FEIS for the project and compare it with current scope definitions and design. Identify and document changes in the project which have occurred and categorize each change as an option exercised, minor clarification or major change requiring FEIS revision.

### II. Methodology

- A. Completed detailed review of FEIS.
- B. Reviewed results of Tasks 110, 120 and 130 and held discussions with other members of the consultant team to obtain information relative to changes made since the FEIS was written.
- C. Reviewed Assessment Reports No. 1 and 2 and current baseline budget in order to obtain further background and information about changes initiated since the FEIS was written.
- D. Interviewed STDA Project Director and members of his staff in order to obtain background information and to verify changes when possible.

### III. Summary of Findings and Conclusions

Two proposed changes appear at this time to require additional study and environmental clearance. They are identified in the attached Myra L. Frank & Associates report as items 2.B8. and 2.B.9.

Change 2.B.8. extends the double-track section from K to G Streets, necessitating a split station configuration between J and I Streets resulting in additional safety hazards to patrons crossing the tracks and altered traffic pattern with potential vehicular and pedestrian conflicts, and additional operational noise and visual impacts.

<sup>16</sup>  
Change 2.B.<sup>9</sup> results from the decision to operate three and four-car trains which will cause additional and unanticipated blockage of certain downtown streets during peak hour traffic. The affected intersections are as follow:

- 7th and K Streets - outbound three-car train blocks one lane in 8th Street.
- 8th and O Streets - inbound four-car train blocks two lanes in 9th Street.
- 12th Street - inbound four-car train blocks all of 13th Street
- 23rd Street - inbound four-car train blocks all of 24th Street

Since the FEIS does not deal fully with these issues, additional study and documentation appears to be warranted. For additional information about these and other changes to the FEIS, see the attached Myra L. Frank & Associates report.

### IV. List of Attachments

- A. Report prepared by Myra L. Frank & Associates dated January 4, 1985.



FINAL REPORT

ENVIRONMENTAL IMPLICATIONS OF PROJECT CHANGES

Sacramento Light Rail Transit Project

Prepared for: Sacramento Transit Development Agency  
January 4, 1984

Prepared by: Myra L. Frank & Associates  
403 West 8th Street, Suite 801  
Los Angeles, California 90014  
(213) 627-5376

In Conjunction with  
Parsons Brinckerhoff, and  
Daniel, Mann, Johnson, and Mendenhall



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## I. SUMMARY AND RECOMMENDATIONS

After review and analysis of the Final Environmental Impact Statement (FEIS), the revisions to the project description, and the budget adjustments, the conclusion has been reached that the only change to the project which has the potential for significant impact is the blocking of Downtown streets by three- and four-car trains during the peak hours.

The Code of Federal Regulations (23 CFR 771) Section 771.129(d) states:

"If any changes are made to the proposed action and it is uncertain if a supplemental EIS is required, the applicant will develop appropriate environmental studies or, if necessary, an EA [Environmental Assessment] to assess the impacts of such changes." (Appendix A)

As the existing environmental documentation does not contain sufficient information to determine the significance of street blockages in the downtown area during peak hours, it is recommended that the Sacramento Transit Development Agency prepare a traffic impact study for the areas where streets would be blocked to analyze the impacts to the traffic volumes and level of service with implementation of the project. This information should then be compared with the criteria for traffic significance as found in UMTA Circular C 5620.1 Section K Traffic and Parking (Appendix B). If after the traffic study is completed and the impacts are found to be in the category "Generally Not Significant," the funding agency should be so notified (such notification to be placed in the project file) in accordance with 23 CFR 771.129(d).

If, on the other hand, the impacts fall within either the "Possibly Significant" or "Generally Significant" categories, then a full environmental assessment would have to be performed.

The following table summarizes the evaluation of and the recommendations for further study of the project changes subsequent to the issuance of the Final Environmental Impact Statement (FEIS). Each of the project changes has been analyzed and is classified according to one of three categories:

- A) The nature or scope of the change to the project appears, from its description, to be either covered by or substantially the same as the existing FEIS.



B) The magnitude of the change is sufficiently minor or is a clarification and does not warrant consideration of any further environmental documentation.

C) The change appears to be sufficiently major and significant to necessitate consideration of further environmental documentation and clearance.



TABLE 1

## SUMMARY OF PROJECT CHANGES

PROJECT CHANGE	ENVIRONMENTAL CATEGORY		
	A	B	C
<b>A. Systemwide Changes</b>			
1. Flag stops	X		
2. Bus-to-Bus Timed Transfers		X	
3. Reduction in Integrated Art Program		X	
4. Parking Space Reduction		X	
5. Landscaping Reductions		X	
6. Construction Noise Mitigation		X	
7. Bus Operator Restrooms		X	
<b>B. Changes Affecting Northeast and Central City Corridor</b>			
8. O Street Mall Traffic Provisions		X	
9. American River Bridge Reconstruction		X	
10. Arcade Creek Construction	X		
11. Bus Acceleration Lane		X	
12. Central City Design Modifications		X	
13. Changes to Watt/I-80 Station		X	
14. Median Barrier on Watt Avenue Bridge		X	
15. Modifications to Northeast Stations		X	
16. Blocking Downtown Cross Streets			X
17. LRT in Mixed Traffic		X	
18. Train Speeds	X		
<b>C. Folsom Corridor</b>			
19. Butterfield Way Extension	X		
20. Access to R Street		X	

**LEGEND**

- A - Covered or substantially the same as the existing FEIS
- B - Does not warrant any further environmental documentation
- C - Change is major and necessitates consideration of further environmental documentation and clearance



## II. DESCRIPTION OF PROJECT CHANGES

The information contained in this report is based on interviews with the Project Director (Jim Roberts) and the three Deputy/Assistant Project Directors (Dick Weaver, Signaling and Electrical Systems; Jeff Gualco, Track and Roadbed; and Bob Kershaw, Structures, Facilities, and Stations); and the findings of Tasks 110 (Review Project Design Criteria) and 120 (Review Project Scope Definition). This summary describes the changes to the project which have occurred subsequent to the certification of the Final Environmental Impact Statement for the Sacramento Light Rail Project. It follows and is organized into the following sections.

- A) Systemwide changes
- B) Changes affecting the Northeast Corridor
- C) Changes affecting the Folsom Corridor

### A. Systemwide Changes

1. Flag Stops - Due to changes during the planning process, the FEIS contains conflicting statements regarding station dwell times. On page 2-27 the document states that regular stops would be made only at downtown and bus transfer stations, and that all other stations would function as so-called flag stops. This was an early planning assumption. However, the operational plan was altered to call for all stations to operate as regular transit stops, with a projected station dwell time of 20 seconds at each station. This change is reflected in the FEIS text on page 2-25. The two conflicting statements were not reconciled in final editing.

2. Bus-to-Bus Timed Transfers - The FEIS states that timed transfer operation would be maintained between bus-bus and bus-rail connecting lines. Based on known scheduling difficulties, the bus-bus aspect of this plan has been deleted and only the bus-rail portion remains.

3. Reduction in Integrated Art Program - For cost containment reasons, the previously planned artistic treatment at selected stations has been reduced in scale to approximately 50% of its former funding level. Should it be possible to acquire sufficient funding in the future, the full program would be reinstated. The affected stations are: Power Inn, Cathedral Square, K Street Mall, St. Rose of Lima Park, and O Street Mall.



4. Parking Space Reduction - As presented in the FEIS, station layouts specified the number of parking spaces to be provided, based on anticipated future demand, therefore allowing for some expansion beyond currently anticipated needs. The right-of-way necessary for future parking needs will be acquired, but for cost-saving reasons actual construction will be initially limited to "opening demand" levels, namely the number of spaces needed by 1985. The result of this change is a 20% reduction in the number of parking spaces to be initially provided.

5. Landscaping Reduction - Landscaping plans are now to be reduced approximately 25% from the original concept. Specific amounts of landscaping were not quantified in the FEIS. Additional sources of funding are being sought to restore the program to its original scope.

6. Construction Noise Mitigation - One of the noise mitigation measures to be used during system construction is the placement of plywood noise barriers in the vicinity of sensitive receptors. Current plans call for the use of plywood barriers in downtown areas only. A second mitigation measure was the use of ultrasonic pavement breakers in the downtown areas. This requirement has been deleted.

7. Bus Operator Restrooms - Restrooms not previously specified are now to be provided for bus operators' use during layover periods at three stations: Masconi (Northeast Corridor), 65th Street, and Watt/Manlove (Folsom Corridor).

B. Changes Affecting the Northeast and Central City Corridor

8. O Street Mall Traffic Provisions - Original plans for the O Street Mall area in the Central City portion of the system called for all vehicular traffic to be prohibited. In order to provide for existing traffic flow, this concept will not be implemented at the time of start-up operations. Rather, vehicular traffic will have limited access to the mall area, as shown in Sheet #37 of the Appendices to the FEIS. Complete closure of the O Street mall to vehicular traffic is still under consideration, however.

9. American River Bridge Reconstruction - As currently stated in the FEIS, no reconstruction involving the American River Bridge was to take place. Current plans now call for



minor reconstruction of the bridge surface to enable rails to be laid. Also, catenary poles are to be installed on one side of the bridge with lighting standards on the other side.

10. Arcade Creek Construction - The FEIS states that there would be no channel or embankment work during construction of the new bridge over Arcade Creek. It is now clear that this structure cannot be completed without also involving some embankment work. The 1601 permit for bridge construction received from the California Department of Fish and Game requires as a mitigation measure that "rip rap" or other erosion protection be placed in areas where vegetation cannot be reasonably be expected to become reestablished. This will be done on small areas of the embankment after construction is completed.

11. Bus Acceleration Lane - An additional lane has been added to the access arrangements at the Watt/I-80 Station to allow buses to reach highway speeds before entering the flow of traffic on I-80. This proposed mitigation measure is required by the Federal Highway Administration.

12. Central City Design Modifications - Based on the recommendations of a value engineering study, the following non-essential provisions have been deleted or deferred: special paving for North 12th Street; landscaping between G and K Streets; special paving along 7th, 8th, and 12th Streets. Not in conflict with FEIS.

13. Changes to Watt/I-80 Station - Based on recommendations of a value engineering study, the following station appointments have been deleted: windscreen at the stairwell, landscaping and planter boxes, elevator enclosures, station shelters.

14. Median Barrier on Watt Avenue Bridge - At the request of the County Traffic Department, a median barrier will be placed on the Watt Avenue Bridge over I-80 to better separate traffic and increase safety.

15. Modifications to Northeast Stations - In addition to adjustments in parking and landscaping at Northeast Corridor stations, a concrete bus apron has been eliminated at the Swanston Station.

16. Blocking Downtown Cross Streets - Because of the requirements of train positioning, stations cannot be located along curved sections of track. Trains can only be stopped at stations which are located on straight track sections. In the downtown area, with three- and four-car trains in use



during the peak hour, blockages at the following cross streets are anticipated:

- 7th and K Streets - outbound three-car train will block one lane in 8th Street, outbound four-car train will block all of 8th Street
- 8th and O Streets - inbound four-car train will block two lanes in 9th Street
- 12th Street - inbound four-car train will block all of 13th Street
- 23rd Street - inbound four-car train will block all of 24th Street

17. LRT in Mixed Traffic - As stated in the FEIS, a six-inch concrete curb, separating auto and LRT traffic, was to be installed in 7th and 8th Streets, between K and O Streets. This provision has now been deleted and the LRT will operate in mixed traffic.

18. Train Speeds - A statement was previously made that train speeds were to be kept to 10 mph in the downtown area. While this will remain true for the K Street Mall, on other city streets the LRT will run at the same speed as surrounding auto traffic.

#### C. Folsom Corridor

19. Butterfield Way Extension - Butterfield Way will still be extended as set forth in the FEIS; however it will not cross the LRT tracks. An alternative station location has been chosen such that the LRT tracks would terminate before reaching Butterfield Way.

20. Access to R Street - As a result of negotiation with the Sacramento Bee for right-of-way acquisition, the bridge which forms a grade separation at R Street has been lengthened to now extend from 19th to 23rd Streets. It was formerly shown returning to grade at 22nd Street. This change necessitates the additional acquisition of several small pieces of property.



### III. ANALYSIS OF ENVIRONMENTAL IMPLICATIONS OF PROJECT CHANGES

#### A. METHODOLOGY

The goals of this analysis were to review the adopted FEIS for the light rail project; compare it with the current project scope and design; and to document, evaluate, and categorize any changes. Changes found were grouped into one of three categories: changes which were covered in the environmental documentation or substantially the same as contained in the FEIS; changes which were minor in nature or a clarification of the FEIS; and changes which were major and will require further study.

Using the list of project commitments and mitigation measures from the FEIS, a series of personal interviews were conducted with the project management staff to document changes to the project in their areas of concern. This information was then cross-referenced against the the research being preformed by other members of the audit team. Specifically, the information gathered for Tasks 110 (review of Project Design Criteria) and 120 (Review of Project Scope Definition) was examined to insure as complete a review as time would allow.

The guidelines used as criteria for the decision as to which category a change should be placed in are found in Urban Mass Transportation Administration (UMTA) Circular C 5620.1, Guidelines for Preparing Environmental Assessments.

In the discussion below, the numbers associated with each change refer to those listed in Table 1, page 3 of this report.

#### B. SYSTEMWIDE CHANGES

##### 1. Covered by Existing Document

The following changes are judged to be covered in existing environmental documentation:

- Flag Stops (1)
- Parking Space Reduction (4)

The conversion of former flag stop stations into regular transit stops was a change in system operation made while the environmental process was underway. During the EIS preparation



conflicting statements were not edited out of the document. These conflicting statements are not a change or an alteration to the description of the project and are already covered by the existing FEIS.

The proposed change in the number of parking spaces is not a reduction, but rather a deferral of actual parking space construction in accordance with anticipated demand. The right-of-way necessary to construct parking to its ultimate level is still being acquired and reserved for that purpose. The number of parking spaces which will be provided as need and funding allow is reflected in the FEIS. This change therefore is covered by existing project descriptions.

## **2. Minor Changes or Clarifications**

The following changes are judged to be minor in scope and/or constitute clarification to original material. They therefore do not warrant additional environmental documentation.

- Bus-to-Bus Timed Transfers (2)
- Reduction in Integrated Art Program (3)
- Landscaping Reductions (5)
- Construction Noise Mitigation (6)
- Bus Operator Restrooms (7)

Elimination of bus-to-bus timed transfers does not change the description of the project, nor its ability to function effectively. Also, the bus-to-rail timed transfer aspect has been retained. Removal of bus-to-bus timed transfers would not result in additional impacts beyond those already disclosed. For these reasons, it is considered a minor change not requiring additional documentation.

The reduction proposed for the Integrated Art Program and Landscaping must be considered as downscoping from the original project description. Neither artistic station treatment nor area landscaping affect the operation of the system, although they do relate to visual appearance and aesthetics. Particularly in the case of landscaping, assuming that the most visually sensitive portions of the route are dealt with first, such an adjustment is considered minor. Additional funding sources are being sought to restore as much as possible of the original plans and program.

Reductions in noise mitigation measures during construction are also minor changes. It is presumed that all applicable local noise ordinances will be adhered to and that, therefore, sufficient attention will be paid to requisite



noise alterations. However, it should be clearly stated that the intent of the project construction team is to sufficiently mitigate construction noise impacts, particularly at known sensitive receptors.

The addition of three restroom facilities is clearly a minor change not warranting additional documentation.

### 3. Major Changes Requiring Additional Documentation

None found that apply systemwide.

## C. Changes Affecting the Northeast and Central City Corridor

### 1. Covered by Existing Document

The following Northeast and Central City Corridor changes are judged to be covered in existing documentation.

Arcade Creek Construction (10)  
Train Speeds (18)

In the case of construction involving Arcade Creek, it is not possible to construct a clear span structure without involving the embankment, at least during the construction period. In addition, the Department of Fish and Game is requiring as a mitigation measure some minor placement of "rip rap" on the embankment after construction is completed. The phrase in the FEIS (page 3-13) should probably have read "no permanent encroachment on the embankment." This change could be considered already covered or a clarification.

Operation of LRT trains at grade in city streets is restricted to the prevailing speed limit as required by California Public Utilities Commission General Order No. 143. This change is therefore judged to be covered by existing documentation.

### 2. Minor Changes or Clarification

The following changes are considered to be minor in scope and/or clarification to the original material. They are therefore judged not to warrant additional environmental documentation.

O Street Mall Traffic Provisions (8)  
American River Bridge Reconstruction (9)  
Bus Acceleration Lane (11)  
Central City Design Modifications (12)



Changes to Watt/I-80 Station (13)  
Median Barrier on Watt Avenue Bridge (14)  
Modifications to Northeast Stations (15)  
LRT in Mixed Traffic (17)

The treatment of traffic in the O Street Mall area has been modified to provide for the maintenance of existing traffic patterns. Prohibition of all vehicular traffic would have had some negative consequences on adjacent streets and therefore the proposed change can actually be perceived as a mitigation measure. Given the fact that only partial use of the mall area by vehicles is proposed and that the rail-vehicle conflicts will be the subject of continued study to resolve the traffic issues, the change is considered minor.

The extent of reconstruction proposed for the American River Bridge is minor. It consists of preparing the bridge surface to receive track and installing catenary and light poles. Correspondance from the State Historic Preservation Office has established that the bridge is not historically significant. The change is judged to be minor.

Provision of a bus acceleration lane is a change which is designed to facilitate the overall flow of traffic on I-80. It is furthermore being required as a mitigation measure by FHWA. It is therefore a change not warranting additional documentation.

Project changes which relate to the Central City area, the Watt/I-80 Station, and other Northeast Stations are, by their description, all minor. They generally relate to special types of street paving, station appurtenances, and the elimination of a bus apron which is apparently not warranted. The Sacramento Redevelopment Agency is presently considering funding the the K Street Mall improvements if the Sacramento Transit Development Agency (STDA) cannot restore these items to their budget. These changes do not alter the description of the project in a significant way, nor do they result in additional impacts not already disclosed.

The construction of a median barrier on the Watt Avenue Bridge over I-80 over the station location is to decrease the chance of auto/pedestrian conflicts. The barrier was requested as a project mitigation measure by the County Traffic Department. Thus, it is thusly a change not requiring any additional documentation.

A concrete curb, which was to be installed in 7th and 8th Streets between K and O Streets, has been eliminated from the project. Although this results in the possibility of additional vehicular and pedesterian conflict, with attendant increased



risk of vehicle/auto conflicts, it does not constitute a major change to the system, particularly since the LRT will operate in mixed traffic in other portions of the route. Additional documentation for this change is not recommended.

### 3. Major Changes Requiring Additional Documentation

Only one change was found which at this time would appear to require additional study and environmental clearance. This change is:

#### Blocking Downtown Cross Streets (16)

Because it is necessary to operate the LRT in the downtown area in three- and four-car trains during the peak hours, several significant blockages to cross streets would occur. Four such sites have been identified in the information collected thus far. These blockages are of sufficient magnitude to require a thorough discussion of the impacts on traffic at the specific cross streets affected, as well as the surrounding street system. It does not appear that this discussion has been presented and it therefore needs to be prepared.

### D. Changes Affecting The Folsom Corridor

#### 1. Covered by Existing Document

Of the two proposed changes affecting the Folsom Corridor, the Butterfield Way Extension (19) appears to be covered by existing documentation.

Judging from drawings depicting the Butterfield Station area, the change proposed constitutes a reconfiguration of the station/parking layout and track placement in such a way as to terminate the system just before reaching Butterfield Way. The extension of Butterfield Way itself is still to be included as a part of the project, and therefore the existing description and discussion of impacts should be considered adequate.

#### 2. Minor Changes or Clarification

One proposed change -- Access to R Street (20) -- is found to be a minor change not requiring additional documentation. This change consists of extending a bridge/grade separation one additional block to accommodate the desires of the adjacent property owner, reducing the effects on his parking lot and warehouse operation. The area is predominantly industrial in use and character, and there were no historically significant structures identified in the newly-affected block. Unless the



additional right-of-way needed for this change is significant and would necessitate displacement of business establishments, this change does not appear to require additional environmental clearance.

3. Major Changes Requiring Additional Documentation

None found in the Folsom Corridor.



APPENDICES



## APPENDIX A

Excerpt from  
Code of Federal Regulations  
23 CFR 771

### "Environmental Impact and Related Procedures"

#### § 771.129 Reevaluation.

(a) The applicant shall consult with the Administration to assure that the proposed action or environmental conditions have not significantly changed prior to proceeding with major project approvals or authorizations.

(b) The DEIS or FEIS may be supplemented at any time. Supplements will be necessary when there have been significant changes in the proposed action, the affected environment, the anticipated impacts, or the proposed mitigation measures. However, a supplemental EIS will not be necessary if the Administration decides to fund an alternative adequately covered in the Final EIS but not identified as the proposed action. The decision to prepare a supplement to the FEIS shall not require withdrawal of the previous approvals for those aspects of the proposed action not directly affected by the changed condition or new information. A supplement is to be developed in the same manner (except that scoping is not required) as a new EIS (draft and final, with a ROD).

(c)(1) The DEIS is considered valid for a period of 3 years. If an acceptable FEIS is not submitted to the Administration within 3 years from the date of the DEIS circulation, a written evaluation of the DEIS shall be prepared by the Administration in cooperation with the applicant prior to submission of the FEIS. This evaluation must demonstrate that there have not been significant changes in the proposed action, the affected environment, the anticipated impacts or the proposed mitigation measures. If there have been changes in these factors, which would be significant in the consideration of the proposed action, a supplement to the DEIS or a new DEIS shall be prepared.

(2) If major steps to advance the action (e.g., authority to acquire a substantial portion of the right-of-way, or approval of the plans, specifications and estimates) have not occurred within 3 years from the date the FEIS or FEIS supplement was approved, the Administration in cooperation with the applicant shall prepare a written evaluation of the FEIS before further

approvals may be granted. If there have been significant changes in the proposed action, the affected environment, the anticipated impacts, or proposed mitigation measures, a new or supplemental EIS shall be prepared and circulated.

(3) If major steps to advance the action have not occurred within 5 years from the date the FEIS or FEIS supplement was approved, or within the time frame identified in the FEIS, the written evaluation required in paragraph (c)(2) of this section will be prepared and forwarded for review and action to the same offices that took approval action on the original FEIS.

(4) The requirements for a written evaluation as described in paragraphs (c)(2) and (c)(3) of this section apply only to requests for Administration approvals after July 30, 1982.

(d) If any changes are made to the proposed action and it is uncertain if a supplemental EIS is required, the applicant will develop appropriate environmental studies or, if necessary, an EA to assess the impacts of such changes. If it is determined that the changes result in significant environmental impacts which could not be identified from reviewing the initial EIS, a supplemental EIS will be prepared. If no supplemental EIS is required after the studies or EA required by this subsection have been made, the Administration shall so indicate in the project file.



## APPENDIX B

Excerpt from  
Urban Mass Transportation Administration  
Circular C 5620.1  
October 16, 1979

"Subject: Guidelines for Preparing Environmental Assessments"

### K. TRAFFIC AND PARKING

Impacts on traffic can occur as a result of the generation of traffic by the proposed action (e.g., a garage) or a change in traffic patterns caused by the proposed improvement (e.g., an auto-restricted zone or transit mall). Issues that should be addressed in this category of impacts include changes in traffic volumes and changes in the supply of parking.

Changes in traffic can influence other impacts--such as those in the areas of air quality, noise, energy, community disruption, safety and security, and historic properties and parklands. Therefore, it is important that the traffic analysis be coordinated with analyses of other impact criteria before any information is collected. All requirements should be known so that one data collection effort will serve all needs for information about traffic.

The streets that will be affected by the proposed transportation improvement should be identified and their functional classification determined early in the assessment process. Data on traffic volumes (average daily and peak hour) should be obtained for these streets. These traffic data should



be collected from readily accessible sources, such as the Metropolitan Planning Organization (if the project is in an urban area), the local traffic engineering agency, or the state Department of Transportation. New traffic counts should be made only if adequate information cannot be obtained from existing sources. Counts should be factored to represent a common base year (usually one year following the project's completion date).

The traffic generated by the proposed project and changes in traffic resulting from modifications of travel patterns should be forecast on the basis of the proposed action's characteristics. Forecasts should be made for both average daily traffic (ADT) and peak hour traffic. If the peak hour for traffic generated by the proposed action is different from the peak traffic hour on the surrounding street system, estimates for both hours should be made and the worst condition used for the analysis. This traffic should then be added to the base year traffic on the affected street system. If the resultant peak hour volume on a principal arterial is less than 600 vehicles per lane or if the volume on a minor arterial (or collector) is less than 500 vehicles per lane, it can be assumed that an adequate level of service will be maintained and, therefore, additional analysis of traffic impacts is not necessary. If these criteria are exceeded, a more detailed traffic analysis will be needed to measure the magnitude of the impact and to identify possible mitigation measures.

The detailed traffic analysis should be directed by a person with a sound knowledge of traffic engineering principles. The analysis should address not only the project's impacts on adjacent streets, but also its impact on the total street system affected by it. In some cases, a few streets may be negatively affected; conditions on others may be improved by implementation of the proposed action.

If level of service for the streets affected by the proposed project needs to be calculated, the data required are the physical and operational characteristics of the street system (approach width, one-way or two-way operation, and parking conditions), the characteristics of the traffic (turning movements and number of trucks and buses), and the traffic control measures in operation (type of control and characteristics of the control device). Detailed instructions for determining a street's level of service and capacity are presented in Highway Capacity Manual - 1965, Special Report 87 of the Highway Research Board. The word "capacity," as it is used in the Highway Capacity Manual, pertains to the ability of a roadway to accommodate traffic; more specifically, it is the theoretical maximum number of vehicles that may reasonably be expected to pass over a given section of a roadway during a one-hour period at level of service (LOS) E. The Manual defines LOS as a measure of the quality of traffic flow. It ranges from A, which represents low volumes of traffic and free flow, to F, which indicates forced-flow operation with low speeds and frequent stops. LOS D is generally regarded as the minimum acceptable for urban areas. The Environmental Assessment should present the results of level of service calculations with and without the proposed project for affected streets. The level of service calculations can be made at either midblock locations or at controlled intersections.



The Environmental Assessment should indicate whether the proposed project would divert traffic to sensitive areas such as residential neighborhoods, historic districts, or hospital zones. Any diversion of traffic from arterial streets to residential streets should be documented and justified.

Transit improvements in urban areas frequently have an impact on the use and supply of parking spaces. The proposed action may generate a demand for parking spaces on the part of employees or visitors or may eliminate existing parking spaces (e.g., transit mall or exclusive bus lane). If the project's impacts fall into one of the following categories, there will be no need for additional analysis of impacts on parking:

1. The transit improvement provides parking for on-site activities (e.g. parking for maintenance or administrative employees);
2. Fewer than ten parking spaces are eliminated;
3. Fewer than 50 spaces are eliminated and replacement parking is provided, either through new parking facilities or the use of underutilized parking facilities (surplus parking on the project area); or
4. Over 50 parking spaces are eliminated and comparable replacement spaces are part of the proposed action. Comparable parking is that space located no more than an additional 200-foot walk (approximately one-half block) from the parker's destination.

If required, additional analysis of impacts on parking should be designed to determine the use and purpose of the parking spaces being eliminated by the proposed action. The consequences of no replacement of the parking spaces (e.g., inconvenience to parkers, loss of business) should be discussed. Although the proposed action may include the replacement of parking in an amount equal to the number of spaces eliminated, a negative impact may still result if the new location does not serve the same group of users or does not serve them as effectively.

Table K can be used to evaluate the significance of potential impacts on traffic and parking.

#### L. ENERGY REQUIREMENTS AND POTENTIAL FOR CONSERVATION

The Environmental Assessment should include a discussion of the amount of energy required to operate the proposed project and the following opportunities to conserve energy:

- Shift to a more energy-efficient mode of transportation (e.g., auto users diverted to transit);



TABLE K  
SIGNIFICANCE OF TRAFFIC IMPACTS

Generally Not Significant	Possibly Significant	Generally Significant
<ol style="list-style-type: none"> <li>1. Proposed project would result in total traffic volumes of less than 600 vehicles per hour per lane on principal arterials and 500 vehicles per hour per lane on minor arterials or collectors.</li> <li>2. Proposed project would add traffic to streets operating at level of service (LOS) C or better without lowering LOS to D or worse.</li> <li>3. Proposed project would result in the loss of fewer than 10 parking spaces and would provide sufficient parking for on-site uses.</li> <li>4. Fewer than 50 parking spaces would be lost; replacement parking would be provided.</li> <li>5. Over 50 parking spaces would be lost; comparable replacement parking is available.</li> </ol>	<ol style="list-style-type: none"> <li>1. Proposed project would result in a decrease in LOS to D or worse.</li> <li>2. Proposed project would add traffic to streets presently operating at LOS D without lowering LOS to E or worse.</li> <li>3. Between 10 and 50 parking spaces would be lost; replacement parking is not available.</li> <li>4. Proposed project does not provide parking for on-site activities.</li> <li>5. Proposed project would result in diversion of traffic to local streets.</li> </ol>	<ol style="list-style-type: none"> <li>1. Proposed project would result in a decrease in LOS to E or worse.</li> <li>2. Proposed project would add traffic to streets that are presently operating at LOS E or worse.</li> <li>3. More than 50 parking spaces would be lost; comparable replacement parking is not available.</li> </ol>

- Improvement in energy efficiency (e.g., reconstruction of existing facilities or construction of replacement facilities that are more energy-efficient than present ones);
- Reduction in deadheading of buses and other transit vehicles;
- Improvement in pattern of usage (e.g., more energy-efficient bus operations due to a transit mall, exclusive bus lanes, or a new transit terminal);
- Shift to a more abundant fuel source (e.g., solar energy);
- Reduction in demand for vehicular travel (e.g., construction of a pedestrian mall, joint development); and
- Increase in load factors (e.g., more efficient use of existing bus fleet).

Table L can be used to evaluate the significance of potential energy impacts.