Metropolitan Transportation Authority

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Metro

PLANNING AND PROGRAMMING COMMITTEE
NOVEMBER 14, 2007

SUBJECT: FUNDING FOR MAJOR PROJECT COST ESCALATIONS

ACTION: APPROVE RECOMMENDATIONS TO INCREASE LIFE-OF-PROJECT BUDGET AND ADDITIONAL FUNDING FOR MAJOR PROJECTS

RECOMMENDATIONS

Approve additional funding, authorize CEO to execute necessary agreements, and amend the FY08 budget as follows:

A. EXPO PHASE 1 LRT

1. Increase the Life-of-Project (LOP) budget for the Expo Phase 1 LRT Project by $145 million, increasing the LOP Budget from $663.3 million to $808.3 million

B. ALAMEDA CORRIDOR EAST (ACE)

1. Provide up to an additional $112.3 million to ACE to reflect Metro's 17% contribution toward cost increases for a total Metro contribution of $274.3 million subject to the following conditions:
    a. ACE must encumber the current funding already committed by Metro;
    b. ACE must provide 83 percent in matching funds from other sources for each of the contracts in which Metro is to participate using the $112.3 million in supplemental funds

C. METROLINK EASTERN MAINTENANCE FACILITY

1. Approve programming of $14.6 million in Proposition C 10% funds to the Southern California Regional Rail Authority (SCRRA) for the Eastern Maintenance Facility Project, previously referred to as the Rolling Stock Maintenance Facility in San Bernardino; and

2. Amend the FY08 budget to include $4.4 million for the Eastern Maintenance Facility Project

ISSUES

Construction costs have increased significantly over the past several years for all capital construction projects due to the increase in demand for steel and concrete; higher property values and costs associated with relocation of businesses; and higher energy costs much beyond the customary annual escalation rates.

When the original Expo Phase 1 Project budget was developed in 2004 and approved by the MTA Board in 2005, costs were based on information developed during the environmental process and some limited preliminary engineering. At that time, construction cost estimates were based on escalation of labor and materials in the amount of 3.5% per year and a contingency that did not include adequate funding for design development costs. Actual escalation of labor and materials has been much higher per year and as a result, construction costs are projected to exceed the budgeted amount for construction.

The ACE Construction Authority (ACECA) has requested additional funding to reflect Metro's share of the increased costs associated with their program since 1997.

Through the 2001 Call for Projects, the Board of Directors programmed $7,886,000 in Proposition C 10% funds for the first phase of the Eastern Maintenance Facility Project. The Board programmed an additional $3,128,000 from surplus FY 2001-02 funds in June 2004 through the annual adoption of the Metrolink budget. The SCRRA is now seeking funding to allow for a more cost effective phasing of the project and cover construction cost escalation since 2004. The timing is important as the storage, inspection and maintenance facilities are needed to accommodate rolling stock that the SCRRA now has on order. The additional funding is important, as repeated costs for mobilization and demobilization, and future year escalation would make it more costly to build the planned improvements in multiple, smaller phases.

POLICY IMPLICATIONS

The recommended action for the Expo Phase 1 LRT allows a project that is already in the design/build phase to be completed as scheduled.

With respect to ACE, this action is consistent with the Metro Board's commitment to address the community and environmental impacts of goods movement, reiterated at the Board's Goods Movement Workshop held in January 2007. Completion of this high priority goods movement project is critical for the region given the substantial increase in the number of trains that will continue to utilize the corridor to move goods to market.

Regarding Metrolink, both the 2001 and 2007 Long Range Transportation Plan (LRTP) update include funding for Metrolink capital projects, as Metrolink is no longer funded through the Call for Projects. Capital funding levels vary by year, based on the draft LRTP update financial assumptions the average is about $17 million per year. This project would use some of that funding.

OPTIONS

The Metro Board could choose not to provide the additional $145 million in funding for the Expo Phase 1 Project budget increase. This option is not recommended as it would be necessary to reduce the scope and length of the project to stay within the currently approved budget.

For ACE, the Metro Board could choose to reject ACECA's request, however, this is not recommended because it would be inconsistent with the action taken by the Board on similar major projects. In fact, the Board has consistently approved allocation of additional funds due to construction cost increases for Caltrans and has also approved similar increases for jurisdictions through two recent supplemental Call processes.

Regarding Metrolink, the Board of Directors may choose not to approve the recommended actions. The Board instead could direct staff to wait until the 2008 Long Range Transportation Plan is adopted. We do not recommend this option, as the SCRRA is attempting to go out to bid in time to provide storage tracks (parking) for the trains now on order, and concurrently take advantage of economies of scale in combining other phases of the project as well. Funding from the other member agencies for this phase of the project is already in place.

FINANCIAL IMPACT

This action will require identification of funding through the Long Range Transportation Plan development process. The LRTP financial update presented to the Board at its August 2007 meeting contained a $370 million Transit Project Contingency which anticipated an increase in funding for the Expo Phase 1 LRT project, as well as additional rail yard and rail car needs systemwide. The update also included a $190 million Highway Project Contingency. The recommended actions for Expo Phase 1 LRT and ACE would use a portion of these reserves reducing funding potentially available for other needs. As shown by the cash flow diagram on Attachment E, ACEACA is requesting that the additional $112.3 million be provided over a seven year period beginning in FY 2009.

Staff will return to the Board with an overall Long Range Transportation Plan update that incorporates the cash flow requirements to support these additional commitments. Metro staff will not impact the operating budget for the purpose of funding these commitments.

Approval of the Metrolink Eastern Maintenance Facility request will add $4.4 million funded with Prop C 10% funds to the FY08 budget in Cost Center 0441, Project 410033. Since this is a multi-year project the Chief Planning Officer will be responsible for budgeting this project in future years.

BACKGROUND

EXPO PHASE I LRT

For additional information on the Expo Phase 1 LRT Project see Attachment A.

Construction Cost Impacts

The original Expo Phase 1 budget developed in 2004 and approved by Metro in 2005 contained an $84 million project contingency. At that time, the amount appeared sufficient to cover any limited escalation and additional costs associated with refinements to the projects' design. The assumption of a 3.5% yearly escalation in cost of materials and labor was a standard assumption and was the maximum amount approved by the Federal Transit Administration (FTA) at the time. However, the actual escalation has been much higher per year, which resulted in approximately $82 million in additional construction costs for the project.

Furthermore, when the construction costs were estimated, the costs were based on a limited amount of preliminary engineering, not on the actual design. As the design of the project becomes more refined, estimated costs can more clearly be defined. These unknowns often add significantly to the cost of the construction and were assumed to be covered by project contingency. The combination of escalation and design development costs is now estimated to be $112 million.

Project Contingency Impacts

To compound the problem, there were a significant number of unknown items that took an early toll on the project contingency. Once the design-build contractor was selected and the 30% level of design had been achieved, the Authority reviewed the cost assumptions for the entire project. As it turned out, many of the original assumptions needed to be revised. In order to reflect these revisions, the Expo Board approved an updated project budget in January 2007 that reallocated contingency among the various budget categories. These included an addition of $17 million in the design-build category to fund the underestimation of the contractors' fees, the allocation of $20 million to a construction change contingency, added costs for unforeseen work such as the National Boulevard Bridge, additional vehicle costs, and higher than anticipated third party costs. All of these increases reduced the project contingency from $84 million to only $17 million, leaving insufficient funds to cover the escalation and design development costs.

Other Project Costs Changes

In addition to the increase in construction costs, several other project budget categories were adjusted to reflect updated cost estimates for the project. The changes to the categories are in Vehicles, Special Conditions, Agency and Professional Services, and Contingency.

Value Engineering Cost Reduction Efforts

Staff has evaluated many cost reduction options and continues to explore opportunities for savings on a daily basis. To date, cost reductions totaling almost $25 million have been accepted and incorporated into the project. Staff is currently reviewing approximately $10 million in additional cost reduction options.

ALAMEDA CORRIDOR EAST (ACE)

At its June 1999 meeting, the Metro Board adopted the ACE funding plan and committed to contribute a maximum of 17 percent ($162 million) of the total $950 million, in 1997 dollars, for the ACE Program. The original cost estimate for the project was based on a Project Study Report that consisted of two phases of work expected to be completed by 2007 with approximately $405 million estimated as Phase I costs and $545 million estimated as Phase II costs. Metro's 17 percent share of the original estimates for each phase was $69 million and $93 million for Phases I and II respectively. The revised total project cost estimate is $1.614 billion with a cost of $491 million and $1.12 billion for Phases I and II respectively. The amount requested to cover 17 percent of the cost increase is $112.3 million reflecting the difference between Metro's original $162 million commitment and 17 percent of the revised total project cost estimate which is $274.3 million. The ACE funding plan was predicated on a "pay as you go" basis, with Metro providing the match for fully funded projects.

The Construction Authority has been challenged with construction and right-of way cost increases since the project was adopted in 1997. Despite successful efforts on the part of the ACE Construction Authority to secure more than $400 million in outside funding to date, the project has experienced cost increases and project delays due to the rising cost of steel and concrete as well as right-of-way and railroad cost increases. This has been further exacerbated by the recent limitations in state and federal transportation funding sources which would provide the match to Metro's share. Attachment F outlines the reasons for the cost increase experienced by ACECA as well as the steps the construction authority will be taking to manage cost increases and identify additional funding sources to complete its program.

As delineated in Attachment E, ACECA anticipates that the original Phase I and II estimate of $950 million in total project cost will be increasing to $1.614 billion based on its recent experiences with construction contracts.

In an effort to assist ACECA in meeting their construction schedule and project commitments, in previous actions, the Metro Board has taken proactive steps to advance its share of funding to ACECA. However, to date, the Board has not lifted the $162 million cap which was based upon construction estimates produced in 1997.

The additional $112.3 million recommended as part of this action would be provided on a "pay as you go", reimbursement basis. ACECA will have to secure the 83 percent in non-MTA sources in order to receive Metro's committed funds toward each of the Phase II grade separations. ACECA will have to advertise each grade separation for construction, select a bidder and incur costs before submitting an invoice to Metro for its 17 percent share of that invoice.

METROLINK EASTERN MAINTENANCE FACILITY

The Metrolink system, which the SCRRA operates, provides regional passenger service between communities, employment centers and activity venues in Los Angeles County and the four surrounding counties of Ventura, Riverside, San Bernardino and Orange, as well as northern San Diego County. Construction of an additional rolling stock maintenance facility in the Inland Empire has been part of the SCRRA Strategic Plan for many years. The original funding would have allowed the construction of 15% of the total project. With the $14,600,000 SCRRA is currently requesting, SCRRA will build 50% of the project. The facility will have more complete maintenance capabilities, allowing Metrolink to decrease the amount of non-revenue train moves to its Central Maintenance Facility to perform maintenance. This will save operating subsidy for Metro. The total project cost of the current phase is $50,096,265. Metro's share, including the $14,600,000, is $25,614,000, or 51.1%. This 51.1% is based on the Metrolink All-Share formula for capital projects, using updated statistics. This All-Share formula is different from the operations formulas with the SCRRA member agencies which was the subject of a recent Board-requested study.

The existing Central Maintenance Facility (CMF) is not large enough to handle the 107 cars and 15 locomotives now on order. The new facility, the Eastern Maintenance Facility (EMF), will provide the needed service and storage capacity. SCRRA staff identified this site as a potential maintenance facility location in the 1990s and developed planning concepts in 2001 and 2002. The Burlington Northern-Santa Fe (BNSF)-owned site, with more than 20 acres, is along the BNSF main lines, provides excellent access to the San Bernardino Station and is on a direct route from the Riverside station. A permanent easement has been approved by BNSF to allow the use of the land for the facility.

A location map and a site plan drawing of the proposed facility is provided in Attachment G and H. The name of the project has been changed from the Rolling Stock Maintenance Facility in San Bernardino to the Eastern Maintenance Facility to be consistent with the geographical naming convention used for SCRRA's existing maintenance facility, the Central Maintenance Facility.

NEXT STEPS

Upon approval by the Metro Board, Metro staff will modify existing agreements and execute new agreements between the respective agencies.

In addition, staff will return to the Board of Directors in late Spring 2008 with a 10-year program of capital projects for Metrolink consistent with the emerging 2008 Long Range Transportation Plan. In the future, funding for capital projects will be allocated through the annual Metrolink budget adoption process.

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ATTACHMENTS

A. Expo Board Report Dated November 1, 2007
B. Mid-City Exposition Proposed Additional Funding
C. Project Cost Status
D. Value Engineering Cost Savings
E. ACE Funding Request and Cash Flow
F. ACE Board Report Dated December 18, 2006
G Eastern Maintenance Facility Location Map
H. Eastern Maintenance Facility Site Plan

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DATE: NOVEMBER 1, 2007

TO: BOARD OF DIRECTORS

FROM: RICHARD D. THORPE
CHIEF EXECUTIVE OFFICER

ACTION: REQUEST THAT METRO INCREASE THE EXPOSITION LIGHT RAIL CONSTRUCTION PHASE 1 BUDGET

RECOMMENDATION

Request that Metro increase the Phase 1 Budget by $145.0 million due to revised estimates to complete the project, as shown in Attachment A.

SUMMARY

When the original Expo Phase 1 project budget was developed in 2004 and approved by the MTA Board in 2005, costs were based on information developed during the environmental process and some limited preliminary engineering. At that time, construction cost estimates were based on escalation of labor and materials in the amount of 3.5% per year and a contingency that did not include adequate funding for design development costs. Actual escalation of labor and materials have averaged over 11% per year and as a result, construction costs are projected to exceed the budgeted amount for construction. Furthermore, construction cost estimates were formulated during the early stages of preliminary engineering, before design had commenced. As is typical during the design of a project, unforeseen work elements were identified and construction estimates had to be modified once design of the project had progressed. While it was envisioned that contingency would be used to cover these additional costs, the Expo project contingency was allocated to other areas early on in the project, leaving insufficient contingency to cover the increased escalation and design development costs, as well as other project-related costs.

DISCUSSION

Construction Costs Impacts:

The original Expo Phase 1 budget developed in 2004 and approved by Metro in 2005 contained an $84 million project contingency. At that time, the amount appeared sufficient to cover any limited escalation and additional costs associated with refinements to the projects' design. Unfortunately, just escalation alone consumed nearly the entire project contingency. At the time, the rapid escalation of materials and labor could not be accurately projected. The assumption of a 3.5% yearly escalation in cost of materials and labor was a standard assumption and was the maximum amount approved by FTA at the time.

However, it has now been determined that the actual escalation has averaged 11% per year, which resulted in approximately $82 million in additional construction costs for the project. This $82 million shortfall in the projected escalation of the project clearly was not anticipated when the cost estimates were formulated in 2004.

Furthermore, when the construction costs were estimated, the costs were based on a limited amount of preliminary engineering, not on the actual design. As the design of the project becomes more refined, estimated costs can more clearly be defined. These unknowns often add significantly to the cost of the construction and were assumed to be covered by project contingency. The combination of escalation and design development costs are now estimated to be $112 million (see Attachment A).

Project Contingency Impacts:

To compound the problem, there were a significant number of unknown items that took an early toll on the project contingency. Once the design-build contractor was selected and the 30% level of design had been achieved, the Authority reviewed the cost assumptions for the entire project. As it turned out, many of the original assumptions needed to be revised. In order to reflect these revisions, the Board approved an updated project budget in January 2007 that reallocated contingency among the various budget categories (see Attachment B). These included an addition of $17 million in the design-build category to fund the underestimation of the contractors' fees, the allocation of $20 million to a construction change contingency, added costs for unforeseen work such as the National Boulevard Bridge, additional vehicle costs, and higher than anticipated third party costs. All of these increases reduced the project contingency from $84 million to only $17 million, leaving insufficient funds to cover the escalation and design development costs.

Revised Cost Estimates:

The projected construction costs shown in Attachment A are based on an analysis of the most recent design for each construction package. The first step in this analysis was the development of an estimate, based on the latest design, for each of the construction packages that have not yet been negotiated. A design development contingency commensurate with the level of design of each construction package was then applied to each estimate. This design development contingency will account for added detail as the design progresses. Based on performance to date, a design contingency of 5% was added to the packages that are currently 85% designed, 15% was added to packages at 60%, and 20% was added to packages still in the early states of design. No design development contingency was added to the already negotiated construction packages. The analysis indicates additional funding of approximately $112 million is necessary to complete the baseline project form downtown to an interim station in Culver City.

Other Project Costs Changes:

In addition to the increase in construction costs, several other project budget categories were adjusted to reflect updated cost estimates for the project. The changes to the categories are as follows:

Vehicles

Based on updated assumptions regarding Metro's light rail vehicle procurement, the Authority decreased the cost of the light rail vehicles for the Expo project by $1.5 million. When the project budget was first formulated by Metro, it was anticipated that the vehicles would be part of an option buy that Metro would exercise. The cost of this option buy increased over the last several years which resulted in an increase in this category when the project budget was updated last January. However, it is now expected that the vehicles could be procured through Metro's base buy, which will be less expensive than the option buy, resulting in a savings of $1.5 million.

Special Conditions

When Metro formulated the project budget, some environmental and preliminary engineering costs for third party agencies were included in the Special Conditions category. The Authority has now consolidated all expenditures made by Metro during the environmental and preliminary engineering phase of the project in one line item in the Agency and Professional Services Category. As a result, $1.5 million that was in the Special Conditions category has been transferred to the Metro Environmental and PE Costs line item under the Agency and Professional Services Category.

However, two areas in the Special Conditions category did increase. Third Party Review has increased by $1.5 million to backfill the funding that was transferred from this line item to the Agency and Professional Services category. The costs for Third Party Review for agencies such as the City of Los Angeles and Caltrans are being closely monitored to ensure that they stay within the allocated budget. Utility Relocation is also projected to increase by $1.6 million to reflect the escalating cost of private utility relocation. The Authority must pay to relocate most private utilities that don't have relocation agreements with Metro and the number of utilities that need to be relocated is higher than originally anticipated.

Agency and Professional Services

Careful monitoring of staff charges and utilization of consultants, has resulted in a decrease to the Metro staff and support budget by $2 million. Further, County Counsel costs have decreased by $500,000 as there has not been a need to utilize law firms that are on the County Counsel panel. Lastly, design support costs are expected to decrease by $1.2 million due to a more rapid demobilization of the design support consultant. The construction management contract is projected to increase by roughly $5.8 million as a greater number of inspectors, quality control, project engineers and quality assurance personnel are being brought into the project. As a result, this category is projected to increase by approximately $3.6 million.

Contingency

During the last project budget update in January 2007, funding was reallocated among the categories to cover unforeseen expenses and increased costs. As a result, the project contingency was virtually depleted with only $17.4 million remaining in this category. Staff is requesting an additional $7.6 million to replenish some of this project contingency, which will bring the contingency up to $25 million.

<u>Value Engineering Cost Reduction Efforts:</u>

Staff has evaluated many cost reduction options and continues to explore opportunities for savings on a daily basis. Attachment C contains the cost reduction options that have been accepted and that are currently under review by staff. To date, cost reductions totaling almost $25 million have been accepted and incorporated into the project, (see Attachment C). Staff is currently reviewing approximately $10 million in additional cost reduction options. Due to various reasons such as operational concerns, aesthetics, and community commitments, staff has evaluated and rejected approximately $11 million in cost saving options.

Conclusion:

It is now apparent based on recent contracts that have been negotiated, that the project cannot be completed as originally planned without additional funding. In addition, the contingency needs of the entire project need to be reassessed based on the project's current stage of development. Staff now believes that an additional amount of $145.0 million will be necessary to complete Phase 1 of the project to the interim station in Culver City.

FINANCIAL IMPACT

In addition to the $23.3 million in enhancements to the project approved by the Metro Board at its September board meeting, the addition of $145.0 million to the project will bring the total project budget to $785.0 million. This additional funding will need to be identified by Metro and approved by the Metro Board. If these additional funds are not approved by the Metro Board, Expo staff will make preparations to cut back the project to fit within the $640 million budget and will bring that assessment back to the Expo Board.

NEXT STEPS

Expo staff will work with Metro staff to identify the funding sources and agendize a recommendation for Metro's November Board meeting.

ATTACHMENTS

A. Revised Construction Costs
B. Project Cost Summary
C. Value Engineering Cost Savings

REVISED

Mid-City Exposition Light Rail Line

Package	Description	Percent Design	Projected Nov. 2007 Cost	Original Budget	Proposed Additional Funding
A-1	Seg A Flower 18th to 23rd	100%	$10,017,577	$6,168,953	$3,848,624
A-2	Seg A Civil Improvements	100%	$45,367,744	$23,239,728	$22,128,016
A-3	Seg A Trench	100%	$36,979,778	$27,141,553	$9,838,225
A-4	Seg A 61" Waterline	100%	$3,046,052	$1,660,272	$1,385,781
A-5	Seg A Caltrans Improvements	60%	$11,688,600	$5,593,077	$6,095,523
B-1	Seg B Utiltiy Improvements	85%	$11,550,000	~~$1,103,524~~ $3,430,937	$8,119,063
B-2	Seg B Civil Improvements	85%	$54,112,728	~~$40,368,671~~ $38,041,257	$16,071,470
C-1	Seg C Utility Improvements	60%	$4,960,437	$2,997,328	$1,963,109
C-2	Seg C Civil Improvements	60%	$98,787,312	$73,306,199	$25,481,113
C-3	Seg C Parking Structure	10%	$16,275,000	$10,663,743	$5,611,257
D-1	Systemwide Signs & Graphics	60%	$1,800,000	$604,614	$1,195,386
D-2	Systemwide Track Procure / Install	60%	$28,216,805	$25,140,157	$3,076,648
D-3	Systemwide Substation Procure	85%	$10,623,932	$17,549,196	-$6,925,264
D-4	Systemwide OCS Installation	60%	$15,642,643	$18,972,532	-$3,329,890
D-5	Systemwide Sig / Comms Procure	60%	$22,407,350	$15,020,208	$7,387,141
D-6	Systemwide Sig / Comms Install	60%	$14,938,233	$6,626,627	$8,311,606
E-1	Metro Blue Line Tie-in (base contract)	10%	$2,400,000	$818,850	$1,581,150
E-2	Mid-Day Layover / Maint Facility	10%	$18,600,000	$18,024,766	$575,234
	TOTAL		$407,414,191	$336,472,195	$112,414,191

ATTACHMENT C

PROJECT COST STATUS

COST SUMMARY

In $ Million

Description	Current Project Budget (January 2007)	Projected Project Budget w/Line Item Increases/Decreases (November 2007)
Design –Build Contract Total	448.9	582.6
Revised Cost Estimate		112.0
Design Build Change Contingency		11.2
Additional Insurance (CCIP)		5.0
Additional Construction Bonds		1.5
Contaminated Soil Removal		4.0
Right-of-Way Total	22.2	22.2
Vehicles Total	48.7	47.2
Base Buy Vehicle Cost		-1.5
Special Conditions Total	28.6	30.2
Utility Relocation (Private utility Companies)		1.6
Metro Environmental & PE Costs (transferred)		-1.5
Third Party Review		1.5
Agency & Professional Services Total	74.2	77.8
Metro Environmental & PE Costs (Actual)		1.5
Metro Staff & Support		-$2.0
County Counsel		-0.5
Carter-Burgess (Construction Management)		5.8
DMJM (Design Support)		-1.2
Contingency Total	17.4	25.0
Additional Contingency		7.6
Total	640.0	785.0

Project Enhancement Total		23.3
Trousdale Station		7
Trade Tech CPUC Changes		2
Expo/Blue Line interface		11.3
Other CPUC Changes		3

ATTACHMENT D

VALUE ENGINEERING COST SAVINGS

Item	Title	Description	Potential Savings	Accepted	Under Review
1	Carbon Steel Canopy Structural Support	Use carbon steel in lieu of contract specified stainless steel	$10,700,000	$10,700,000	
2	Aluminum Canopy Panel	Use power coated aluminum in lieu of contract specified stainless steel	$1,500,000		
3	Reduce Canopy Coverage	Eliminate one canopy panel on each end of the canopies	$2,000,000		
4	Eliminate 30th St. Interlocking	Eliminate 30th St. Interlocking	$1,300,000		$1,300,000
5	Eliminate Maint. Yard Expansion	Combine the light maintenance facility with the mid-day layover facility	$8,000,000	$8,000,000	
6	Procure Vehicles from Base Purchase	Procure light rail vehicles from the base purchase in lieu of option purchase	$1,500,000	$1,500,000	
7	Increase St. Running Section	Convert Western through start of La Brea structure to St. running	$1,000,000		
8	Eliminate Retail in La Cienega Parking Structure	Eliminate of retail would eliminate the parking south of La Cienega structure	$1,500,000		$1,500,000
9	Roadway Pavement Thickness & Limits	Reduce the overly thick roadway pavement design and adjust limits	$450,000		$450,000
10	Grind and Overlay	Grind and overlay intersections in lieu of full depth replacement	$1,000,000		$1,000,000
11	Eliminate One year Reliability Demo Testing	Delete one-year reliability and maintainability requirements	$1,000,000		$1,000,000
12	Use Wayside Cases in lieu of Houses	Replace station communications/electrical house with air conditioned wayside cases	$800,000		$800,000
13	Adams Bridge Design	Redesign to a more cost effective structure	$1,000,000	$1,000,000	
14	Soundwall Design (Segment B & C)	Use metal panels used on Gold Line settlement or block in lieu of concrete post & panel	$2,000,000		$2,000,000
15	Reduce Warranty Period	Reduce warranty period to one year after Substantial Completion	$250,000		
16	Reduce landscaping	Reduce landscaping to only areas around stations	$6,000,000		
17	Buy Used Rail	Purchase used rail	$335,000		
18	Delete Card Key Access System	Delete card key access system to radio bungalow and TPSS	$300,000		$300,000
19	Postpone One Substation	One substation can be added later if designed for a two-car train with six minute headways	$1,000,000		$1,000,000
20	Authority purchase Rail and Ties	Reduce Construction Fee by Procuring Rail Directly	$600,000		$600,000
21	Amour Cast Ductbank	Use Amour Cast ductbanck in lieu of conduit	$400,000		$400,000
22	Sleeve Sanitary Sewer in lieu of Replacement	Use structural liner in lieu of removal & replacement of sanitary sewer where appropriate	$3,500,000	$3,500,000	
23	Relocate Station Speakers	Relocate station speakers from under benches to canopy structure	$62,000		$62,000
			$46,197,000	$24,700,000	$10,412,000

ATTACHMENT E

Alameda Corridor East Cash Flow

($ x 1,000)

	Revised		Original Cost Estimates		Difference In MTA's Share	ADDITIONAL METRO FUNDING REQUEST						
ACE Projects	Project Cost	MTA 17%	Project Cost	MTA 17%		FY09	FY10	FY11	FY12	FY13	FY14	FY15
Phase 1 (Actuals)												
Grade Crossing Improvements	35,200	5,984	35,200	5,984	0	0						
Nogales St.	53,600	9,112	53,600	9,112	0	0						
East End/Reservoir	70,800	12,036	63,700	10,829	1,207	1,207						
Ramona Blvd.	48,200	8,194	43,400	7,378	816	816						
Temple Ave.	63,200	10,744	59,100	10,047	697	697						
Temple Ave. 4th Track	17,300	2,941	11,200	1,904	1,037	1,037						
Brea Canyon	64,600	10,982	54,100	9,197	1,785	1,785						
Sunset Ave.	71,100	12,087	55,200	9,384	2,703	1,300	1,403					
Baldwin Ave.	67,000	11,390	29,200	4,964	6,426	0	6,426					
Subtotal	**491,000**	**83,470**	**404,700**	**68,799**	**14,671**	**6,842**	**7,829**					
Phase 2 (Estimates)												
San Gabriel Trench	459,435	78,104	242,000	41,140	36,964	36,964						
Montebello Blvd.	130,769	22,231	65,600	11,152	11,079		11,079					
Puente Ave.	161,169	27,399	77,000	13,090	14,309			14,309				
Fairway Ave. (SP)	166,370	28,283	75,700	12,869	15,414				15,414			
Fairway Ave. (UP)	86,767	14,750	37,600	6,392	8,358					8,358		
Rose Hills Rd.	48,700	8,279	20,100	3,417	4,862						4,862	
Turnbull Canyon Rd.	69,456	11,808	27,300	4,641	7,167							7,167
Subtotal	**1,122,666**	**190,853**	**545,300**	**92,701**	**98,153**	**36,964**	**11,079**	**14,309**	**15,414**	**8,358**	**4,862**	**7,167**
Grand Total	**1,613,666**	**274,323**	**950,000**	**162,000**	**112,324**	**43,806**	**18,908**	**14,309**	**15,414**	**8,358**	**4,862**	**7,167**

Alameda Corridor-East Construction Authority

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ATTACHMENT F

MEMO TO: ACE Board Members and Alternates

FROM: Rick Richmond
Chief Executive Officer

DATE: December 18, 2006

SUBJECT: Approval of Revised Project Cost Estimate and Priority Program for State and Local Funding

RECOMMENDATIONS

1. Approve the revised cost estimate for the ACE project describe below and request that the San Gabriel Valley Council of Governments also adopt it.
2. Adopt a Phase II priority program consisting of the San Gabriel trench and two additional grade separations to be determined once available funding is known
3. Authorize staff to request the maximum amount of MTA and State bond funding for any currently unfunded grade separation projects, consistent with the guidelines of the respective programs.
4. Authorize staff to continue to process the San Gabriel environmental document and obtain environmental clearance for the two additional grade separations.
5. Authorize staff to solicit design proposals as necessary for the Phase II priority projects.

BACKGROUND

As we approach the point at which all Phase I projects are being implemented (the Baldwin Ave. project in El Monte is the last to move into property acquisition/construction), and there are prospects of additional resources to move into Phase II of the project, it is timely to review and revise as necessary past schedules and cost estimates and make plans for moving forward into Phase II.

The ACE Project was adopted by the San Gabriel Valley Council of Governments in 1997. The project cost was estimated at $950 million in 1997 dollars. An aggressive project implementation plan was subsequently proposed which called for the project to be fully funded by June 2004.

The project has obviously evolved quite differently. We have attempted to respond to changed circumstances and unforeseen problems as effectively as possible, but impacts on the overall project schedule and cost have been unavoidable. We have reported to the Board on a quarterly basis our best estimate of the cost and schedule of Phase I but have not, to date, attempted to speculate on the effect of what we have experienced with Phase I will be on Phase II, and therefore the overall project.

Schedule - The goal of completing the project by 2008, set in 1997, cannot be met. As mentioned earlier, this would have required obtaining all required funding by June 2004. We are very proud of the fact that we have secured $562 million for the project to date, but we have experienced significant delays in much of this funding being available, and it has fallen short of our expectations in the aggregate. Based on this experience, we believe it is too speculative to set a new overall completion date at this point.

Cost - The initial project cost estimate was made in 1997 based on conceptual definitions of the various project elements (Project Study Report). A number of the project components have been redefined or shifted between phases, either to address obstacles or produce a more cost effective project. While the original concept cost estimates included contingencies, they have not come close to covering the effect of unaccounted for costs or changed circumstances, particularly on the grade separations. We have analyzed the eight Phase I grade separations which have stayed relatively close in design concept from the beginning of the project to assess the magnitude of cost changes and the most common reasons. The most significant factors increasing our project cost have been:

1. **Inflation** - As mentioned above, the 1997 cost estimate did not include inflation allowances. While the rate of construction inflation in the early years of the project was relatively modest, it has increased severely in the last few years. Caltrans composite construction inflation index for the period 1997-2006 shows costs 113% higher today than in 1997.

2. **Agency Overhead** - The original cost estimates included a combined allowance for all professional services (engineering, CM, and project management) of 25% but did not provide for agency overhead. Since we have no source of revenue other than project funding we have to cover our costs not directly charged to projects from the project budgets through an approved overhead rate. We have attempted to keep this cost to a minimum, and it has been running about 6-8% over the last few years, nevertheless over the seven years we have been in operation, these costs now total about $22.6 million.

3. **UPRR Force Account** - Track and signal system reconstruction on the operating railroad, as well as flagging protection, must be performed by the UPRR and is only done on a fully reimbursable basis. The original project cost estimate included a total of $21 million for the eight Phase I grade separations. We currently estimate that total to be $50 million.

4. **Real Estate/Relocation** - The original cost estimate identified anticipated real estate requirements and included a total allocation of $8 million for the eight grade separations. Our current estimate for real estate acquisition, relocation and agency costs (administrative and legal) for the eight grade separations is $69 million.

5. **Scope Changes** - While we have avoided "scope creep" for the most part, a glaring exception has been in the requirements imposed on us by the UPRR. UPRR has insisted on capacity expansion elements at every one of our Phase I grade separations, ranging from relatively modest abutment expansion to major capacity expansion as in the Temple project. Often these additional elements came after project design was well advanced so they had the added effect of delaying the project. While we have typically tried to resist them or lessen their impact, it always comes down to the trade off of letting a project languish or accede to the best deal we can get. We estimate the total cost of UPRR capacity enhancements on Phase I at $24 million.

As can be seen, the dollar cost of the above factors has been major. We have attempted to cope with them by early project concept changes which saved cost. In addition we have moved some project components (and one project) from Phase I into Phase II which has kept the Phase I cost down but not reduced the cost of the total project. When we make an "apples-to-apples" comparison of Phase I grade separations from our early estimates (Jan. 2001) to our current estimates, we find the average of the project cost increases to be 64%. If we apply that experience to our residual Phase II cost estimate from the 1997 total project cost estimate, we have a Phase II estimate of approximately $918 million and a total project cost estimate of $1.404 billion.

This is a coarse method of estimating Phase II costs. The average Phase I cost increase masks large discrepancies between individual project increases and our experience on these projects should make better cost control possible. On the other hand, we don't have specific designs for the Phase II projects and this estimate does not include a future inflation factor which can't be estimated without making very speculative assumptions about the pace of future funding.

Potential Additional Funding Opportunities

The ACE Project should be eligible to apply for the recently enacted Prop 1B funds where $2 billion was earmarked for goods movement projects. Another $1 billion was included in Prop 1B bond for environmental mitigation projects related to trade growth. ACE expects to be able to apply for those funds as well. A 50% match is required. We have taken several steps to be prepared for the state funding program getting underway. Staff has updated Phase II costs estimates as noted above. Staff has also reviewed the environmental status of Phase II projects and will be updating the draft documents. Also, staff has worked with the other counties, the environmental agencies, and the business communities to discuss the reasons and benefits of including ACE Phase II projects for consideration of state bond funding. Staff has also discussed with MTA staff the potential for additional local funds as a result of the above cost increases and the need to match state bond funds. MTA is reviewing that request.

Given the state budget process, it is likely funding requests/applications could be required as early as January. As a result, it is timely to discuss with the Board which currently unfunded projects would meet potential project criteria. From discussions with agency staff, project readiness will also be a key selection criteria.

Proposed Phase II Priorities

There are ten grade separations in Phase II yet to be funded. In addition, the Nogales (UP) underpass has been designed by ACE under contract to the County. The project is ready for right-of-way and construction but costs estimates for construction exceed committed funding. The County of LA is seeking MTA Call for Project funding. Those decisions will not be known until July, 2007.

Ideally, ACE would seek bond funding for all ten grade separations plus Nogales. However, the competition will be intense and that expectation is unrealistic. Taking into consideration the likely project selection and project readiness criteria noted above. Staff recommends Board adoption of a Phase II priority program consisting of:

- San Gabriel trench
- Two additional grade separations to be determined once available funding is known.

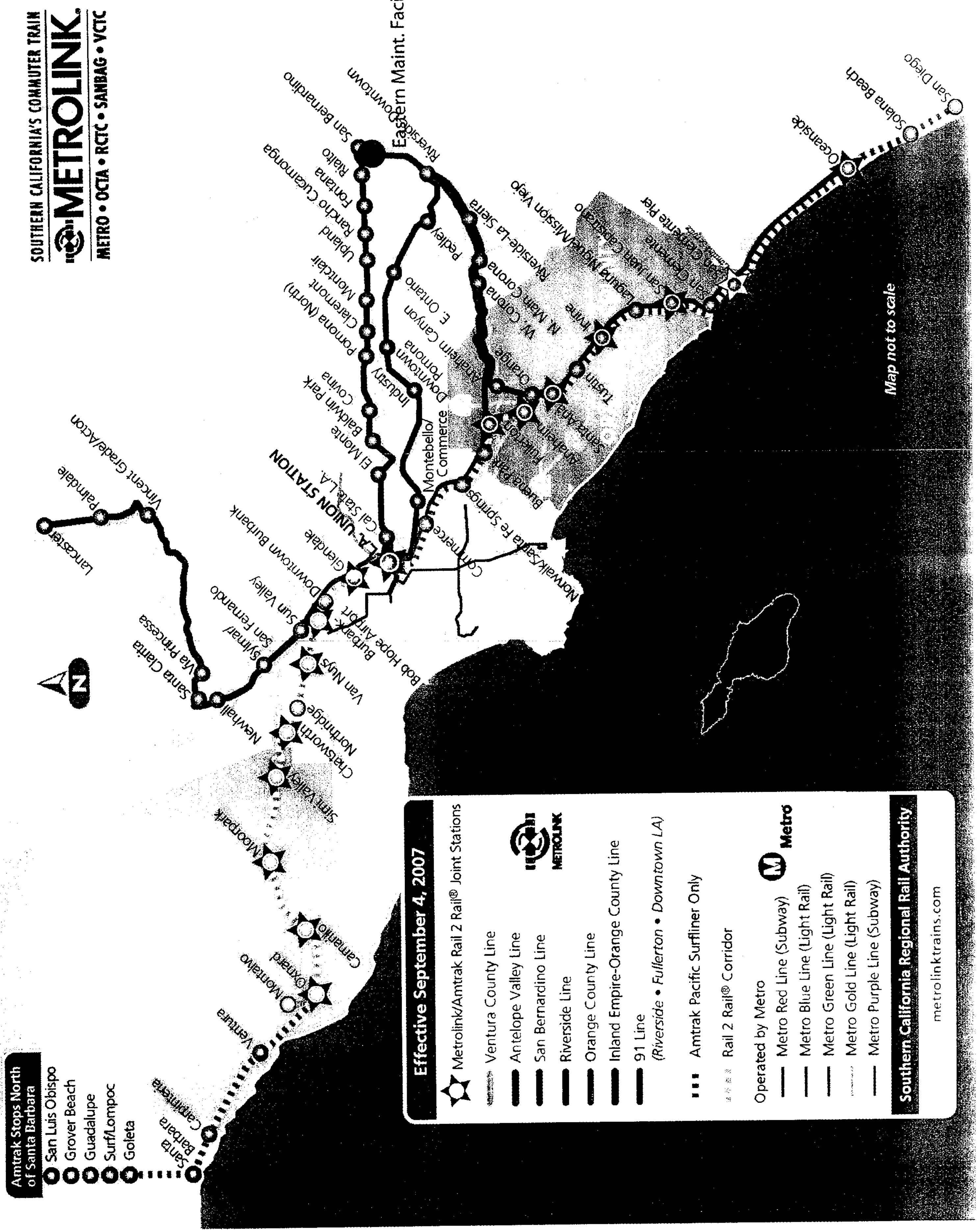
In order to pursue this program, Board authorization is requested to:

1. Request the maximum amount of MTA and State bond funding for any currently unfunded grade separation projects, consistent with the guidelines of the respective funding programs;

2. Continue to process the San Gabriel environmental document through Caltrans/FHWA approval and obtain environmental clearance for the two additional grade separations; and,

3. Solicit design proposals as necessary for the Phase II priority projects.

ATTACHMENT G



ATTACHMENT H