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PLANNING AND PROGRAMMING COMMITTEE
May 16, 2012

SUBJECT: EAST SAN FERNANDO VALLEY NORTH-SOUTH RAPIDWAYS

ACTION: RECEIVE AND FILE

RECOMMENDATION

Receive and File the following on the East San Fernando Valley (ESFV) North-South Rapidways:

1. The Final Report on the Reseda, Sepulveda and Lankershim/San Fernando Rapidway Corridors; and
2. Status Report on the Van Nuys/Sepulveda Transit Corridor Alternatives Analysis

Attachment A shows the Corridors.

ISSUE

In 2007, the Board allocated $900,000 in Traffic Congestion Relief Program (TCRP) funds to the City of Los Angeles (City) to complete a study to best determine how to increase transit efficiencies in the ESFV. In 2010, the City approved the study's findings which called for spot bus speed improvements/enhancements on the Reseda, Sepulveda and Lankershim/San Fernando Corridors and a more capital intensive improvement such as a Bus Rapid Transit (BRT) or Light Rail Transit (LRT) along the Van Nuys Corridor. The Board concurred with these findings and directed that we be the lead for the environmental clearance with the City being co-lead since they are the owner/operator of the streets. We recently completed our analysis of the Reseda, Sepulveda and Lankershim/San Fernando Corridors. This report informs the Board of the study's findings (Attachment B). It further provides a status report on the Van Nuys/Sepulveda Corridors Alternatives Analysis (AA).

DISCUSSION

Background

The East San Fernando Valley North-South Rapidways project is primarily funded through Measure R and a State TCRP earmark. Funding of $170.1 million has been identified in the Constrained Element of our adopted 2009 Long Range Transportation Plan (LRTP) with a 2018 Revenue Operations Date.

Since minor capital improvements such as intersection widenings, signal optimizations, landscaped median islands, and bus stop enhancements were recommended for Reseda, Sepulveda and the Lankershim/San Fernando Corridors, the environmental clearance was separated from the Van Nuys Corridor. This was done as these types of improvements can be environmentally cleared through a Categorical Exemption or a Mitigated Negative Declaration while the Van Nuys Corridor major capital improvement recommendation requires an Environmental Impact Statement/Report (EIS/R).

Reseda, Sepulveda and Lankershim/San Fernando Corridors

In 2011, a task order was executed to environmentally clear the improvements/ enhancements recommended by the City. Prior to initiating the environmental clearance, the contractor reviewed the recommendations to determine the benefits to transit operating speeds. The contractor found that: 1) buses travel at good speeds in the Corridors; and 2) bus patrons travel relatively short distances within the Corridors. Therefore, although the study found that implementing the City's recommendations would result in increased bus speeds, the time savings realized by bus patrons would be negligible. In addition to the City-recommended improvements, the contractor was asked to identify other potential bus speed improvements and in response, the contractor evaluated the viability of bus stop consolidations, peak-period parking restrictions, and median-islands to eliminate mid-block left turns. Because Corridor buses travel at good speeds and because the newly identified improvements would adversely affect motorists, bus patrons (walking further to bus stops), and businesses, none were recommended. The City concurs with the findings.

Van Nuys/Sepulveda Corridor

In 2011, the Board awarded a contract to the KOA Corporation (KOA) to complete the Alternatives Analysis/Draft EIS/R and Conceptual Engineering for the Van Nuys Corridor. Work was initiated and in October 2011, we commenced outreach including community workshops, legislative briefings, and stakeholder meetings. Through this process, comments were received in support of adding Sepulveda Boulevard as a possible alignment and an alternate northern project terminus/origination point at the Sylmar/San Fernando Metrolink Station. In response, we expanded the study area

(Attachment C). In April/May 2012, we conducted community meetings along the Sepulveda Corridor and in the City of San Fernando.

Sepulveda Pass Project

During the earlier community meetings, we received comments regarding the Measure R Sepulveda Pass Project due to its close proximity to the ESFV Project. As the ESFV work advances into the environmental phase, we will be mindful of the Sepulveda Pass Project, the last Measure R Project scheduled for construction with a projected 2039 Revenue Operations Date in the 2009 LRTP. The America Fast Forward Initiative has an opening date of 2020. We are looking at ways to accelerate this project's delivery including Public Private Partnership. The Sepulveda Pass Project, connecting the Westside to the San Fernando Valley, is in its Systems Planning phase. We will ensure plans for the Van Nuys/Sepulveda Corridors would not preclude a future Sepulveda Pass connection.

NEXT STEPS

We will continue to advance the Van Nuys/Sepulveda Boulevards AA/DEIS/R. We will return to the Board later this year with the Screened Alternatives Report after presenting the information to stakeholders and the Los Angeles City Council.

ATTACHMENTS

A. East San Fernando Valley Rapidway Corridors Project Map
B. Final Report: Reseda, Sepulveda and Lankershim/San Fernando
C. Van Nuys/Sepulveda Expanded Study Area Map

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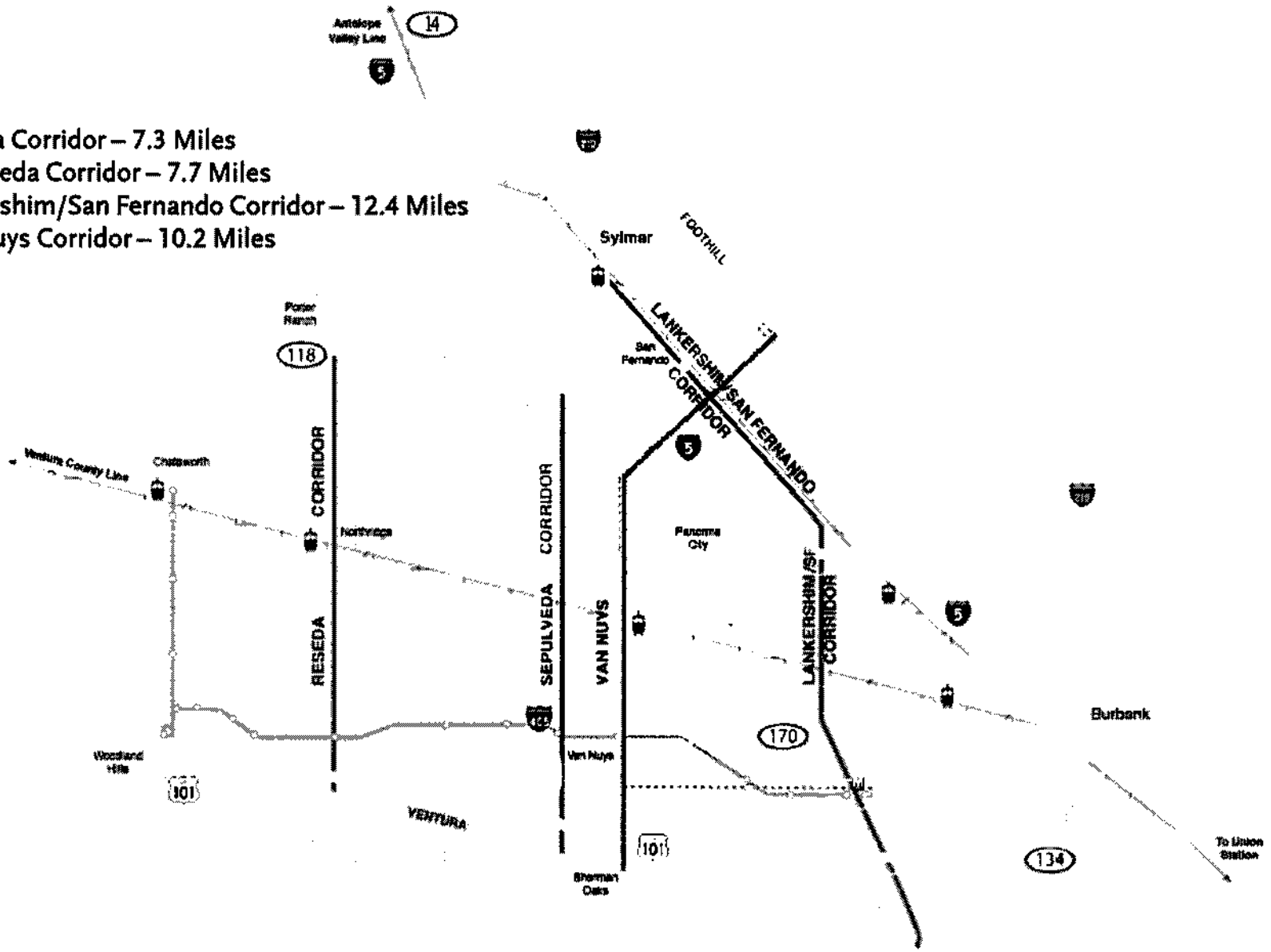
East SFV Rapidway Corridors Map

Reseda Corridor – 7.3 Miles
Sepulveda Corridor – 7.7 Miles
Lankershim/San Fernando Corridor – 12.4 Miles
Van Nuys Corridor – 10.2 Miles



ATTACHMENT A

ATTACHMENT B

East San Fernando Valley
North-South Rapidways Project

Final Report on the Proposed Transportation Improvements Evaluation Analysis and Recommendations for

Reseda Boulevard, Sepulveda Boulevard, and Lankershim Boulevard/San Fernando Road (3 Corridors) Component of the East San Fernando Valley (SFV) Rapidways Project

March 30, 2012

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Introduction

The purpose of the East San Fernando Valley Rapidway study on Reseda Boulevard, Sepulveda Boulevard, and Lankershim Boulevard/San Fernando Road (3 Corridors) is to identify feasible and beneficial improvements to north-south transit operating speeds and overall trip travel times, which could benefit existing and future bus passengers.

The study area for the 3 Corridors is Ventura Boulevard on the south and the SR-118 Freeway on the north. The project is a joint effort of the Los Angeles County Metropolitan Transportation Authority (Metro) as the regional transportation planning organization and the City of Los Angles as the owner/operator of the three roadways within the respective rights-of-way.

This document and the related memoranda serve to support the technical analysis of the three east San Fernando Valley corridors to determine if a set of proposed physical and operations improvements should move forward to environmental clearance.

Background

The three project corridors are among the four north-south corridors in the eastern San Fernando Valley that were identified for possible transit improvements as part of the Measure R half-cent sales tax program approved by voters in 2008. A 2008 study by the City of Los Angeles Department of Transportation (LADOT) had recommended a variety of near-term and mid-term transit improvements along these corridors. These improvements included signal timing changes, roadway restriping, bus stop relocations, transit enhancements, construction of landscaped medians, and street widening. In 2010, the City completed its refined list of improvements for each of the corridors.

The improvements recommended by the City were analyzed in terms of enhanced customer service via the improvements to north-south travel times and bus operations. Projects that involved physical roadway improvements such as widening or restriping underwent conceptual engineering.

This memorandum summarizes the evaluation methodology of the recommended corridor improvements under the proposed project and also summarizes the evaluation results.

In addition to the City's recommendations, the project team considered the following bus passenger enhancement measures:

- Bus Stop Consolidation – The removal of low-activity bus stops can be of benefit to the overall operations of a transit line. However, the removal of a bus stop means passengers would have to walk longer distances. This would not only be an inconvenience to passengers, but a disincentive to use transit. Also the

removal of low-activity stops is often inconsequential being that the bus operator will bypass stops at which no one is waiting to board or egress.

- Bus Stop Relocations – Near-side (at the intersection approach) and far-side (past the intersection, on the "receiving" side) bus stops have differing effects on transit service. The best location for bus stops is the far-side of an intersection, where a bus can travel through an intersection and make a service stop, without being held by the traffic signal upon departure. However, in the three corridors, bus stop relocation was deemed to be infeasible because it created adverse operating impacts at the intersection/ramp junctions under consideration. Since none of the bus stops under consideration, if relocated, would provide any travel time savings for Metro passengers, the strategy was dropped from consideration.

- Raised Median Locations - Raised medians can reduce friction between through traffic and left-turning vehicles. The benefits of installing medians were weighed against potential impacts to local circulation and neighboring land uses in terms of access and egress, and the level of travel time improvement for Metro passengers that would be realized. The analysis concluded that the installation of raised medians in the three corridors would not result in any travel time savings for Metro passengers.

- Queue Jump Signals – A queue jump signal involves enhancements to the geometric layout of an intersection as well as traffic signal modifications which provide a dedicated phase specifically for transit vehicles within the queue jump lane. Based on the operating experience of LADOT with queue jump signals in the greater Los Angeles area, they have been deemed less effective than desired and are no longer considered a viable bus speed improvement tool.

- Peak Hour Parking Restrictions – Peak hour parking restrictions are intended to provide additional capacity by freeing up the curb lane for vehicular and bus traffic. The removal of on-street parking would impact adjacent residential and commercial uses where there is no off-street parking available for these land uses or convenient nearby on-street parking available.

- Bus Schedule Refinements - These included allowing Metro Rapid Buses to operate on tighter schedules by eliminating and/or modifying time points. Time points are necessary to ensure on-time performance. After careful review of these operating scenarios, Metro staff noted that scheduling has been optimized and that time points are currently spaced at the industry standard of 10 to 15 minutes.

In sum, all of these areas of potential improvement were removed from further consideration due to their lack of positive impact upon customer service and corridor level bus line average operating speed benefits, i.e. lack of noticeable customer benefit and travel time improvement.

Evaluation Methodology

Individual evaluation matrices were developed for each of the three project corridors. Key elements of the analysis included an evaluation of bus operating speeds, traffic impacts along each corridor and a benefit-cost analysis. The table data includes the following criteria:

- Improvement Costs – Based on initial conceptual engineering of the proposed physical improvements, initial cost estimates were developed. The dollar amount represents a one-time expenditure. Some of the proposed physical improvements which include roadway widening have costs expressed in a range from low to high, to accommodate uncertainties raised by factors such as right-of-way and business acquisition costs. Operational improvement costs for signal timing modifications, generally estimated at $1,000 per intersection, account for the one-time cost needed to adjust the transit priority parameters at the City of Los Angeles' Automated Traffic Surveillance and Control (ATSAC) center.

- Metro Rapid and Local Bus Travel Time Savings – Based on estimated reductions in travel delay for existing bus service, the potential time savings accrued to these bus services by the improvements are provided. As discussed in greater detail in the traffic impact and transit analysis document, the estimated travel time savings for a signal timing or capacity improvement is five seconds per bus trip at each signalized intersection. Some of the improvements would result in a net increase in travel time delay for local buses, particularly for east-west bus routes that would lose green time due to increased transit priority in the north-south direction

- Benefit-Cost Index – This reflects the ratio of the number of seconds saved for each Metro Rapid Bus passing through the specific proposed improvement divided by each thousand dollars of installation cost. The number of seconds represents an average amount of travel time savings expected for any Metro Rapid Bus on a weekday. Local buses are not accounted for in the ratio because local buses do not have transponder equipment that will engage the traffic signal system's transit system priority equipment. This means any expenditure on signal timing upgrades in these three corridors would not result in any travel time savings benefits for local buses. For this order-of-magnitude index, no adjustment was made to calculate present value costs. For example, a benefit-cost index of 5.000 for a signal timing change implies that spending $1,000 to adjust the signal timing will reap five seconds of time savings per Metro Rapid Bus at the analyzed location, although as noted above, local buses on the cross street could suffer some additional delay. A benefit-cost index of 0.001 for roadway widening implies a Metro Rapid Bus would save a very small amount of time per each thousand dollars spent. This small value was provided, to acknowledge that some time savings could result from the related improvement, but would be negligible to typical bus operations and reductions in passenger travel times.

This benefit-cost index at an individual location provides a measure of the relative effectiveness of each individual project. The benefit of implementing each individual project needs to be weighed against the total benefits that would be realized for the entire corridor with all of the improvements in place.

Evaluation Results

When implementing new transit capital projects, Metro considers the general trip time reductions that are estimated to result, versus existing conditions. For dedicated bus lane implementation, for example, an average trip time savings goal of 15 percent is used to gauge project benefits. New Metro Rapid Bus projects have a trip time reduction goal, when measured against parallel local bus service, of 20 percent.

These Metro project planning goals were considered in the evaluation of estimated time savings due to the implementation of project elements on a corridor-wide level. The following three tables provide a summary of the analysis of the proposed elements within each of the project corridors. Within the right-most column of the tables, a final determination is provided – "NR" or Not Recommended, "R" or Recommended, and "PI" or Previously Implemented. Improvements are numbered sequentially for the entirety of analyzed intersections in the three corridors. A summary of the findings of the analysis is discussed in the following sections.

If all physically feasible projects were installed, the total single one-way trip running time savings for north-south bus transit routes were calculated to be as follows:

- Reseda Boulevard – 90 seconds for Rapid Bus, 66 seconds for local bus
- Sepulveda Boulevard – 50 seconds for Rapid Bus, 35 seconds for local bus
- Lankershim Boulevard/San Fernando Road – 0 seconds *
  ** Improvement measures were not recommended for this corridor that relate to bus speed increases and related trip-time savings.*

However, the majority of bus passengers would not realize the full benefit of the time savings identified above because the average trip length and related travel times savings that bus passengers would realize at each project location in each corridor is relatively short, ranging from 2.93 miles on Reseda Boulevard to 3.76 mile on Lankershim Boulevard to 4.33 miles on Sepulveda Boulevard, according to Metro passenger trip data.

The estimated cost for the proposed bus stop, intersection and roadway improvements range from $5.9 million to $10.5 million in the Reseda Boulevard Corridor; $7.1 million to $16.9 million in the Sepulveda Boulevard Corridor; and $0.8 million to $4.3 million in the Lankershim Boulevard/San Fernando Road Corridor. The estimated cost for operations improvements would range from $18,000 to $21,000 in the Reseda Boulevard Corridor and $6,000 to $7,000 in Sepulveda Boulevard Corridor. There were no operations improvement costs associated with the Lankershim Boulevard/San

Fernando Road Corridor because the operations improvements in this corridor are infeasible, as was discussed above.

Metro Rapid Bus passengers would experience higher travel time savings than local bus passengers, as transit priority service at traffic signals is used only for Metro Rapid Bus operations. Overall, these bus speed improvements would not provide a recognizable savings in travel time or passenger benefits to justify the cost of the proposed improvements in each of the three corridors.

Recommendations

Table 1 provides the analysis of the project improvement elements for the Reseda Boulevard Corridor. The notation "NR" or Not Recommended is applied to all but one of the proposed improvements, which was already constructed (Previously Implemented). The restriping improvement at the US-101 westbound ramps intersection (Improvement #25) was implemented by an earlier project.

Table 2 provides the analysis of the project improvement elements for the Sepulveda Boulevard Corridor. The notation "NR" or Not Recommended is applied to all of the proposed improvements.

Table 3 provides the analysis of the project improvement elements for the Lankershim Boulevard/San Fernando Road Corridor. The notation "NR" or Not Recommended is applied to all of the proposed improvements, with the exception of one that was already constructed (Previously Implemented). The restriping improvement at Chandler Way to Magnolia Boulevard (Improvement #60) was implemented by an earlier project.

At many of the locations along San Fernando Road, the railroad grade crossings have pre-emption of the adjacent traffic signals for motorist and pedestrian safety. As such, signal timing modifications intended to improve bus service at these locations would be considered infeasible because they would result in traffic operations conflicts.

Conclusions

Based on the evaluation results provided in Tables 1-3, all of the project improvements are not recommended for implementation due primarily to the negligible incremental bus travel time savings that could be provided for Metro passengers. Therefore, it is not recommended that environmental clearance be pursued and the study should be closed.

Table 1
Reseda Boulevard - North to South

	Proposed Improvement	Installation Cost *(dollars)*			Rapid Bus Travel Time Saving *(seconds per bus per location)*	Local Bus (including cross street) Travel Time Saving *(seconds per bus per location)*	Significant Traffic Impact?	Benefit-Cost Index *(seconds saved for each Rapid Bus per $1000 spent)*	Resolution: R=Recommended NR=Not Recommended PI=Previously Implemented
		Physical Improvements		Operational Improvements					
		Low	High						
1	At Various Locations: Transit Station Enhancements (Stamped-Asphalt Crosswalks, Security Lighting, Pedestrian Amenities)	$1,900,000 to	$2,400,000		0	0	NO	N/A	NR - No Rapid Bus travel time savings. The improvements would provide a more comfortable passenger environment, but not improve passenger mobility.
2	At Devonshire Street: Median Island to Lemarsh Street	$180,000 to	$220,000		0	0	NO	N/A	NR - No Rapid Bus travel time savings. Results in a circuitous vehicle diversion and restricts access/egress to adjacent land uses.
3	At Plummer Street: Median Island	$180,000 to	$220,000		0	0	NO	N/A	NR - No Rapid Bus travel time savings. Results in a circuitous vehicle diversion and restricts access/egress to adjacent land uses.
4	At Prairie Street: Median Island from Prairie Street to Rayen Street	$180,000 to	$220,000		0	0	NO	N/A	NR - No Rapid Bus travel time savings. Results in a circuitous vehicle diversion and restricts access/egress to adjacent land uses.
5	At Nordhoff Street: Median Island from Prairie Street to Rayen Street	$180,000 to	$220,000		0	0	NO	N/A	NR - No Rapid Bus travel time savings. Results in a circuitous vehicle diversion and restricts access/egress to adjacent land uses.
6	At Rayen Street: Median Island from Prairie Street to Rayen Street	$180,000 to	$220,000		0	0	NO	N/A	NR - No Rapid Bus travel time savings. Results in a circuitous vehicle diversion and restricts access/egress to adjacent land uses.
7	At Parthenia Street: Signal Timing Changes			$1,000	5	5	NO	5.000	NR - Only minor travel time savings. Imperceptible passenger benefit.
8	At Chase Street: Signal Timing Changes			$1,000	5	5	NO	5.000	NR - Only minor travel time savings. Imperceptible passenger benefit.
9	At Roscoe Boulevard: Signal Timing Changes			$1,000	5	-5	NO	5.000	NR - Only minor travel time savings. Imperceptible passenger benefit. Results in east-west Metro Bus travel time delays with no net transit service improvements.
10	At Roscoe Boulevard: Widen to Create SB Right Turn Lane and Dual NB Left Turn Lanes, Includes R/W Acquisition	$2,350,000 to	$6,000,000		5	5	NO	0.001	NR - High cost relative to the bus travel time improvement. Only minor travel time savings. Imperceptible passenger benefit.
11	At Strathern Street: Signal Timing Changes			$1,000	5	5	NO	5.000	NR - Only minor travel time savings. Imperceptible passenger benefit.
12	At Ingomar Street: Signal Timing Changes			$1,000	5	5	NO	5.000	NR - Only minor travel time savings. Imperceptible passenger benefit.

Table 1
Reseda Boulevard - North to South

	Proposed Improvement	Installation Cost *(dollars)*			Rapid Bus Travel Time Saving *(seconds per bus per location)*	Local Bus (including cross street) Travel Time Saving *(seconds per bus per location)*	Significant Traffic Impact?	Benefit-Cost Index *(seconds saved for each Rapid Bus per $1000 spent)*	Resolution: R=Recommended NR=Not Recommended PI=Previously Implemented
		Physical Improvements		Operational Improvements					
		Low	High						
13	At Saticoy Street: Signal Timing Changes			$1,000	5	2	NO	5.000	NR - Only minor travel time savings. Imperceptible passenger benefit.
14	At Valerio Street: Signal Timing Changes			$1,000	5	5	NO	5.000	NR - Only minor travel time savings. Imperceptible passenger benefit.
15	At Wyandotte Street: Signal Timing Changes			$1,000	5	5	NO	5.000	NR - Only minor travel time savings. Imperceptible passenger benefit.
16	At Sherman Way: Signal Timing Changes			$1,000	5	-5	NO	5.000	NR - Only minor bus travel time savings. Imperceptible passenger benefit. Results in east-west Metro Bus travel time delays with no net transit improvements.
17	At Sherman Way: Relocate Bus Sop to Far Side and Restripe Intersection	$300,000 to	$435,000		5	5	NO	0.011	NR - Only minor travel time savings. Imperceptible passenger benefit.
18	At Vanowen Street: Median From Vanowen to South of Kittredge Street	$180,000 to	$220,000		0	0	NO	N/A	NR - No Rapid Bus travel time savings. Results in a circuitous vehicle diversion and restricts access/egress to adjacent land uses.
19	At Kittredge Street: Median From Vanowen to South of Kittredge Street	$180,000 to	$220,000		0	0	NO	N/A	NR - No Rapid Bus travel time savings. Results in a circuitous vehicle diversion and restricts access/egress to adjacent land uses.
20	At Erwin Street: Signal Timing Changes			$1,000	5	5	NO	5.000	NR - Only minor travel time savings. Imperceptible passenger benefit.
21	At Bessemer Street: Signal Timing Changes			$1,000	0	0	NO	N/A	NR - No Rapid Bus travel time savings.
22	At Oxnard Street: Signal Timing Changes			$1,000	0	0	NO	N/A	NR - No Rapid Bus travel time savings.
23	At Hatteras Street: Signal Timing Changes			$1,000	5	2	NO	5.000	NR - Only minor travel time savings. Imperceptible passenger benefit.
24	At Hatteras Street: Median Island to Collins Street	$180,000 to	$220,000		0	0	NO	N/A	NR - No Rapid Bus travel time savings. Results in a circuitous vehicle diversion and restricts access/egress to adjacent land uses.
25	At US 101 Westbound: Restripe to Add SB Right Lane		$0		0	0	NO	N/A	PI - Project has already been implemented.

Table 1
Reseda Boulevard - North to South

	Proposed Improvement	Installation Cost *(dollars)*			Rapid Bus Travel Time Saving *(seconds per bus per location)*	Local Bus (including cross street) Travel Time Saving *(seconds per bus per location)*	Significant Traffic Impact?	Benefit-Cost Index *(seconds saved for each Rapid Bus per $1000 spent)*	Resolution: R=Recommended NR=Not Recommended PI=Previously Implemented
		Physical Improvements		Operational Improvements					
		Low	High						
26	At US 101 Westbound Ramps: Relocate Southbound Bus Stop, Shift to the North	$1,500 to	$2,500		0	0	NO	N/A	NR - Bus stop relocation infeasible because it would adversely affect westbound off ramp left turn movements to southbound Reseda Boulevard.
27	At US 101 Westbound Ramps: Signal Timing Changes			$1,000	5	5	NO	5.000	NR - Only minor travel time savings. Imperceptible passenger benefit.
28	At US 101 Eastbound Ramps: Signal Timing Changes			$1,000	5	5	NO	5.000	NR - Only minor travel time savings. Imperceptible passenger benefit.
29	At Burbank Boulevard: Signal Timing Changes			$1,000	5	2	NO	5.000	NR - Only minor travel time savings. Imperceptible passenger benefit.
30	At Clark Street (south leg): Signal Timing Changes			$1,000	5	5	NO	5.000	NR - Only minor travel time savings. Imperceptible passenger benefit.
31	At Ventura Boulevard: Signal Timing Changes			$1,000	5	-5	YES	5.000	NR - Only minor travel time savings. Results in east-west Metro Bus travel time delays with no net transit improvements. Generates a significant unmitigable adverse impact to vehicular traffic.
Corridor total:			$10,597,500	$18,000	90	66		0.008	

Table 2
Sepulveda Boulevard - North to South

	Proposed Improvement	Installation Cost *(dollars)*		Operational Improvements	Rapid Bus Travel Time Saving *(seconds per bus per location)*	Local Bus (including cross street) Travel Time Saving *(seconds per bus per location)*	Significant Traffic Impact?	Benefit-Cost Index *(seconds saved for each Rapid Bus per $1000 spent)*	Resolution: R=Recommended NR=Not Recommended PI=Previously Implemented
		Physical Improvements							
		Low	High						
32	At Various Locations: Transit Station Enhancements (Stamped-Asphalt Crosswalks, Security Lighting, Pedestrian Amenities)	$3,200,000 to	$3,600,000		0	0	NO	N/A	NR - No Rapid Bus travel time savings. The improvements would provide a more comfortable customer environment, but not improve mobility.
33	At SR-118 WB Ramps: Signal Timing Changes			$1,000	5	5	NO	5.000	NR - Only minor travel time savings. Imperceptible customer benefit.
34	At SR-118 WB Ramps: Restripe to Provide Southbound Right Turn Lane	$10,000 to	$14,500		5	5	NO	0.345	NR - High cost relative to the bus travel time improvement. Only minor travel time savings. Imperceptible passenger benefit.
35	At SR-118 EB Ramps: Signal Timing Changes			$1,000	5	5	NO	5.000	NR - Only minor travel time savings. Imperceptible customer benefit.
36	At Chase Street: Signal Timing Changes			$1,000	5	5	NO	5.000	NR - Only minor travel time savings. Imperceptible customer benefit.
37	At Roscoe Boulevard: Signal Timing Changes			$1,000	5	-5	NO	5.000	NR - Only minor bus travel time savings. Results in east-west Metro Bus travel time delays with no net transit improvements.
38	At Lanark Street: Signal Timing Changes			$1,000	0	0	YES	N/A	NR - No Rapid Bus travel time savings. Generates a significant unmitigable adverse impact to vehicular traffic.
39	At Saticoy Street: Median from Saticoy Street to Valerio Street	$180,000 to	$220,000		0	0	NO	N/A	NR - No Rapid Bus travel time savings. Results in a circuitous vehicle diversion and restricts access/egress to adjacent land uses.
40	At Valerio Street: Median from Saticoy Street to Valerio Street	$180,000 to	$220,000		0	0	NO	N/A	NR - No Rapid Bus travel time savings. Results in a circuitous vehicle diversion and restricts access/egress to adjacent land uses.
41	At Sherman Way: Median from Saticoy Street to Valerio Street	$180,000 to	$220,000		0	0	NO	N/A	NR - No Rapid Bus travel time savings. Results in a circuitous vehicle diversion and restricts access/egress to adjacent land uses.
42	At Sherman Way: Widen to Provide NB Right Lane	$1,500,000 to	$6,000,000		5	5	NO	0.001	NR - High cost relative to the bus travel time improvement. Only minor travel time savings. Imperceptible passenger benefit.

Table 2
Sepulveda Boulevard - North to South

	Proposed Improvement	Installation Cost *(dollars)*		Operational Improvements	Rapid Bus Travel Time Saving *(seconds per bus per location)*	Local Bus (including cross street) Travel Time Saving *(seconds per bus per location)*	Significant Traffic Impact?	Benefit-Cost Index *(seconds saved for each Rapid Bus per $1000 spent)*	Resolution: R=Recommended NR=Not Recommended PI=Previously Implemented
		Physical Improvements							
		Low	High						
43	At Sherman Way: Signal Timing Change			$1,000	5	-5	NO	5.000	NR - Only minor passenger travel time savings. Results in east-west Metro Bus travel time delays.
44	At Vose Street: Median from Sherman Way to Vanowen Street	$180,000 to	$220,000		0	0	NO	N/A	NR - No Rapid Bus travel time savings. Results in a circuitous vehicle diversion and restricts access/egress to adjacent land uses.
45	At Vanowen Street: Median from Sherman Way to Vanowen Street	$180,000 to	$220,000		0	0	NO	N/A	NR - No Rapid Bus travel time savings. Results in a circuitous vehicle diversion and restricts access/egress to adjacent land uses.
46	At Victory Boulevard: Restripe to Create NB Right Turn Lane	$50,000 to	$72,500		5	5	NO	0.069	NR - High cost relative to bus travel time improvement. Only minor bus travel time savings.
47	At Victory Boulevard: Signal Timing Change		$1,000		5	-5	NO	5.000	NR - Only minor bus travel time savings. Results in east-west Metro Bus travel time delays with no net transit or customer service improvements.
48	At Oxnard Street: Median from Oxnard Street to Hatteras Street	$180,000 to	$220,000		0	0	NO	N/A	NR - No Rapid Bus travel time savings. Results in a circuitous vehicle diversion and restricts access/egress to adjacent land uses.
49	At Hatteras Street: Median from Oxnard Street to Hatteras Street	$180,000 to	$220,000		0	0	NO	N/A	NR - No Rapid Bus travel time savings. Results in a circuitous vehicle diversion and restricts access/egress to adjacent land uses.
50	At Burbank Boulevard: Widen to Create NB Right Lane	$3,945,000 to	$5,720,000		5	5	NO	0.001	NR - High cost relative to the bus travel time improvement. Only minor travel time savings. Imperceptible passenger benefit.
Corridor total:			$16,948,000	$6,000	50	35		0.003	

Table 3

San Fernando Road/Lankershim Boulevard - North to South

	Proposed Improvement	Installation Cost *(dollars)*		Operational Improvements	Rapid Bus Travel Time Saving *(seconds per bus per location)*	Local Bus (including cross street) Travel Time Saving *(seconds per bus per location)*	Significant Traffic Impact?	Benefit-Cost Index *(seconds saved for each Rapid Bus per $1000 spent)*	Resolution: R=Recommended NR=Not Recommended PI=Previously Implemented
		Physical Improvements							
		Low	High						
51	At Various Locations: Transit Station Enhancements (Stamped-Asphalt Crosswalks, Security Lighting, Pedestrian Amenities)	$810,000 to	$950,000		0	0	NO	N/A	NR - No Rapid Bus travel time savings. The improvements would provide a more comfortable customer environment, but does not improve mobility.
52	At SR 118 EB Ramps: Signal Timing Changes			$0	0	0	NO	N/A	NR - Results in a railroad crossing preemption conflict introducing a potential traffic safety issue.
53	At Paxton Street: Signal Timing Changes			$0	0	0	NO	N/A	NR - Results in a railroad crossing preemption conflict introducing a potential traffic safety issue.
54	At SR 118 WB Ramps: Signal Timing Changes			$0	0	0	NO	N/A	NR - Results in a railroad crossing preemption conflict introducing a potential traffic safety issue.
55	At Pierce Street: Signal Timing Changes			$0	0	0	NO	N/A	NR - Results in a railroad crossing preemption conflict introducing a potential traffic safety issue.
56	At Terra Bella Street: Signal Timing Changes			$0	0	0	NO	N/A	NR - Results in a railroad crossing preemption conflict introducing a potential traffic safety issue.
57	At Sheldon Street: Install Concrete Bus Pad Northbound		$18,000		0	0	NO	N/A	NR - No Rapid Bus travel time savings.
58	At Various Locations: Transit Station Enhancements (Stamped-Asphalt Crosswalks, Security Lighting, Ped Amenities)		$2,500,000		0	0	NO	N/A	NR - No Rapid Bus travel time savings.
59	At Various Locations: Landscaped Median Islands		$900,000		0	0	NO	N/A	NR - No Rapid Bus travel time savings. Results in a circuitous vehicle diversion and restricts access/egress to adjacent land uses.
60	From Chandler Way to Magnolia Boulevard: Construct Additional Traffic Lane Or Turn Pockets By Roadway Restriping		$0		0	0	NO	N/A	PI - Project has already been implemented.
Corridor total:			$4,368,000	$0	0	0		0.000	

ATTACHMENT C

Van Nuys/Sepulveda Expanded Study Area Map