CHAPTER 6
PURPOSE AND NEED AND FINANCIAL COMPARISON OF ALTERNATIVES

CHAPTER 6 - PURPOSE AND NEED AND FINANCIAL COMPARISON OF ALTERNATIVES

This chapter compares the various alternatives under consideration in terms of the following:

- Capital Cost Estimates
- Operating Cost Estimates
- Financial Capability to Build and Operate
- Effectiveness in Improving Mobility
- Cost-Effectiveness
- Operating Efficiencies
- Environmental Benefits
- Equity
- Community Involvement Response
- Purpose and Need
- Significant Trade-Offs

6-1 PURPOSE AND NEED COMPARISON OF ALTERNATIVES

6-1.1 Purpose and Need

As described in Chapter 1, the MTA and other participating government agencies have set several goals and objectives for a project in the San Fernando Valley East-West Transit Corridor. This section compares how well each of the alternatives considered meets those goals (see Table 1-5). The specific goals of a transportation project in the corridor are to:

- Improve mobility in the San Fernando Valley (Chapter 2),
- Support land use and development goals (Section 4-1),
- Maximize community input into the project development process (Section 6-3.6, Chapter 7),
- Be compatible with and enhance the physical environment (Chapter 4),
- Minimize impacts on the community (Chapter 4), and
- Provide a cost-effective project within the ability of MTA to fund, including capital and operating costs (Chapter 6-2).

This section summarizes information provided in other parts of the environmental document in the context of these goals. Sections of the document with further information on these goals are noted in parentheses.

6-1.1.1 Mobility in the San Fernando Valley

Several project objectives fall under the general goal of improving mobility in the Valley. A project in the East-West Transit Corridor should provide an alternative to the congested Ventura Freeway (US101 / SR 134) and relieve congestion through the Cahuenga and Sepulveda passes (by providing Valley stations that are connected to the Metro Red Line). In addition, a project should minimize total travel times for patrons, provide enhanced bi-directional transit service, and provide opportunities to intercept traffic passing through the Valley; in other words, provide transportation alternatives to auto traffic passing through the Valley.

a. No Build Alternative

The No Build Alternative would not meet any of the objectives for improving mobility in the San Fernando Valley because no change would be made in the current transportation system.

b. Transportation System Management (TSM) Alternative

The TSM Alternative, while it would improve existing on-street bus service in the Valley, would not be an direct alternative to the Ventura nor would it be likely to relieve congestion in the Cahuenga and Sepulveda passes, because no direct connection would be made with the Metro Red Line. Total travel times would also not be minimized because buses would run on-street in already congested traffic. Traffic passing through the Valley would likely not be intercepted because the improved local service would not extend beyond the Valley, nor would park-and-ride facilities be provided for commuters to leave their cars at when accessing buses. However, basic bi-directional transit service in the Valley would be improved.

c. Bus Rapid Transit (BRT) Alternative – Full BRT Alignment, Locally Preferred Alternative

The BRT Alternative (all alignments) would provide a clear alternative to the Ventura Freeway, paralleling the freeway for most of its length through the Valley. Furthermore, because the eastern terminus would be located at the North Hollywood Metro Red Line station, the alternative would likely relieve congestion in the Cahuenga and Sepulveda passes. Total travel times would be minimized through the use of an exclusive guideway for buses and signal priority at intersections. Also, by utilizing an exclusive guideway, service would be more reliable than operating in mixed traffic. Transit service would we improved not only along the East-West corridor, but in the north-south direction with improved headways on most north-south bus routes in the Valley and feeder services routing buses from the North Valley directly onto the busway. Park-and-ride facilities, particularly in the West Valley and at Sepulveda Boulevard, would provide opportunities for ~~catching~~ intercepting auto-traffic through the Valley.

d. Bus Rapid Transit (BRT) Alternative – Lankershim / Oxnard On-Street Alignment and Weekend Service on Lankershim/Oxnard

The Lankershim/Oxnard On-Street Alignment variation of the BRT Alternative and weekend service on Lankershim/Oxnard would improve mobility in the Valley in a similar manner as would the Full BRT Alignment. However, because portions of the alignment would operate on-street, travel times would be longer and less reliable, and transit service would be less improved~~, and less traffic would likely be intercepted~~. Regarding potential weekend service on the Lankershim/Oxnard On-Street Alignment, the confusion of operating on a different alignment on weekends would also serve to reduce overall reliability of the service.

e. Bus Rapid Transit (BRT) Alternative – Minimum Operable Segment (MOS)

The MOS variation of the BRT Alternative would improve mobility in the Valley in a similar manner as would the Full BRT Alignment. However, because portions of the alignment would operate on-street, travel times would be longer and less reliable, and transit service would be less improved~~, and less traffic would likely be intercepted~~.

6-1.1.2 Support Land Use and Development Goals

Several project objectives fall under the general goal of encouraging transit-supportive land use and development goals. A project in the corridor should provide high-capacity transit linkages between activity centers (including the Van Nuys Civic Center), achieve City of Los Angeles *General Plan Framework and Transportation Element* goals for increased transit mode split and concentration of growth in targeted growth areas and in transit-oriented districts as designated by the *Community Plans*, ~~and~~ provide transit enhancements as described in the *Warner Center Specific Plan* and facilitate implementation of the 2001 SCAG RTP Baseline 2025 busway project in the corridor. In addition, a project should provide joint-development opportunities at stations.

a. No Build Alternative

The No Build Alternative would not meet any of the objectives concerning land use or development goals, including the 2001 SCAG RTP Baseline 2025 project, as no transit enhancements or changes to land use would be made.

b. Transportation System Management (TSM) Alternative

Because the TSM Alternative would be limited to improved on-street bus service on existing routes, no high capacity transit linkages would be established between activity centers. The TSM Alternative would also not support *General Plan Framework and Transportation Element* or *Warner Center Specific Plan* goals for concentrating growth in targeted growth areas or providing high-capacity transit to Warner Center nor implementation of the 2001 SCAG RTP

Baseline 2025 busway project in the corridor. In addition, because no station areas would be developed for transit, no joint development opportunities would be created as a part of the TSM Alternative.

c. Bus Rapid Transit (BRT) Alternative – Full BRT Alignment, Locally Preferred Alternative

The Full BRT Alignment would provide a high-capacity transit linkage between North Hollywood, Valley College, the Van Nuys Civic Center, Pierce College, and Warner Center and implement the 2001 SCAG RTP Baseline 2025 busway project in the corridor. In addition, the location of stations in existing activity centers would encourage focused growth in targeted growth areas and potential transit-oriented districts. The Full BRT Alignment would also improve transit access to Warner Center, as called for in the *Warner Center Specific Plan*. In addition, park-and-ride facilities at some stations could be used for future joint development projects.

d. Bus Rapid Transit (BRT) Alternative – Lankershim/Oxnard On-Street Alignment and Weekend Service on Lankershim/Oxnard

The Lankershim/Oxnard On-Street Alignment would support land use and development goals in a manner similar to the Full BRT Alignment. The on-street segment of the alignment would provide access near an additional activity center, the Laurel Plaza shopping mall. Other transit-supportive land use and development objectives would also be met.

e. Bus Rapid Transit (BRT) Alternative – Minimum Operable Segment (MOS)

The MOS would support land use and development goals in a manner similar to the Full BRT Alignment in the segment between Woodman Avenue and Balboa Boulevard. In the segments where the MOS would run on-street, transit-oriented land use and development goals would not be supported.

6-1.1.3 Community Input

The goal of maximizing community input should be met with objectives including:

- Incorporation of citizen and policymaker input from previous studies in the corridor
- Provision of opportunities for community input to the MIS/EIS/EIR process, and
- Incorporation community views in the planning process.

a. No Build Alternative

The No Build Alternative, a federally mandated baseline alternative, was not developed with community input.

b. Transportation System Management (TSM) Alternatives

The TSM Alternative, another legally required baseline alternative, was not developed with community input.

c. Bus Rapid Transit (BRT) Alternative – Full BRT Alignment, Locally Preferred Alternative

The Full BRT Alignment was developed in part based on community input conducted during the current and previous studies. Scoping meetings were held at the start of the EIS/EIR process, and numerous meetings with elected officials and community groups have been held since then. At these meetings, community members provided their comments on the alternatives being considered, and these comments have been incorporated into the project wherever possible.

A number of project enhancements were included during the Preliminary Engineering phase to address community concerns. However, some community members continue to oppose any transportation facility in the median of Chandler Boulevard unless it is in a subway configuration.

d. Bus Rapid Transit (BRT) Alternative – Lankershim/Oxnard On-Street Alignment and Weekend Service on Lankershim/Oxnard

The Lankershim/Oxnard On-Street Alignment was also developed based on community input. In fact, this alternative ~~is~~ was a response to some community member's concerns about BRT operation in the median of Chandler Boulevard. Comments on the Draft EIS/EIR included opposition from numerous community members to the Lankershim/Oxnard On-Street Alignment, primarily due to on-street congestion from schools along the street and its narrow right-of-way width.

e. Bus Rapid Transit (BRT) Alternative – Minimum Operable Segment (MOS)

The MOS was also developed with community input, in the same manner as community concerns were applied to the Full BRT Alignment.

6-1.1.4 Compatibility with the Physical Environment

The project should be compatible with the physical environment, and should therefore minimize impacts on parklands and cultural resources, as well as minimize noise and air pollution impacts. In addition, the project should enhance the physical environment where possible.

a. No Build Alternative

The No Build Alternative would not affect the physical environment, although increases in traffic congestion (relative to other alternatives) would worsen air pollution.

b. Transportation System Management (TSM) Alternative

The TSM Alternative would not affect the physical environment, as it would only include increases in on-street bus service on existing routes.

c. Bus Rapid Transit (BRT) Alternative – Full BRT Alignment, Locally Preferred Alternative

The Full BRT Alignment would not have any significant operational impacts on the physical environment after mitigation, other than a potential noise impact, described in greater detail in Section 4-9. If all mitigation measures described in Section 4-9 can be implemented, the noise impact can be mitigated as well. In addition, the design of the BRT, conceived of as a multi-modal transportation facility within a 14-mile greenway, would enhance the surrounding environment. Also, the increased transit use associated with the project would provide a slight cumulative reduction in regional vehicle emissions. Some minor adverse (not significant) construction impacts are expected, primarily related to traffic, noise, access to some community facilities, and air quality.

d. Bus Rapid Transit (BRT) Alternative – Lankershim/Oxnard On-Street Alignment and Weekend Service on Lankershim/Oxnard

The impacts on the physical environment for the Lankershim/Oxnard On-Street Alignment would be similar to those of the Full BRT Alignment. However, as described in Section 4-9, noise impacts would be greater for this Alignment because buses would operate closer to residences in the on-street segment, and noise mitigation with soundwalls would not be possible.

e. Bus Rapid Transit (BRT) Alternative – Minimum Operable Segment (MOS)

Impacts of the physical environment for the MOS would be similar to those of the Lankershim/Oxnard On-Street alignment.

6-1.1.5 Impacts on the Community

In order to minimize impacts on the community, a project should:

- Minimize business and residential dislocations, community disruption, and property damage,
- Avoid creating physical barriers, destroying neighborhood cohesiveness, or in other ways lessen the quality of the human environment,
- Minimize traffic and parking impacts, and
- Minimize impacts during construction.

a. No Build Alternative

The No Build Alternative would not impact the community.

b. Transportation System Management (TSM) Alternative

Because the TSM Alternative would only increase on-street bus service along existing routes, no impacts on the community would occur.

c. Bus Rapid Transit (BRT) Alternative – Full BRT Alignment, Locally Preferred Alternative

Concern has been expressed by the community that the BRT project would disrupt the ~~Orthodox Jewish~~ community centered along Chandler Boulevard. However, as a part of the project, no walls would be installed along Chandler, existing landscaping would be maintained, new landscaping would be added, all existing crossings of the right-of-way would be preserved, ~~and~~ two new signalized crossings would be installed, and new pedestrian pathways would be constructed.

A maximum of ~~eight~~ 7 property acquisitions and ~~ninety-four~~ 109 lease displacements would be required to implement to Full BRT Alignment. Where required, federal and state law would be followed in the provision of relocation assistance. In addition, potential traffic impacts would all be mitigated through traffic signal retiming at three intersections, the installation of left turn signals or left turn lanes at five intersections. Potential construction impacts would also be mitigated to a level below significance.

d. Bus Rapid Transit (BRT) Alternative – Lankershim/Oxnard On-Street Alignment and Weekend Service on Lankershim/Oxnard

The impact on the community of the Lankershim/Oxnard On-Street Alignment would be similar to that of the Full BRT Alignment. However, a maximum of ~~five~~ 4 property acquisitions, ~~and sixty-two~~ 68 lease displacements, and 12 advertising leases would be required to implement this alignment.

e. Bus Rapid Transit (BRT) Alternative – Minimum Operable Segment (MOS)

The impact on the community of the Minimum Operable Segment would be similar to that of the Full BRT Alignment. However, a maximum of ~~five~~ 2 property acquisitions, ~~and sixty~~ 68 lease displacements, and 12 advertising lease displacements would be required to implement this alignment.

6-1.1.6 Cost-Effectiveness and Fiscal Capacity to Operate

In order to ensure that a transportation project is cost-effective and that MTA has the fiscal capacity to operate it, the project should:

- Identify cost-saving measures to reduce project costs,
- Maximize the benefits associated with use of right-of-way already purchased by the MTA, and
- Ensure fiscal consistency with the MTA Long Range Plan.

~~All c~~Costs in ~~this section~~ the Draft EIS/EIR ~~are~~ were listed in 1999 dollars.

During the preliminary engineering phase and preparation of the Final EIS/EIR, the capital costs, operating cost, and cost effectiveness of the Locally Preferred Alternative were updated based on Preliminary Engineering plan and profile drawings and a range of upper and lower bound operating assumptions regarding signal priority. For the TSM Alternative, the Locally Preferred Alternative (Full BRT), and the Weekend Service option, capital costs and operating costs are in 2001 dollars. Capital and operating costs for the Lankershim/Oxnard On-Street Alignment and MOS are in 1999 dollars.

a. No Build Alternative

The No Build Alternative would not have any cost associated with it, although it can be used as a baseline for comparing the costs of other alternatives.

b. Transportation System Management (TSM) Alternative

The annualized cost of new daily transit trips would be $5 per new trip in 1999 dollars for the TSM Alternative (compared to the No Build Alternative). In addition, there would be no capital cost associated with the TSM other than the purchase of approximately 40 standard buses – $20 million. Operating costs would be $12.9 million annually. However, the TSM Alternative would not maximize the use of the MTA ROW; it would not used the right-of-way at all. The MTA Long Range Plan, ~~currently being~~ recently developed by MTA, includes the possibility of implementing any of the alternatives under consideration in this corridor.

c. Bus Rapid Transit (BRT) Alternative – Full BRT Alignment, Locally Preferred Alternative

The annualized cost of new daily transit trips for the Full BRT Alignment would be between $10 and $12 per new trip (compared to the No Build Alternative) in 2001 dollars, based on the range of operating assumptions developed during Preliminary Engineering. The capital cost of the Full BRT would be approximately $284 million in 1999 dollars ($289.2 to $300.5 million in updated 2001 dollars), and the operating cost would be $23.7 million in 1999 dollars and $22.5 million updated to 2001 dollars annually over the No Build. The Full BRT Alignment would maximize

use of the MTA ROW, using it in its entirety (14 miles) between North Hollywood and Warner Center. The 2001 MTA Long Range Plan~~, currently being developed by MTA,~~ includes the possibility of implementing any of the alternatives under consideration in this corridor. However, in May 2001, the MTA Board selected the Full BRT Alternative as the Locally Preferred Alternative for the Final EIS/EIR. In addition, the Board identified the Lankershim/Oxnard On-Street Alignment variation as a potential weekend service option.

d. Bus Rapid Transit (BRT) Alternative – Lankershim / Oxnard On-Street Alignment and Weekend Service on Lankershim/Oxnard

The annualized cost of new daily transit trips for the Lankershim / Oxnard On-Street Alignment would be ~~$11~~ $10 per new trip (compared to the No Build Alternative) in 1999 dollars. This is ~~slightly less cost-effective than~~ comparable to the Full BRT Alignment. The capital cost of the On-Street Alignment would be approximately $245 million in 1999 dollars, and the operating cost would be $23.8 million in 1999 dollars annually over the No Build. Capital costs would be lower than the Full BRT, ~~but~~ and annual operating costs would be only slightly higher. The Lankershim/Oxnard On-Street Alignment would not maximize use of the MTA ROW. The MTA Long Range Plan~~, currently being developed by MTA,~~ includes the possibility of implementing any of the alternatives under consideration in this corridor.

The annualized cost of new daily transit trips for Full BRT with weekend service on the Lankershim/Oxnard On-Street Alignment would be marginally worse than cost per trip of the Preferred Alternative because the capital and operating cost would be marginally higher while the ridership would be marginally lower. The capital cost would be increased by approximately $1.8 million in 2001 dollars if the weekend service option were constructed in addition to the Preferred Alternative.

e. Bus Rapid Transit (BRT) Alternative – Minimum Operable Segment (MOS)

The annualized cost of new daily transit trips for the MOS would be ~~$9~~$8 per new trip (compared to the No Build Alternative). This is ~~slightly~~ less than the Full BRT Alignment. The capital cost of the MOS would be approximately $151 million in 1999 dollars, while the operating cost would be $20.5 million in 1999 dollars annually, the lowest of the build alternatives in both capital and operating costs. However, the MOS would not maximize use of the MTA ROW, as it would only run in the right-of-way for a short segment between Woodman Avenue and Balboa Boulevard. The MTA Long Range Plan~~, currently being developed by MTA,~~ includes the possibility of implementing any of the alternatives under consideration in this corridor.

6-2 FINANCIAL ANALYSIS

The cost of a transportation investment falls into two categories: Capital Costs, and Operating and Maintenance (O&M) Costs. Capital costs are the start-up costs for the project, including the costs of guideway construction, vehicles, and any system facilities necessary before the project can begin operation. Operating and Maintenance Costs are the costs associated with the regular running of the new transportation facility. Costs such as labor, vehicle maintenance, and overall facility maintenance all fall into this category.

This section discusses both types of costs, and then analyzes the MTA's ability to afford the alternatives.

6-2.1 Capital Cost Estimates

Capital costs are the expenses associated with the physical construction and design of a transit system, and include acquisition of right-of-way, guideway and station construction, environmental mitigation, urban design, station area parking lots, vehicle purchases, systemwide equipment and maintenance facilities as needed. Capital cost estimates for the TSM Alternative and all variations of the BRT Alternative in ~~this~~ the Draft EIS/EIR were developed based on consultant knowledge of industry costs and on unit costs derived from construction of other MTA transit projects, as well as transit projects around the country.

6-2.1.1 Methodology

A key consideration in this cost estimation process has been to compare historic MTA costs to costs based on the national and local experiences of several consultant groups. This process has drawn upon the combined experience of several consulting firms experienced with transit projects in order to come up with consistent, reasonable costs that neither over- nor underestimate the price of the alternatives in any systematic way. The combined experiences of Parsons Transportation Group, Parsons Brinkerhoff Quade and Douglas, and Korve Engineering have contributed towards the development of reasonable capital cost estimates for the San Fernando Valley project and the projects on the Eastside and Westside of central Los Angeles.

The TSM Alternative will require only the purchase of new buses, and the TSM cost is therefore based on the cost of procuring these vehicles. The costs for the BRT Alternative and its variations were developed using new conceptual drawings prepared for the BRT Alternative. Costs were calculated using values from both the MTA and consultants, confirming savings over traditional MTA costs. Each total cost is based on unit costs for individual line items required to build and operate the BRT variation. Both the MTA and the consultant provided prices for items such as guideways, stations, vehicles, landscaping, maintenance yards, parking spaces, right-of-way and other components of a project. Certain percentages, often called "soft costs" were applied to the unit costs to develop the final, total cost for an alternative. Soft cost percentages provide a way to account for costs such as design services, insurance, art, and potential contingencies.

Capital cost estimates prepared during the Draft EIS/EIR for the BRT, the Locally Preferred Alternative, were updated in 2001 during the Preliminary Engineering phase by a team led by STV Engineering with input from MTA Real Estate for Acquisitions and Displacements and Manuel Padron and Associates for lower- and upper-bound estimates of the number of buses required to reflect a range of operating assumptions as developed during Preliminary Engineering (described in Section 2-2.6).

Capital cost for the potential weekend bus service on Lankershim/Oxnard was prepared in 2001 by MTA Engineering using plans prepared by STV.

6-2.1.2 Capital Cost Comparison

The TSM Alternative ~~is~~ was estimated at $20 million in 1999 dollars in the Draft EIS/EIR and includes the cost of 38 buses. It was assummed that no new maintenance facility costs would be necessary for the TSM. Table 6-1 summarizes the total cost of each build alternative.

The capital cost of the full BRT Alternative ~~is~~ was estimated at $284.3 million in 1999 dollars. ~~This~~ The 1999 breakdown in the Draft EIS/EIR include~~s~~d:

- Construction, Pre-Revenue Operation, Owner's Insurance, and Master Agreement cost - $141.9 million
- Real Estate Costs - $26.7 million (in addition to previously acquired ROW)
- Vehicle Cost - $53.4 million
- Professional Services - $31.7 million
- Contingencies - $30.6 million

The Full BRT would have the highest capital cost of the three BRT variations. The Lankershim/Oxnard variation would have a total cost of $245.0 million, or $39.3 million less that the Full BRT. Construction and real estate costs are lower for this variation because the segment of exclusive busway would only be 10.4 miles long (instead of 12.9 miles for the Full BRT). Lower construction costs in turn lead to lower professional services and contingency costs. However, the Lankershim/Oxnard Variation does have a higher vehicle cost - $55.5 million compared to $53.4 for the Full BRT. This increase can be explained by the need for more vehicles to maintain service comparable to the Full BRT along a longer, slower route.

The Minimum Operable Segment (MOS) is the least expensive variation of the BRT Alternative, $151.4 million. At only 4.3 miles, the construction and capital costs are exceptionally low, at $66.2 million and $11.4 million respectively. Vehicle, professional services, and contingency costs are also lower than for the Full or Lankershim/Oxnard variations.

Table 6-1: San Fernando Valley East-West Transit Corridor Cost Estimate Summary (in 1999 Dollars)

ITEM	ITEM DESCRIPTION (SEE COST ESTIMATE NOTES SHEET)	%	SFV CONSULTANT COST BASIS ESTIMATED COST (1999 $ X 1000)		
			FULL BRT	LANKERSHIM OXNARD	MOS
CONSTRUCTION AND PROCUREMENT (A)					
1A)	GUIDEWAYS & STRUCTURES		80,297	58,756	20,529
1B)	WASTE HANDLING		1,673	1,313	541
1C)	ENVIRONMENTAL MITIGATION (SEE NOTE 1)	2.0%	NOTE 1	NOTE 1	182
1D)	URBAN DESIGN (SEE NOTE 1)	1.5%	NOTE 1	NOTE 1	NOTE 1
2)	STATIONS		17,050	17,122	12,690
3)	MAINTENANCE YARD & SHOPS		23,656	23,656	23,656
4)	SYSTEMWIDE EQUIPMENT		9,334	8,298	3,967
5)	VEHICLES		53,405	55,495	41,745
SUBTOTAL (A)			185,415	164,639	103,310
6)	PRE-REVENUE OPERATION	2.0%	2,640	2,183	1,231
7)	OWNER'S INSURANCE	5.0%	6,600	5,457	3,078
8)	MASTER AGREEMENTS	0.0%	-	-	-
SUBTOTAL (B)			9,241	7,640	4,310
9)	ART FOR TRANSIT (C)	0.5%	660	546	308
SUBTOTAL (C)			660	546	308
REAL ESTATE COSTS (D)					
~~10A)~~	~~RIGHT OF WAY - MTA PREVIOUSLY ACQUIRED~~		~~159,000~~	~~124,800~~	~~51,500~~
10B)	RIGHT OF WAY - PROPOSED TAKES		26,720	19,198	11,356
SUBTOTAL (D)			185,720	143,998	62,856
11)	PROFESSIONAL SERVICES (E)	24%	31,682	26,195	14,776
SUBTOTAL (E)			31,682	26,195	14,776
CONTINGENCIES (F)					
12A)	ITEM 1A	10%	8,030	5,876	2,053
12B)	ITEM 1B	10%	167	131	54
12C)	ITEM 1C	10%	NA	NA	18
12D)	ITEM 1D	10%	NA	NA	NA
12E)	ITEM 2	10%	1,705	1,712	1,269
12F)	ITEM 3	10%	2,366	2,366	2,366
12G)	ITEM 4	10%	933	830	397
12H)	ITEM 5	20%	10,681	11,099	8,349
12I)	ITEM 6	0%	NA	NA	NA
12J)	ITEM 7	0%	NA	NA	NA
12K)	ITEM 8	0%	NA	NA	NA
12L)	ITEM 9	0%	NA	NA	NA
12M)	ITEM 10B	25%	6,680	4,800	2,839
12N)	ITEM 11	0%	NA	NA	NA
SUBTOTAL (F)			30,562	26,813	17,344
~~GRAND TOTAL - 1999 DOLLARS X 1000~~			~~443,280~~	~~369,830~~	~~202,903~~
GRAND TOTAL ~~w/o PREVIOUSLY ACQUIRED ROW~~			284,280	245,030	151,403

Note: NA = Not applicable.

(1) Environmental mitigation and urban design costs have been included within the guideways and structures cost for items such as soundwalls and landscaping. These costs have been subtracted from the 2% and 1.5 % costs of Items 1C and 1D, respectively, to avoid double counting.

Source: Parsons Transportation Group, 2000.

6-2.1.3 Refined Capital Cost Estimate for the Full BRT, the Locally Preferred Alternative, and Weekend Service on Lankershim/Oxnard

The capital cost for the Full BRT, the Locally Preferred Alternative, is estimated in 2001 dollars as a range from $289.2 million to $300.5 million. Lower- and upper-bound capital cost estimates are shown to reflect the range of operating assumptions regarding signal priority developed during Preliminary Engineering. This is equivalent to $272.6 and $283.3 in 1999 dollars, representing a slight decrease in the estimated cost developed for the Draft EIS/EIR. The additional capital cost for the potential weekend service on Lankershim/Oxnard is $1.8 million. Table 6-1a summarizes the estimated cost for the Full BRT assuming a variation in run times and for the Lankershim/Oxnard Weekend Services. Note, that the variation in cost for the range of operating assumptions is in the number of vehicles and type of vehicles required.

[Note: Table 6-1a below is a new addition to the Final EIS/EIR and did not appear in the Draft EIS/EIR. It is labeled Table 6-1a to distinguish it from the table numbers in the Draft EIS/EIR. Other new tables added to the Final EIS/EIR are treated in the same way.]

Table 6-1a: Full BRT (Locally Preferred Alternative) Capital Cost (2001 Dollars)

	Full BRT (in millions of 2001$)		Lankershim/ Oxnard Weekend Service [1]
	Lower-Bound	Upper-Bound	
Construction, testing, and pre-revenue operations, Owner's insurance, and Artwork[2]	$134.5	$134.5	$1.2
Real Estate Costs[3]	$21.0	$21.0	No additional cost
Vehicle Costs	$53.4	$44.3	No additional cost
Professional Services	$38.2	$38.2	$0.3
Project Contingency	$53.4	$51.1	$0.3
TOTAL[4]	$300.5	$289.2	$1.8

Notes:
1. If selected, capital cost would be added to the Full BRT capital cost.
2. STV – August 2001 Preliminary Engineering Cost Estimate.
3. MTA Real Estate.
4. MTA Capital Planning has also developed Year of Expenditure costs: The lower bound = $329.5 million; the upper bound = $317.3 million.

Source: STV, MTA Real Estate, Gruen Associates, 2001.

The cost estimate for this BRT project is based on Preliminary Engineering Design. A substantial portion of the project contingency identified in this cost estimate will be allocated to specific line items in the construction portion of the project to address anticipated (but not quantified) modifications and additions to the project construction scope prior to project approval. The line item allocations will be adjusted within the overall budget once the project scope is finalized.

6-2.2 Operating Cost Estimates

Operating and Maintenance (O&M) costs were determined using the MTA's O&M cost model. This cost model was developed to estimate O&M costs for MTA's bus, Blue Line, Green Line, and Red Line operating modes, as well as support department costs related to operations.
The MTA O&M cost model estimates staffing requirements, labor costs, and non-labor expenses by transit mode (i.e., Motor Bus, Blue Line, Green Line, Red Line) and department within each mode. For the Draft EIS/EIR, ~~T~~the model is calibrated to MTA's FY 1998-99 Adopted Budget.[1] The Final EIS/EIR uses an updated model calibrated to MTA's FY 2000-01 Adopted Budget for the Full BRT Alternative. Overhead costs are allocated to the transit modes based on the allocations made for MTA's Adopted Budget. The model uses operating characteristics (e.g., peak vehicles, number of stations, passengers) to determine future costs. As future operating plans change (e.g., new rail lines are constructed), costs change accordingly.

The model meets FTA guidelines[2] for estimating operating costs. These guidelines specify that:

- costs are computed by estimating labor and materials needed to provide a given level of service, and then unit costs are applied to the estimated future labor and material cost items;
- costs are calculated based on operating characteristics for each mode (e.g., Red Line train hours), rather than for all modes combined (e.g., systemwide passengers);
- each reported labor and non-labor expense is calculated separately, which ensures that equations are mutually exclusive and cover all operating costs; and,
- most cost items are variable, meaning that cost estimates will change with projected changes in service.

The model calculates costs separately for each labor and non-labor item in MTA's ~~FY 1999~~ fiscal year budget. The driving variables used in the O&M cost model are presented in Table 6-2.

For each alternative, O&M costs were calculated for the entire MTA system of bus, Red Line, Green Line and Blue Line service.

If service provided by another municipal operator is affected, incremental service statistics such as annual revenue vehicle miles, annual revenue vehicle hours, and fleet size are reported based on output from the MTA transportation simulation model. These service statistics are provided in Appendix 1. For purposes of accounting for these changes in the overall O&M cost, incremental annual revenue vehicle hours are multiplied by the municipal operator's operating expense per revenue vehicle hour as reported in the 1998 National Transit Database. To adjust these hourly costs to 1999 dollars for the Draft EIS/EIR and to 2001 dollars for the Final EIS/EIR for the Full BRT, a 3 percent inflation factor is used.

In the case of the San Fernando Valley, only one other operator besides MTA is affected by proposed modifications to transit service: LADOT. The LADOT 1998 cost per revenue vehicle

[1] Los Angeles County Metropolitan Transportation Authority. *Fiscal 1998-1999 Adopted Budget*. June 1998.
[2] Federal Transit Administration. *Procedures and Technical Methods for Transit Project Planning* (Supplement). U.S. Department of Transportation, February 1993.

hour as reported in the National Transit Database is $61.57. Adjusting to 1999 dollars, the hourly cost used in this analysis is $63.42. Adjusting to 2001 dollars, the hourly cost used in the Locally Preferred Alternative analysis is $67.28.

Table 6-2: O&M Cost Model Variations

Input Statistic	MTA Bus	Rail Modes
Annual Boardings (Unlinked Passengers)	X	X
Peak Vehicles	X	X
Active Fleet Vehicles	X	X
Operating Divisions	X	X
Annual Revenue Bus/Car Miles	X	X
Annual Revenue Bus/Train Hours	X	X
Contract/BDOF Service Hours	X	
Route Miles		X
Elevated Stations	X	X
At-Grade Stations	X	X
Subway Stations	X	X
Total Stations		X
Automated Operation (Green Line)		X

Source: Manuel Padron & Associates, 2000.

The total annual O&M cost for MTA service is $842 million for the 2020 No Build condition. Table 6-3 reports incremental costs over No Build, as well as incremental costs over TSM, for both MTA and LADOT services.

Table 6-3: Incremental Annual Operating and Maintenance Costs of Preliminary Alternatives (in 1999 Million Dollars)

Alternative	Cost over No Build	Cost over TSM
Transportation System Management (TSM) Alternative	$12.9	
MTA	$12.5	N/A
LADOT	$0.4	
Bus Rapid Transit (BRT) Alternative	$23.7	$10.7
MTA	$19.9	$6.9
LADOT	$3.8	$3.8
BRT Alternative – Lankershim/Oxnard On-Street Alignment	$23.8	$10.8
MTA	$20.0	$7.0
LADOT	$3.8	$3.8
BRT Alternative – Minimum Operable Segment (MOS)	$20.5	$7.6
MTA	$20.1	$7.2
LADOT	$0.4	$0.4

Source: Manuel Padron & Associates, 2000.

For the MTA, an incremental operating cost of about $12.5 million is needed to establish the improved service defined in the TSM Alternative. Another $7 million or so is needed for services directly related to the busway. The Lankershim/Oxnard On-Street Alignment and MOS variations are slightly higher but not significantly different for MTA costs.

For LADOT, changes to operating costs are minimal for the TSM Alternative and for the BRT MOS option. Under the Full BRT and the Lankershim/Oxnard On-Street Alignment variations, LADOT's 422 is assumed to be rerouted to take advantage of the busway, rather than the increasingly-congested Ventura Freeway, and service is upgraded, leading to an estimated $3.8 million in incremental operating costs.

Table 6-3a illustrates the Operating and Maintenance costs for the Full BRT (the Locally Preferred Alternative) using the updated model calibrated to MTA's FY 2000-2001 Adopted Budget. Lower- and upper-bound estimates of Full BRT operating costs are shown, based on the range of operating assumptions developed during Preliminary Engineering.

The total annual O&M cost for MTA service is $925 million in 2001 dollars for the No Build condition, while previously in the Draft EIS/EIR, the No Build O&M cost was estimated at $842 million in 1999 dollars. The model estimated an O&M cost slightly less for the refined BRT alternative and a similar cost for the full range of signal assumptions for the BRT. Weekend service on Lankershim and Oxnard would marginally increase the operating cost of the Full BRT due to slower runtimes along Lankershim and Oxnard.

[Note: Table 6-3a below is a new addition to the Final EIS/EIR and did not appear in the Draft EIS/EIR. It is labeled Table 6-3a to distinguish it from the table numbers in the Draft EIS/EIR. Other new tables added to the Final EIS/EIR are treated in the same way.]

Table 6-3a: Incremental Annual Operating And Maintenance Cost Of The Full BRT, The Preferred Alternative (in 2001 Million Dollars)

	Cost Over No Build	Cost Over TSM
Bus Rapid Transit (BRT Alternative)		
Lower-Bound BRT Estimate[1]	$22.5	$10.9
MTA	$18.5	$7.3
LADOT	$4.0	$3.6
Upper-Bound BRT Estimate[1]	$22.5	$10.9
MTA	$18.3	$7.1
LADOT	$4.2	$3.8

Note: (1) The upper and lower bound figures express a range of cost based on the range of reasonable assumptions about signal priority developed during Preliminary Engineering.

Source: Manuel Padron Associates, 2001.

The operating and maintenance cost estimates of the Lankershim/Oxnard On-Street Alignment and MOS would not be comparable to these values, as these values are based on refinements to the design and operating assumptions that were only developed for the Locally Preferred Alternative.

6-2.3 Financial Capability to Build and Operate

MTA has used its financial forecasting model for Los Angeles County to assess the financial feasibility of the San Fernando Valley corridor alternatives. This financial model is the tool used to project all capital and operating costs and revenues for all transportation modes in Los Angeles County from FY 2000 through FY 2025.

In its Section 5309 submittal, the MTA provided detailed analysis from the financial forecasting model to establish the ability to fund projects in the San Fernando Valley, Mid-City/Westside, and Eastside corridors of Los Angeles County. The No Build scenario was modeled to provide a baseline for the build alternatives. Initial No Build scenario financial results indicated significant but manageable operating shortfalls could occur in FY 06 through FY 09 if no further actions are taken by the MTA. A $438 million operating deficit, or 3.3 percent of the total MTA operating budget of $13.2 billion, was projected for the period FY 2000-2010. This deficit is expected to be largely addressed through a number of cost reduction strategies, which is projected to essentially balance the No Build scenario to within 0.5 percent of the overall operating budget. This balanced plan provides a basis for analyzing the financial impacts of introducing the three corridor projects.

The model includes revenues from the State Traffic Congestion Relief Plan (AB 2928) and FTA 5309 New Starts funds which is expected to provide 80 percent of the capital funding needed for the capital costs of the corridors. The balance of the capital funding plan for these projects will come from committed flexible federal funds (CMAQ and RSTP) and local half cent sales tax funds. The funding plan for the projects is stable and reliable given the commitments of funding recently realized. The financial analysis indicates that funding is available to complete the full BRT alternative for the San Fernando Valley East-West Transit Corridor so that operations can begin as soon as FY 2004. Since the full BRT alternative has the highest capital costs of all the scenarios proposed for the San Fernando Valley East-West corridor, any alternative or variation addressed in this document is considered fundable.

The combined impacts of the San Fernando Valley, Mid City-Westside and Eastside projects lead to a projected operating deficit of $151.2 million for the FY 2004-FY 2010 period, if no further actions are taken to balance the operating plan. The most challenging shortfalls are projected to occur in FY 2007, FY 2008, and FY 2009.

MTA has established a Cost Reduction Team whose goal is to reduce bus and rail hourly operating costs. The strategies developed by the team will be phased in beginning in FY 2005 to reduce hourly operating costs by one dollar per year for six years, for a total of six dollars per hour in 2010. The cost reduction measures have already been initiated with the introduction of service restructuring pursuant to the seven sub-regional restructuring studies done in Los Angeles County and the worker compensation safety program. Already the MTA in the first 2 years of the cost reduction program has lowered the hourly rate of bus operations by over $5 per hour and additional savings are anticipated as provisions of the year 2000 labor agreements are fully implemented. These agreements call for reduced platform time for bus operations and use of part-time drivers in specified instances and will further reduce MTA costs over time. This

cost reduction plan will achieve the $151.2 million systemwide savings needed to ensure a balanced operating plan with the three corridor projects.

The twenty-year cash flows indicate that MTA has the financial capacity to build and operate the planned improvements to this corridor while continuing the operation and maintenance of the entire regional transit system.

6-3 COMPARATIVE ANALYSIS OF ALTERNATIVES

This section provides a variety of measures to evaluate and compare the alternatives under study. These measures are consistent with the Federal Transit Administration (FTA) guidelines for assessing major investments.[3] Enactment of the Transportation Equity Act for the 21st Century (TEA-21) in 1998 requires that FTA evaluate and rate candidate New Starts projects as the basis for approving projects for federal funding. Based on a comprehensive review of mobility improvements, environmental benefits, cost-effectiveness, operating efficiencies, transit-supportive land use and other considerations, the FTA rates projects as "highly recommended," "recommended," or "not recommended."

Table 6-4 summarizes the indices included in this section.

The comparative analysis of alternatives has been refined to include new analysis completed on the Locally Preferred Alternative (the Full BRT) during preliminary engineering. Based on the more detailed analysis conducted during Preliminary Engineering, the environmental analysis of the Full BRT Alternative has been revised to reflect a range of operating assumptions in terms of signal priority. Throughout this section, lower- and upper-bound estimates of various measures have been included for the Full BRT Alternative in order to reflect the range of operating assumptions developed during Preliminary Engineering.

Table 6-4: Comparative Analysis of Alternatives

Analysis Category	Measures
Effectiveness in Improving Mobility	Ridership Travel Time Comparison Travel Time Savings
Cost-Effectiveness	Annualized Cost per New Daily Transit Trip
Operating Efficiencies	Operating Cost per Passenger Mile
Environmental Benefits	Summary Matrix of Environmental Impact Categories
Equity	Discussion of Demographic Factors
Community Involvement Response	Discussion of Community Factors

Source: Manuel Padron & Associates, 2000.

[3] *Technical Guidance on Section 5309 New Starts Criteria,* Federal Transit Administration Office of Planning, July 1999.

Other analysis for FTA measures related to air quality and transit supportive land use can be found in the Air Quality and Land Use and Development sections in Chapter 4. This chapter ends with a synthesis of trade-offs between the alternatives.

6-3.1 Effectiveness in Improving Mobility

Various elements serve as indicators of improved mobility. "Ridership" describes the amount of people using the project alternative, as estimated through a transportation demand model. A "travel time comparison" of average speeds and overall travel times provides an understanding of how the alternative performs during an average trip between two points. "Travel time savings" assesses the annual hours of time saved from both transit and automobile users as a result of the project.

6-3.1.1 Ridership

For all project alternatives, ridership is a function of travel time and cost. All else being equal, the faster alternatives attract more riders. For the alternatives being studied in this corridor, speed is affected by the degree of traffic signal priority that can be assumed. Where the alignment options divert from the busway and operate in mixed flow on surface streets, speeds are slower which in turn lowers ridership.

Ridership has been estimated for each alternative through the MTA's travel simulation model, based on the forecast year 2020. Ridership model runs were done for the following scenarios:

- 2020 No Build
- TSM
- BRT (full project) – Lower- and Upper-Bound Estimates
- BRT minimum operating segment (MOS)

Because the Lankershim/Oxnard On-Street Alignment variation is a hybrid of the BRT and the BRT MOS concept, it is assumed that results would be a mid-point of the BRT and BRT MOS model runs.

The weekend service option would utilize the Lankershim/ Oxnard On-Street alignment. Because these measures estimate ridership for typical weekday service, they would not reflect changes in ridership due for weekend service. Ridership would likely be lower on weekends if the option along Lankershim and Oxnard were selected (due to a longer runtime), but the change in ridership compared to the Full BRT would likely be minimal.

The projected ridership for each alternative is shown in Table 6-5. The "boardings" column represents the number of passengers expected to use the system by boarding at a fixed guideway station, that is, board and disembark at stations constructed as part of the San Fernando Valley East-West Transit Corridor project. While boardings give an indication of transit activity, these numbers should not be used in trying to assess how many more riders are attracted to transit since a single rider may need to transfer one or more times, accounting for more than one boarding to complete a single trip. The "new transit riders"column is the appropriate measure for determining the number of additional riders, since this measure deals with "linked" (end-to-

end) trips. New transit riders are reported for each alternative as increments over the No Build and TSM alternatives, per FTA guidelines.

Table 6-5: Ridership

Alternative	Daily Transit Boardings (fixed guideway stations only)	New Daily Transit Trips	
		Over No Build	Over TSM
Transportation System Management (TSM)	N/A	9,000	N/A
Full BRT Lower-Bound Estimate Upper-Bound Estimate[1]	 24,700 18,700	 15,300 13,000	 6,300 4,000
Lankershim/Oxnard On-Street Alignment	23,400	14,600	5,600
MOS	22,000	13,800	4,800

Note: [1]Sensitivity analysis for a range of assumptions about signal priority tested for the Full BRT only. Similar assumptions about greater signal delay would have proportional effects on the Lankershim/Oxnard On-Street Alignment and MOS Alternatives.

Source: Manuel Padron & Associates, 2000 and 2001.

Results demonstrate that the greatest transit ridership results from implementing the full BRT Alternative, which integrates service improvements assumed in TSM. Ridership decreases as more of the alignment is diverted on-street. Lower ridership is directly related to longer travel times as buses run in a mixed-flow traffic environment and therefore have slower speeds.

Within the range of operating assumptions considered for the Locally Preferred Alternative, there would be approximately 6,700 fewer boardings or 2,300 fewer new riders daily for the upper-bound estimate of signal delay compared to the lower-bound estimate. Proportional reductions in ridership would apply to the Lankershim/Oxnard On-Street Alignment and MOS variations if the same range of operating assumptions were applied to these variations.

6-3.1.2 Travel Time Comparison

Table 6-6a compares the runtimes, average speed, and station spacing for the BRT Alternative and its variations.

~~***Table 6-6: 2000 Travel Time Comparison for BRT Variations***~~

	~~Full BRT~~	~~Lankershim/Oxnard On-Street Alignment~~	~~MOS~~
~~Total Runtimes (Warner Center to North Hollywood)~~	~~28.8 minutes~~	~~31.6 minutes**~~	~~35.6 minutes~~
~~Total Runtimes (Warner Center to Downtown)~~	~~55.8 minutes + transfer at North Hollywood (3 min)~~	~~58.6 minutes + transfer at North Hollywood (3 min)~~	~~62.6 minutes + transfer at North Hollywood (3 min)~~

~~*Table 6-6: 2000 Travel Time Comparison for BRT Variations*~~			
	~~**Full BRT**~~	~~**Lankershim/Oxnard On-Street Alignment**~~	~~**MOS**~~
~~Average Speed*~~	~~29.0 mph~~	~~26.9 mph~~	~~23.6 mph~~
~~Average Distance between Stations~~	~~1.16 miles~~	~~1.09 miles~~	~~1.17 miles~~
~~Note: *These average speeds include station stops and intersection delay. Not including stops, average speed for the Full BRT would be 37 mph. During preliminary engineering, a more detailed analysis of operating speed along the busway will be made.~~ ~~**Based on model-derived projections. Does not reflect real on-street and intersection congestion leading to increased travel times; estimated at a minimum of 34.3 minutes.~~			

~~Source: Manuel Padron & Associates, 2000.~~

[Note: Table 6-6a below is a new addition to the Final EIS/EIR and did not appear in the Draft EIS/EIR. It is labeled Table 6-6a to distinguish it from the table numbers in the Draft EIS/EIR. Other new tables added to the Final EIS/EIR are treated in the same way.]

Table 6-6a: Travel Time Comparison for BRT Variations – Lower Bound (LB) and Upper Bound (UB)

		Full BRT[1]	Lankershim/Oxnard On-Street Alignment[2]	MOS[2]
Total Run Times (Warner Center to North Hollywood)	LB	28.8 minutes	31.6 minutes[3]	35.6 minutes
	UB	40.0 minutes	42.8 minutes	46.8 minutes
Total Run Times (Warner Center to Downtown)[4]	LB	62.8 minutes	65.6 minutes	69.6 minutes
	UB	74.0 minutes	76.8 minutes	80.8 minutes
Average Speed[5]	LB	29 mph	27 mph	24 mph
	UB	21 mph	20 mph	18 mph
Average Distance between Stations		1.16 miles	1.09 miles	1.17 miles

Notes:
1. The travel time and speed measures of the Full BRT Alternative are represented by their lower bound and upper bound estimates. Runtime estimates are based on a range of operating assumptions for the BRT, particularly signal delay at intersections, which were analyzed during preliminary engineering. Actual runtimes would be determined during final design of the BRT and would likely vary within the range indicated as service matures.
2. The upper bound runtimes shown for the Lankershim/Oxnard On-Street Alignment and the MOS variations of the Full BRT were developed by adding the difference in delay between the upper and lower bound runtimes for the Full BRT to the lower bound Lankershim/Oxnard and MOS runtimes as contained in the Draft EIS/EIR. Although the Lankershim/Oxnard On-Street Alignment and MOS were not selected for further analysis during preliminary engineering, these measures are included for comparison purposes.
3. Based on model-derived projections. Does not reflect real on-street and intersection congestion leading to increased travel times; estimated as a minimum of 34.3.
4. This runtime also includes the transfer from the BRT to the Metro Red Line at North Hollywood which would be an average of three minutes waiting time and four minutes walking time between the BRT and the Red Line platform. In the future, it would be possible to construct a direct portal from the BRT terminus to the Metro Red line at an existing subway knock-out panel.
5. Average speed includes all station stops and intersection delay.

Source: Manuel Padron & Associates, 2000 and 2001.

The fastest average speed and travel time occurs under the full BRT Alternative. The slowest average speed and travel time occurs under the MOS option, since two segments of the route are operating in mixed-flow traffic on Victory Boulevard in the west end, and Oxnard on the east end of the route. The runtimes listed in Table 6-6a apply only to all-stops buses operating within the corridor. As described in Chapter 2, some buses would also operate on a limited-stop basis and would have shorter runtimes. The lower- and upper-bound estimates included in this table reflect the range of operating assumptions developed for the Locally Preferred Alternative during preliminary engineering. Working with the City of Los Angeles Department of Transportation, a range of assumptions about signal delay for BRT buses at intersections was developed.

The weekend service option would have the same travel time characteristics as the Lankershim/Oxnard On-Street Alignment, which would result in somewhat slower runtime compared to running in the median of Chandler Boulevard. When evaluating the efficacy of weekend service along Lankershim and Oxnard, it is important to consider that operating a service on a different alignment on weekends would likely be confusing to some transit patrons. This potential for confusion would reduce the overall reliability of the service and its attractiveness to patrons.

6-3.1.3 Travel Time Savings

This measure is defined as the total travel time savings that are expected to result from the Build Alternative in the forecast year (2020), compared to both the No Build and TSM alternatives. This aggregate value includes travel time savings for people making trips on transit (both new and existing transit riders) as well as savings that accrue to people using competitive modes (automobile users). This measure is calculated using reported values from the MTA's transportation simulation model, summarized in Table 6-7.

Table 6-7: Value of Travel Time Savings

Build Alternative	Total Annual Change (Hours)	
	Annual Savings to No Build	Annual Savings to TSM
Full BRT – Lower-Bound Estimate	439,000	154,000
Lankershim/Oxnard On-Street Alignment	423,000	138,000
MOS	407,000	122,000

Source: Manuel Padron & Associates, 2000.

Results correlate with the travel time comparisons described in the previous section. Compared to the Lankershim/Oxnard On-Street Alignment and MOS, ~~T~~the full BRT Alternative has the greatest travel time savings since it has the fastest travel time.

6-3.2 Cost-Effectiveness

Cost-effectiveness is a measure used to evaluate how the costs of a transit project (for both construction and operation) compare to the expected benefits (increased transit ridership).

The FTA's cost effectiveness criterion is measured by the incremental cost per incremental passenger in the forecast year. This measure is based on the annualized total capital investment and annual operating costs, divided by the change in annual transit system ridership, expressed as the following equation:

$$\text{Cost Effectiveness Index} = \frac{\text{) Capital Cost +) O\&M Cost}}{\text{) Linked Transit Trips}}$$

The smaller the index, the more cost-effective the project alternative. Consistent with FTA requirements, cost-effectiveness for each alternative is measured against the No Build and TSM alternatives.

To calculate the change in capital cost, project costs were were annualized according to their assumed useful life, using FTA annualization factors shown in Table 6-8:

Table 6-8: Life Cycle Assumptions

Project Element	Useful Life	Annualization Factor
Right-of-way	100 years	0.070
Structures, trackwork, signals, electrification	30 years	0.081
Rail vehicles	25 years	0.086
Buses	12 years	0.126

Source: Technical Guidance on Section 5309 New Starts Criteria, FTA, July 1999.

Annual operating and maintenance costs were calculated using the approach described in Section 6-1.2. The change in linked transit trips for the forecast year 2020 was determined using the MTA travel forecasting model.

Table 6-9 ~~and~~, Table 6-9a, Table 6-10, and Table 6-10a summarize the data used in the calculation of the cost-effectiveness index for the alternatives considered in the Draft EIS/EIR, and the resulting incremental cost per incremental passenger is shown in Table 6-11 and Table 6-11a.

Table 6-9: Cost-Effectiveness Calculation: Incremental Values Over No-Build

Alternative	Annualized Capital Cost (millions 1999 $)	Annual O&M Cost (millions 1999 $)	Annual Linked Trips (millions)
TSM	$2.53	$12.91	2.84
Full BRT	$26.16	$23.65	4.83
Lankershim/Oxnard On-Street Alignment	$23.09	$23.75	~~4.20~~ 4.60
MOS	$14.68	$20.49	~~3.94~~ 4.34

Source: Manuel Padron & Associates, 2000, 2001.

[Note: Table 6-9a below is a new addition to the Final EIS/EIR and did not appear in the Draft EIS/EIR. This table is labeled Table 6-9a to distinguish it from the table numbers in the Draft EIS/EIR. Other new tables added to the Final EIS/EIR are treated in the same way.]

Table 6-9a: Cost-Effectiveness Calculation for the Locally Preferred Alternative: Incremental Values Over No-Build

Alternative	Annualized Capital Cost (millions, 2001$)	Annual O&M Cost (millions, 2001$)	Annual Linked Trips (millions)
TSM	$2.70	$11.62	2.84
Full BRT (Lower-Bound Estimate)	$27.01	$22.50	4.83
Full BRT (Upper-Bound Estimate)	$25.58	$22.49	4.11

Source: Manuel Padron & Associates, 2001.

Table 6-10: Cost-Effectiveness Calculation: Incremental Values Over TSM

Alternative	Annualized Capital Cost (millions 1999 $)	Annual O&M Cost (millions 1999 $)	Annual Linked Trips (millions)
Full BRT	$23.57	$10.74	1.99
Lankershim/Oxnard On-Street Alignment	$20.49	$10.84	~~1.37~~ 1.77*
MOS	$12.09	$7.58	~~1.10~~ 1.50*
Note: *Refinement to calculation during Preliminary Engineering phase.			

Source: Manuel Padron & Associates, 2000, 2001.

[Note: Table 6-10a below is a new addition to the Final EIS/EIR and did not appear in the Draft EIS/EIR. This table is labeled Table 6-10a to distinguish it from the table numbers in the Draft EIS/EIR. Other new tables added to the Final EIS/EIR are treated in the same way.]

Table 6-10a: Cost-Effectiveness Calculation for the Locally Preferred Alternative: Incremental Values Over TSM

Alternative	Annualized Capital Cost (millions, 2001$)	Annual O&M Cost (millions, 2001$)	Annual Linked Trips (millions)
Full BRT (Lower-Bound Estimate)	$24.30	$10.88	1.99
Full BRT (Upper-Bound Estimate)	$22.87	$10.87	1.27

Source: Manuel Padron & Associates, 2001.

Table 6-11: Cost-Effectiveness of Preliminary Alternatives (Annualized Cost per New Daily Transit Trip (in 1999 Dollars)		
Alternative	**Over No Build**	**Over TSM**
TSM	$5	N/A
Full BRT	$10	$17
Lankershim/Oxnard On-Street Alignment	~~$11~~ $10*	~~$23~~ $18*
MOS	~~$9~~ $8*	~~$18~~ $13*
Note: *Refinement to calculation during Preliminary Engineering phase.		

Source: Manuel Padron & Associates, ~~2000~~ 2001.

[Note: Table 6-11a below is a new addition to the Final EIS/EIR and did not appear in the Draft EIS/EIR. This table is labeled Table 6-11a to distinguish it from the table numbers in the Draft EIS/EIR. Other new tables added to the Final EIS/EIR are treated in the same way.]

Table 6-11a: Cost Effectiveness of Locally Preferred Alternative Variations		
Alternative	**Over No Build (2001$)**	**Over TSM (2001$)**
Full BRT (Lower-Bound Estimate)	$10	$18
Full BRT (Upper-Bound Estimate)*	$12	$27
Note: *The upper-bound cost effectiveness for the Full BRT in Table 6-11a cannot be compared directly to the Lankershim/Oxnard On-Street Alignment and MOS in Table 6-11. If upper bound signal delay assumptions were applied to these variations, the cost effectiveness could be expected to increase similarly to the increase associated with the upper-bound Full BRT.		

Source: Manuel Padron & Associates, 2001.

The most cost-effective alternatives are those which yield a high number of new riders at a low incremental cost (see Tables 6-9a, 6-10a, and 6-11a). The TSM alternative is very cost-effective, as it attracts nearly 3 million new riders annually (compared to No Build) while avoiding the large capital costs for guideways and stations that are associated with all of the other alternatives. The Busway is also quite cost-effective, costing about $10 per new rider compared to the No Build and $17 compared to the TSM. The Full BRT, Lankershim/Oxnard On-Street Alignment, and MOS variations have similar cost-effectiveness measures compared with No Build; compared with TSM, ~~these options are~~ the Lankershim/Oxnard On-Street Alignment is slightly less effective than the full BRT but not substantially different.

In July 2001, the MTA Board selected the Full BRT alternative as the Locally Preferred Alternative, but also directed that continued consideration be given to a weekend service option along the Lankershim/Oxnard On-Street Alignment. During preliminary engineering for the BRT, refined capital costs and O&M costs were developed for the Locally Preferred Alternative and its variations, which are expressed as lower- and upper-bound estimates. A new MTA regional transportation model run was completed to determine potential impacts of the entire

range of potential operating assumptions. The cost-effectiveness ratios of these variations of the Locally Preferred BRT alternative are compared above in 2001 dollars.

The weekend service option would have marginally higher capital and operating costs with marginally lower ridership when compared to the Locally Preferred Alternative. This would result in a marginally higher cost per new daily transit trip. As described previously, the cost-effectiveness ratios of the Lankershim/Oxnard On-Street Alignment and MOS would not be comparable to these values, as these new values are based on refinements to the design and operating assumptions that were only developed for the Locally Preferred Alternative.

6-3.3 Operating Efficiencies

The FTA uses a single measure for the Operating Efficiencies criterion, which is change in operating cost per passenger mile for the entire regional transit system. The basic calculation involves dividing the system annual operating cost for transit service by the system annual passenger-miles projected for the year 2020. Calculation of the total transit operating costs is discussed under Section 6-1.2, Operations and Maintenance Costs. System annual passenger-miles are produced from the MTA transportation model.

It should be noted that operating costs were based on adjusting model output statistics so that modeled statistics for 1998 are similar to existing MTA operations in 1998. Passenger-miles (which are not needed for the O&M model) remain unadjusted so it is likely that the cost per passenger-mile should be higher for all alternatives. Regardless, the relative standing of all alternatives should be the same. Table 6-12 presents the operating cost per passenger mile.

Table 6-12: Operating Efficiency of Alternatives in the Draft EIS/EIR (in 1999 Dollars)

Alternative	Operating Cost per Passenger Mile
No Build Alternative	$0.31
TSM	$0.32
Full BRT	$0.32
Lankershim/Oxnard On-Street Alignment	$0.32
MOS	$0.32

Source: Manuel Padron & Associates, 2000.

Table 6-12a below compares the Operating Efficiencies of the Full BRT (Preferred) Alternative to the No Build and TSM Alternatives, including refinements to the BRT Alternative developed during preliminary engineering. These values are based on MTA's updated O&M cost model, and they are expressed in 2001 dollars. The operating efficiencies of the weekend service option would be comparable to those of the Full BRT.

[Note: Table 6-12a below is a new addition to the Final EIS/EIR and did not appear in the Draft EIS/EIR. It is labeled Table 6-13a to distinguish it from the table numbers in the Draft EIS/EIR. Other new tables added to the Final EIS/EIR are treated in the same way.]

Table 6-12a: Operating Efficiency of the Full BRT (Locally Preferred) Alternative (in 2001 Dollars)

Alternative	Operating Cost Per Passenger Mile
No Build	$0.345
TSM	$0.347
Full BRT – Lower-Bound Estimate	$0.347
Full BRT – Upper-Bound Estimate	$0.350

Source: Manuel Padron Associates, 2001.

6-3.4 Environmental Benefits

The No Build, TSM and BRT alternatives have been compared across a range of environmental factors. The results of these comparisons can be found in tabular form in the Executive Summary and in detail in the various individual sections in Chapters 4 and 5. The following is a brief overview of these comparisons.

Land Use & Development – No impacts would occur under the No Build or TSM alternatives. The BRT variations (Full BRT, Lankershim/Oxnard On-Street Alignment, and MOS) would reintroduce a transportation use within an existing historic transportation corridor and therefore would be compatible with its surroundings. The BRT would be in close proximity to some sensitive land uses and therefore would need to incorporate landscaping and other aesthetic treatment to enhance the visual appearance of the corridor. The BRT would be generally consistent with regional and local plans. At selected BRT stations, potential development could occur. This development would be consistent with surrounding land uses and local plans and zoning.

Acquisitions & Displacements – Neither the No Build or TSM alternatives would acquire property. The Full BRT Alternative would require termination of approximately ~~94~~ 109 existing MTA lease agreements, involving ~~68~~ 14 commercial establishments, and ~~14~~ 16 outdoor advertising signs~~, 11 residences and 1 non-profit institution~~. In addition, a total of ~~8~~ 7 parcels of private property would be acquired. The On-Street Alignment would terminate approximately ~~62~~ 80 business leases and 12 advertising leases, and it would acquire ~~5~~ 4 privately owned parcels of property. The MOS would terminate approximately ~~49~~ 80 business leases and ~~11~~ 12 advertising leases, and it would acquire ~~4~~ 2 parcels of private property.

Demographics & Neighborhoods - No adverse effects on demographics would occur under any of the alternatives being considered. Neither the No Build nor TSM alternatives would have an adverse effect on neighborhoods. The BRT Alternative would be consistent with the historic transportation use of the corridor and would not be incompatible with existing neighborhoods. The On-Street Alignment would not restore a portion of the historic transportation use within the ~~SP~~ MTA ROW, but would place it within an existing street. This also would not be

incompatible with existing neighborhoods. The MOS would have essentially the same effect as the Full BRT, except that the eastern and western portions of the ~~SP~~ MTA ROW would not be used. Buses running in mixed flow traffic in those areas would not be incompatible with the neighborhoods located there.

Community Facilities & Services – No impacts would be expected under the No Build or TSM alternatives. With regard to the BRT Alternative, impacts on Fire and Police Department response time, which would be related to increased traffic at intersections, would be minimal. Under the BRT Alternative, 17 intersections would operate at LOS E or F prior to mitigation, compared to 13 intersections for the No Build and TSM alternatives. Proposed mitigation measures will reduce this impact to an acceptable level, with no residual effect to emergency response time expected.

Access to schools, libraries, religious institutions, health care facilities, parks and recreational facilities would all be improved under all of the build alternatives and all of the build alternatives would improve access to these facilities by approximately the same degree. Two schools would experience noise increases under the Full BRT Alternative (that would not require mitigation); marginal to no impacts would occur under the On-Street Alignment or MOS. No libraries would be affected by noise from any of the alternatives. Student access to schools would be maintained under any of the alternatives. At one pre-school—Emek Hebrew Academy —parents walking their children across the corridor from north to south would require added pedestrian signal and crosswalk control which would, when installed, provide for adequate safety in crossing the corridor. This would pertain to the Full BRT Alternative only. Also related to the Full BRT Alternative would be an access issue affecting orthodox Jewish worshipers needing to reach two synagogues on the south side of Chandler Boulevard. Mid-block crossings would be provided as part of the project that would adequately address this issue.

Fiscal & Economic Conditions - The No Build and TSM alternatives would have no effect on fiscal or economic conditions. The Full BRT would displace an estimated 66 jobs, the Lankershim/Oxnard On-Street Alignment would displace 49 jobs, and the MOS would displace an estimated 25 jobs. All of the job displacements should be readily assimilated into the existing local economy.

The No Build Alternative would generate no new employment. The TSM Alternative would generate approximately 630 new jobs; the BRT variations (either Full BRT or Lankershim/Oxnard On-Street Alignment) would generate approximately 980 jobs; the MOS would generate approximately 990 jobs.

The No Build and TSM alternatives would have no effect on property taxes. The BRT Alternative would result in an estimated annual loss of ~~$23,000~~ $19,080 in property taxes. The Lankershim/Oxnard On-Street Alignment would result in the annual loss of an estimated ~~$19,500~~ $13,740 in property taxes. The MOS would result in an estimated annual loss of ~~$15,800~~ $10,070.

Visual & Aesthetic Conditions – The No Build and TSM alternatives would have no effect on visual and aesthetic conditions. The BRT variations(Full BRT, Lankershim/Oxnard On-Street

Alignment, or MOS) would have minimal visual effects – it would enhance an existing unimproved railroad corridor. In most cases, stations would be consistent and in-scale with the surrounding area. Approximately ~~400~~ 420 existing mature trees would be removed, but they would be replaced with 4,000 new trees.

Air Quality – The No Build Alternative would result in the following approximate annual production of criteria pollutants: 492,300 tons of carbon monoxide, 71,900 tons of nitrogen oxides, 28,100 tons of reactive organic gases, and 3,200 tons of particulates (less than 10 microns in size). The TSM, Full BRT, On-Street Alignment and MOS alternatives would all have a less than one percent change in the production of any of the criteria pollutants. No exceedances of the federal or state one-hour or eight-hour carbon monoxide standards would occur under any of the alternatives examined.

Energy – The No Build Alternative would consume an estimated 894,100 billion BTU s of energy on an annual basis. The TSM Alternative, Full BRT Alternative, On-Street Alignment and MOS would each consume slightly less, about 893, 900 BTUs annually (or 0.02 percent).

Noise & Vibration – The No Build and TSM alternatives would not have noise impacts. Prior to mitigation, the Full BRT Alternative would have a total of ~~454~~ 498 locations at which noise impacts (either moderate or severe) would occur. The On-Street Alignment would have a total of ~~440~~ 468 impact locations. The MOS would have a total of ~~43~~ 63 impact locations. Mitigation can be employed, consisting of soundwalls and improved bus noise characteristics that can effectively eliminate all noise impacts. If quieter buses cannot be made available, then there would be residual noise impacts affecting 25 or fewer locations under the Full BRT, ~~151~~ 155 locations under the On-Street Alignment, and ~~4~~ 3 locations under the MOS. No alternative would have adverse vibration impacts.

Geotechnical Considerations – No impacts would be expected under the No Build and TSM alternatives. For the BRT Alternative (including the On-Street variation), and unnamed earthquake fault may be located crossing the project between Laurel Canyon Boulevard and the North Hollywood Metro Red Line station. If such a fault exists, design accommodations are available to take it into account and therefore no adverse impacts are expected. This fault would not be consideration under the MOS.

There are areas of shallow groundwater, which gives rise to a concern about liquefaction (in the event of an earthquake) between Warner Center and Reseda Boulevard and again along Chandler Boulevard between Oxnard Street and SR 170. This would be a potential issue for the Full BRT Alternative and the western portion of the Lankershim/Oxnard On-Street Alignment. Neither the No Build Alternative, TSM Alternative, nor the MOS variation would have a liquefaction concern. Similar to the treatment of seismic risk, design accommodations can be made to eliminate this as an adverse impact under any of the alternatives.

Biological Resources – The No Build and TSM alternatives would have no effect on biological resources. None of the BRT options is expected to have an adverse effect on biological resources, assuming compliance with Sections 401 and 402 of the federal Clean Water Act.

Water Resources – The No Build and TSM alternatives would have no effect on surface water resources. All of the BRT options would increase runoff, but in minor proportions, thereby having a minor adverse effect. No effects on groundwater resources are expected under any of the alternatives. Neither the No Build or TSM alternatives would have an effect on floodplains. All of the BRT options would be located within the Sepulveda Flood Control Basin, which is under the jurisdiction of the U.S. Army Corps of Engineers and all would be potentially subject to controlled flooding as per Corps requirements – in the event of a substantial flood event only.

Safety & Security – The No Build Alternative would have no effect on Safety and Security. The TSM and BRT variations (Full BRT, Lankershim/Oxnard On-Street Alignment, and MOS) could result in an increase in the number of accidents, and therefore could have a minor effect on safety.

Cultural Resources - The No Build and TSM Alternatives would not have an effect on cultural resources. None of the BRT variations (Full BRT, Lankershim/Oxnard On-Street Alignment, or MOS) would have an effect on cultural resources.

Section 4(f) Evaluation – Neither the No Build or TSM alternatives would have an effect on Section 4(f) resources. None of the BRT variations (Full BRT, Lankershim/Oxnard On-Street Alignment, or MOS) would "use" Section 4(f) resources, either directly or constructively.

Construction Impacts – No impacts would occur under the No Build or TSM alternatives. Under the BRT Alternative (Full BRT, Lankershim/Oxnard On-Street Alignment or MOS variations), various construction impacts would occur, including noise, dust, traffic interruptions, potential safety hazards, and the like. All of these impacts would be temporary and all of them would be reasonably similar across the BRT options under consideration.

6-3.5 Equity

Compared to the City of Los Angeles, the study area has a somewhat smaller population that is likely to be dependent on public transportation. Transit dependency is characterized by a) the population unlikely to drive (those under 16 and over 64 years of age), b) the number of workers using public transportation, and c) the number of persons below the poverty line. The percentages of people under 16 and over 64 are similar between the study area and the City of Los Angeles, although the study area does have a slightly lower percentage of people under 16 and slightly higher percentage of people over 64. The study area as a whole has a lower percentage of workers that use public transportation than does the City (roughly 5 percent as compared to the city-wide average of 11 percent). In addition, the City of Los Angeles has a larger proportion of persons living below the poverty line (18 percent) than does the study area, and within the study area itself, the East Valley has a higher proportion of people below the poverty line than the West Valley (12 percent compared to 9 percent). Therefore, residents of the City of Los Angeles as a whole are more likely to be transit dependent than residents of the San Fernando Valley study area.

In addition, the study area generally has a higher average per capita income and smaller minority population than the City of Los Angeles as a whole. According to the 1990 U.S. Census, while in the City average per capita income is $16,188 a year, in the study area it is between $18,751 (East Valley) and $19,974 (West Valley) a year. And while in the City minorities represent 63 percent of the total population, in the study area they only represent between 41 percent (East Valley) and 29 percent (West Valley) of the total population.

The patterns of transit dependency, average per capita income, and minority populations in the San Fernando Valley study area as compared to the City of Los Angeles indicate that there are no immediate Environmental Justice concerns for the proposed project.

6-3.6 Community Involvement Response

The public outreach component of the San Fernando Valley East-West Transit Corridor study spans five years. The first round of outreach activities occurred between September 1995 – March 1997. The second round of outreach began in October 1999 and continues to date. During the Draft EIS/EIR public comment period, two hearings were conducted, one MTA Board workshop was held, and public testimony was taken at an MTA Board meeting. In addition, a series of community meetings took place during the Preliminary Engineering period.

6-3.6.1 Scoping Workshops

Two scoping workshops, part of the federal environmental process, were conducted in May 2000 to solicit commentary on the alternatives included in this Draft EIS/EIR. One scoping workshop was conducted in the East Valley and one in the West Valley.

During the scoping workshops, concerns regarding noise, traffic, aesthetics and safety were among the most common concerns expressed by stakeholders living or doing business in the affected area.

6-3.6.2 Overall Response to Scoping

As of October 2000, 98 comment sheets, letters and e-mails have been received from stakeholders. Approximately half of comments expressed support or were neutral about the project, and half expressed opposition to the project, citing concerns about noise, impacts to businesses and residents, public safety, parking, aesthetics and pollution.

Individuals who commented in support of, or were neutral about, the BRT alternative provided suggestions for addressing the concerns of neighboring residents:

- Landscaping and decorative fences or walls should be included to obstruct views of the busway.
- Natural gas buses should be used as opposed to diesel buses along this route.
- Buses and stations should be designed with the handicapped in mind.

- Noise was also a significant issue for some, and suggestions for sound walls and earthen berms were received.
- Interest was expressed in the proposed City of Los Angeles bike path and how far it would be extended.

In addition, some residents who expressed support for the busway stated that they would have preferred some form of rail transit.

Those opposed to the busway described several areas of concern:

- Pollution coming from the buses, including suggestions that rail options would have less effects on air quality,
- Concern over buses utilizing residential streets and the subsequent effect on general pedestrian safety and the safety of children in nearby schools,
- The effect on property values and existing businesses along the route,
- How parking issues would be addressed,
- The accident potential of the perceived high speed/Metro Rapid Buses in relation to typical accident rates,
- Whether there would be enough riders to support the line, including that a north-south route would better serve some, and
- Whether residents living in the area would not utilize this service to the extent anticipated / projected.

Some residents have also stated that the BRT plan conflicts with a state law prohibiting the use of this right-of-way for a busway.

Comments from the responding public agencies included a request to examine the effects on City parks, to evaluate the extension of the bike path from its current end at the North Hollywood Metro station, to survey potential cultural resources in the project corridor, to check for sacred lands in the project corridor with Native American groups, and to ensure that the project is consistent with the Southern California Association of Governments (SCAG) policies in the corridor.

6-3.6.3 Public Comment on the Draft EIS/EIR

In May 2001, the Draft EIS/EIR was released for public comment for over 45 days. The Draft EIS/EIR was sent to over 260 public agencies, businesses, community groups, and individuals. Additional copies were made available at libraries near the corridor, and the Draft EIS/EIR was also published on the World Wide Web. Two public hearings were held in the Valley (at Pierce and Valley Colleges) during this period at which verbal comments were given and recorded and written comments were received. In addition, verbal and written comments were received at a MTA Board workshop and the regular MTA Board meeting in July 2001. Over 700 comments were received on the Draft EIS/EIR, and these comments are responded to in Chapter 7 of this Final EIS/EIR. At the July 2001 Board meeting, the MTA Board selected the Full BRT

Alternative as the Locally Preferred Alternative with consideration of the Lankershim/Oxnard On-Street Alignment as a weekend service option.

6-3.6.4 Chandler Boulevard/Oxnard Street Outreach

A major outreach issue has been differences between the Chandler Boulevard median alignment and the Lankershim/Oxnard On-Street Alignment for the BRT Alternative in the East Valley. The Orthodox Jewish community along Chandler Boulevard has traditionally been opposed to new at-grade ~~developments~~ rail on the right of way. In ~~recent~~ meetings conducted during the development of the Draft EIS/EIR with members of Orthodox Jewish community, located on Chandler Boulevard, ~~continued~~ opposition to ~~any transit project~~ a BRT Alternative on Chandler was expressed. Their concerns included the division of the community by an at-grade busway and the safety of pedestrians crossing the right of way, especially during the Sabbath. During ~~this time~~ Sabbath and Jewish holidays, the Orthodox community does not utilize any form of transportation and is usually pedestrian oriented. This community has expressed a great deal of concern related to this busway being compatible with their established way of life.

During preliminary engineering and the development of the Final EIS/EIR, MTA continued to meet with the Chandler Boulevard community, both through the community design workshop held for the neighborhood and through meetings with other groups in the neighborhood. Comments made by the community during this phase included concerns about pedestrian safety and movement, landscaping, and traffic.

Initially, ~~N~~no organized opposition from the community ~~has arisen~~ arose to on-street bus operations along Oxnard and Lankershim. ~~However, s~~(Some individuals ~~have~~ did express~~ed~~ opposition to increased service on Oxnard.) However, during the circulation of the Draft EIS/EIR, a more formal opposition to the Lankershim/Oxnard On-Street Alignment did develop.

6-3.6.5 Summary of Comments Heard on the Draft EIS/EIR

The 700 letters and public testimony comments that were received during the public comment period, comprising over 1,200 individual comments, are responded to in Chapter 7. Four comment letters and a number of public testimony comments were received from elected officials. Twenty-one comment letters were received from federal, state, regional, county, and city agencies and utility companies—all raised technical questions of one sort or another. Twenty comment letters were received from community organizations, nearly all of which stated a position for or against one or more alternatives, together with other technical comments or questions. Twenty-three comment letters were received from business owners, nearly all of which raised questions concerning specific businesses; some stated their support for the BRT. Nine comment letters were received from schools—most stated opposition to the Chandler Boulevard portion of the Full BRT; several letters also asked technical questions.

The balance of the comments—both written and oral—were received from individuals. These comments reflected a range of viewpoints and posed a number of technical questions about the project.

6-3.7 Significant Trade-Offs

The following analysis of significant trade-offs provides the distinguishing characteristics for each alternative, incorporating analyses throughout this document related to capital cost comparisons, travel speeds, community concerns, and environmental impacts as well as the cost effectiveness and efficiency measures.

The TSM Alternative offers effective improvements to transit service without substantial capital investment, which is demonstrated by its strong cost-effectiveness measure.

The Bus Rapid Transit Alternative (the Locally Preferred Alternative) in its full length has the opportunity to provide the greatest benefits in travel time savings, and leads to the greatest amount of added transit riders. At $10 to $12 per added rider, it is a cost-effective project for the corridor. Hybrids of the BRT Alternative where one or two portions of the route operate in mixed-flow traffic on streets ~~still~~ have ~~reasonable~~ comparable cost-effectiveness~~, but are unable to reach the fullest ridership potential and travel time savings as the full BRT Alternative~~. While the cost-effectiveness measures for the BRT variations are comparable, the Full BRT Alternative provides the shortest travel time from North Hollywood to Warner Center when compared to the Lankershim/Oxnard On-Street Alignment and MOS variations. This relationship would remain true for the entire range of operating assumptions that were developed during the refinement of the BRT Alternative in preliminary engineering. In addition, by minimizing the amount of operation in mixed traffic and congested traffic, the Full BRT Alternative would also provide the most reliable transit trip, an important consideration as congestion increases on freeways and arterials.

The environmental impacts of the Full BRT Alternative are not significantly different from the Lankershim/Oxnard or MOS variations. The relative length of the exclusive guideway in each variation also determines the relative level of impacts. Because the Full BRT has the longest exclusive guideway, it also, for example, requires the most soundwalls and requires the most acquisitions and lease displacements.

Generally, the Orthodox Jewish community along Chandler Boulevard has been opposed to ~~any~~ at-grade transit investments within the ~~SP~~ MTA ROW in the Chandler median. ~~Conversely, little c~~Community opposition also has arisen against the Lankershim/Oxnard variation. ~~Outreach to the community at-large, however, has been more balanced, with the number of comments for and against the BRT project received during the scoping process being roughly equal.~~ The comments received during the circulation of the Draft EIS/EIR are included in Chapter 7 of the Final EIS/EIR.

In response to concerns in the community that the Full BRT Alternative would be most disruptive to the Chandler Boulevard community on the Jewish Sabbath (when Orthodox Jews traditionally walk instead of drive), the MTA Board directed that staff continue to study a weekend service option for the BRT along Lankershim Boulevard and Oxnard Street. The weekend service option would only affect ridership on weekends, when transit travel typically is lowest. Therefore, while the Lankershim/Oxnard On-Street Alignment would be slower and

therefore attract fewer riders, only minimal decreases in ridership would be expected by operating service on Lankershim and Oxnard on the weekends. However, operation on Lankershim Boulevard and Oxnard Street on weekends would increase confusion about BRT service, thereby decreasing its overall reliability and attractiveness to some patrons. In addition, the selection of the weekend service option would increase the overall cost of the BRT project, because it would be necessary to construct both the Full BRT alignment and stations, transit priority, and other items along Lankershim and Oxnard.