# ES.0 EXECUTIVE SUMMARY

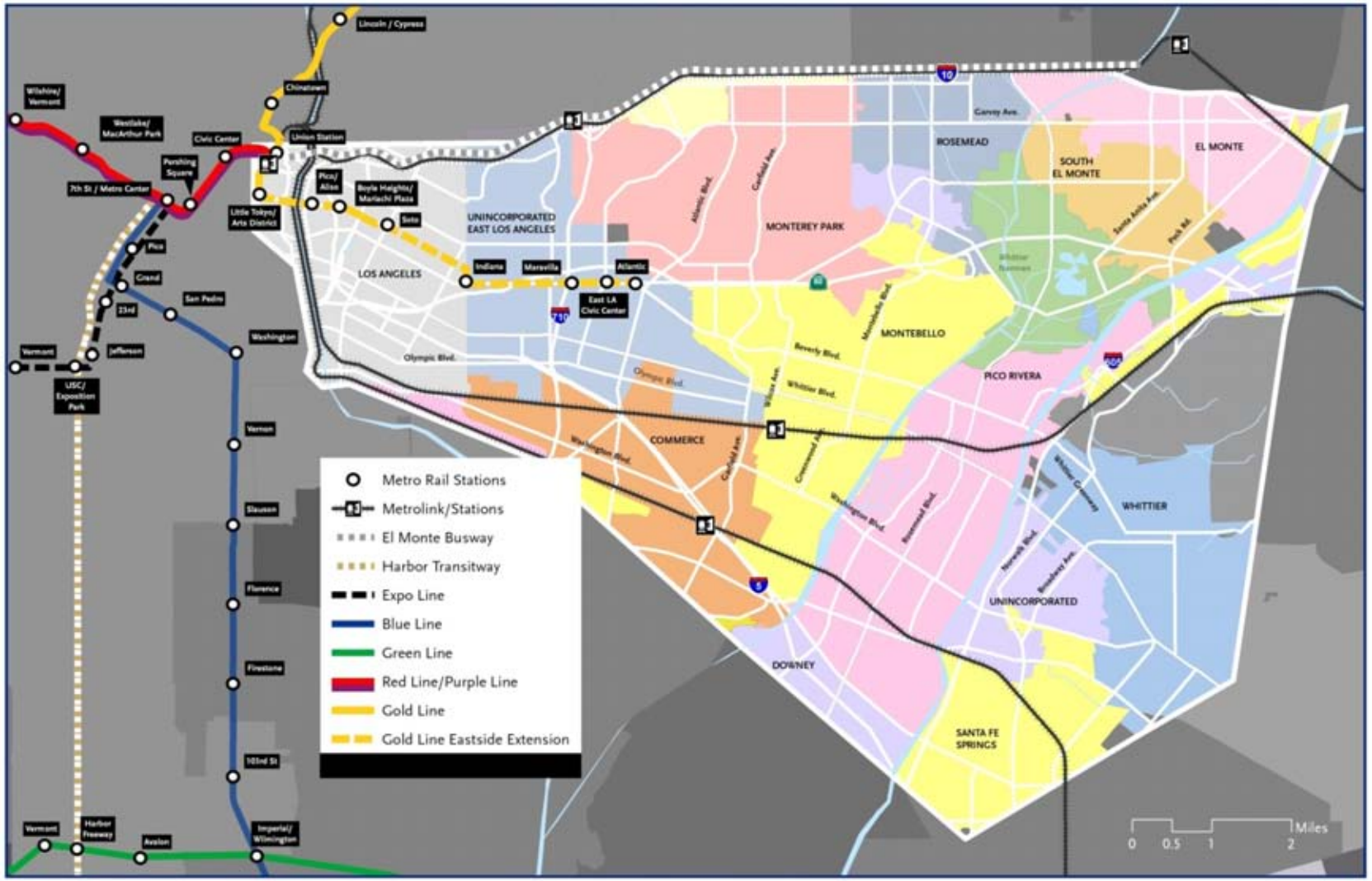
In 2007, the Eastside Transit Corridor Phase 2 Alternatives Analysis (AA) process was initiated for an 80-square mile study area located in eastern Los Angeles County. As shown in Figure ES-1, the study area consists of portions of 14 jurisdictions, including the cities of Bell, Commerce, Downey, El Monte, Industry, Los Angeles, Montebello, Monterey Park, Pico Rivera, Rosemead, Santa Fe Springs, South El Monte, Whittier and portions of unincorporated Los Angeles County.

The overall objective of the Eastside Transit Corridor Phase 2 AA process was to identify and assess a full range of transportation alternatives and recommend a preferred strategy, or phasing of strategies, that addresses PSA mobility needs and capacity requirements in the year 2030 and beyond. The AA process and documentation followed the Federal Transit Administration (FTA) New Starts Program guidelines and standards to not only provide a reasoned basis for the selection of the Recommended Alternatives, but also to ensure that the identified transportation strategy is eligible for federal funding.

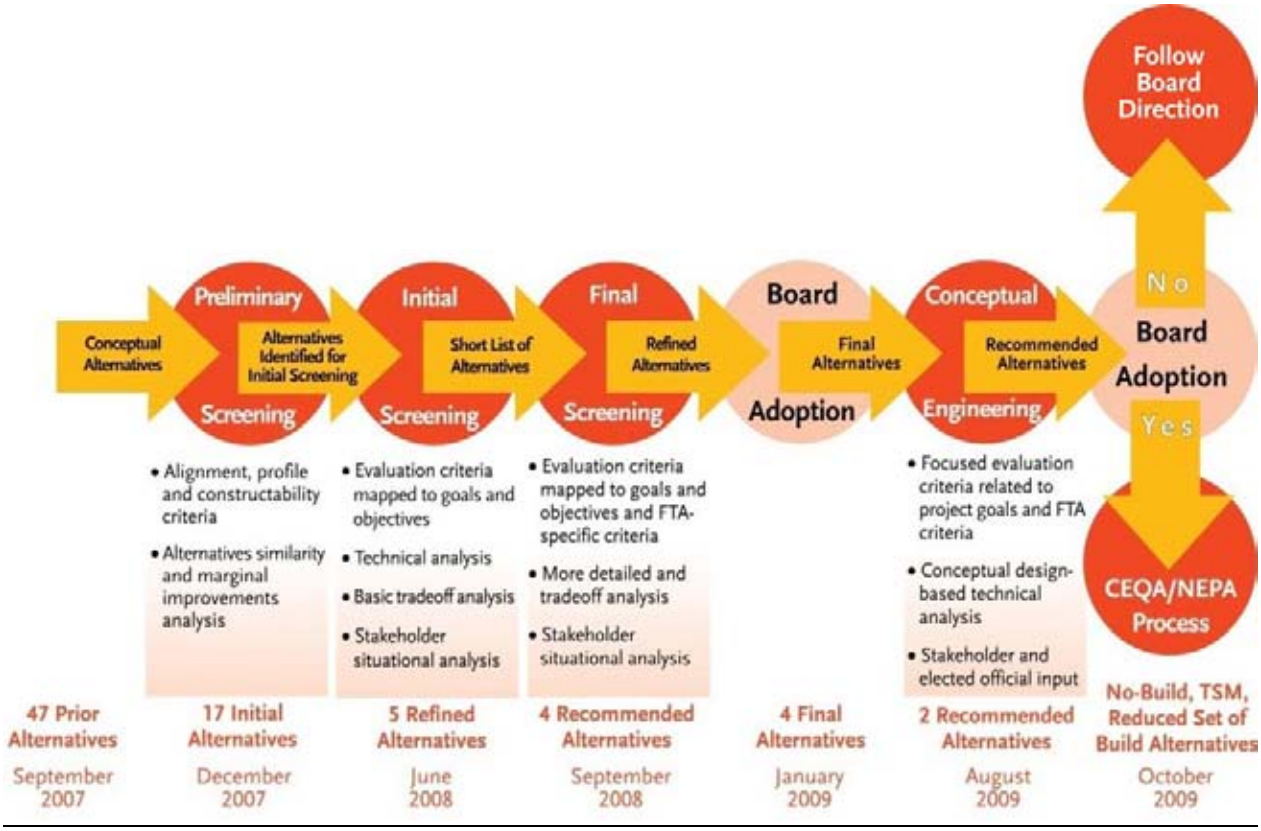
Eastside Transit Corridor Phase 2 transportation alternatives were identified and evaluated through a detailed screening process incorporating technical and environmental analysis and public input. The screening process was based on project goals and evaluation criteria identified in consultation with the community and stakeholders. Each evaluation phase refined the results of the previous effort using increasingly detailed engineering, operational and environmental analysis along with continued public input. As illustrated in Figure ES-2, the evaluation process included the following efforts:

1. **Preliminary Screening** – A wide range of 47 Conceptual Alternatives was identified from previous corridor studies and through this project's early scoping process. These 47 Conceptual Alternatives were screened down to 17 Initial Alternatives representing varied alignments (routes) and technologies.
2. **Initial Screening** – Based on a comparative analysis and public feedback, the 17 Initial Alternatives were evaluated and reduced to five Refined Alternatives.
3. **Final Screening** – The five Refined Alternatives were studied and evaluated in detail. Based on the analytical results and public input, four Final Alternatives were identified for further study during conceptual engineering efforts.
4. **Conceptual Engineering Screening** – The four Final Alternatives were refined and studied based on conceptual-level engineering and station design, correspondingly more detailed technical analysis, and additional public and stakeholder input. This effort has resulted in the identification of the two Recommended Alternatives for further study.

## Figure ES-1 Project Study Area



## Figure ES-2 Screening Process



The first three screening efforts were documented in the *Eastside Transit Corridor Phase 2 Study Alternatives Analysis Report* completed in January 2009. The AA Report provided a detailed overview of the PSA's transportation needs and how they would be served by each of the five proposed project alternatives under consideration at the time. In January 2009, the Metro Board approved the four Final Alternatives, illustrated in Figure ES-3 on the following page, for further study:

- Alternative 1: State Route (SR) 60 Light Rail Technology
- Alternative 2: Beverly Boulevard Light Rail Technology
- Alternative 3: Beverly Boulevard/Whittier Boulevard Light Rail Technology (North-south connections between Beverly and Whittier Boulevards were considered on Montebello and Rosemead Boulevards.)
- Alternative 4: Washington Boulevard Light Rail Technology

## Conceptual Engineering Screening

Conceptual-level engineering and station plans provided a higher level of definition of system design and operational parameters for the four Final Alternatives. This allowed for further refinement of project-related technical information, including operating speeds and travel times, ridership forecasts, travel benefits and capital and operating costs, as well as environmental and community impacts. As part of this effort, the individual alternatives were further examined to identify any alignment, engineering, operating, or environmental issue that could potentially preclude successful construction or operation of the alternatives. These issues would be considered to be fatal flaws and, to the extent that an alternative had such issues, it would be recommended for removal from further study in the Draft EIS/EIR phase and ACE. In addition, the individual alternatives were evaluated against each other to determine, based on the further identification of alignment, engineering, operating or environmental issues, whether some alternatives could be considered technically superior and therefore be the focus of continued study in a Draft EIS/EIR. Those alternatives with no specific fatal flaws but not considered to be technically superior compared to the remaining alternatives, would be recommended for removal from further study in the Draft EIS/EIR Table ES.1 presents the smaller, more focused set of evaluation criteria and performance measures used to clarify the differences between the Final Alternatives, allow for more informed decision-making, and highlight issues to be resolved during the next phase of analysis.

Figure ES-3 Four Final Alternatives

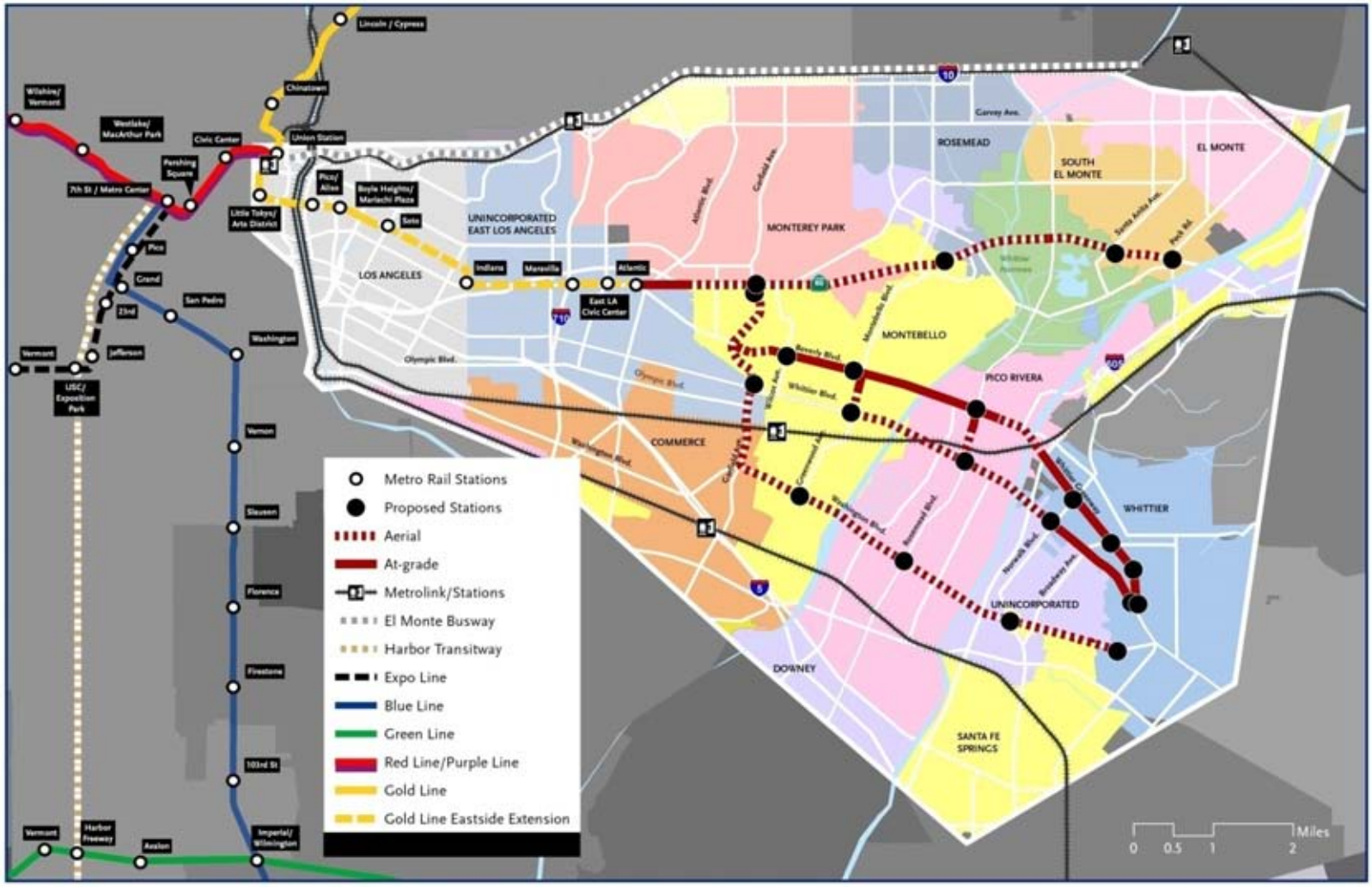


**Table ES.1 Conceptual Engineering Evaluation Criteria**

| |
|---|
| **Mobility and Accessibility Improvements** |
| 1. Population and Employment Growth<br>▪ Capacity of New Projects<br>▪ Regional Connectivity<br>2. Ridership Forecasts<br>▪ Project Boardings<br>▪ Net New Transit Riders<br>▪ Change in Transit Mode Share<br>3. Travel Times<br>▪ Total Travel Times for each alternative<br>▪ Travel Time Savings<br>4. Cost Analysis (compared to Transportation System Management (TSM))<br>▪ Cost Per New Daily Transit Trip<br>▪ Cost Effectiveness Rating |
| **Project Costs** |
| 5. Capital Costs<br>6. Annual Operations and Maintenance Costs |
| **Design and Operational Concerns** |
| 7. Overview of System Design and Operational Issues and Concerns |
| **Environmental Concerns** |
| 8. Summary of Environmental and Community Impacts and Benefits |
| **Public Support** |
| 9. Public, stakeholder and elected official input |

## ES.1 Evaluation Summary

The conceptual engineering-based evaluation of the four Final Alternatives has been completed and the results documented in an Addendum to the AA Report. The Conceptual Engineering alignment drawings provided refined design information, allowing for a more detailed assessment of the four Final Alternatives. Horizontal alignment and selective vertical profiles were developed, as well as conceptual-level station plans and designs that were used to finalize each alternative's alignment. The Final Alternatives were refined further to reduce identified impacts where possible. Conceptual engineering efforts provided a higher level of definition of system design and operational parameters. The refinement to the alignments resulted in revisions to operating speeds, travel times, projected ridership and user benefits, and capital and operating costs.

## Technical Analysis Results

Conceptual engineering-based evaluation of the four Final Alternatives has been completed and the results are summarized below. Table ES.2 presents a description of the four Final Alternatives, including the north-south connector options on Montebello and Rosemead Boulevards, evaluated during Conceptual Engineering. The SR-60 and Washington Boulevard alternatives, with their predominately aerial operations, have the fastest travel times of the alternatives considered. The Washington Boulevard Alternative has an average travel time of 1.87 miles per minute, and the SR-60 Alternative's speed averages 1.77 miles per minute.

### Table ES.2 Description of Alternatives and Resulting Travel Times

| Alternative | Number of Stations | Length (miles) | Operational Characteristics | Run Time (min:sec) |
|---|---|---|---|---|
| 1 SR-60 LRT | 4 | 6.92 | Aerial:94%<br>Fill*:6% | 12:28 |
| 2 Beverly Boulevard LRT | 8 | 8.99 | At-grade:64%<br>Aerial:29%<br>Fill: 7% | 23:58 |
| 3 Beverly/Whittier LRT via Montebello Boulevard | 8 | 9.10 | At-grade:40%<br>Aerial:52%<br>Fill:8% | 24:55 |
| 3 Beverly/Whittier LRT via Rosemead Boulevard | 8 | 9.06 | At-grade:56%<br>Aerial:37%<br>Fill:7% | 23:17 |
| 4 Washington Boulevard LRT | 6 | 9.26 | Aerial:96%<br>Fill: 4% | 17:28 |

* Retained fill

A summary of the operating and capital costs associated with implementing each of the alternatives, as compared to the Transportation System Management (TSM) Option, is presented below in Table ES.3. The TSM Alternative represents enhancements to current bus service, such as providing more frequent service and limited stop service, along with the addition of new bus and shuttle services.

During Conceptual Engineering, estimated operations and maintenance (O&M) costs increased over those presented in the AA Report due to a number of factors including: revisions to the lengths of the alignments and number of stations; refinements to alignment horizontal and vertical profiles; changes in related run time estimates; and new Metro Operations policy for 2030 calling for the operation of three-car consist trains rather than the one- and two-car consist size used in the AA analysis.

The SR-60 Alternative had the lowest estimated O&M costs due to a high level of aerial operations along with the shortest alignment, the fewest number of stations and the lowest number of vehicles required of the Final Alternatives. The Washington Boulevard Alternative had the second lowest cost, but was higher than the SR-60 Alternative due to being 2.47 miles longer, having two more stations and requiring six more peak fleet vehicles. The three options with the initial segment of Beverly Boulevard were similar in O&M costs, primarily due to a similar length, number of stations and peak fleet vehicle requirement. Of the three options, the Beverly Boulevard Alternative had the lowest operating costs, primarily due to operations within a limited access right-of-way along the Whittier Greenway. The Beverly/Montebello/Whittier Alternative was second lowest of the three due to higher percentage of aerial operations and a shorter alignment length (0.09 miles) than the Beverly/Rosemead/Whittier option.

**Table ES.3 Estimated Annual O&M and Capital Costs (Fiscal Year (FY) 2008 dollars)**

| Alternative | Annual O&M Cost (Millions) | Incremental Cost Over TSM (Millions) | Total Project Capital Cost (Billions) | Construction Cost Per Mile (Millions) | Total Project Cost Per Mile (Millions) |
|---|---|---|---|---|---|
| TSM | $143.4 | - | $0.4 | - | - |
| 1 SR-60 LRT | $169.8 | $26.4 | $1.8 | $131.4 | $270.2 |
| 2 Beverly Boulevard LRT | $184.5 | $41.1 | $1.5 | $74.8 | $162.5 |
| 3 Beverly/Whittier LRT via Montebello Blvd. | $184.9 | $41.3 | $1.6 | $95.3 | $177.4 |
| 3 Beverly/Whittier LRT via Rosemead Blvd. | $184.7 | $41.5 | $1.5 | $83.3 | $166.4 |
| 4 Washington Boulevard LRT | $181.0 | $37.6 | $2.2 | $133.3 | $239.6 |

The resulting order-of-magnitude capital costs for the Final Alternatives, along with a comparison to the TSM Alternative, are presented above in Table ES.3. During Conceptual Engineering, estimated capital costs increased over those presented in the AA Report due to factors including:

- Refinement of each alternative's horizontal and vertical plans;
- Refinement of the number of stations, their conceptual design and proposed location;

- Identification of the number of required parking structures, their size and possible location;
- Clarification of land acquisition requirements;
- Identification of the need for new bridges crossing the Rio Hondo, San Gabriel River and I-605 Freeway, and Norwalk Boulevard (for the Whittier Greenway section of the Beverly Boulevard Alternative);
- Addition of aerial segments to avoid Southern California Edison (SCE) transmission lines and to more easily cross bridges and the I-605 Freeway;
- Identification of a higher peak fleet size based on Metro Operations policy; and
- More detailed identification of utility impacts.

The alternatives with the highest estimated capital costs were the two options with primarily aerial operations: the SR-60 and Washington Boulevard alternatives. The Washington Boulevard Alternative was identified as more expensive due to a longer alignment (2.47 miles longer) and two more aerial stations than the SR-60 option. The estimated capital costs of the other three alternatives were similar; the Beverly/Montebello/Whittier Alternative was identified as slightly higher in cost due to more miles of aerial operations (2.2 miles more than the Beverly Boulevard Alternative and 1.4 miles more than the Beverly/Rosemead/Whittier Alternative).

The per mile costs are close for the SR-60 and Washington Boulevard alternatives, but the SR-60 option was estimated to cost more due to higher (33 percent) land and right-of-way acquisition requirements for stations and supporting structures. The Beverly Boulevard Alternative had the lowest estimated cost per mile due to the lowest percentage (37 percent) of aerial operations among the options. The Beverly/Rosemead/Whittier Alternative was estimated to cost slightly more per mile based on a higher percentage (44 percent) of aerial operations. The Beverly/ Montebello/Whittier Alternative was identified as even higher in cost due to 60 percent aerial operations.

Ridership projections were prepared utilizing the Metro Travel Demand Model for the Final Alternatives to provide a basis for comparison. Table ES.4 on the following page presents the projected passenger daily and annual boardings along with forecast new transit riders attracted through implementation of each of the proposed alternatives in the year 2030. User benefits have been identified and presented for each alternative.

The forecast daily boardings for the Final Alternatives fall within a close range and the resulting ridership is almost indistinguishable. However, the Washington Boulevard

Alternative is forecast to have the highest level of daily and annual boardings, at 15,660 and 5.1 million, respectively, of the alternatives.

**Table ES.4 Forecast Project Boardings and User Benefits (FY 2030)**

| Alternative | Daily Boardings | Annual Boardings (Millions) | Average Weekday New Riders | User Benefits Per Project Boarding (Minutes) | User Benefits (Hours) |
|---|---|---|---|---|---|
| 1 SR-60 LRT | 12,270 | 4.0 | 3,835 | 17.0 | 3,474 |
| 2 Beverly Boulevard LRT | 12,780 | 4.2 | 5,020 | 24.6 | 5,241 |
| 3 Beverly/Whittier LRT via Montebello Boulevard | 12,700 | 4.1 | 5,190 | 25.9 | 5,470 |
| 3 Beverly/Whittier LRT via Rosemead Boulevard | 12,410 | 4.0 | 5,060 | 25.8 | 5,336 |
| 4 Washington Boulevard LRT | 15,660 | 5.1 | 6,280 | 24.1 | 6,293 |

The Washington Boulevard Alternative is forecast to attract the highest number of new transit riders, and the SR-60 Alternative the lowest number of new riders. The Beverly Boulevard and Beverly/Whittier Boulevards alternatives are estimated to attract a similar number of new riders. User benefits are defined as the weighted travel time savings for all users of each of the project alternatives. The Washington Boulevard Alternative is forecast to have the greatest user benefits at 6,293 hours or 24.1 minutes per project boarding. The Beverly/Whittier via Montebello Boulevard Alternative is projected to have the next highest user benefits at 5,470 hours, or 25.9 minutes per project boarding. The SR-60 Alternative is forecast to have the lowest level of user benefits at 3,474 hours, or 17.0 minutes per project boarding.

Cost-effectiveness is a measure used by FTA to evaluate the efficiency of a transit project, by comparing the project costs (both capital and operating) with the expected benefits (increased ridership). The efficiency is measured in cost per new transit rider. This cost is based on the annualized total capital project investment and the annual project operating costs, divided by the forecast change in annual transit system ridership. The lower the incremental cost per new transit rider, the more cost-effective the project alternative is. A project with a cost effectiveness of $24.49 per new rider or less has typically received an FTA rating of medium, which represents a minimum acceptable threshold for entering FTA's New Starts Program.

As shown below in Table ES.5, none of the alternatives currently meets the FTA threshold for cost-effectiveness. Two of the alternatives – the Beverly Boulevard and the Beverly/Whittier alternatives – have similar cost effectiveness indices that range between $72.51 and $74.02. The two aerial alternatives have lower indices: the Washington Boulevard Alternative at $82.94 and the SR-60 Alternative, the lowest cost effectiveness rating of the alternatives, at $110.66. The Washington Boulevard Alternative, even with a significantly higher capital cost, is comparable in the cost-effectiveness comparison with the other two lower cost alternatives due to attracting a higher level of ridership. The differences between the alternatives are minor when considering the Incremental Cost per Project Boarding.

**Table ES.5 Cost Effectiveness Indices and Other Evaluation Measures (FY 2030)**

| Evaluation Measure | SR-60 | Beverly | Beverly/ Rosemead/ Whittier | Beverly/ Montebello/ Whittier | Washington |
|---|---|---|---|---|---|
| **Cost Effectiveness Index** | | | | | |
| Average Weekday User Benefits (hours) | 3,474 | 5,241 | 5,470 | 5,336 | 6,293 |
| Average Annual User Benefits (hours) | 1,129,050 | 1,703,325 | 1,777,750 | 1,734,200 | 2,045,225 |
| **Cost Effectiveness Index** | **$110.36** | **$72.51** | **$72.81** | **$74.02** | **$82.94** |
| **Other Evaluation Measures** | | | | | |
| Average Weekday New Riders | 3,835 | 5,020 | 5,060 | 5,190 | 6,280 |
| Average Annual New Riders (millions) | 1.1 | 1.6 | 1.7 | 1.6 | 2.0 |
| Incremental Cost Per New Rider | $99.97 | $75.75 | $76.78 | $78.00 | $83.10 |
| Incremental Cost Per Project Boarding | $31.25 | $29.74 | $31.32 | $31.89 | $33.33 |

## Public Involvement and Agency Coordination

During the Conceptual Engineering phase, a comprehensive public participation program was developed and implemented to involve the public, stakeholders, city representatives and elected officials in the alternative evaluation process. The outreach program included community open houses, council briefings and a series of focus groups as well as ongoing briefings. Public open houses were held prior to the council briefings made to the seven cities through which the alternatives travel: Commerce, Montebello, Monterey Park, Pico Rivera, Rosemead, South El Monte and Whittier. Four alignment-specific focus groups were held with city elected officials, city executive staff members, planning commissioners, chamber of commerce members, college and school district representatives, developers and other key stakeholders. Ongoing briefings were held to keep elected officials, city staff, institutional groups, regulatory agencies and other stakeholders apprised of the latest project information. Agencies briefed included the Federal Transit Administration, Caltrans, and the San Gabriel

Valley and Gateway Cities councils of governments. A legislative briefing for federal, state and local elected officials and their staff was also held in September 2009.

A strong support base developed for two of the alternatives under consideration: the SR-60 and Washington Boulevard alternatives as presented in the Addendum to the AA. Letters and/or resolutions from ten cities documented their support for either of these two options. The SR-60 Alternative is supported by the cities of El Monte, Montebello, Monterey Park, Rosemead and South El Monte in resolutions, as well as through the formation of the SR-60 Coalition. The City of Industry has also indicated support for the SR-60 Alternative. Support for the Washington Boulevard Alternative has been demonstrated by the cities of Commerce, Pico Rivera, Santa Fe Springs and Whittier.

## ES.2 Recommended Alternatives

In summary, all of the proposed alternatives have benefits and impacts, as it is challenging to construct a high-capacity light rail transit system in a heavily-developed, urban area with constrained street right-of-way widths lined with one- and two-story buildings. The primary goal of the Eastside Transit Corridor Phase 2 project is to provide a transportation system that better serves the PSA's communities without negatively impacting quality of life. Based on the technical analysis and outreach results documented in the Addendum to the AA Report, two build alternatives, along with the No Build and Baseline/TSM options, are recommended to be carried through the preparation of a Draft EIS/EIR process. A graphic summary comparison is provided, in Table ES.6, to compare all non-fatal flawed proposed alternatives and to demonstrate the technically superior alternatives.

## Table ES.6 Comparative Analysis

| Key Measures | SR-60 | Beverly/Whittier | Washington |
|---|---|---|---|
| Total Ridership | ◐ | ◐ | ● |
| Ridership: Boardings per Mile per Day | ◐ | ○ | ● |
| Ridership: Boardings per Station | ● | ◐ | ● |
| Ridership: Access by Park-N-Ride Riders | ● | ◐ | ◐ |
| Ridership: Access by Pedestrian & Bicycle Riders | ○ | ◐ | ● |
| Ridership: Access by Bus Riders | ○ | ● | ◐ |
| Accessibility to Transit-Dependent Populations | ○ | ● | ◐ |
| Capital Cost | ◐ | ● | ○ |
| Cost per Mile | ○ | ● | ◐ |
| Travel Time | ● | ○ | ◐ |
| Operations & Maintenance Costs | ● | ○ | ◐ |
| Required Land Use and Zoning Changes to Support Transit Along Corridor | ◐ | ○ | ● |
| Loss of Travel Lanes and/or Vehicle Conflicts | ● | ○ | ● |
| Loss of On-Street Parking | ● | ○ | ● |
| Catalyst for Public/Private Economic Revitalization | ◐ | ● | ◐ |
| Right-of-Way Acquisition<br>Note: Property for replacement parking may be necessary and has not yet been analyzed | ◐ | ◐ | ◐ |
| Community and Neighborhood Impacts (EJ) | ● | ○ | ◐ |
| Visual Compatibility and Aesthetic Impacts | ◐ | ○ | ◐ |
| Section 4(f) Resources (Cultural & Parklands) | ◐ | ◐ | ● |

| Key Measures | SR-60 | Beverly/Whittier | Washington |
|---|---|---|---|
| Air Quality | ● | ● | ◐ |
| Noise and Vibration Sensitive Land Uses | ● | ○ | ◐ |
| Ecosystems | ◐ | ● | ● |
| Water Resources | ◐ | ◐ | ◐ |
| Geology and Subsurface Conditions | ◐ | ● | ● |
| Hazardous Materials and Waste | ○ | ◐ | ◐ |
| Community Support | ● | ○ | ● |

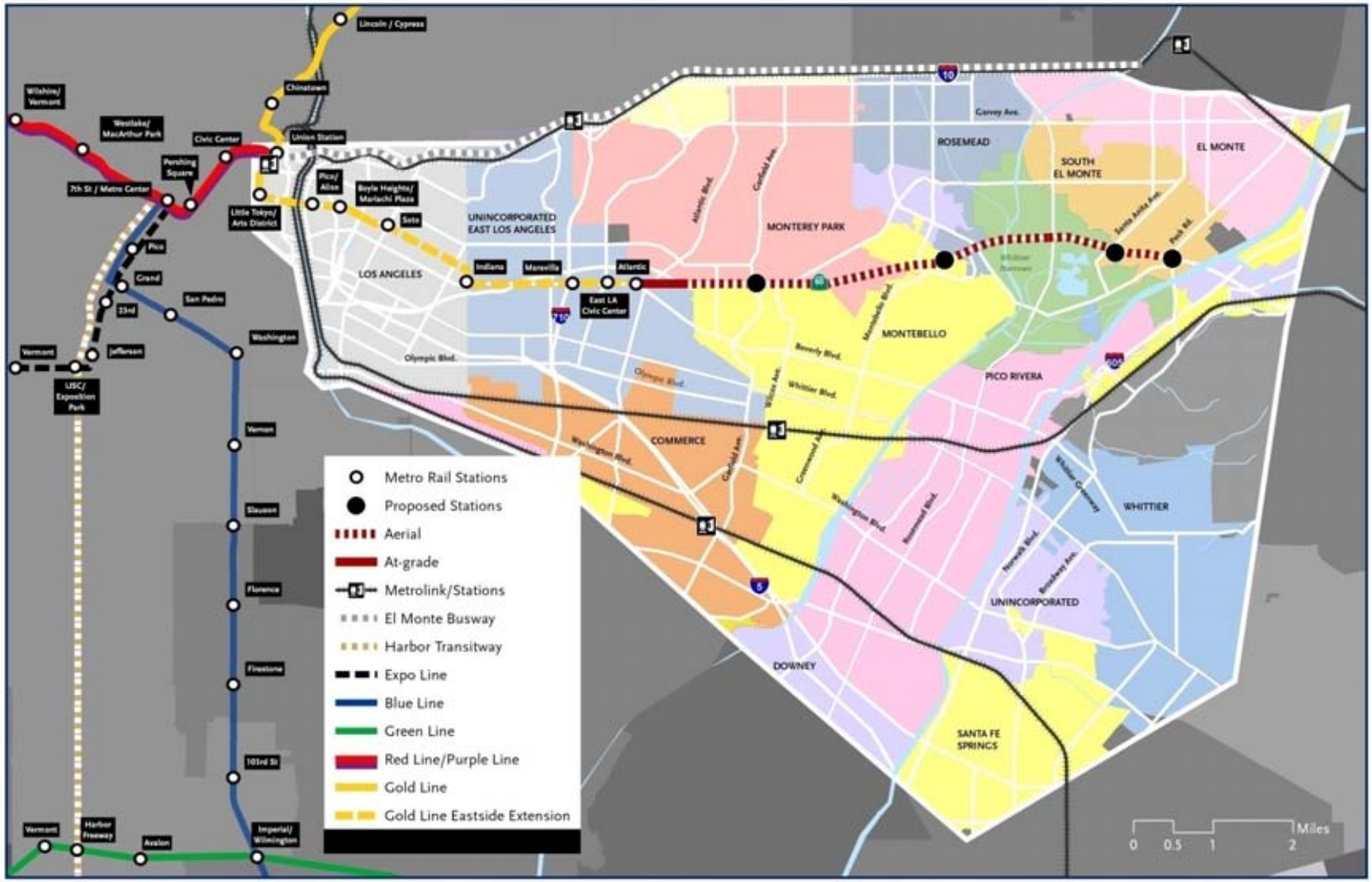
● Favorable rank ◐ Mid rank ○ Low rank

## ES.2.1 SR-60 LRT

The SR-60 Alternative, as illustrated in Figure ES-4 on the following page, is recommended to move forward into the Draft EIS/EIR phase based on the following:

- Minimal community impacts would result from the construction and operation of this alternative – the aerial system and stations fit within the SR-60 Freeway right-of-way; however, it should be noted that as currently designed, this alternative will impact 12 residential properties.
- PSA mobility goals of providing improved regional connectivity are achieved with this alternative by connecting with the regional Metro rail system, providing additional transportation capacity to serve increasing travel demand, reducing vehicular travel on the regional highway system and attracting new transit riders.
- This alternative will primarily serve longer work-based trips. Access to this alternative will be enhanced by the provision of a bus feeder network and station-related parking structures. This alternative will also serve educational, shopping and recreational trips.
- Existing development and proposed land use plans along the alignment will be supported. Station areas provide transit oriented development opportunities.

## Figure ES-4 SR-60 LRT Alternative



- North-south bus feeder networks and parking structures at every station provide additional accessibility.
- This alternative provides the fastest travel time of all the alternatives.
- This alternative results in good ridership that may be strengthened in the future with the use of the new Metro ridership model under development. The new model includes the Regional Connector, which would improve performance of this alternative by providing east-west, one-seat connections and single transfer, north-south connections desired by people traveling to and from the PSA.
- This alignment has experienced a high level of community, stakeholder and elected official support.

## Challenges

- Hazardous Materials – Hazardous materials are present and remediation efforts are underway at the former OII/current Superfund site. Construction of the project adjacent to the site has the potential to disrupt ongoing remediation efforts.
- Flood Control and Parkland Impacts – According to the U.S. Army Corps of Engineers, flood plains are located within the Santa Anita station area. Rail system construction may impact these facilities. Additionally, the alignment travels adjacent to and within a portion of the Whittier Narrows Recreation Center, which also serves a flood control role; therefore, there is also the potential for parkland and flood control impacts.
- High Capital Cost – Options for potentially reducing the costs of this alignment will be explored during the next study phase, which includes development of ACE plans which will examine in more detail the proposed station to refine property requirements; the alignment in the area of the Whittier-Narrows Park to move the alignment out of the park area, if possible; develop a minimum operating segment for construction; review impacts utility relocations in greater detail; and refine capital cost estimates based upon the increased level of alignment detail .
- Terminus Station – Assessing an extension of the alignment further east to the former Crossroads Parkway Station could help recapture lost ridership caused by shortening the alignment and not serving commuters before the I-605/SR-60 interchange.
- Southern California Edison (SCE) Plans – Future engineering efforts will require close coordination with SCE due to their plans for construction of new 500kV transmission lines and towers adjacent to the SR-60/Paramount interchange and in the Peck Road Station Area as part of the Tehachapi Renewable Transmission project.

  Agency Coordination – This alignment will require significant coordination with other agencies including, but not limited to, Caltrans, Federal Highway Administration, U.S. Environmental Protection Agency, SCE and the U.S. Army Corps of Engineers.

## ES.2.2 Washington Boulevard LRT

The Washington Boulevard LRT Alternative, as illustrated in Figure ES-5, is to move forward into the Draft EIS/EIR phase based on the following:

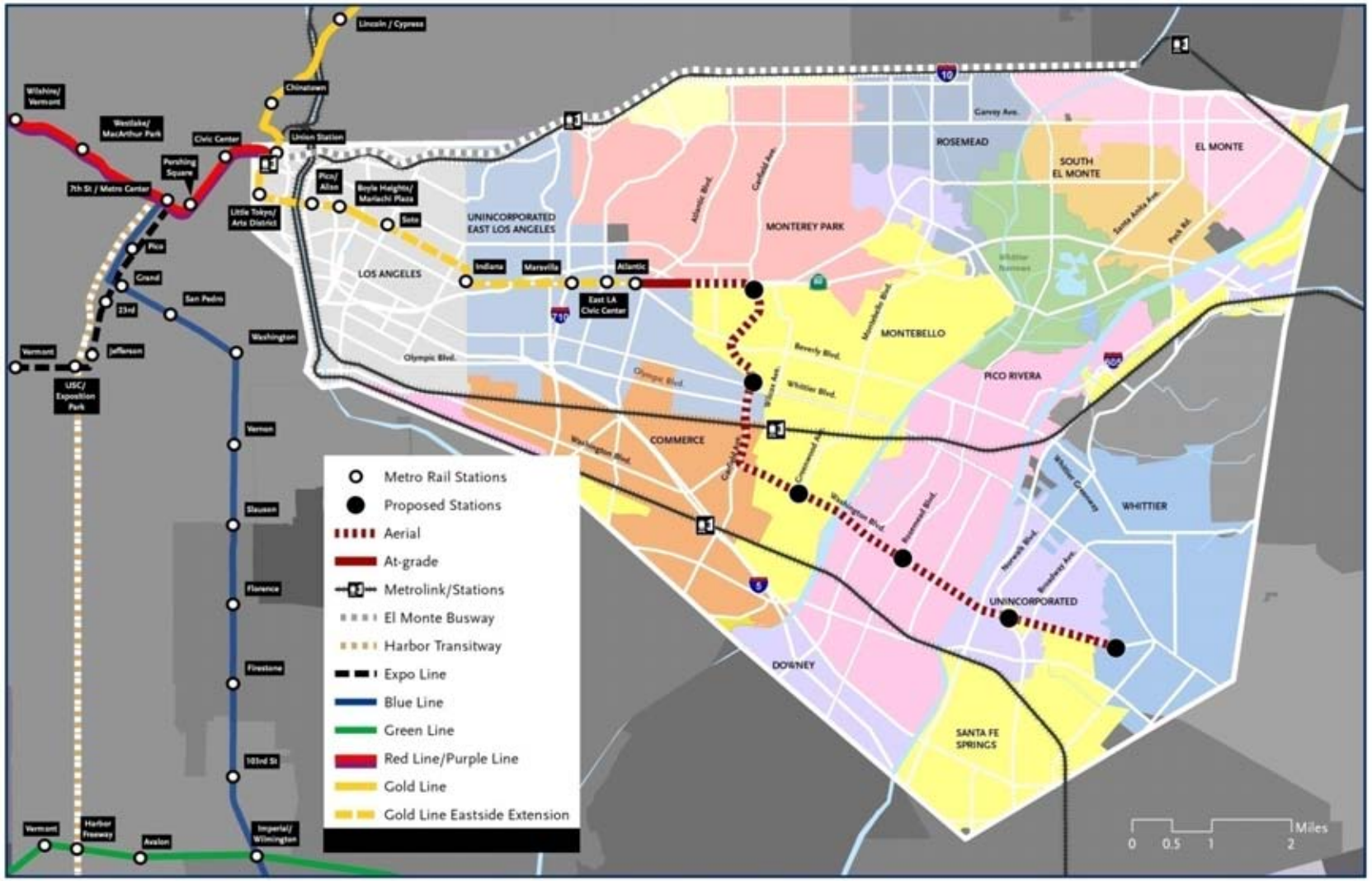
- Minimal community impacts would result from the construction and operation of this alternative due to the scale of the community, and streets along this alignment can accommodate both the aerial system and stations with minimal impacts to quality of life and traffic circulation.
- PSA mobility goals of providing improved regional connectivity are achieved with this alternative by connecting with the regional Metro rail system, providing additional transportation capacity to serve increasing travel demand, reducing vehicular travel on the regional highway system and attracting new transit riders.
- This alternative would build a strong ridership base by providing service for the following trip purposes:
    - Short, frequent trips within the communities it operates through.
    - Work trips to and from Washington Boulevard employment sites.
    - Work and other trips to and from the southern portion of the PSA including the Gateway Cities and I-5 Freeway corridor as well as to communities to the north of the SR-60 Freeway via bus and park-and-ride access at the SR-60/Garfield station.
    - Work trips west to downtown Los Angeles and destinations beyond.
- North-south bus feeder networks and parking structures at most stations provide additional accessibility.
- Existing development and proposed land use plans are transit-supportive along the alignment, particularly at the terminus station area within the City of Whittier.
- This alternative results in the highest ridership and user benefits of all the alternatives. These numbers may increase in the future with the use of the new Metro ridership model under development. This new model includes the Regional Connector, which would improve performance of this alternative by providing east-west, one-seat connections and single transfer, north-south connections desired by people traveling to and from the PSA.
- This alternative attracts the highest number of new transit riders.
- This alternative provides the second fastest travel time of the four alternatives.

- This alternative will provide additional travel capacity with minimal impacts on the PSA's street system, which is heavily-used by cars and large trucks.
- This alternative has experienced a high level of community, stakeholder and elected official support.

### Challenges

- High Capital Cost – Options for potentially reducing the cost of this alternative will be explored during the next study phase, which includes development of ACE plans which will examine in more detail: right-of-way requirements; potential at-grade alignment east of the San Gabriel River; station design to reflect property needs for station facilities; refine utility relocation requirements; develop a minimum operating segment for construction; and refine capital cost estimates based upon increased level of alignment detail . Cost reduction considerations will include, but will not be limited to, evaluating some at-grade sections and identifying partnerships to develop shared-use parking structures.
- Agency Coordination – This alignment will require significant coordination with other agencies including, but not limited to, Caltrans, the Federal Highway Administration, SCE, Union Pacific Railroad (UPRR), the U.S. Army Corps of Engineers and the Los Angeles Department of Water and Power.

Figure ES-5 Washington Boulevard LRT Alternative



# ES.3 Alternatives Not Recommended for Further Study

## ES.3.1 Beverly Boulevard LRT

The Beverly Boulevard LRT Alternative is not recommended to move forward into the Draft EIS/EIR phase based on the following:

- Fatal Flaws – The eastern half of this alignment has several major challenges where it leaves the Beverly Boulevard right-of-way and crosses primarily vacant land to enter the Whittier Greenway, which is a former railroad right-of-way that has been reused as a landscaped recreational trail. The vacant land through which the alignment would traverse is owned by SCE and UPRR. The Whittier Greenway is owned by the City of Whittier.
    - This vacant area serves as SCE's "regional backbone" with existing 220kV transmission lines that are planned for upgrading to 500kV service, including new transmission towers as part of SCE's Tehachapi Renewable Transmission project. SCE representatives have indicated that they cannot permit at-grade or aerial rail operations through the property and that they have potential long-term plans for use of all of their property.
    - The UPRR tracks currently accommodate Metrolink and freight operations, and they too have future plans for their property that preclude any other structures.
    - The Whittier Greenway is lined on both sides by single-family residences, and on the north side by four schools. LRT operations would require acquisition of half of this recreational area. Taking half of this parkland resource for rail use raises 4(f) issues that may not be resolvable. Funding for the Greenway included federal funds from the U. S. Department of the Interior (National Park Service) raising the possibility of 6(f) issues. As owner of the Greenway, the City of Whittier has stated that they oppose the co-use of their recreational resource for LRT operations.
- Community Impacts:
    - Project would provide additional transportation capacity; however existing street system operations would be negatively impacted. There are several constrained sections on Beverly Boulevard that make it difficult for rail operations and necessary vehicular capacity to coexist.
    - Additional regional transportation capacity is provided to the detriment of local communities with impacts to sensitive land uses including visual, traffic, safety, noise and vibration impacts.

- Rider Benefits – Lack of compelling transit rider benefits, since ridership, user benefits, and travel times are not promising enough when balanced against the possible community impacts.
- Lack of community, stakeholder and elected official support.

## ES.3.2 Beverly/Whittier Boulevards LRT

The Beverly/Whittier Boulevards LRT Alternative, with north-south travel connections on Montebello or Rosemead Boulevards, is not recommended to move forward into the Draft EIS/EIR phase and ACE due to the following:

A. Community Impacts – This alternative introduces approximately 50 percent aerial rail operations into a constrained street system lined with one- and two-story structures often built to the sidewalk edge, such as in downtown Montebello. Technical and environmental analysis identified significant community impacts, including a high potential for noise and vibration, community cohesion and street system capacity impacts, for this alternative. There are possible parkland impacts related to the final operating segment, terminal station and tail tracks, which would be located adjacent to and possibly within a portion of the Whittier Greenway. Individually, specific potential community impacts can be mitigated. However, the culmination of a high number of potential community impacts can be a high concern for community cohesion. A number of specific potential impacts are as follows:

B. The Beverly/Montebello/Whittier Boulevards alignment has a major pinch point as the aerial rail structure traveling south in the median of Montebello Boulevard turns east onto Whittier Boulevard in downtown Montebello. The resulting alignment radius is so tight that the rail structure comes within several feet of the commercial building located at the northeast corner of Whittier and Montebello Boulevards. In addition, with the commercial buildings along Whittier Boulevard built to the sidewalk edge of this narrow street, the aerial rail structure and station planned for this location would cover approximately 60 percent of the street right-of-way. Construction of a rail system in this location would require the removal of the recently implemented downtown Montebello streetscape improvements.

C. On the Beverly/Rosemead/Whittier Boulevards alignment, there is a major community impact along Rosemead Boulevard just north of Whittier Boulevard. This section is planned for aerial operations running in the median of Rosemead Boulevard

where it must cross-over Union Pacific/Metrolink tracks set on a bridge perpendicular to Rosemead Boulevard. In order to allow sufficient room for the LRT structure to cross over the Metrolink and freight trains, the top of the aerial rail structure would need to be 48 feet above the existing railroad bridge. This portion of the alignment is lined with one- and two-story, single-family homes resulting in significant visual, noise and other impacts.

- Rider Benefits – Lack of compelling transit rider benefits as resulting ridership, user benefits and travel times are not promising enough when balanced against the possible community impacts.
- Lack of community, stakeholder and elected official support.

## Next Steps

The recommendations contained herein will be presented to the Metro Board in October 2009 for approval. With Metro Board approval, the two Recommended Alternatives will advance into environmental review in compliance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA).