

**Board Report**

File #: 2017-0154, **File Type:** Project**Agenda Number:** 35

**REGULAR BOARD MEETING
MAY 25, 2017****SUBJECT: EASTSIDE TRANSIT CORRIDOR PHASE 2****ACTION: APPROVE TECHNICAL STUDY RECOMMENDATIONS****RECOMMENDATION**

CONSIDER:

- A. APPROVING an updated Project Definition for Environmental Clearance, including three alternatives:
1. SR 60 North Side Design Variation Alternative;
 2. Washington Boulevard Alternative with Atlantic Below-Grade Option; and
 3. Combined Alternative with both SR 60 and Washington Boulevard via Atlantic Segments; and
- B. RECEIVING AND FILING the **Eastside Phase 2 Technical Study Report**. Attachment D contains the Executive Summary. The full report is available upon request.

ISSUE

In November 2014, the Board received the Eastside Transit Corridor Phase 2 Draft Environmental Impact Statement/Report (EIS/EIR) and approved carrying forward to further study two build alternatives: the SR 60 North Side Design Variation (NSDV) Alternative and the Washington Boulevard Alternative. Staff was directed to address comments received from Cooperating and Public Agencies, identify an alternative to the Washington Boulevard Garfield Alternative aerial alignment, and analyze the feasibility of operating both alternatives.

At the July 2015 meeting, the Board approved a Contract Modification for the Metro Eastside Transit Corridor Phase 2 Project to undertake this work including community outreach to support the Technical Study. The Board also approved a motion (Attachment A) directing staff to provide bi-monthly updates on the project covering:

- analysis and refinement of project alternatives,
- project schedule and milestones,
- status reports on work with third-party agencies, and
- community outreach.

The Eastside Phase 2 Technical Study is now complete, and includes findings and recommendations for Board consideration. Specifically, Board approval is being sought to adopt the updated Project Definition, which includes a slightly revised SR 60 North Side Design Variation Alternative and the Atlantic Boulevard Underground Option as the new Washington Boulevard Alternative. The updated Project Definition also includes a 'Combined' Alternative, which is recommended for further study in the next phase of work. Board selection of a Locally Preferred Alternative (LPA) will be made upon the completion of the revised draft environmental documents.

DISCUSSION

Project Schedule and Milestones

The major work elements described above for this project had several key milestones. The Technical Study incorporated extensive stakeholder feedback into the screening analysis which informed the technical recommendation made herein. Attachment B summarizes the completed milestones. The project team undertook numerous investigations and design studies to address comments received from the Cooperating agencies and the November 2014 Board direction. Based on the findings of these technical investigations and consultation with Resource Agencies, there are no significant outstanding issues otherwise preventing the re-initiation of the environmental process on the updated Project Definition.

Status Report

SR 60 North Side Design Variation (NSDV) Alternative

The project team undertook a coordinated design refinement effort to address potential conflicts with other plans and existing facilities. Much of the effort focused on the NSDV segment between Greenwood Avenue and Paramount Boulevard, which was modified to address several areas of concern. The City of Monterey Park and the Monterey Park Market Place developer expressed concerns that the original NSDV might block the view of the Market Place development just north of the proposed NSDV alignment limits. The project team modified the alignment geometry, lowered the grade profile in front of the proposed Market Place development, and relocated the proposed NSDV eastern flyover further east. Also, the guideway over the Paramount Boulevard on-ramp was slightly realigned to avoid conflicts with the widened on-ramp currently in construction, per request of California Department of Transportation (Caltrans). In unincorporated East Los Angeles, to minimize visual obstruction to the AltaMed's PACE facility on Pomona Boulevard at Hillview Avenue, the study team refined the guideway alignment by shifting the proposed beginning of the retaining wall further east by approximately 350 feet.

In addition, the project team completed numerous technical investigations to address issues arising from comments received from Cooperating Agencies, including:

- subsurface investigation along the western portion of the NSDV guideway alignment to document soil conditions, per request by United States Environmental Protection Agency (EPA);
- field surveys to confirm the height of Southern California Edison (SCE) transmission lines crossing SR 60 just east of Paramount Boulevard and inform the development of a preliminary plan to raise the SCE transmission lines to a height sufficient to remove the clearance conflict;
- sensitive species, rare plants and jurisdictional waters surveys, per request by EPA and the California Department of Fish and Wildlife (CDFW); and
- advancement of concept design of the proposed Santa Anita Station and Park and Ride facility

to address issues related to flood management operational flexibility, per request by the United States Army Corps of Engineers (ACE)

This effort included extensive consultation with each of the key Cooperating Agencies that included a review of work plans, incorporation of technical feedback and disclosure of preliminary findings. Based on the results of the technical investigations, design refinements and feedback received from Cooperating Agencies and key stakeholders, it is recommended that the Project Definition be updated to include the revised SR 60 NSDV Alternative. The technical work performed on the SR 60 NSDV Alternative has addressed Cooperating Agency comments to a degree sufficient to justify the study of this updated Alternative in a re-initiated environmental document.

Washington Boulevard Alternative: Route Options Screening Results

The project team completed an evaluation of potential Washington Boulevard connection options. The process started with 27 potential connection options to Washington Boulevard, including 17 options from the 2009 Alternatives Analysis (AA) study and 10 new options not previously considered. These 27 route options were evaluated based on physical constraints such as street widths, utilities and existing structures. In addition, the assessment considered factors such as ridership, cost, travel time, access to major activity centers, economic development opportunities, Transit-Oriented Communities (TOC) potential, and consistency with community goals. Based on the analysis and the feedback provided from the study area key stakeholders, three route options - Garfield, Atlantic and Arizona - stood out as most promising and were the subject of more detailed technical analysis (Attachment C). These three north-south connection options were shared at community meetings held in March 2016, June 2016 and February 2017.

The following highlights key findings and recommendations, which are informed both by technical analysis and feedback received from the communities and stakeholders:

- **Garfield Route Option:** The design of an underground configuration along Garfield Avenue would require a tight horizontal curve just west of Via Campo and Wilcox Avenue, which could potentially impact the existing commercial site and the Ford dealership. South of this location, an underground tunnel would require the relocation of storm drains and sewer lines along Garfield Avenue. From a ridership standpoint, the catchment area around a proposed Metro station at Garfield Avenue and Whittier Boulevard lacks the intensity of activity typically associated with a subway station. Moreover, the alignment misses the Commerce Citadel and Casino area, which has the study area's highest ridership potential. With an underground tunnel, there would also be significant impacts during construction, including property acquisition, business disruption and traffic/circulation impacts near SR 60. As a result, the Garfield Underground Option is not recommended for further consideration as a potential north-south connection to Washington Boulevard.
- **Arizona Route Option:** Although Arizona Avenue is a wide street (108" curb to curb), it is located in a low-density residential district where on-street parking is an important community asset. A median-running at-grade light-rail transit (LRT) would necessitate the removal of on-street parking. This would create a significant hardship to residents along Arizona Avenue. From an operational standpoint, there are also significant challenges associated with a junction at 3rd Street and Mednik Avenue, which is just west of the existing East LA Civic Center Station and the intersection where Griffith Middle School is located. A junction on Arizona Avenue would necessitate demolishing and shifting the LA Civic Center Station east of its current location with potential property impact to the northwest corner of the Griffith Middle







School.

A below-grade configuration on Arizona Avenue would avoid the on-street parking loss impacts associated with at-grade LRT, but would require the taking of numerous residences in the vicinity of 3rd Street and Mednik Avenue, where there would be need to be a large construction site to launch or extract a tunnel boring machine (TBM) and a permanent tunnel portal. It is determined that an underground LRT portal on Arizona Avenue could not be constructed and operated without permanent residential property displacements. While there is some potential for economic development around a proposed Metro station at Arizona Avenue and Whittier Boulevard, the existing catchment area lacks the intensity of activity typically needed to justify the investment in an underground Metro station. Based on the preponderance of factors considered above, any LRT extension along Arizona Avenue would not be consistent with community priorities and goals. As a result, Arizona is not recommended for further consideration as a potential north-south corridor connection to Washington Boulevard.

- **Atlantic Route Option:** Atlantic Boulevard possesses land use characteristics and activity levels best suited for premium Metro rail service. It is a medium density commercial/retail corridor that is narrower than Arizona Avenue, but intersects with the historic Whittier Boulevard corridor. The catchment area around Atlantic Boulevard and Whittier Boulevard is a vibrant hub of retail activity, and has strong economic development potential. Because Atlantic Boulevard is a major arterial corridor with heavy traffic, it is not a viable corridor for at-grade LRT, especially given the presence of numerous sensitive uses (schools and churches). A grade crossing analysis was conducted which indicated that at-grade LRT would produce significant traffic/circulation and access impacts that could not be mitigated. The project team investigated the feasibility of a below-grade configuration that would connect the Atlantic Station to the thriving Whittier Boulevard commercial corridor and the regional-serving Commerce Citadel and Hotels complex in the City of Commerce. The Atlantic below-grade option would offer the benefit of avoiding numerous physical obstacles, including: the Mixmaster (the junction of Atlantic Boulevard, Triggers Street, Telegraph Rd., and Union Pacific Railroads), the AltaMed's Headquarters facilities on Camfield Avenue, the SCE transmission towers east of Tubeway Avenue and a number of BNSF rail spurs in the eastern part of the City of Commerce.

The study team explored several potential methods of constructing a rail tunnel, including launching a TBM from the south in the City of Commerce and extracting it from the north near Atlantic Boulevard and 3rd Street where a portal is needed to allow trains to daylight from a tunnel. This construction approach could significantly reduce the footprint needed for tunnel construction staging in East Los Angeles. In addition, the City of Commerce has expressed openness to exploring joint development opportunities made possible through the acquisition of parcels needed for a maintenance facility in the eastern part of the City of Commerce north of Washington Boulevard. For these reasons, the Atlantic Underground Option is the most promising north-south connection to Washington Boulevard, and is recommended for Board approval as the new Washington Boulevard Alternative.

The table below summarizes the screening results of the Washington Boulevard route options - Arizona, Atlantic and Garfield (underground) - and compares them to the Washington Boulevard Alternative in the Draft EIS/EIR.

Factors	Draft EIS/EIR Washington Blvd LRT Alternative	Arizona		Atlantic		Garfield
		At-Grade	Underground	At-grade	Underground	Underground
Fundamentally Consistent with Community Goals/Priorities?	NO	NO	NO	NO	YES	NO
Operationally Feasible?	YES	NO	NO	YES	YES	YES
Ridership (Daily Boardings)*	19,920	17,280 to 18,680	18,270 to 19,770	17,950 to 19,280	19,610 to 21,070	19,120
Rough Order-of-Magnitude (ROM) Capital Costs (in 2010 \$)*	\$1.4 to 1.7 billion	+10% to +20%	+60% to +70%	+10% to +20%	+90% to +100%	+80% to +90%
Preliminary Travel Time (In minutes)	18-19 min.	20-21 min	18-19 min.	20-21 min.	17-18 min.	18-19 min.
Potential Traffic/Circulation Impacts	Minimal	Significant	Minimal	Significant	Minimal	Minimal
Recommendation						

*Cost and ridership data is subject to change as design refinement and more detailed technical work continues.

The Arizona and Garfield Route Options are not recommended for further consideration as they are fundamentally inconsistent with community goals. The Atlantic Underground Option provides the most benefits when compared to other options studied for the Washington Alternative. The Atlantic Underground Option performs well on a number of key measures including projected high ridership (19,610 to 21,070 boardings), faster travel time (17-18 minutes), best meets community goals by minimizing surface operational disruptions and providing connectivity to local and regional destinations and activity centers in unincorporated East Los Angeles and the City of Commerce. The cost estimate for the Washington Boulevard Alternative via Garfield Avenue from the 2014 Draft EIS/EIR was approximately \$1.4 to \$1.7 billion (in 2010 dollars). The cost differential between the Draft EIS/EIR Baseline Alternative and the other route options is attributable to several factors, the most significant of which is the inclusion of below-grade segments. The length of the new Washington Boulevard Alternative is about 8.8 miles, of which one-third of the alignment could be an underground segment along Atlantic Boulevard in unincorporated East Los Angeles and then along Smithway Street in the City of Commerce. The cost of the underground segment would include elements such as underground stations and right-of-way acquisition near portal construction sites. Other factors include inflation adjustments and higher LRT construction costs in Los Angeles County, per recent construction bid prices reflecting more current market conditions. For these reasons, the cost of the Atlantic Underground Option is higher than those of the original Draft EIS/EIR Baseline Alternative.

SR 60 and Washington Blvd ‘Combined’ Operations

Measure M funding for the Eastside Phase 2 project includes a total of \$6 billion, of which \$3 billion is not identified to be available until after 2052. Initial funds to start construction of the initial segment of the project are currently scheduled to commence in 2029. Based on preliminary cost estimates, the total commitment of \$6 billion could be enough to cover the cost of both alternatives. The Technical

Study explored the feasibility of operating both alternatives (SR 60 and Washington Boulevard), and it has been determined that operating both segments is feasible, but would require infrastructure and operational elements that would not be required if only one or the other alternative were operated as a 'stand-alone' line.

If both the SR 60 and Washington segments were built, there would only be one maintenance facility needed to service rail vehicles operating on both lines. The exact location of the maintenance facility will be determined in the next phase of work. In order to move all Eastside 2 trains serving both branches to that maintenance facility, a potential three-way junction concept (similar to the planned operations at the Crenshaw Line/Green Line merge junction) would be needed. The provision of a three-way junction, potentially underground, would allow patrons to travel to points along either the SR 60 branch or the Washington branch, therefore offering greater connectivity with the project area and to/from the greater Los Angeles region. Another benefit of a three-way junction is that it could support a third line from South El Monte to Whittier, potentially allowing for 5-minute service on each branch.

Based on the analysis performed, a 'Combined' Alternative, which includes both the SR 60 and Washington Boulevard segments, has sufficient technical merit to be included as a new Alternative in the updated Project Definition. The inclusion of a Combined Alternative in the re-initiated environmental process would be the only way to environmentally clear the three-way underground junction, which would not be needed if only SR 60 or Washington were built. In the next phase, the Eastside Phase 2 project team would develop and advance the design of a three-way junction, define the associated operating plan and determine its physical footprint.

Community Outreach

The study team undertook an extensive outreach effort with numerous project stakeholders throughout the study area to provide project updates, receive feedback on the north-south connection options development process and seek feedback on the overall community engagement strategy.

Over 110 outreach meetings were held during the course of the technical study, including:

- 10 community meetings (including East Los Angeles (3 meetings), Whittier (2 meetings), Montebello (2 meetings), South El Monte (2 meetings), and Commerce (1 meeting))
- 30 briefings with SR 60 Coalition and Washington Boulevard Coalition, both on monthly basis
- 70 stakeholder briefings with East Los Angeles residents, businesses, neighborhood and community groups, local city staff or city council members, federal and state elected officials, chambers and business associations, major property owners/developers, Councils of Government and Service Councils in the San Gabriel Valley and Gateway Cities.
- Two tours of Metro maintenance facilities in Santa Monica and Monrovia

Of the 10 community meetings held, five were recently completed in early-mid February 2017 in the communities of Whittier, Montebello, South El Monte, City of Commerce, and East Los Angeles. A total of 318 persons attended the five meetings, and provided a valuable opportunity to receive critical feedback on Technical Study findings and recommendations. In general, there is strong support for the Eastside Phase 2 project and re-initiation of the environmental process, based on the recommended Project Definition.

Several key areas of consensus and themes emerged based on survey results and comments made. First, there was strong support expressed for the Atlantic Underground Option as the new Washington Boulevard Alternative. Of 235 respondents surveyed at the February 2017 community meetings, 63% agreed that the Atlantic Underground Option has sufficient merit to be recommended as the new Washington Boulevard Alternative. This result was strongly corroborated by sentiments

expressed at the Community Meetings, particularly from attendees who made comments at the East Los Angeles meeting on February 16. Second, there was openness to studying the 'Combined' Alternative in the next phase of work, as evidenced by the 50% of respondents who felt that the 'Combined' Alternative had enough merit to study in the next phase plus an additional 16% of the respondents who expressed the 'Combined' Alternative maybe have some merit to be further studied. There was also support for SR 60 NSDV Alternative, which several attendees felt could serve a robust east-west commuter market and has lesser impacts to residential community/businesses during and after construction. While there is strong support for the Eastside Phase 2 project overall, participants shared concerns regarding the potential impacts during the construction, especially as it relates to traffic and business disruption and/or relocation. Participants also highlighted the importance of designing the stations with ease of access for pedestrians, bike riders and park and ride.

The study team has received positive feedback from the key stakeholders indicating their general support of the technical study findings and recommendations. Through April 2017, the study team will continue to provide briefings with study area stakeholder groups. A complete report of all outreach activities will be provided at Metro committee meetings as requested.

DETERMINATION OF SAFETY IMPACT

This Board action will not have any adverse safety impacts on Metro's employees and patrons.

FINANCIAL IMPACT

The FY 2017 budget includes \$1,990,600 for Professional Services in Cost Center 4350, Project 460232 (Eastside Transit Corridor Phase 2). Since this is a multi-year program, the Cost Center Manager and Chief Planning Officer will be responsible for budgeting in future years.

Impact to Budget

The source of funds is Repayment of Capital Project Loans Fund 3562. These funds are eligible for bus and/or rail operating and capital expenses.

ALTERNATIVES CONSIDERED

The Board could choose to direct staff to proceed with environmental clearance for only one of the two alternative routes that have been studied in the Technical Study. This is not recommended as it could preclude future opportunities to connect both the northern (Route 60) and southern (Washington Boulevard) branches of this corridor.

NEXT STEPS

Upon approval, staff will procure professional services to prepare a revised draft environmental document and conduct advanced conceptual engineering through final environmental clearance. Upon completion of procurement, staff will return to the Board to seek approval on the negotiated contract budget amounts for the aforementioned professional services.

ATTACHMENTS

Attachment A - July Board Motion

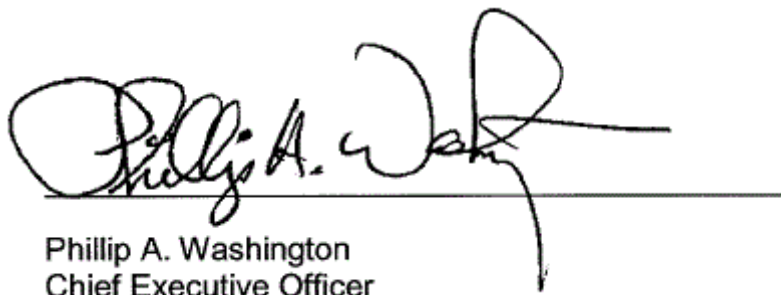
Attachment B - Project Schedule

Attachment C - Map of North/South Route Options for Washington Boulevard

Attachment D - Eastside Phase 2 Route Options Screening Analysis and Community Outreach Executive Summary

Prepared by: Jill Y. Liu, Transportation Planning Manager, Countywide Planning & Development, (213) 922-7220,
Eugene Kim, Deputy Executive Officer, Countywide Planning & Development, (213) 922-3080,
David Mieger, Interim Senior Executive Officer, Countywide Planning & Development, (213) 922-3040

Approved by: Therese W. McMillan, Chief Planning Officer, (213) 922-7077



Phillip A. Washington
Chief Executive Officer

Metro

Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA



Metro

Board Report

File #:2015-1105, File Type:Motion / Motion
Response

Agenda Number:27.1

**PLANNING AND PROGRAMMING COMMITTEE
JULY 15, 2015**

Motion by:

**MAYOR ERIC GARCETTI, SUPERVISOR DON KNABE,
SUPERVISOR HILDA SOLIS, DIRECTOR DIANE DuBOIS,
DIRECTOR JOHN FASANA AND DIRECTOR JACQUELYN DUPONT-WALKER**

July 15, 2015

**Relating to Item 27: File ID 2015-0706
Gold Line Eastside Extension Phase 2**

At the November regular MTA Board meeting, the Board voted to proceed with and continue study on ~~two~~ all alternatives for the Gold Line Eastside Extension Phase 2.

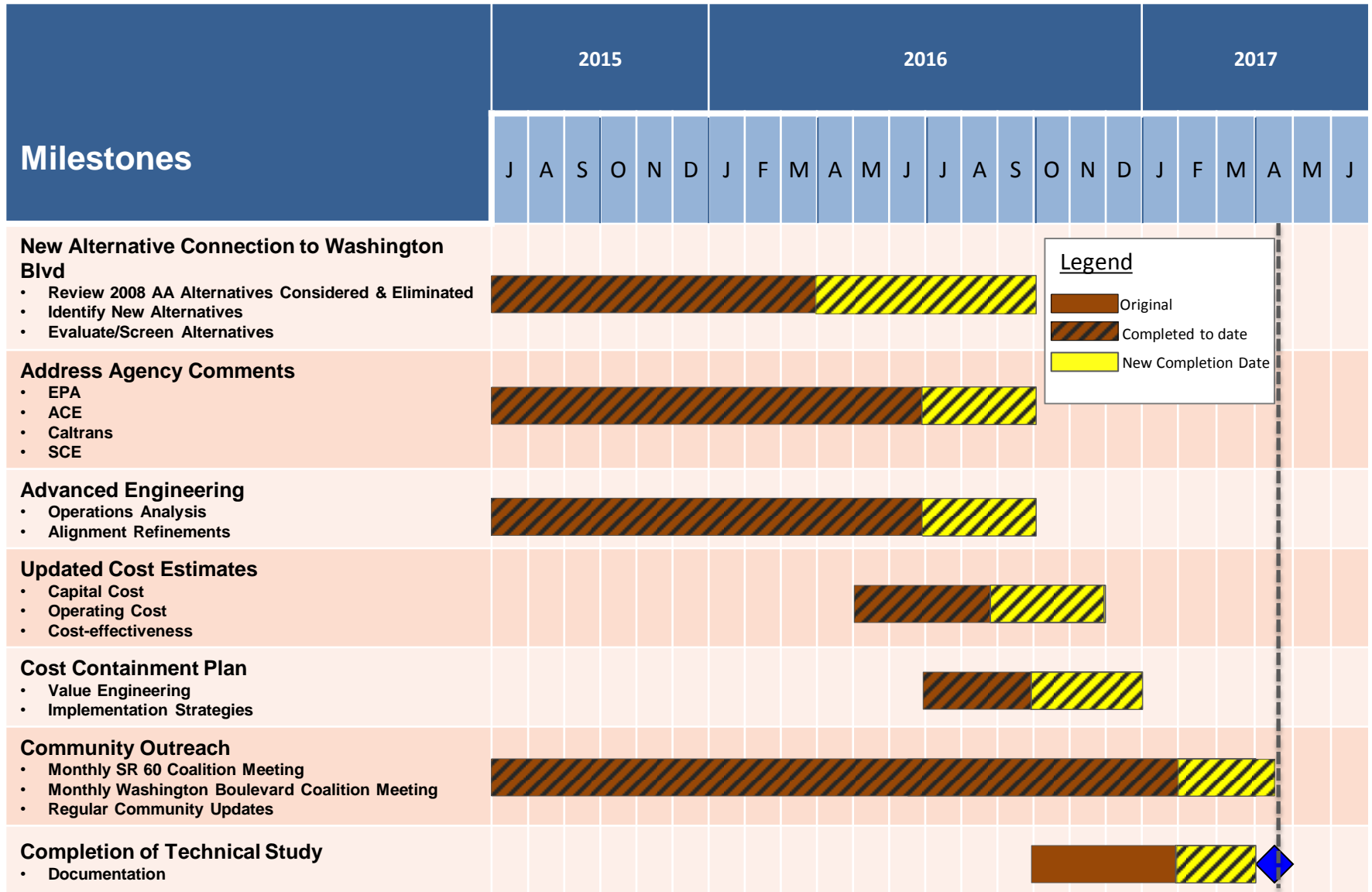
The communities and stakeholders for both alternatives under evaluation should understand and receive updates on the technical studies on a regular basis.

PLANNING AND PROGRAMMING COMMITTEE RECOMMENDED (3-0) approving amending **Motion by Directors Garcetti, Knabe, Solis, DuBois, Fasana and Dupont-Walker** that the Board instruct the CEO to provide quarterly updates every 60 days starting with the September 2015 Board cycle as follows:

- A. Report on the project contractual scope of work and provide a description of the task orders for the technical study;
- B. Provide the project schedule and related milestones for both the technical analysis and environmental planning process for all the alternatives under consideration and study; and
- C. In the regular quarterly updates, provide, at a minimum, the following:
 1. Project schedule updates;
 2. Progress reports with third-party agencies on the local, state, and federal level; and
 3. Community outreach schedule and meeting results, including any concerns raised by

stakeholders.

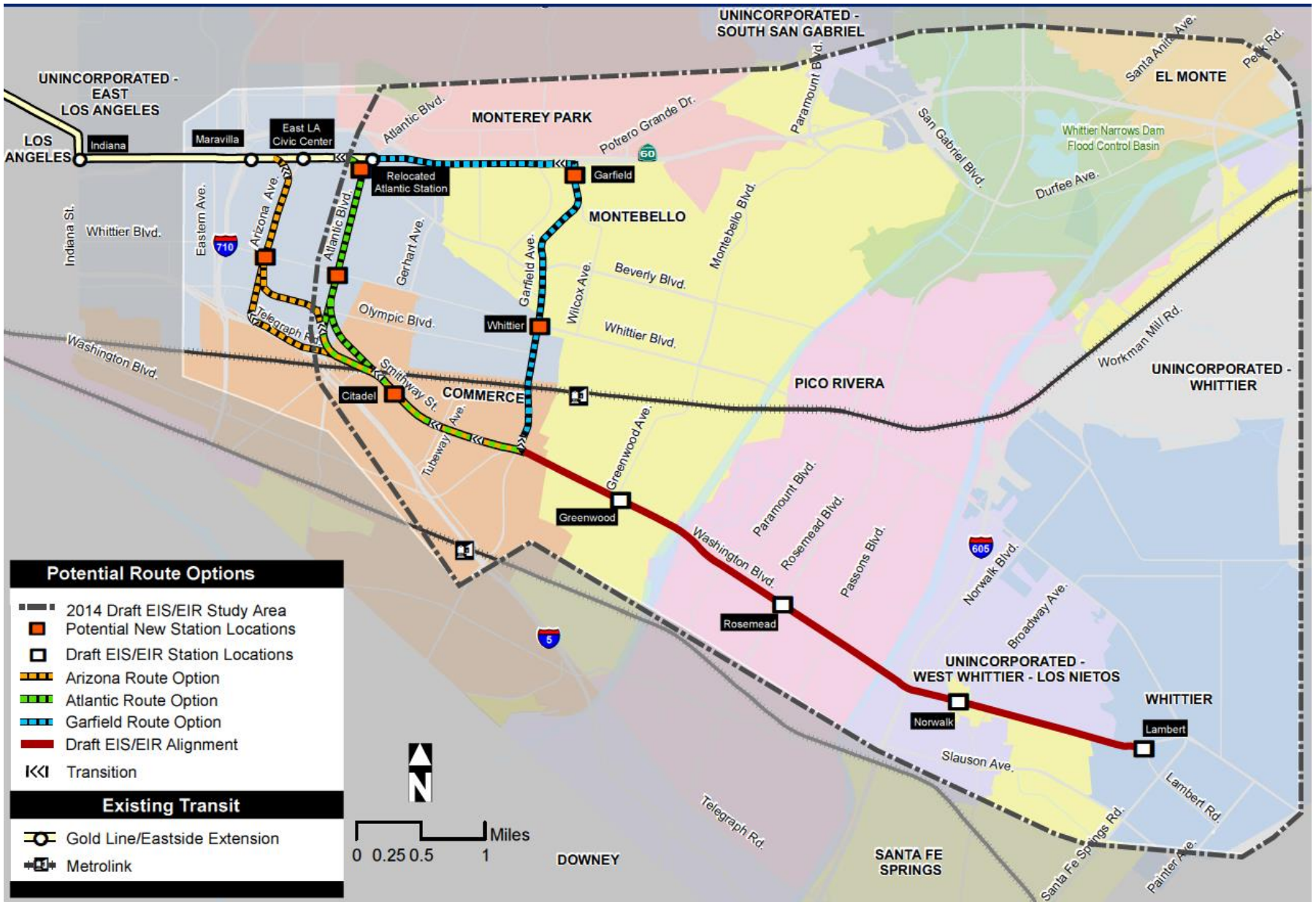
Milestone Schedule



Legend

- Original
- Completed to date
- New Completion Date

Board Approval of Technical Study



Attachment D

Eastside Transit Corridor Phase 2 Technical Study

Route Options Screening Analysis and Community Outreach

Executive Summary – April 2017

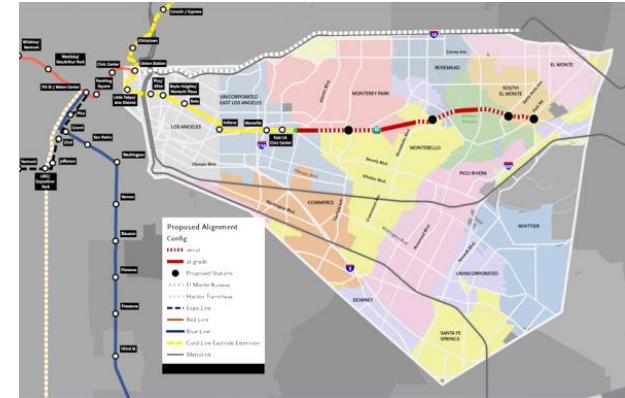


Technical Study Scope

□ Nov 2014: Board-directed Technical Study to:

✓ Address Agency Comments regarding the SR 60 North Side Design Variation (NSDV) LRT Alternative

- US Environmental Protection Agency (USEPA)
- US Army Corps of Engineers (USACE)
- California Department of Transportation (Caltrans)
- California Department of Fish and Wildlife (CDFW)
- Southern California Edison (SCE)

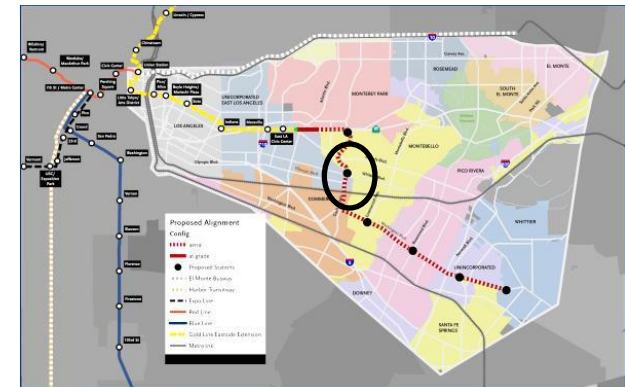


SR 60 NSDV Alternative

✓ Eliminate Aerial on Garfield Ave between Via Campo and Whittier Bl.

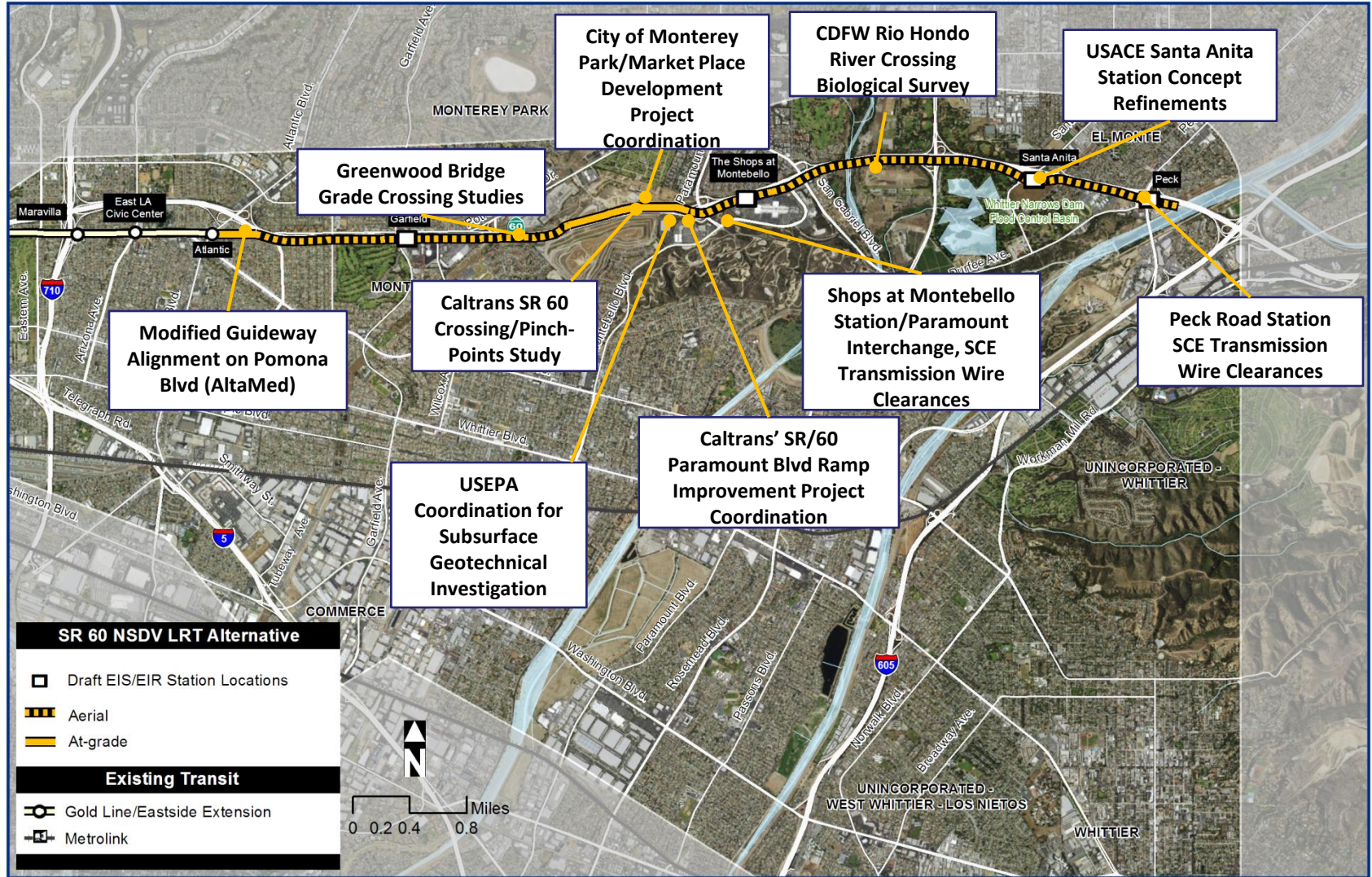
✓ Identify a New North/South Connection to Washington Blvd.

✓ Explore Feasibility of Operating Both SR 60 and Washington Blvd. Alternatives



Washington Blvd Alternative via Garfield Aerial

SR 60 NSDV LRT Alternative technical investigations addressed numerous resource agency comments



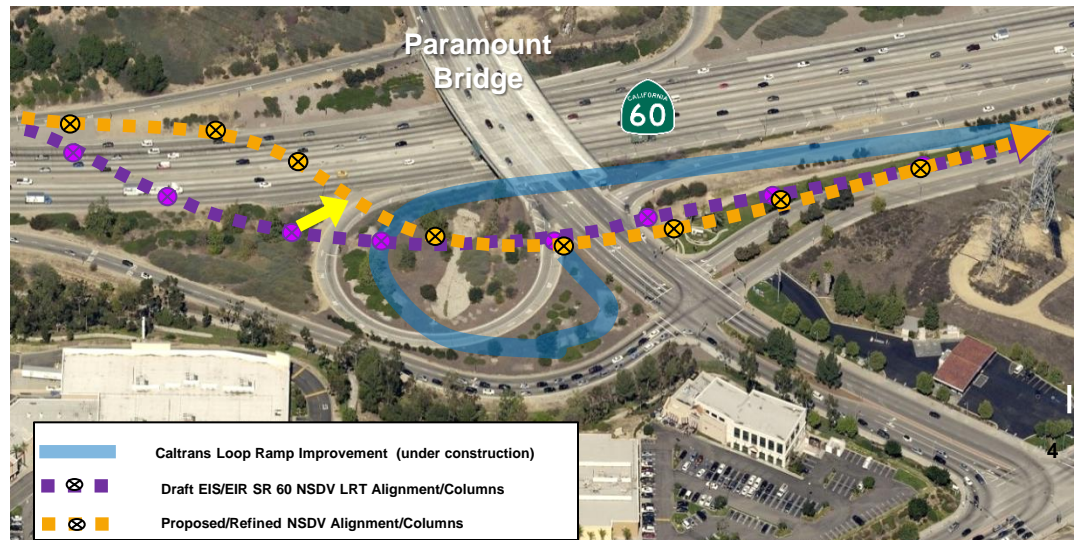
Caltrans requested additional design studies to resolve potential conflicts on SR 60 NSDV LRT Alternative

Caltrans Comment:

- NSDV flyover structures may impose non-standard Caltrans design elements and impact their feasibility for future widening of the SR-60 Freeway
- The proposed flyover structure (west of Paramount Blvd.) would conflict with the new SR 60 ramps at Paramount Blvd.

Metro Actions:

- Developed NSDV cross-sections within the limits of the NSDV to list any existing non-standard Caltrans design features and all non-standard design features which may be imposed with the construction of NSDV
- Modified NSDV to place columns of aerial structure in locations that do not conflict with new SR 60 Ramps at Paramount Boulevard.
- Additional coordination with Caltrans will be required in the next study phase to refine the NSDV concept.



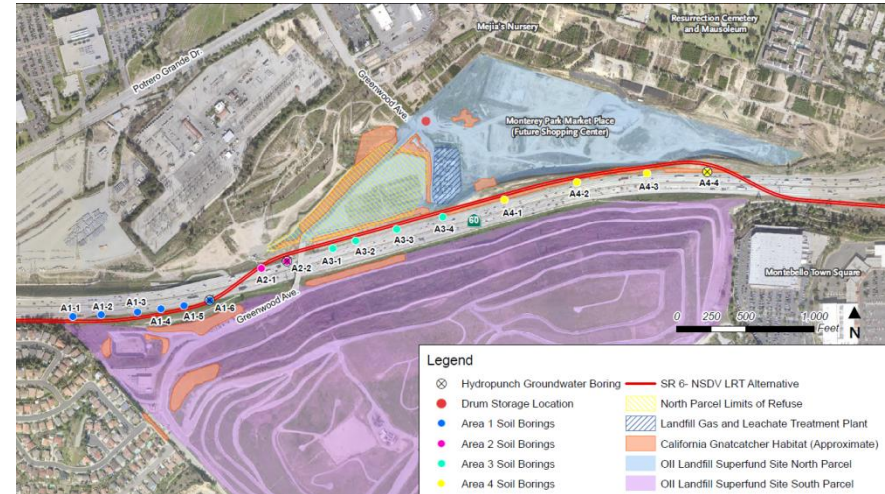
USEPA requested additional studies at Oil Superfund Site

USEPA Comments:

- Construction of the NSDV alignment may result in possible hazardous materials release, potential impact to the remedy, operating perimeter liquids control systems and fill integrity, and concerns for landslide risk and seismic stability

Metro Actions:

- Conducted field survey activities from July 25 - August 4, 2016, which indicated:
 - ✓ Fill is reasonably adequate
 - ✓ Would not pose significant issue for design of NSDV segment
- Conducted grade crossing analysis and underpass study for Greenwood Bridge
- During next environmental process, additional geotechnical borings to assess presence of landslide deposits and slope stability analysis



The City of Monterey Park expressed concern that the SR 60 NSDV LRT Alternative may block the view of the Marketplace development

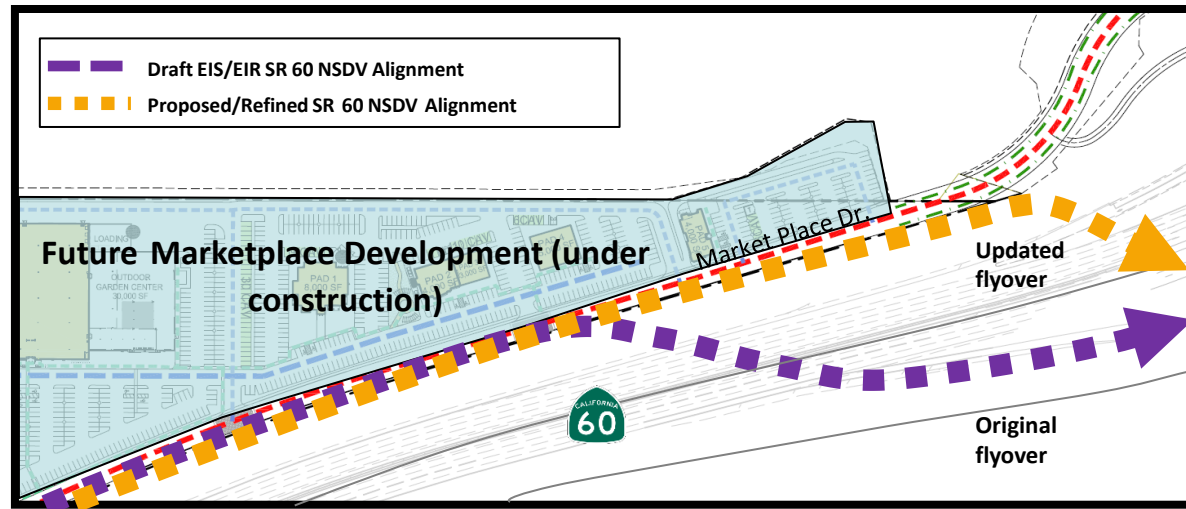
City of Monterey Park Comment:

- The proposed flyover structure (west of Paramount Blvd.) would result in visual and physical impacts to the 500,000 square-foot Monterey Park Marketplace Development (under construction)



Metro Actions:

- Modified the design of the SR 60 NSDV LRT Alternative (Draft EIS/EIR Concept 2) by shifting the proposed guideway and flyover structure further east to avoid visual and physical conflicts with the Marketplace Development



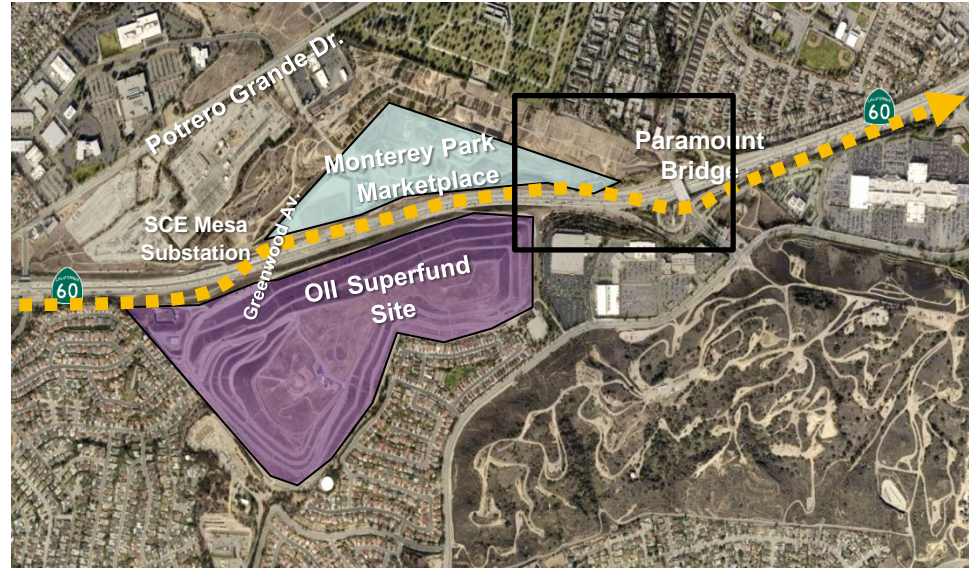
SCE expressed concerns over insufficient clearances at SR 60 NSDV LRT Alternative crossings with SCE transmission lines

SCE Comment:

- The proposed design would not provide sufficient clearance between the top of the LRT catenary wire and the existing SCE transmission lines

Metro Actions:

- Conducted a new wire survey to confirm the height of the existing wires at Paramount Interchange
- Confirmed the wire clearance requirements and identified potential crossing conflicts at Paramount Blvd and at Peck Road
- Developed a preliminary plan to raise the SCE tower heights to provide sufficient clearance at Paramount Interchange
- Revised the Peck Road Station Concept to remove the conflict with SCE wires



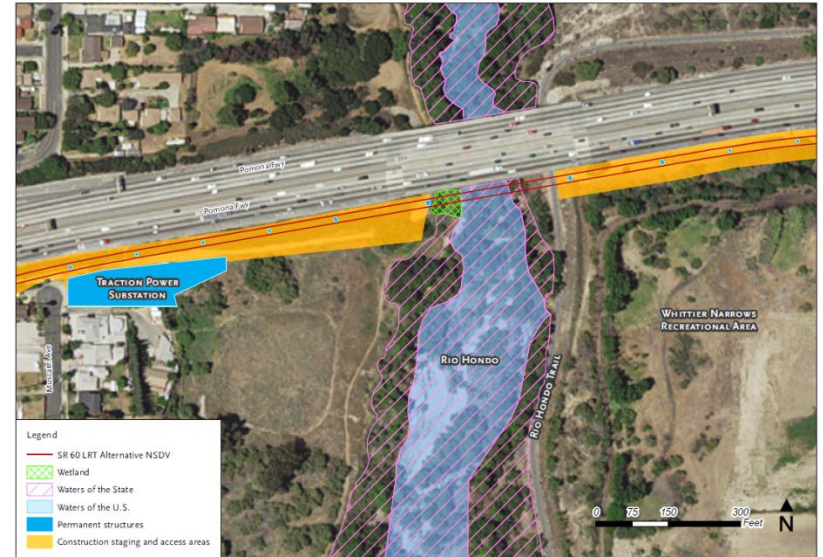
California Department of Fish and Wildlife (CDFW) requested additional biological surveys

CDFW Comments:

- Define areas of potential effects for biological resources in the study area
- Conduct surveys for rare natural communities and sensitive species
- Prepare vegetation mapping
- Define areas and conduct jurisdictional delineations

Metro Actions:

- Conducted additional biological surveys of rare natural communities and sensitive species for Whittier Narrows Basin and river crossings, conducted jurisdictional delineations, and vegetation mapping, in Spring 2016:
 - ✓ Based on the delineation and construction information known, no temporary impacts on wetlands or waters as a result of construction
 - ✓ Additional biological studies, mapping and surveys will be conducted in the next study phase



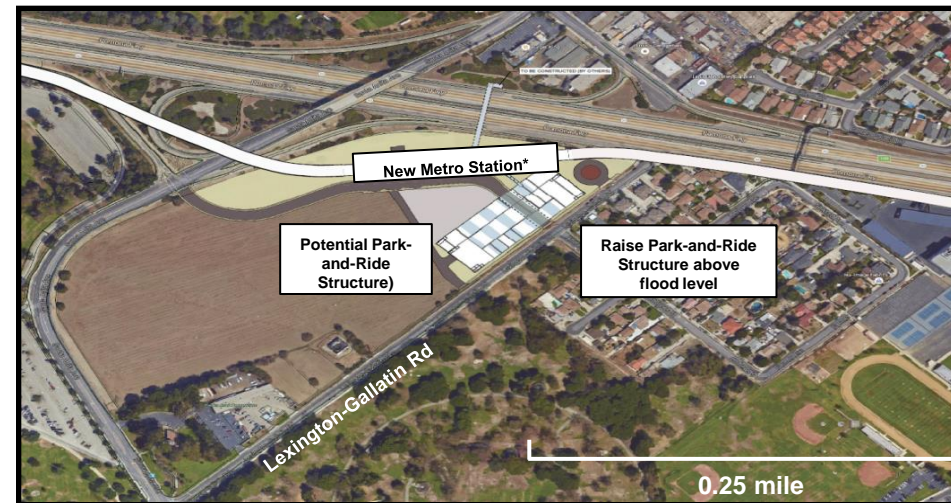
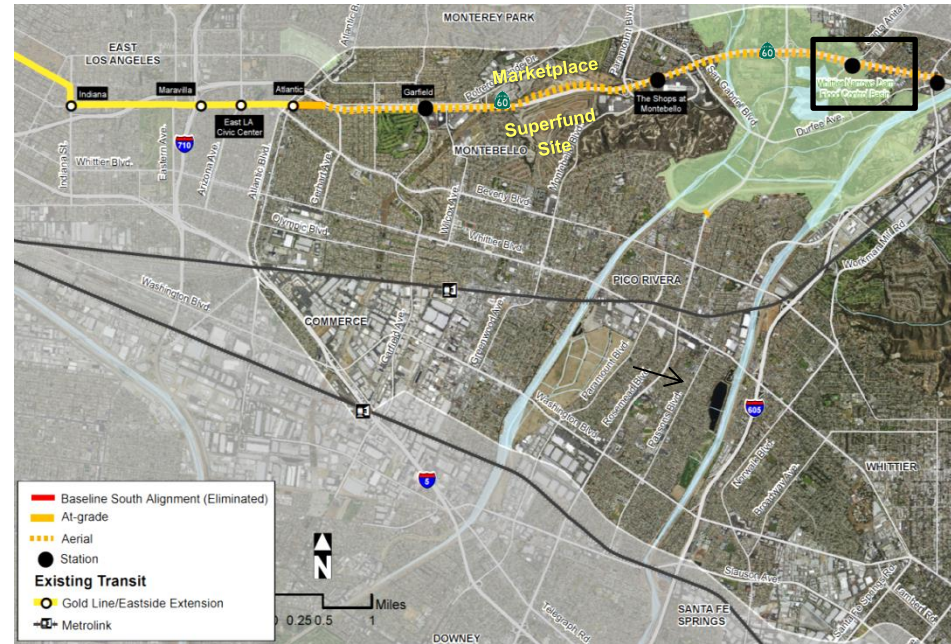
USACE requested additional information on the Santa Anita Station Design Concept in Whittier Narrows Flood Control Basin

USACE Comment:

- Concerns with potential flooding and emergency evacuation routes at the Santa Anita Station and parking structure in the event of a 100-year flood event
- Request for additional analysis regarding the identification of a practicable alternative outside the floodplain
- Additional explanation of the necessary approvals required from USACE

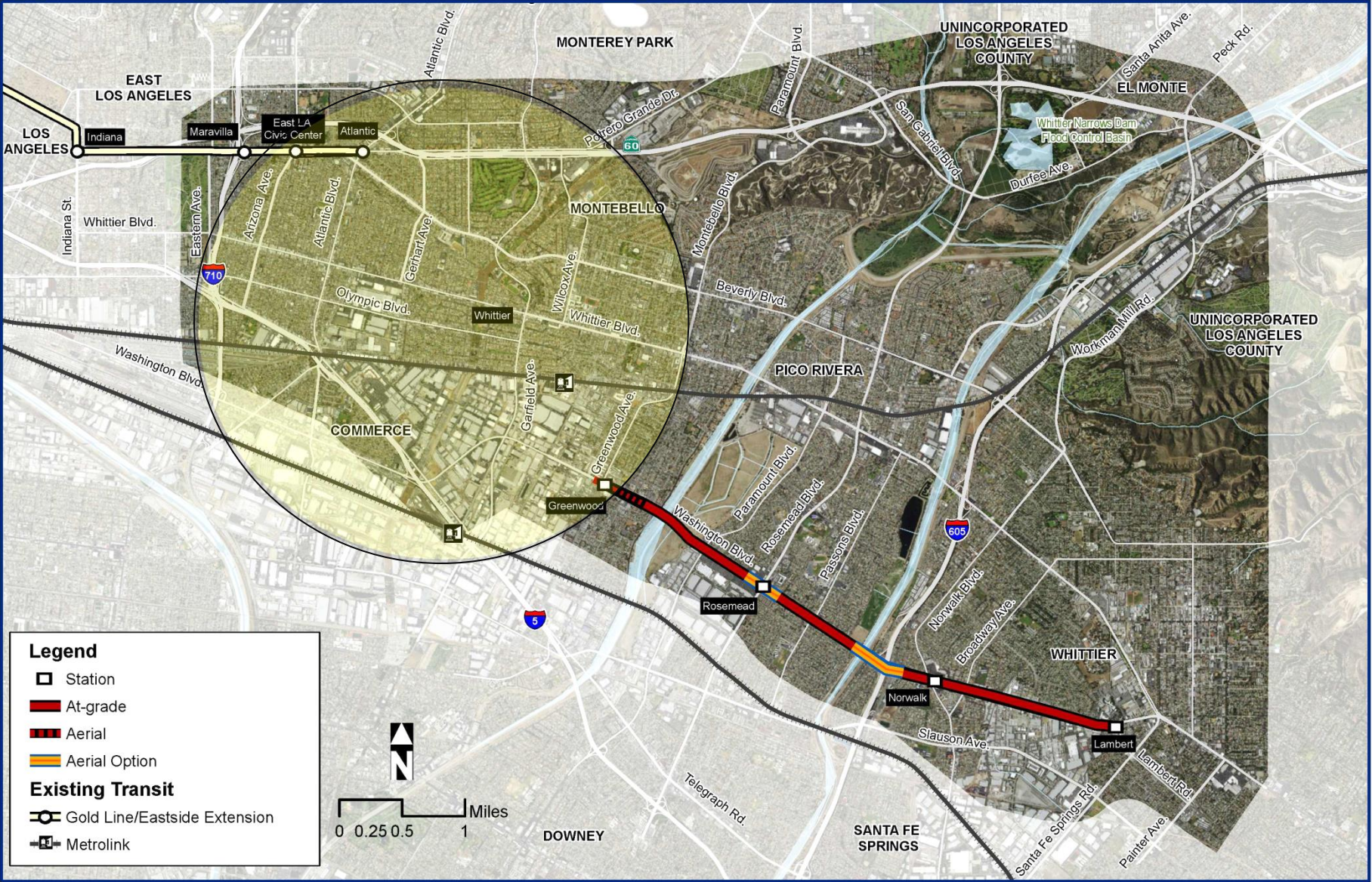
Metro Actions:

- Developed more detailed exhibits demonstrating a raised station and parking structure included in the Draft EIS/EIR.
- Modified the configuration of the station access and circulation to not preclude the City of South El Monte's vision for a potential Transit-Oriented-Development (TOD) footprint
- Supplemented the E.O. 11988 alternatives analysis
- Prepared additional permit and approval process information

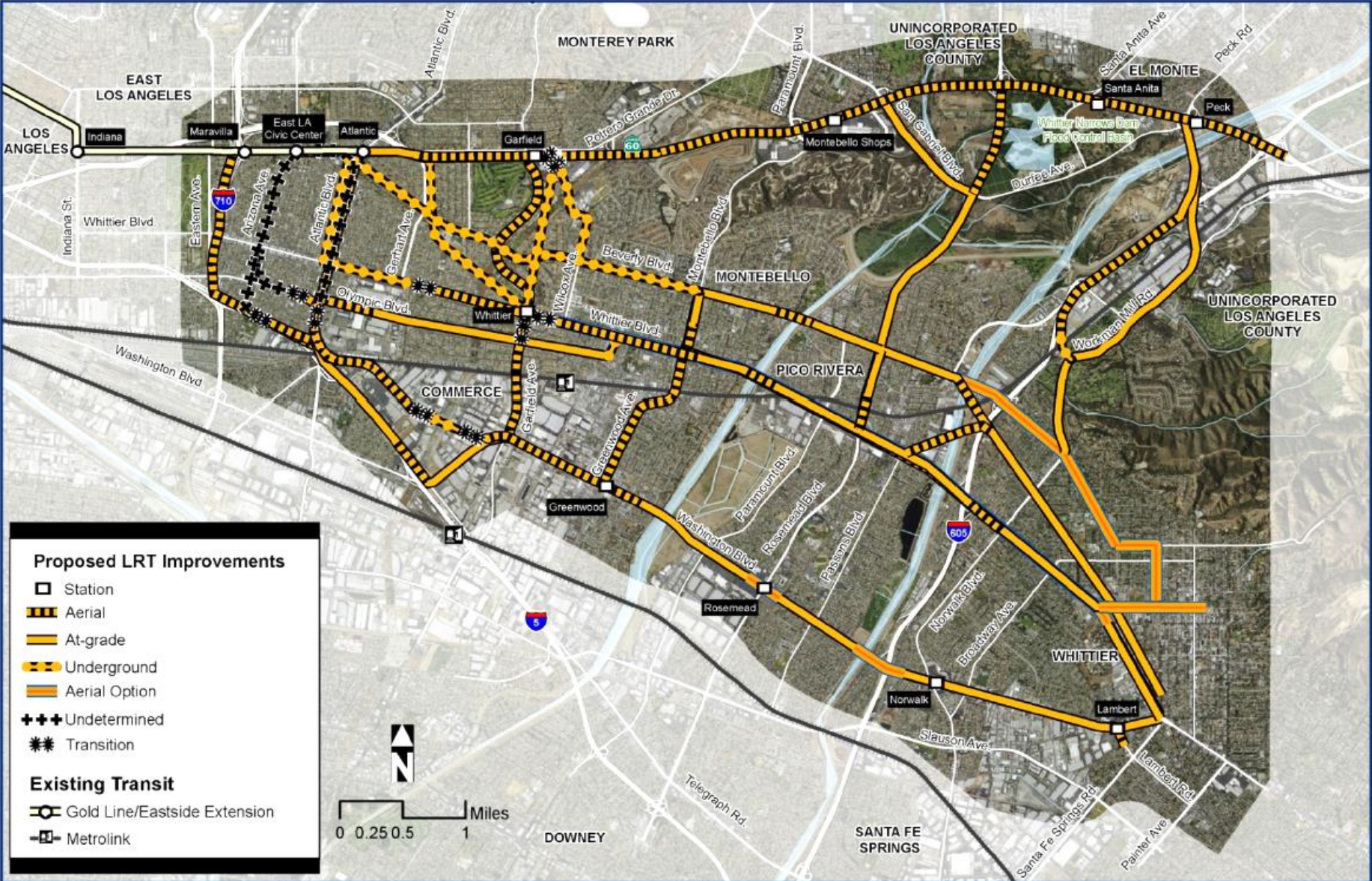


*Station location and park-and-ride structure design concept are subject to change as technical analysis continues

The Board requested a study to identify a new north-south connection to Washington Blvd.



The Washington Alternative north-south connection study started with 27 LRT route options



Several initial screening criteria were used to narrow down north-south route options



TRANSIT BENEFITS

Improve transit access and attract riders



ROM CAPITAL COST

Rough -order-of-magnitude cost estimates of total capital cost



COMMUNITY PLANS & GOALS

Consistency with adopted city, community land use plans and policies



TOC POTENTIAL

Rough -order-of-magnitude cost estimates of total capital cost



TRANSPORTATION & CIRCULATION

Potential traffic and ROW impacts to the transportation system



ENVIRONMENTAL EFFECTS

Effects on communities & sensitive receptors



OPERATIONAL

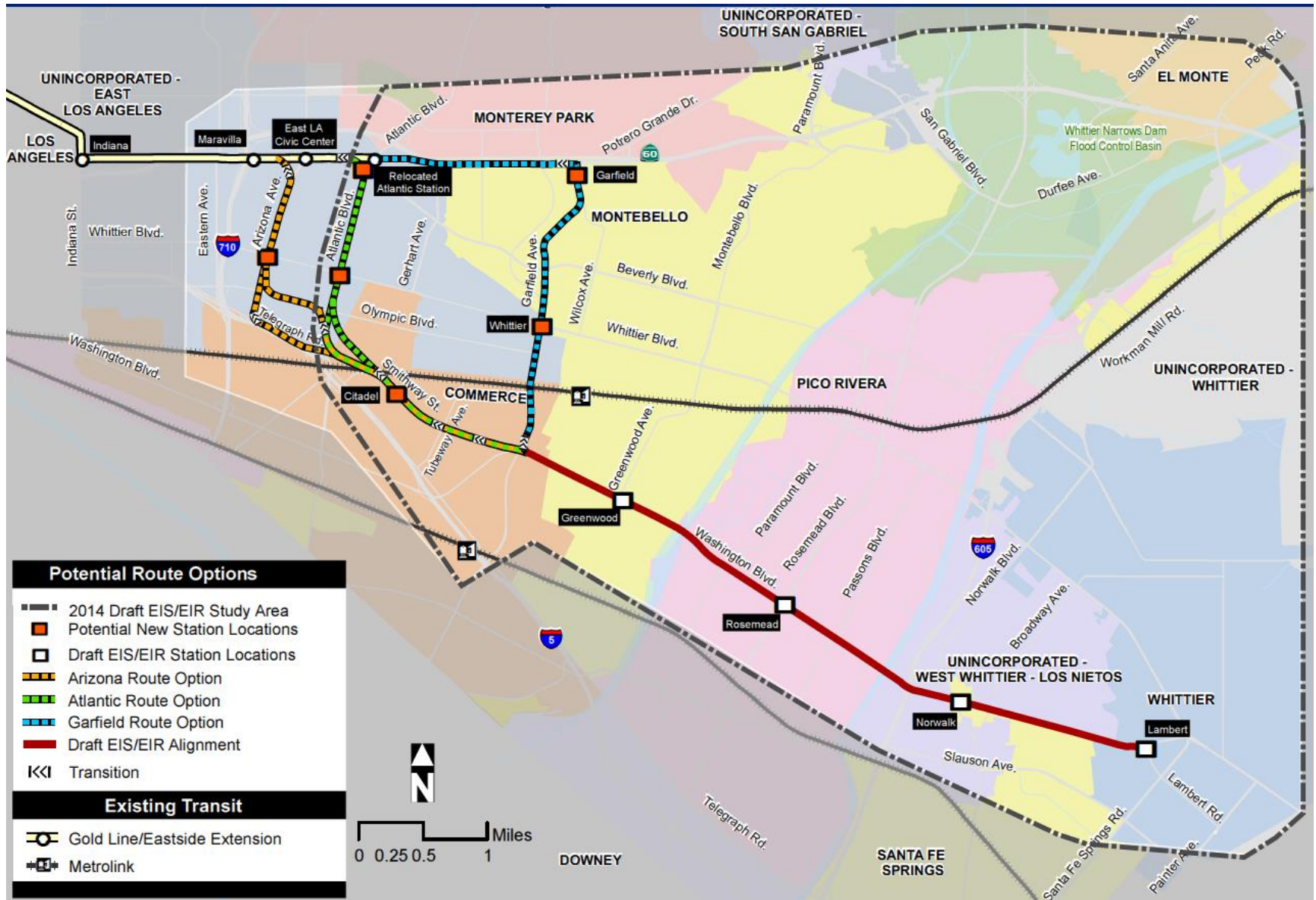
Improve transit access and attract riders









CONSTRUCTABILITY

Improve transit access and attract riders

Three (3) north-south route options were carried into detailed technical analysis – Garfield (below-grade), Atlantic and Arizona

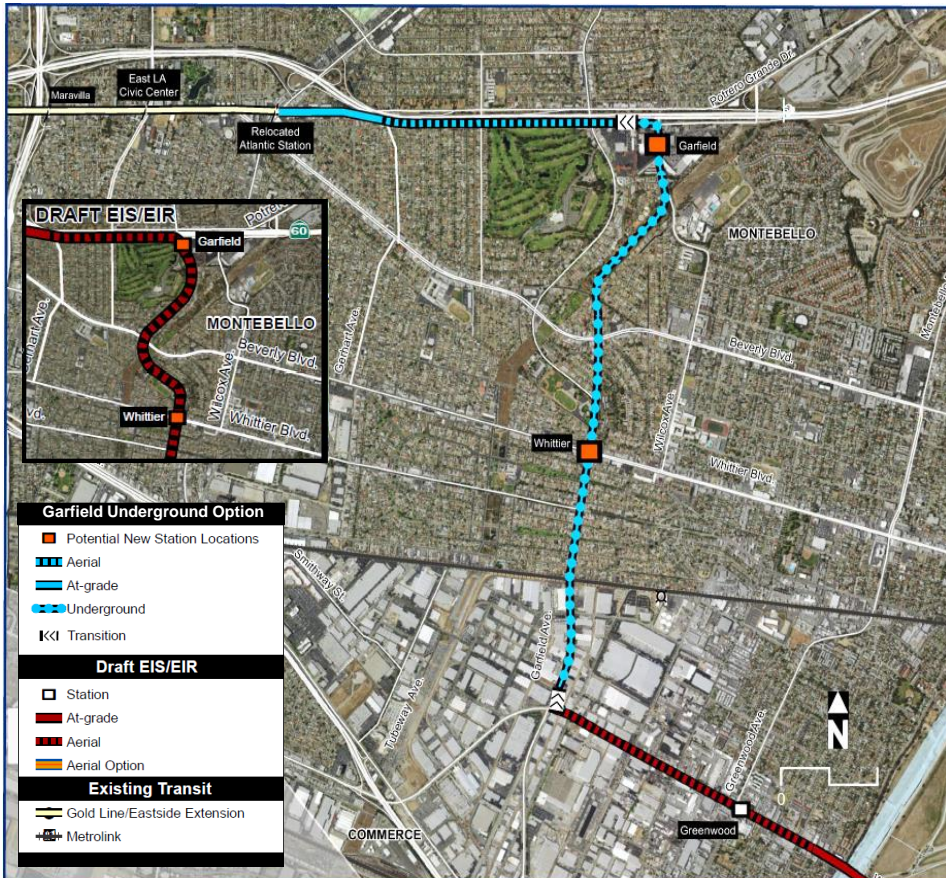


The Atlantic Underground Route Option performed the best

Factors	Draft EIS/EIR Washington Blvd LRT Alternative	Arizona		Atlantic		Garfield
		At-Grade	Underground	At-grade	Underground	Underground
Fundamentally Consistent with Community Goals/Priorities?	NO	NO	NO	NO	YES	NO
Operationally Feasible?	YES	NO	NO	YES	YES	YES
Ridership (Daily Boardings)*	19,920	17,280 to 18,680	18,270 to 19,770	17,950 to 19,280	19,610 to 21,070	19,120
Rough Order-of-Magnitude (ROM) Capital Costs (in 2010 \$)*	\$1.4 to 1.7 billion	+10% to 20%	+60% to 70%	+10% to 20%	+90% to +100%	+80% to +90%
Preliminary Travel Time (in minutes)	18-19 min.	20-21 min	18-19 min.	20-21 min.	17-18 min.	18-19 min.
Potential Traffic/Circulation Impacts	Minimal	Significant	Minimal	Significant	Minimal	Minimal
Recommendation						

*Cost and ridership data is subject to change as design refinement and more detailed technical work continues.

There were several reasons for eliminating the Garfield Underground Option



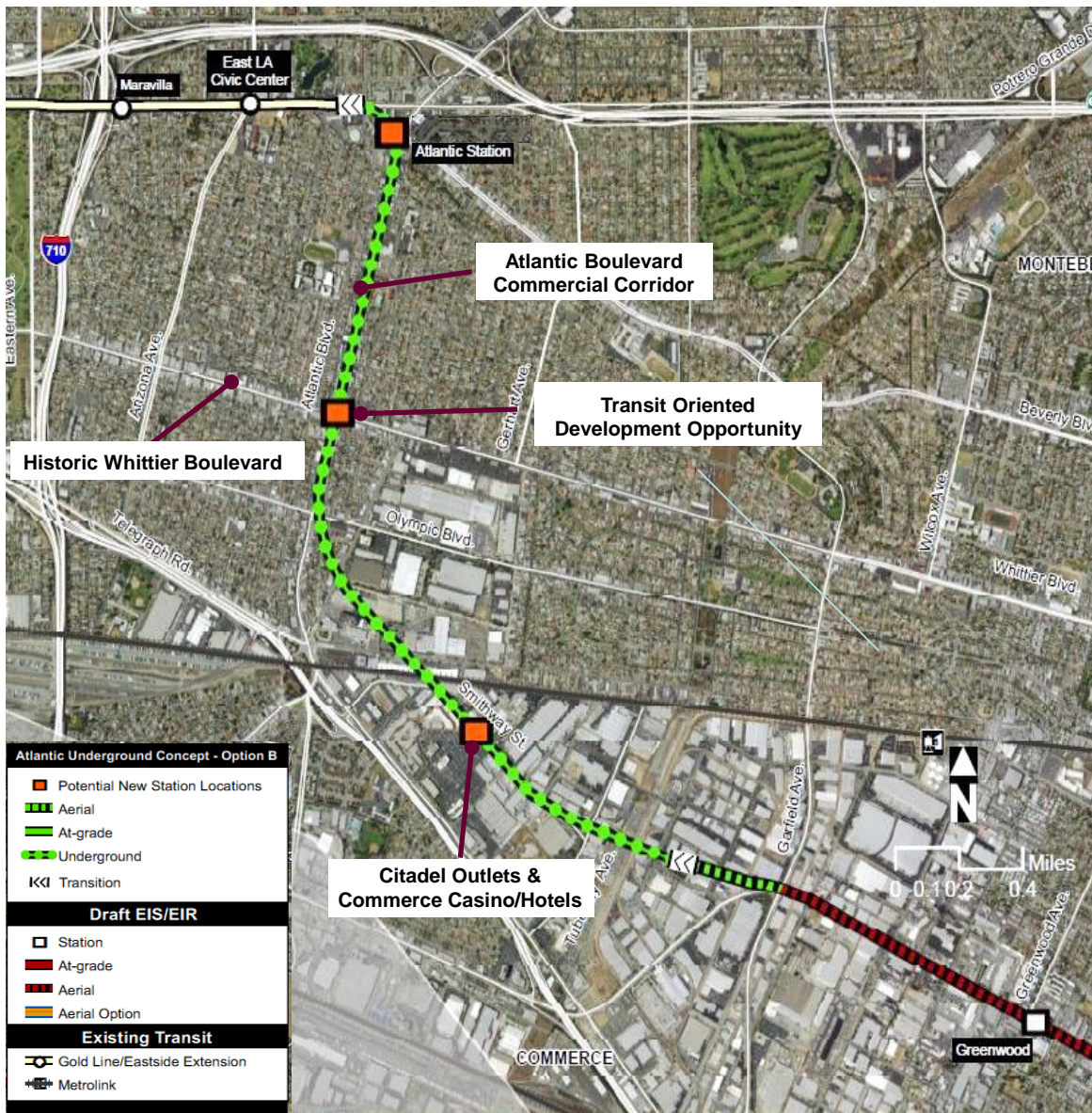
1. Operational challenge for a guideway structure with a tight horizontal curve just west of Via Campo and Wilcox Ave in the City of Montebello
2. Construction challenge to relocate complex storm drains and sewer lines along Garfield Ave.
3. A proposed Metro station at Garfield Ave. and Whittier Blvd. lacks the intensity of activity typically associated with a subway station.
4. The Garfield Underground Route Option misses the Commerce Citadel and Casino area, which would attract the study area's highest ridership potential.
5. Significant impacts during construction, including property acquisition, business disruption and traffic/circulation impacts to sensitive uses near SR 60

The Arizona Route Option had several fundamental flaws and issues that render it infeasible



1. Any LRT extension along Arizona Ave. is wholly inconsistent with community priorities and goals.
2. Any LRT extension (regardless of the configuration) would create potentially significant impacts to the following:
 - Existing Civic Center Station and Gold Line operations
 - Residential properties
 - Sensitive uses
 - Traffic, access and parking
 - Pedestrian and bicycle safety
3. Arizona Route Option was not recommended for further consideration

The Atlantic Underground Concept offers several benefits / opportunities and is recommended as the new Washington Alternative



1. Best meets community goals by minimizing surface operational disruptions
2. Provides connectivity to local and regional destinations and activity centers in unincorporated East Los Angeles and the City of Commerce
3. Provides opportunity for Transit Oriented Community (TOC) development opportunities near proposed station locations
4. Performs well on a number of key measures, including projected high ridership (19,610-21,070 boardings) and faster travel time (17-18 minutes)
5. Serves transit dependent communities

The next step for the new Washington Alternative is to advance the design of the Atlantic Underground Option

Further study is recommended to develop conceptual design plans and identify right-of-way (ROW) need in the re-initiated Environmental Document:

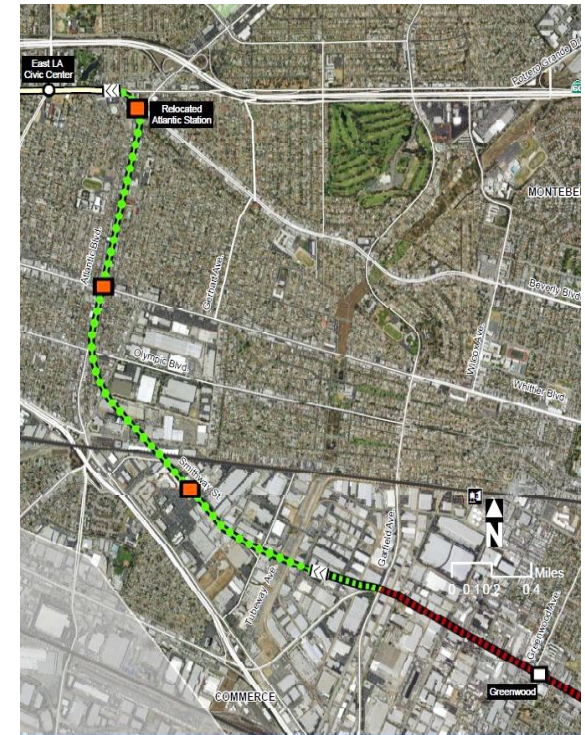
1. Identify two locations to launch and extract a Tunnel Boring Machine (TBM), one north and the other south
2. Identify locations for excavation of station and construction staging areas



Tunnel Boring Machine



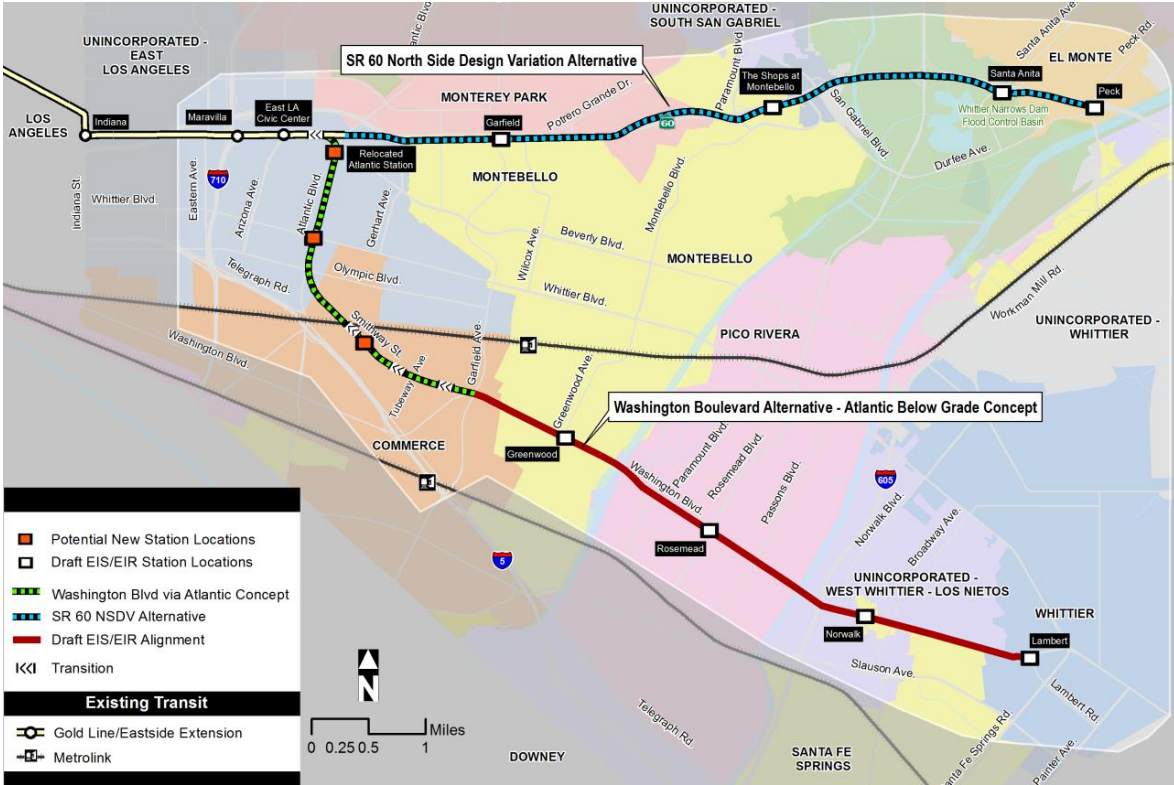
Example of a Construction Staging Site



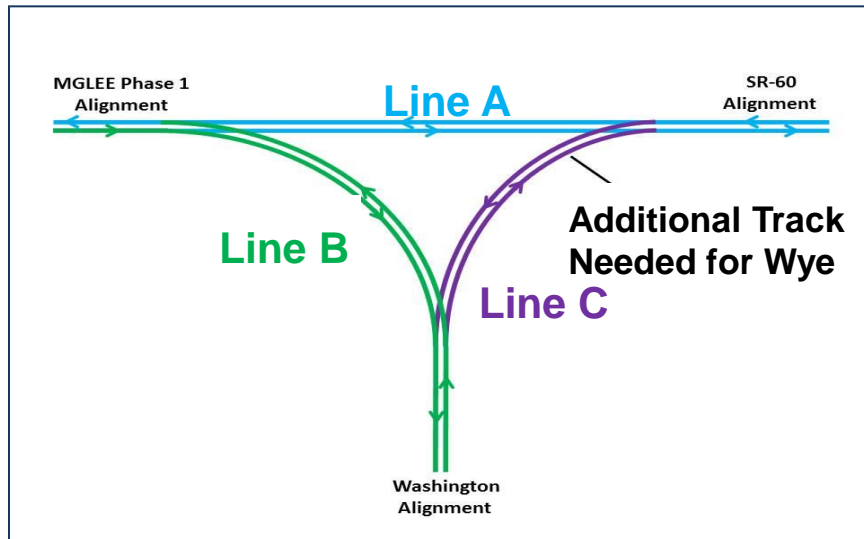
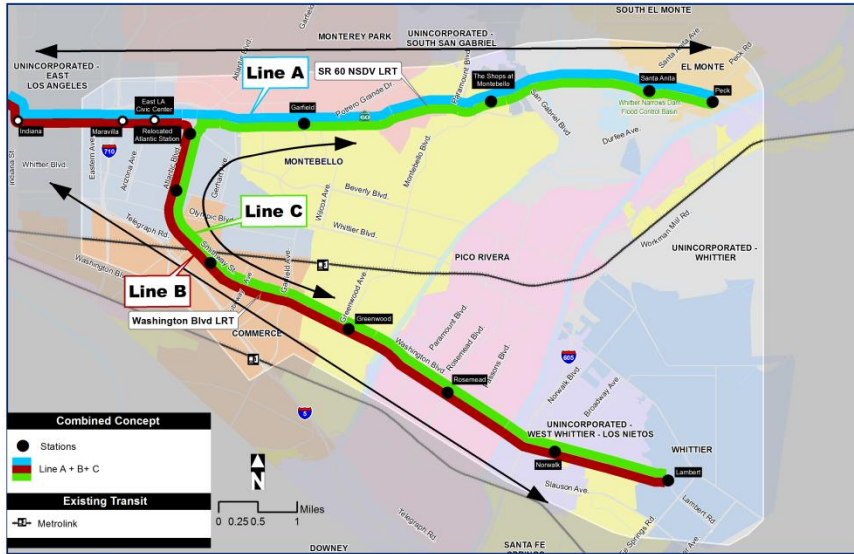
Atlantic Underground Route Option

Operating both segments (SR 60 and Washington Blvd.) is feasible, but will require additional infrastructure

- 1. Provision of one maintenance facility to service rail vehicles
- 2. Provision of infrastructure and operational elements that would not be required if only one or the other alternative were operated as a 'stand-alone' line.
- 3. Provision of a potential underground three-way junction merge



The Combined Concept Alternative can support 5-minute headways with a third line



- MGLEE trains will operate in an east-west direction using Regional Connector to allow train movements between MGLLE and Expo Line, to Downtown Santa Monica**
 - ✓ Line A (SR 60 Branch Line): Extend MGLLE Line, East LA Civic Center Station through underground wye at Atlantic Station, to terminus of SR 60 NSDV LRT Alignment
 - ✓ Line B (Washington Branch Line): Extend MGLLE Line, East LA Civic Center Station and stop at Atlantic Station, to terminus of Washington LRT Alignment
- A three-way junction could support a third line from South El Monte to Whittier (C line), potentially allowing for 5-minute service on each branch.**
 - ✓ Line C (SR 60 to Washington Loop Line): Originate at SR 60 Peck Rd Station, traveling west through the underground wye, then south to terminus of Washington LRT Alignment

Metro conducted extensive outreach to provide updates and receive feedback



Community Meetings (10)

March 2016 – February 2017

- East Los Angeles (3)
- Whittier (2)
- Montebello (2)
- South El Monte (2)
- Commerce (1)



Monthly Coalition Briefings (30)

- SR-60 Coalition
- Washington Blvd Coalition

Tours (2)

Tours of Maintenance Facilities

- Santa Monica
- Monrovia



Other Stakeholder Briefings (70)

- Councils of Government and Service Councils
 - San Gabriel Valley
 - Gateway Cities
- City Council members and staff
- State and Local Elected Officials
- Chambers/Business Associations
- Major Property Owners/Developers
- East Los Angeles residents, businesses, neighborhood and community groups

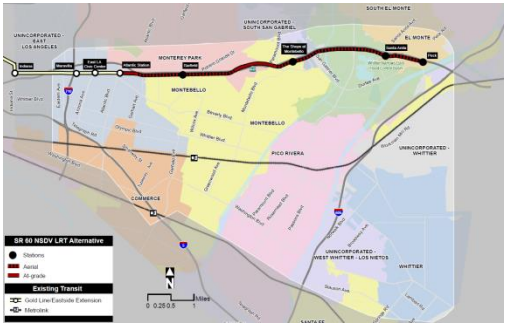
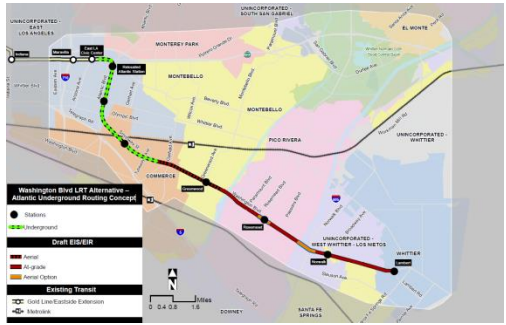

Over 110 meetings or briefings were held between August 2015 and March 2017

Community Outreach Meeting: What We've Heard

1. Overwhelming support for the Eastside Phase 2 project, including Washington Alternative via Atlantic underground, SR-60 NSDV Alternative, and the Combined Alternative
2. Interest in connecting communities and improving access to employment centers and Metro's regional transit system
3. Concerns regarding impacts to businesses during construction
4. Interest in potential economic development opportunities along the corridor
5. Emphasized the importance of station accessibility and safety



Recap of updated Project Definition

Alternative	Map	Key Features (Post Draft EIS/R)
SR 60 NSDV LRT	 <p>The map shows the SR 60 NSDV LRT Alternative alignment in red, running north-south through Monterey Park, Monterey, and Whittier. It includes station locations, potential new station locations, and existing transit lines like SR 60 and SR 60 NSDV. A legend in the bottom left identifies symbols for Stations, Potential New Station Locations, SR 60 NSDV Station Locations, SR 60 NSDV Alternative, SR 60 NSDV Alignment, SR 60 Transbay, and Existing Transit.</p>	<ol style="list-style-type: none"> 1. Modified the guideway eastern flyover alignment between Greenwood Bridge and Paramount Bridge to avoid visual conflicts with Monterey Park Marketplace development 2. Shifted the guideway alignment at Paramount to avoid conflicts with Caltrans' redesigned ramps 3. Developed a preliminary plan to raise the SCE transmission wires at Paramount Interchange 4. Raised Santa Anita Station concept and parking structure by 100 feet to address USACE concerns with potential flooding
Washington Boulevard LRT Alternative (Atlantic Underground Option)	 <p>The map shows the Washington Boulevard LRT Alternative (Atlantic Underground Option) alignment in green, running north-south through Monterey Park, Monterey, and Whittier. It includes station locations, potential new station locations, and existing transit lines like Atlantic Blvd and Smithway St. A legend in the bottom left identifies symbols for Stations, Potential New Station Locations, Washington Blvd via Atlantic Concept, SR 60 NSDV Alternative, SR 60 NSDV Alignment, SR 60 Transbay, and Existing Transit.</p>	<ol style="list-style-type: none"> 1. Developed the new north-south connection along Atlantic Blvd 2. One-third of the alignment could be an underground segment along Atlantic Blvd and Smithway St 3. Two new underground stations <ul style="list-style-type: none"> • Atlantic/Whittier • Commerce Citadel 4. May require potential relocation of existing Atlantic Station
Combined Alternative	 <p>The map shows the Combined Alternative alignment in red and green, integrating the SR 60 NSDV and Washington Boulevard LRT alternatives. It includes station locations, potential new station locations, and existing transit lines like SR 60, SR 60 NSDV, Atlantic Blvd, and Smithway St. A legend in the bottom left identifies symbols for Potential New Station Locations, SR 60 NSDV Station Locations, Washington Blvd via Atlantic Concept, SR 60 NSDV Alternative, SR 60 NSDV Alignment, SR 60 Transbay, and Existing Transit.</p>	<ol style="list-style-type: none"> 1. Operating the combined alternative is feasible, yet requires a new three-way junction 2. Only one Maintenance Yard to serve all lines 3. Provide 5-minute service on each branch by allowing for a third line between South El Monte and Whittier

The Eastside Phase 2 Technical Refinement Study presents the following staff recommendations

- ❑ APPROVE an updated Project Definition for Environmental Clearance, including three alternatives:
 - ✓ SR 60 North Side Design Variation LRT Alternative
 - ✓ Washington Boulevard Alternative with Atlantic Below Grade Option
 - ✓ Combined Alternative with both SR 60 and Washington Boulevard via Atlantic Segments

- ❑ RECEIVE AND FILE the Eastside Phase 2 Technical Study Report. The full report is available upon request.

Eastside Transit Corridor Phase 2 Technical Study Planning and Programming Committee Presentation April 19, 2017

Item #25



Technical Study Scope

□ Nov 2014: Board-directed Technical Study to:

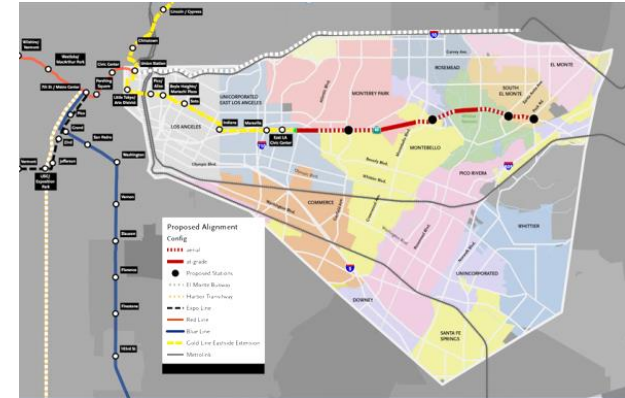
✓ Address Agency Comments regarding the SR 60 North Side Design Variation (NSDV) LRT Alternative

- US Environmental Protection Agency (USEPA)
- US Army Corps of Engineers (USACE)
- California Department of Transportation (Caltrans)
- California Department of Fish and Wildlife (CDFW)
- Southern California Edison (SCE)

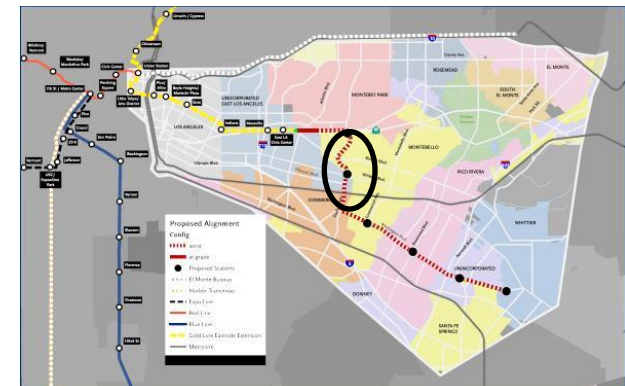
✓ Eliminate Aerial on Garfield Ave between Via Campo and Whittier Bl.

✓ Identify a New North/South Connection to Washington Blvd.

✓ Explore Feasibility of Operating Both SR 60 and Washington Blvd. Alternatives

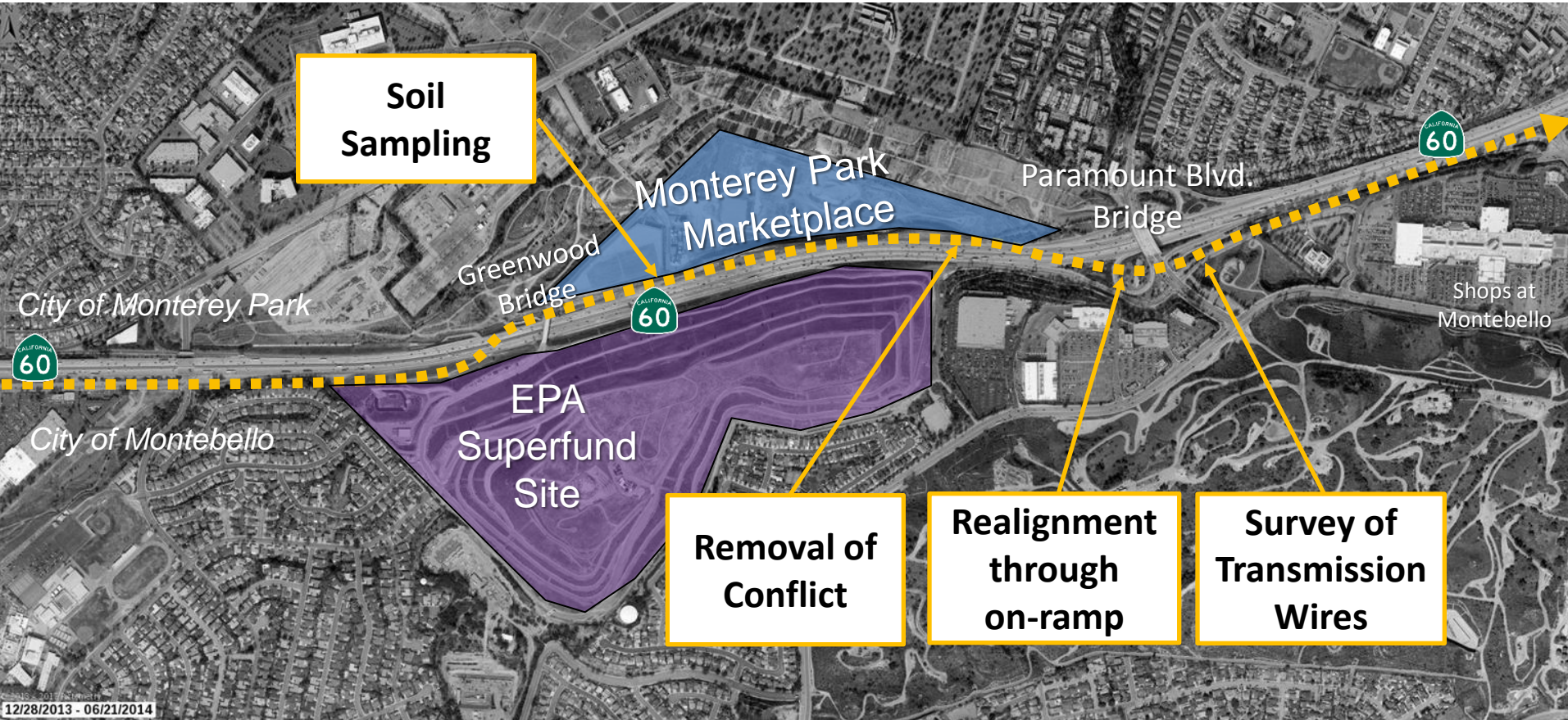


SR 60 NSDV Alternative

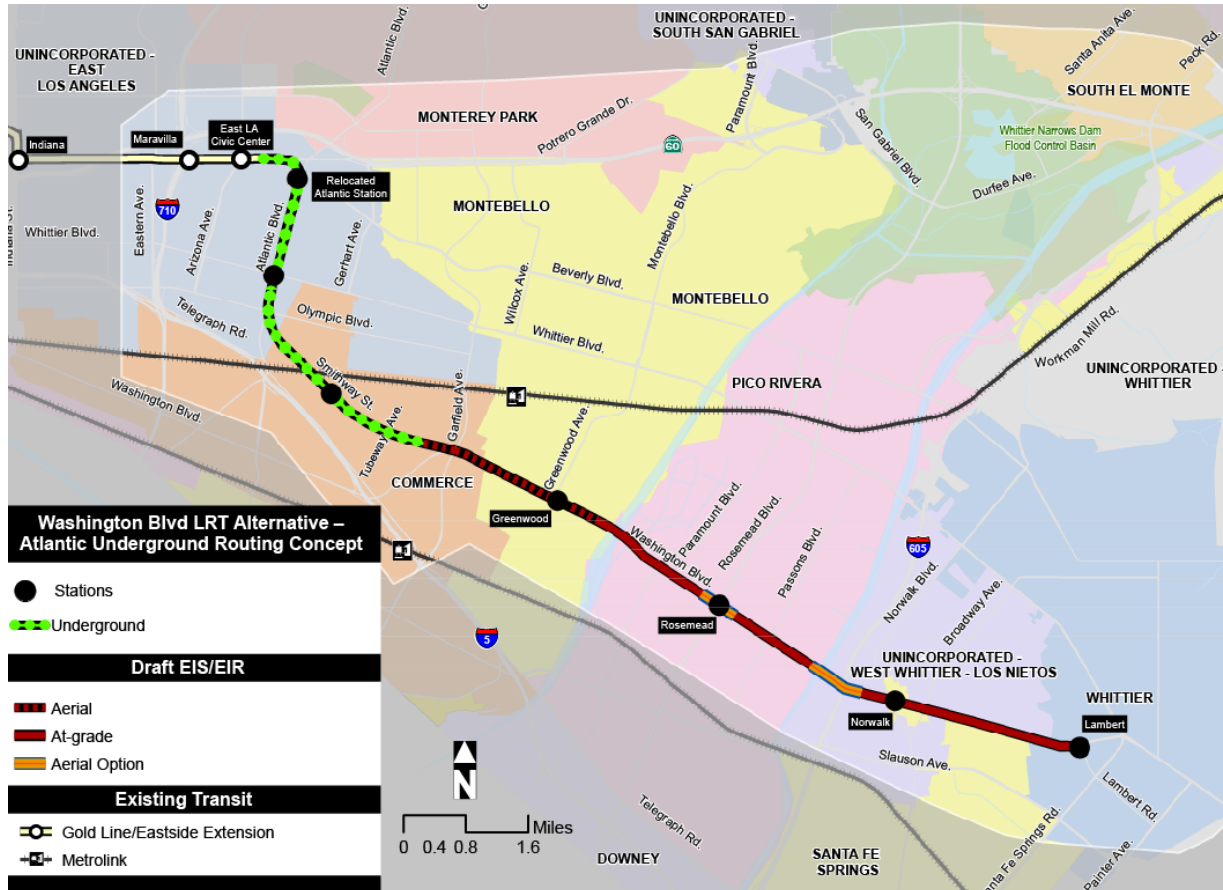


Washington Blvd Alternative via Garfield Aerial

SR-60 NSDV Alternative: No major Resource Agency issues with resuming environmental review

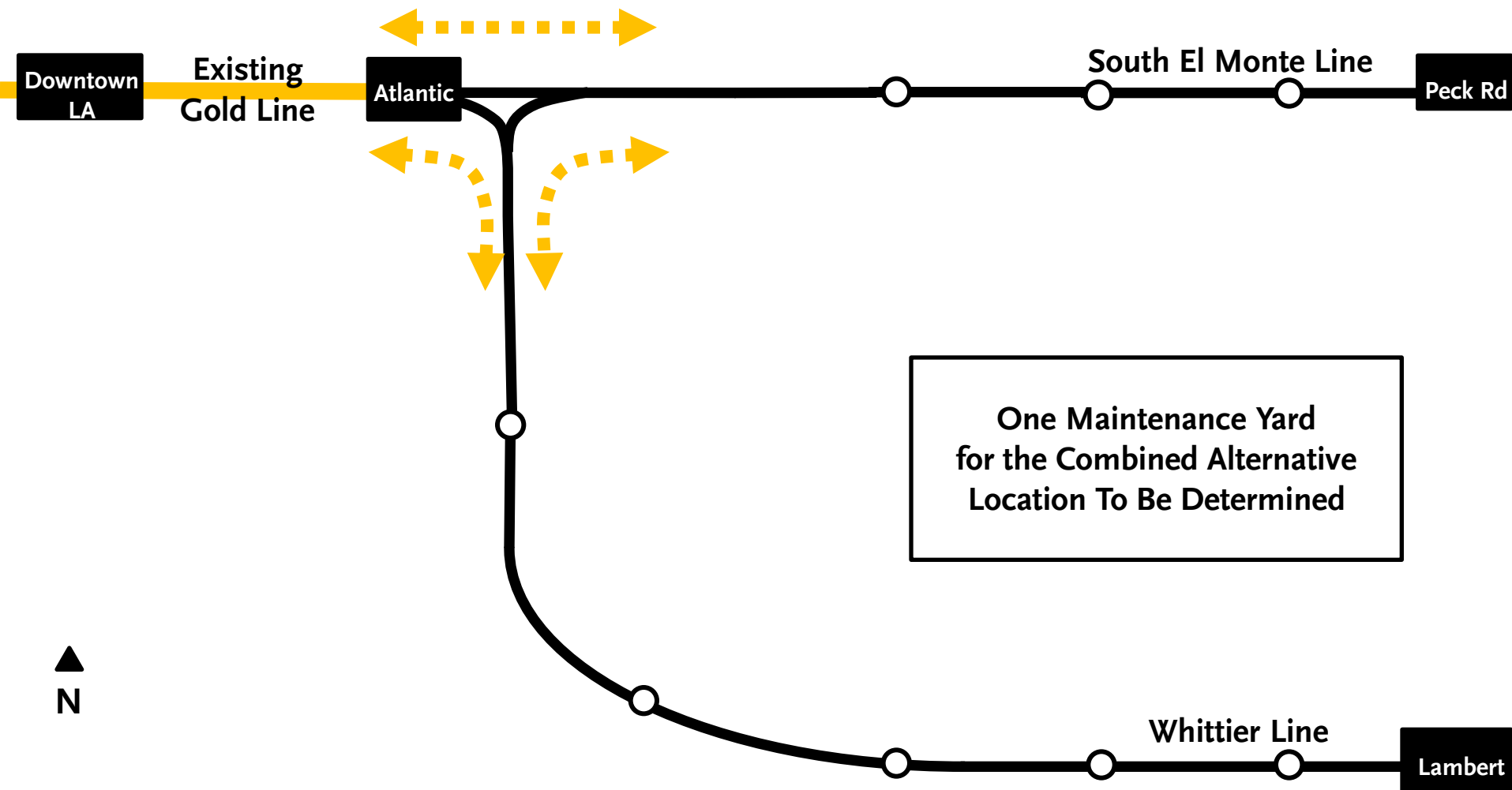


Atlantic Below Grade is recommended as the new Washington Alternative



- 2.8 mile below grade
- Metro Stations
 - Atlantic/Whittier
 - Commerce Citadel
- Potential Maintenance site in eastern Commerce
- **Strong Community Support**

Operating both segments (SR 60 and Washington Blvd.) is feasible, but will require additional infrastructure



The Eastside Phase 2 Technical Study presents the following recommendations

- APPROVE an updated Project Definition for Environmental Clearance, including three alternatives:**
 - ✓ SR 60 North Side Design Variation LRT Alternative
 - ✓ Washington Boulevard Alternative with Atlantic Below Grade
 - ✓ Combined Alternative with both SR 60 and Washington Boulevard via Atlantic Segments
- Environmental clearance to be re-initiated following Board approval of updated Project Definition.**