Chapter 1 – Project Description

1.1 INTRODUCTION

The Metro Gold Line light rail transit (LRT) system currently extends from Los Angeles to Pasadena serving cities and communities along the alignment corridor. The Metro Gold Line Foothill Extension is a phased project that extends the existing Metro Gold Line by 24 miles to the east, from the City of Pasadena to the City of Montclair (Figure 1-1). The extension is proceeding in two phases. Construction of the first phase from the Pasadena Sierra Madre Villa Station to the Azusa-Citrus Station began in late 2011, and is anticipated to be completed in late 2015.

Source: Construction Authority 2011, Parsons Brinckerhoff 2012

Figure 1-1. Metro Gold Line Foothill Extension

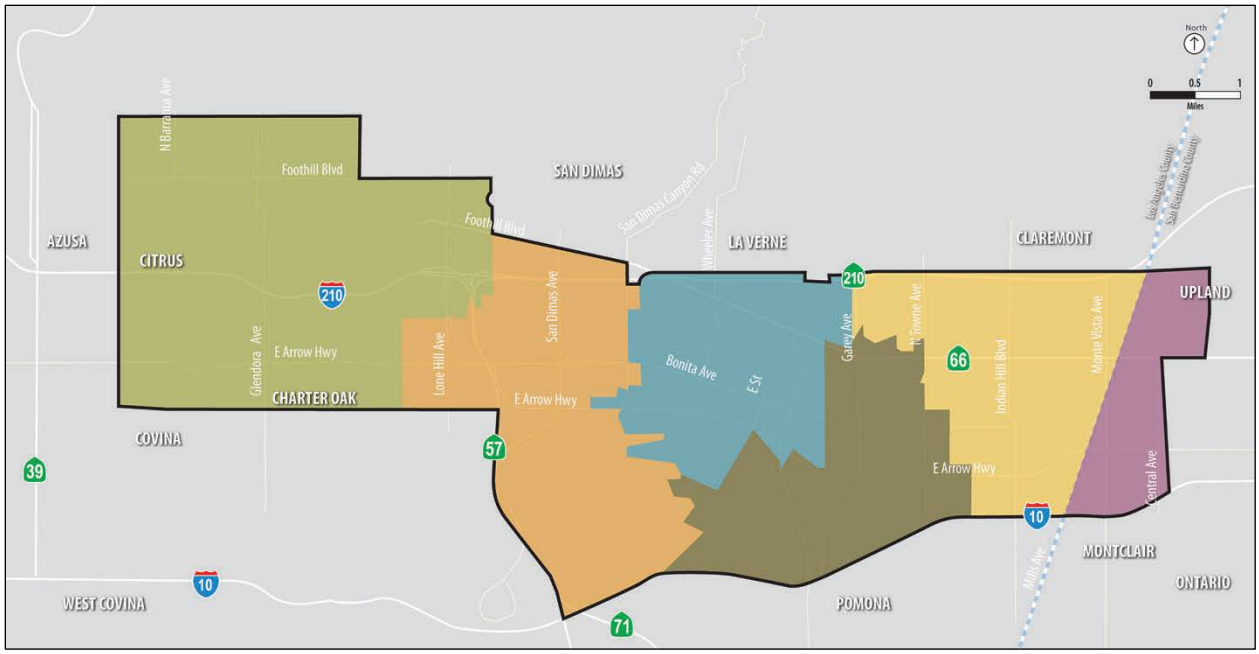
The proposed project, known as the Metro Gold Line Foothill Extension from Azusa to Montclair is the next phase of this planned extension. It would extend the Metro Gold Line alignment 12.3 miles to the east and include six new stations in the cities of Glendora, San Dimas, La Verne, Pomona, Claremont, and Montclair.

The project extension would serve cities and communities within the Glendora to Montclair corridor area (Figure 1-2). The corridor is an established urban area with a population of 384,800 residents that is forecasted to grow by 20 percent, to 460,900 residents by 2035. With housing and employment growth reaching 132,100 units and 156,200 jobs respectively by 2035,[1] these projections reflect the corridor area's existing and forecasted importance as a regional axis of population, housing, and employment.

Note: The Project Description is intended to serve as a general description of the project's technical, economic, and environmental characteristics, pursuant to CEQA Guidelines Section 15124(c).

[1] *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS), Southern California Association of Governments, 2012.

The Construction Authority is responsible for managing the design and construction of the project. The Los Angeles County Metropolitan Transportation Authority (Metro) will fund, oversee design and construction in coordination with the Authority, and operate the Gold Line from Azusa to Montclair service.



Source: Parsons Brinckerhoff, 2011

Figure 1-2. Azusa to Montclair Corridor Area

1.2 PROJECT OBJECTIVES

The existing transportation infrastructure in the Azusa to Montclair corridor area primarily connects commuters to regional destinations, but does not provide functional or practical inter-city public transit service for trips made within the corridor. The area is underserved by existing transit options, which are generally oriented toward short trips made within cities or long trips to destinations far outside the area. This transportation infrastructure will be further strained by forecasted future regional and local growth and the objectives of the project address these conditions. The project objectives are those that would most effectively serve the cities and communities within the Azusa to Montclair corridor area (illustrated in Figure 1-2) and meet the travel demand of the area's residents and employees, and include the following:

- Enhance City-to-City Mobility by Providing High Frequency, Reliable, and Direct Transit Connections to Downtown Areas
- Improve Transportation Capacity
- Provide Transportation Improvements that Connect to the Regional Transit System
- Encourage Auto Trip Diversions and New Transit Trip Activity

1.2.1 Enhance City-to-City Mobility by Providing High Frequency, Reliable, and Direct Transit Connections to Downtown Areas

Given the projected growth in the corridor area and the region, the provision of fast, convenient and reliable transit service whose operation is not constrained by prevailing traffic conditions would enhance the city-to-city mobility for the corridor area residents and employees. Each city within the corridor area has a unique character and mix of housing, employment, and services. The Cities of Glendora, La Verne, and Claremont have well-developed downtowns that are themselves trip generators and that serve as work, entertainment, and shopping destinations. With the projected future growth, the downtown areas in the cities of San Dimas, Pomona, and Montclair are likely to become travel destinations, as well.

While the corridor cities are both trip generators and trip destination areas, their travel market is underserved. Travel outside the corridor area is provided primarily by Metrolink commuter rail and Foothill Transit express bus services (to downtown Los Angeles), and the I-10 and I-210 freeways, while travel within the area is not well served by these transportation facilities. Metrolink and Foothill Transit express bus services are oriented toward commuters traveling to downtown Los Angeles, and are primarily focused on peak commute periods and express long-distance travel. Similarly, the I-10 and I-210 freeways serve long-distance auto travelers. Both freeway facilities are considerably distant from the downtowns of the cities within the corridor area and, as a result, do not directly serve them.

Trips made within the corridor area, (trips with both an origin and destination in the corridor area), comprise a significant volume, and represent the robustness of the market for travel within and among the corridor cities. Approximately 315,000 daily trips are made between the corridor area cities and these trips are expected to grow to nearly 363,500 by 2035. The majority of these trips are short and to an adjacent city. Figure 1-3 and Figure 1-4 show the existing and projected future volumes of travel among the corridor cities.

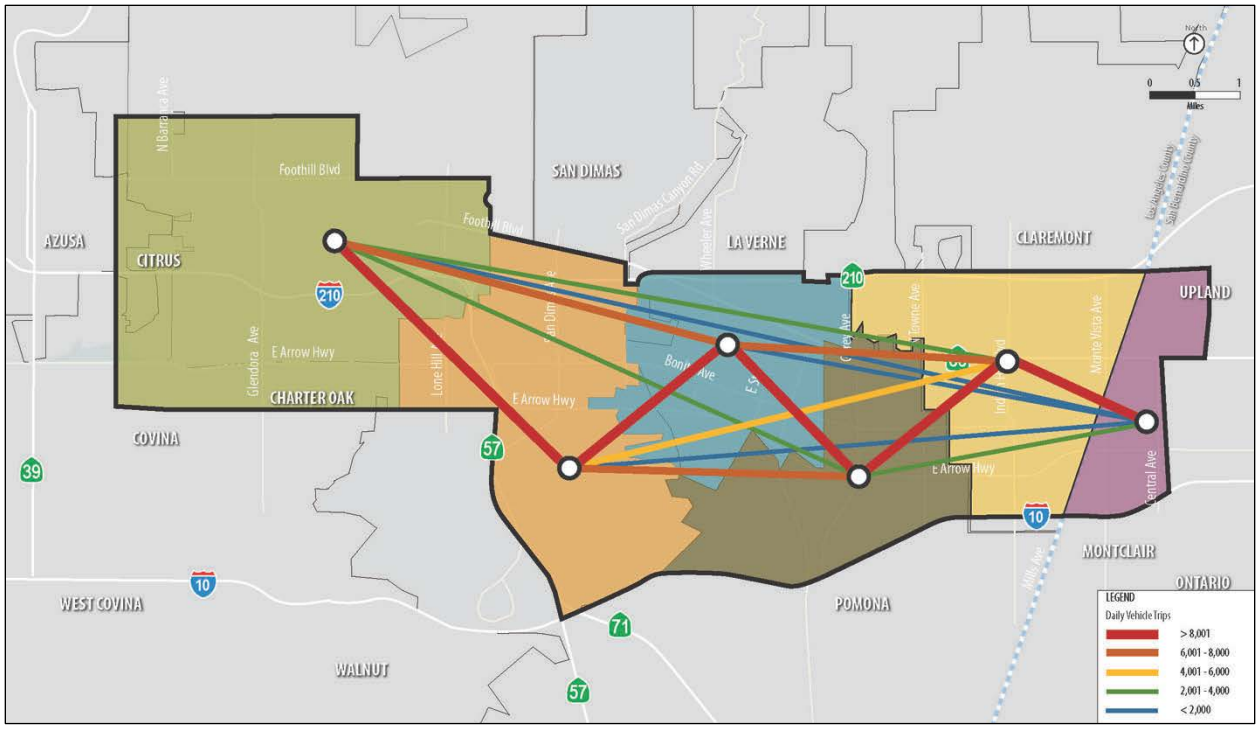
East-west travel between the cities is the most predominant travel pattern. As illustrated in Table 1-1, the forecasted growth in vehicle trips made within and between the corridor area cities by 2035 indicates that this pattern will continue.

Table 1-1. Percentage Growth in Daily Vehicle Trips within the Area, 2010–2035

	San Dimas	La Verne	Pomona	Claremont	Montclair
Glendora	11%	10%	15%	13%	26%
San Dimas	—	23%	29%	25%	56%
La Verne	—	—	17%	14%	26%
Pomona	—	—	—	23%	39%
Claremont	—	—	—	—	15%

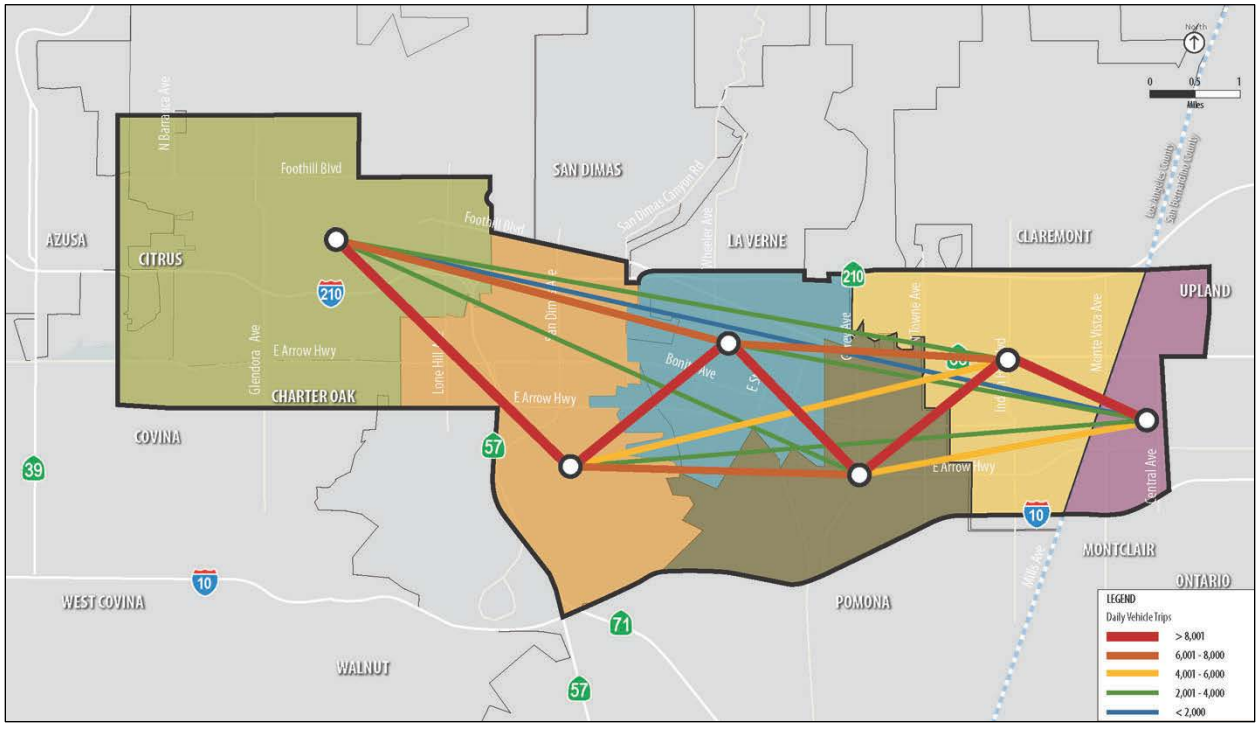
Source: Parsons Brinckerhoff, 2011

Despite this strong travel market, transportation options in the corridor area are limited. These options include Metrolink and Foothill Transit bus routes that loosely serve the six corridor cities. Metrolink serves Montclair, Claremont, and Pomona, but not La Verne, San Dimas, or Glendora.



Source: Parsons Brinckerhoff, 2011

Figure 1-3. Daily Vehicle Trips (2010)



Source: Parsons Brinckerhoff, 2011

Figure 1-4. Projected Daily Vehicle Trips (2035)

Foothill Transit has two bus routes that approximately parallel the proposed LRT alignment: Routes 187, and 690. Route 187 most directly serves the downtowns in the corridor area. It operates with reasonably high frequency (every 20 to 30 minutes) but is slow; it takes 51 to 58 minutes to travel between Montclair and Azusa, a distance of 17 miles. Route 690 operates on the I-210 freeway and traverses each city but does not directly serve the downtown areas. Also, it is clearly oriented toward the commuter market and operates only during peak hours. Foothill Transit's bus Route 492 and the Silver Streak operate on routes further south and serve only some of the cities within the corridor. No Foothill Transit bus route connects all six cities. The provision of high frequency, reliable and direct LRT connections to the downtowns of these six cities would improve the city-to-city mobility.

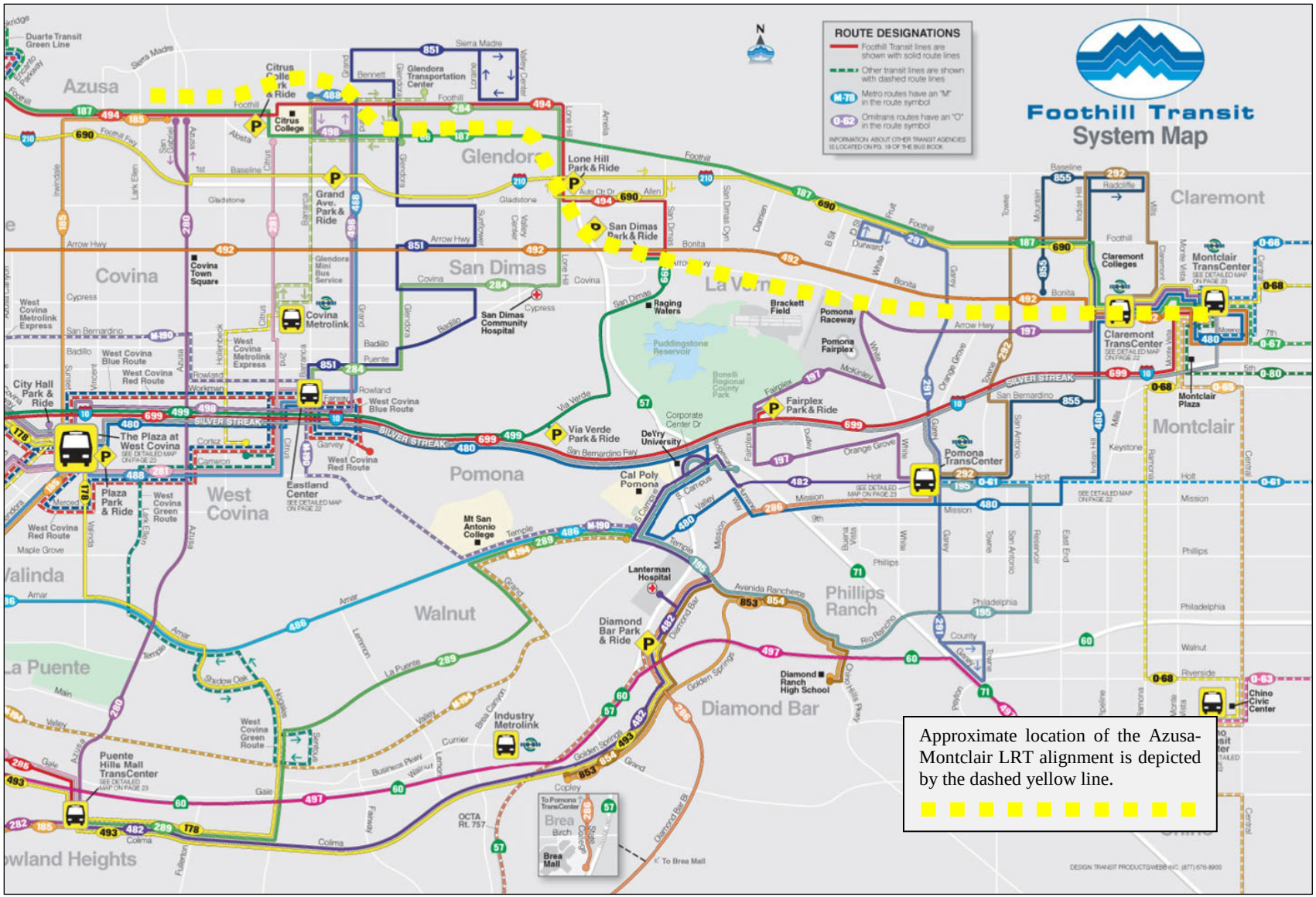
1.2.2 Improve Transportation Capacity

Arrow Highway and Foothill Boulevard primarily serve each city within the corridor area. Both arterials traverse a densely developed area where further road widening would be prohibitively difficult and costly. The I-10 and I-210 freeways are far from the cities' downtown areas. Additionally, traveling between these cities on local freeways requires excessive north-south detours for motorists, and transfers for transit riders (where transfers are possible).

An existing right-of-way owned by Metro traverses the corridor area. Thus, it provides a unique opportunity for expanding the area's transportation capacity with few acquisitions or community disruptions by extending the existing high-frequency LRT service to the corridor area cities.

1.2.3 Provide Transportation Improvements that Connect to the Regional Transit System

The Foothill Transit bus system provides connections within the region, as illustrated on Figure 1-5. However, with the exception of the Silver Streak and Route 699 (which operate to downtown Los Angeles via the I-10 freeway), bus trips to areas outside the corridor area require transfers at the Sierra Madre Villa Metro Gold Line Station, or the El Monte and Montebello bus stations. The combination of long bus trips that require transfers means that most transit trips to connect with the regional transit system, including the existing Metro LRT lines, are lengthy, as seen in Table 1-2. Furthermore, existing connections are not well timed to minimize wait time between trip legs. The provision of high frequency, reliable and direct LRT connections would improve connection to the regional transit system.



Source: Foothill Transit 2011, Parsons Brinckerhoff 2011

Figure 1-5. Foothill Transit Bus Service in Corridor Area

Table 1-2. Existing Foothill Transit Bus Service within the Area

Foothill Transit Routes	Weekday Ridership	Frequency (Peak/Off Peak)	Approx. Travel Time (Mon-Fri) (Peak)	Approx. Travel Time (Mon-Fri) (Off Peak)
Silver Streak: Montclair - Downtown Los Angeles	5,339	15/30	1 hr 30 min – 1 hr 43 min	1 hr 27 min
Route 699: Montclair–Fairplex Park & Ride–Cal State Los Angeles–University of Southern California Medical Center–Downtown Los Angeles Express Service	995	9/NA	1 hr – 1 hr 15 min	NA
Route 690: Montclair–Pasadena via 210 Freeway Corridor	296	10/NA	1 hr 20 min – 1 hr 30 min	NA
Route 492: Montclair–Arcadia–El Monte via Arrow Hwy	692	30/60	1 hr 30 min	1 hr 20 min
Route 494: San Dimas–Glendora–Monrovia–El Monte via Foothill Blvd.	182	30/NA	1 hr 5 min – 1 hr 10 min	NA
Route 197: Pomona–Claremont	558	30/60	55min	50min
Route 187: Montclair–Claremont–Glendora – Pasadena	5,729	20/30	2hr 17min – 2 hr 27min	1 hr 55 min – 2 hr 15min
Route 284: West Covina–Covina–San Dimas–Glendora	429	45/60	35min	30 min
Route 855: Pomona Transcenter – Claremont	170	NA/NA	22 – 28 min	NA
Route 291: La Verne–Pomona–South Pomona via Garey	2,337	15/30	40 – 42 min	37 – 43 min
Route 292: Claremont–Pomona	184	30/NA	40 min	NA

Source: Foothill Transit 2011, Parsons Brinckerhoff 2011
Abbreviations: NA = not applicable; mph = miles per hour; hr = hour; min = minutes

1.2.4 Encourage Auto Trip Diversions and New Transit Trip Activity

There is substantial east-west travel between cities within the corridor area (which are roughly one to two miles apart). Providing an attractive alternative to driving will divert a substantial number of vehicle trips from local freeways and arterial streets, and reduce vehicle miles traveled (VMT).

Providing a new direct transit service among the corridor cities would better accommodate the region's growth by increasing overall productivity of the transportation system. Currently, limited parking and busy arterials discourage travel, leaving a level of demand for travel latent and unmet. Providing easy access to the corridor cities would help to accommodate this demand, including making possible new commuter trips in addition to trips during non-commute periods that are economically important (e.g., travel for dining, shopping, entertainment, and other pursuits).

1.3 PROJECT ALTERNATIVES

The Construction Authority conducted an extensive and comprehensive development, screening, and selection process that involved a wide range of alternatives initially evaluated during the Alternatives Analysis (*Gold Line Phase II Extension Pasadena to Claremont Alternatives Analysis, Final Draft Report*, January 9, 2003, accessible at the Construction Authority's website, www.foothillextension.org). The Alternatives Analysis comprised a three-tiered screening process that evaluated a full range of 25 alternatives and selected a Locally Preferred Alternative (LPA) based on environmental, operational, and alignment factors. The LPA identified a configuration of two LRT tracks with either a separate freight track or no freight track within the existing railroad's right-of-way traversing the corridor area. The configuration of two LRT tracks with a separate freight track is the identified Build Alternative, which is the proposed project. The Build Alternative as well as the No Build Alternative and Transportation Systems Management Alternative are evaluated in this Final EIR.

1.3.1 No Build Alternative

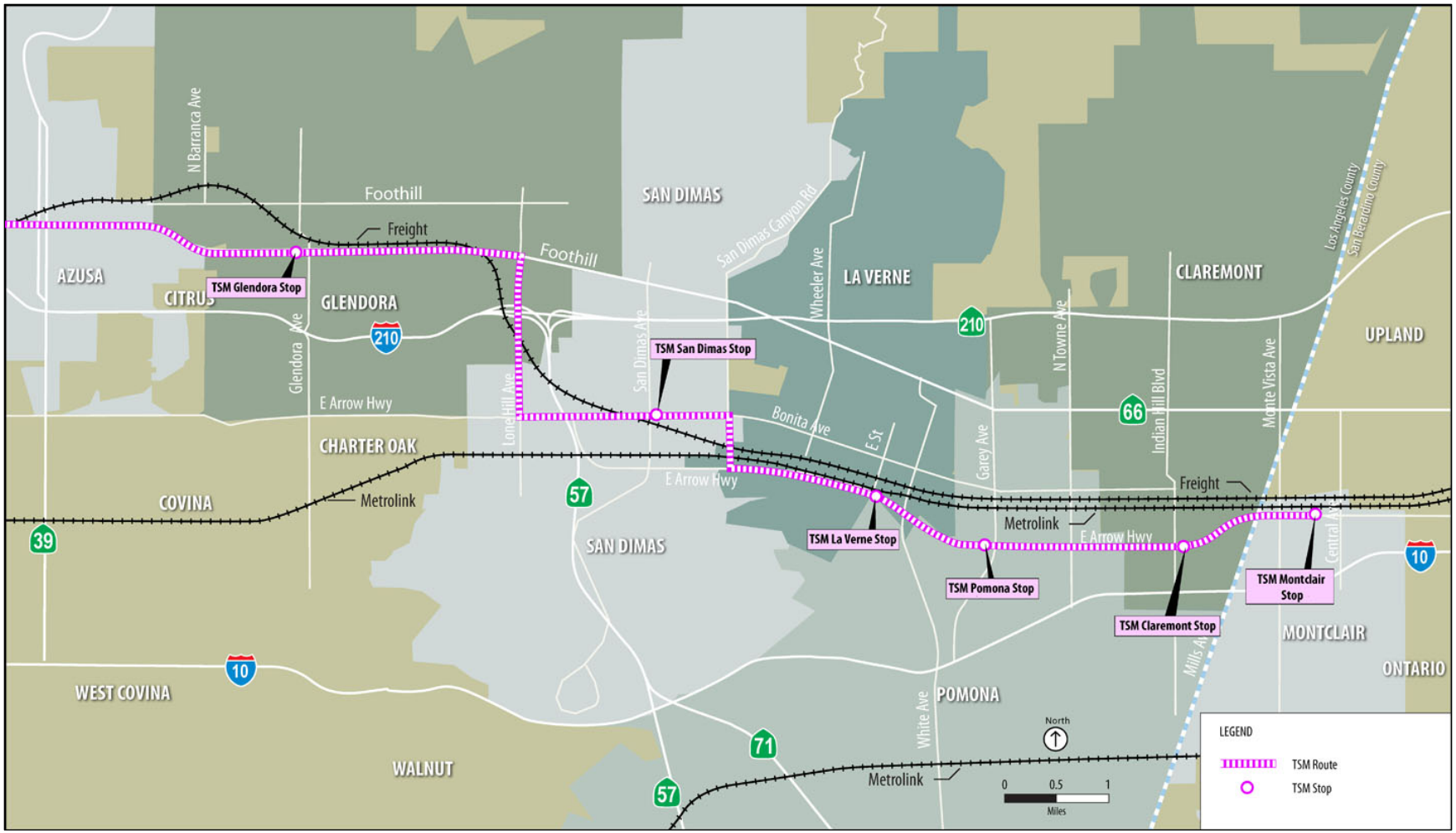
The No Build Alternative includes all existing highways and bus and rail (Metrolink) transit networks within the corridor area. This alternative considers the existing conditions for these networks, as well as the future regional growth. The alternative does not include any new major transportation infrastructure improvements since no such improvements within the corridor area (other than the proposed Metro Gold Line Extension from Azusa to Montclair) are considered in the adopted Southern California Association of Governments (SCAG) *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS). The No Build Alternative is used as a baseline for comparing the transportation and environmental impacts that might result from the project and the alternatives.

1.3.2 Transportation Systems Management (TSM) Alternative

The Transportation Systems Management (TSM) Alternative is a rapid bus system serving the corridor area cities via existing arterial streets that generally follow the Metro right-of-way used for the project.

The TSM Alternative would link the Metro Gold Line Azusa-Citrus Station (currently under construction as part of the Metro Gold Line extension from Pasadena to Azusa) and the City of Montclair, with intermediate stops in Glendora, San Dimas, La Verne, Pomona, and Claremont. Estimated travel time would be approximately 36 minutes eastbound and 34 minutes westbound. The TSM Alternative would have 10-minute peak and 20-minute off-peak bus headways and would have a projected ridership of approximately 7,000 passengers per day. Other service improvements in the TSM Alternative include enhanced bus shelters, queue jumper lanes, and traffic signal synchronizations.

As shown on Figure 1-6, the TSM route and stop locations correspond to the alignment and station locations proposed under the Build Alternative project. The bus route would begin at the Azusa-Citrus LRT station and travel east on Foothill Boulevard, make a stop at Foothill and Glendora Avenue (Glendora); continue on Foothill Boulevard, turn south on Loraine Avenue, then turn east on the State Route 66, south on Lone Hill Avenue, and east on Arrow Highway. On Arrow Highway, the rapid buses would make stops at San Dimas Avenue (San Dimas), E Street (La Verne), Garey Avenue (Pomona), and Indian Hill Boulevard (Claremont). Rapid buses would continue on Arrow Highway, which becomes 8th Street at the Los Angeles-San Bernardino county line, and make their final stop at 8th Street and Monte Vista Avenue (Montclair).



Source: Parsons Brinckerhoff 2011

Figure 1-6. Transportation Systems Management (TSM) Alternative Route

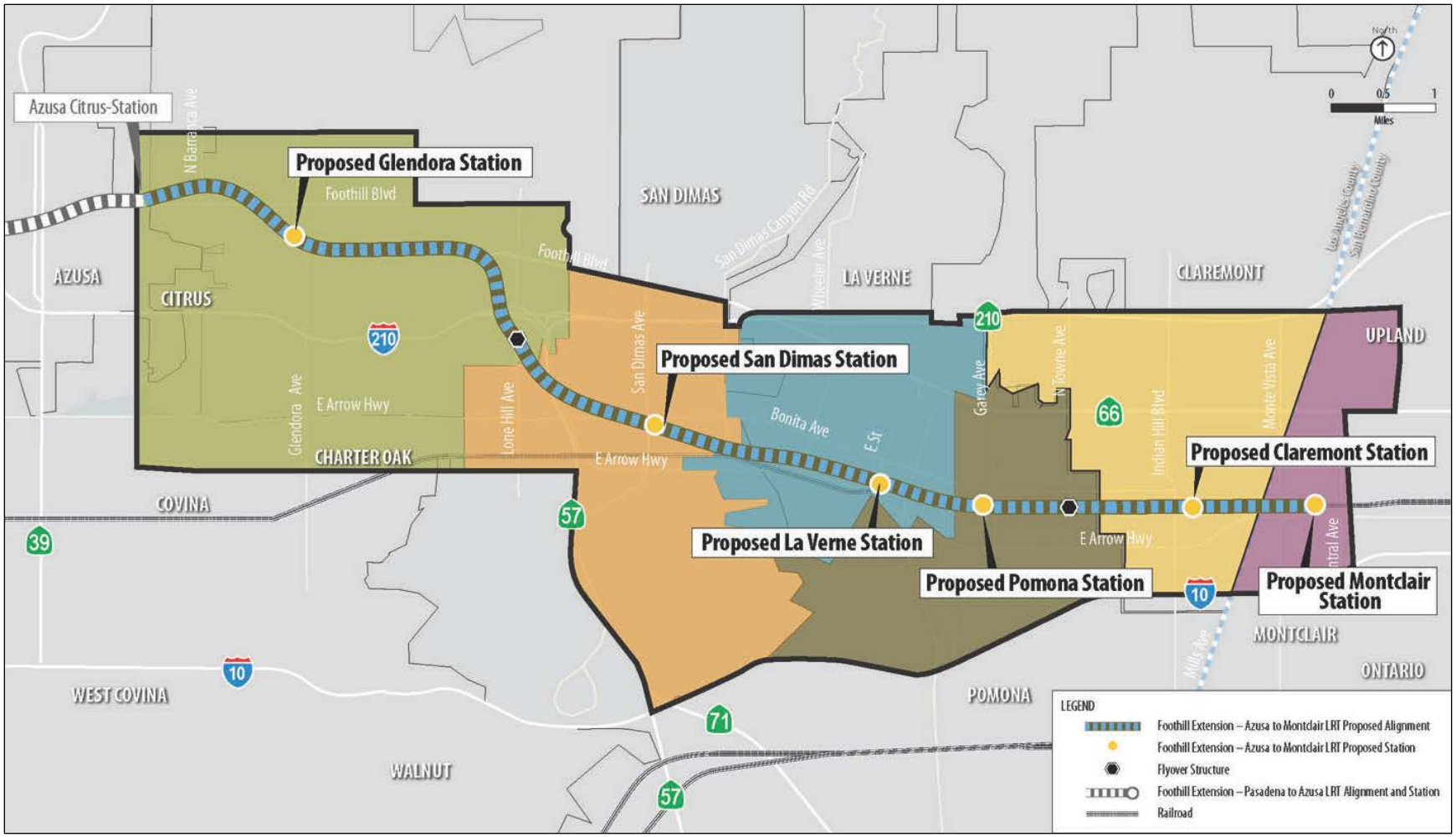
1.3.3 Build Alternative Project

The Build Alternative is the proposed project. The project is a 12.3-mile extension of the Metro Gold Line LRT alignment to the east, with service from the Azusa-Citrus Station to the Montclair Transcenter. The project includes stations in Glendora, San Dimas, La Verne, Pomona, Claremont, and Montclair as depicted on Figure 1-7.

The anticipated travel time would be approximately 18 minutes between the Azusa-Citrus station and the Montclair station. It is anticipated that trains would operate with 10-minute headways during peak periods and 20-minute headways during off-peak period, and would have a projected ridership of approximately 17,800 passengers per day. The projected passenger daily boardings at each proposed station in 2035 would be as follows:

- Glendora Station—1,850
- San Dimas Station—1,800
- La Verne Station—1,850
- Pomona Station—3,000
- Claremont Station—2,850
- Montclair Station—6,450

The alignment, stations, grade crossings, and parking planned in each of the corridor area cities are described in the following sections. The project elements are summarized in Table 1-3. The Plan and Profile drawings for the Build Alternative project alignment are located in Appendix A, and the Station Site Plans are located in Appendix B. The locations of potential land acquisitions are shown in Appendix C. The project will be built to comply with Metro design standards and criteria and approved deviations.



Source: Parsons Brinckerhoff 2011

Figure 1-7. Proposed Build Alternative Project Alignment

Table 1-3. Elements of the Build Alternative Project

Project Element	Description
Track Alignment 	**12.3 miles of LRT at-grade track** generally within existing Metro right-of-way, in a corridor which is shared, in part, with BNSF and Metrolink trains
Stations 	**6 Stations** 1. Glendora Station 2. San Dimas Station 3. La Verne Station 4. Pomona Station 5. Claremont Station 6. Montclair Station Bicycle parking will be provided at each of the new stations.
At-Grade Crossings 	**26 Existing At-Grade Crossings** 1. Barranca Avenue 2. Grand Avenue/Foothill Boulevard 3. Vermont Avenue 4. Glendora Avenue 5. Pasadena Avenue 6. Glenwood Avenue 7. Elwood Avenue 8. Loraine Avenue 9. Gladstone Street 10. Eucla Avenue 11. Bonita Avenue/ Cataract Avenue 12. Monte Vista Avenue 13. San Dimas Avenue 14. Walnut Avenue 15. San Dimas Canyon Road 16. Wheeler Avenue 17. A Street 18. D Street 19. E Street 20. White Avenue 21. Fulton Road 22. Garey Avenue 23. Cambridge Avenue 24. Indian Hill Boulevard 25. College Avenue 26. Claremont Boulevard
Grade-Separated Crossings 	**2 New Flyover Structures and New Bridges at 2 Existing Grade-Separated Crossings** 1. Lone Hill Avenue in Glendora (new flyover structure) 2. Towne Avenue in Pomona (new flyover structure) 3. Monte Vista Avenue in Montclair (new LRT bridge at an existing grade-separated crossing) 4. Route 66 in Glendora (new LRT bridge and BNSF freight replacement bridge)
Station Parking 	**6 Station Parking Facilities (5 New Parking Structures)** 1. Glendora Station – new parking structure: 400-420 spaces 2. San Dimas Station – new parking structure: 450 spaces 3. La Verne Station – new parking structure: 600 spaces 4. Pomona Station – new parking structure: 750 new spaces in addition to 250 existing spaces 5. Claremont Station – new parking structure: 700 new spaces in addition to 400 existing spaces 6. Montclair Station – existing surface lot: 1,600 spaces
Traction Power Supply Substations (TPSS) 	**11 TPSS** facilities within or adjacent to the right-of-way, located every 1.0 to 1.5 miles (see Appendix A)

Source: Parsons Brinckerhoff 2012

1.3.3.1 Project Elements

Alignment and Right-of-Way

Generally, the LRT tracks would be constructed within the existing Metro right-of-way. East of the City of Pomona, the LRT tracks would be placed adjacent to tracks currently used by BNSF Railway freight trains and Metrolink commuter rail service right-of-way. To the extent possible, design standards used in the Pasadena to Azusa phase of the Metro Gold Line extension were used, including an ~~16~~18-foot LRT track separation (distance between the track centerlines of the new LRT tracks and the existing BNSF/Metrolink tracks). Near the proposed Claremont and Montclair Stations, some limited land acquisition would be required to extend the right-of-way, which is too narrow at those locations to accommodate both LRT and BNSF freight and Metrolink tracks. Traction power supply substations (TPSS), which are trailer-sized power facilities, would be located every 1.0 to 1.5 miles along the tracks and would only require minor property acquisitions where they cannot be placed adjacent to stations or within existing right-of-way. These property acquisitions are listed in Appendix C. Trains operating on the Azusa to Montclair alignment will be stored and maintained at the Division 21 rail yard near downtown Los Angeles as well as the new maintenance facility currently under construction in Monrovia.

Table 1-4 lists the length of the LRT track alignment within each city.

Table 1-4. Length of LRT Track Alignment in the Area Cities

Description	Length (miles)
Glendora: End of track from Pasadena-Azusa phase to Gladstone Avenue	4.3
San Dimas: Gladstone Avenue to San Dimas Canyon Road	2.1
La Verne: San Dimas Canyon Road to Fulton Road	2.2
Pomona: Fulton Road to Carnegie Avenue	1.4
Claremont: Carnegie Avenue to Los Angeles/San Bernardino County Line	1.6
Montclair: Los Angeles/San Bernardino County Line to End of Track just east of Montclair Station	0.7
Total	**12.3**

Source: Parsons Brinckerhoff 2012

Stations and Station Parking Structures

The project would include six new LRT stations in Glendora, San Dimas, La Verne, Pomona, Claremont, and Montclair. In compliance with Metro Design Criteria, all stations except Claremont Station would be constructed with center platforms (placed between the two LRT tracks) that would be 270 feet long, 16 feet and 2 inches wide, and 39 inches high (as measured from top of rail). Due to engineering constraints, the Claremont station would instead use two side platforms (one on each side of the tracks), each 12 feet wide.

The project would include new parking structures in Glendora, San Dimas, La Verne, Pomona, and Claremont, each providing a number of parking spaces estimated to meet peak period demand through 2035. No parking structure is proposed in Montclair, where an existing surface lot provides sufficient parking to meet anticipated demand through 2035. Table 1-5 summarizes the existing and proposed spaces at each station. In addition, bicycle parking will be provided at each of the new stations.

Table 1-5. Parking Spaces at Project Stations

City	Proposed Spaces	Existing Spaces	Notes
Glendora	400–420	N/A	Option 1 is 400 spaces; Option 2 is 420 spaces
San Dimas	450	N/A	
La Verne	600	N/A	
Pomona	1,000	Approx. 250	750 new spaces and 250 existing Metrolink spaces
Claremont	1,100	Approx. 400	
Montclair	1,600	1,600	All 1,600 spaces are in an existing Transcenter lot owned by Caltrans; no new spaces are proposed.

Source: Parsons Brinckerhoff 2012

Station parking facilities in Glendora, San Dimas, La Verne, and Pomona would require land acquisitions as described in the following sections.

Crossings

The project would be a mostly at-grade system with grade crossings (where the LRT tracks would cross roadways) at the same locations as the existing BNSF tracks crossings (Table 1-6). At each at-grade crossing, supplemental safety equipment would be installed, including quadrant (quad) gates, which serve as an all-way barrier between the LRT tracks and the roadway that prevents LRT collisions with vehicles, pedestrians, and bicycles.

Table 1-6. Project Crossings

Street	City
Barranca Avenue	Glendora
Grand Avenue/Foothill Boulevard	Glendora
Vermont Avenue	Glendora
Glendora Avenue	Glendora
Pasadena Avenue	Glendora
Glenwood Avenue	Glendora
Elwood Avenue	Glendora
Loraine Avenue	Glendora
Lone Hill Avenue*	Glendora
Gladstone Street	Glendora
Route 66**	Glendora
Eucla Avenue	San Dimas
Bonita Avenue/Cataract Avenue	San Dimas
Monte Vista Avenue	San Dimas
San Dimas Avenue	San Dimas
Walnut Avenue	San Dimas
San Dimas Canyon Road	San Dimas

Street	City
Wheeler Avenue	La Verne
A Street	La Verne
D Street	La Verne
E Street	La Verne
White Avenue	La Verne
Fulton Road	Pomona
Garey Avenue	Pomona
Towne Avenue*	Pomona
Cambridge Avenue	Claremont
Indian Hill Boulevard	Claremont
College Avenue	Claremont
Claremont Boulevard	Claremont
Monte Vista Avenue**	Montclair

Source: Parsons Brinckerhoff 2012
Note: All crossings would be at grade unless otherwise noted.
* Proposed flyover structure
** Proposed replacement bridges /new bridges at existing grade-separated crossings

The project would not be at-grade at four locations: at Lone Hill Avenue and Route 66 in the City of Glendora, Towne Avenue in the City of Pomona, and Monte Vista Avenue in the City of Montclair.

At Lone Hill Avenue and Towne Avenue, "flyover structures" or "flyovers" are proposed in the right-of-way at Lone Hill Avenue in the City of Glendora (on the west end) and Towne Avenue in the City of Pomona (on the east end). Flyovers are small bridge-like structures that allow tracks to cross without intersecting. Figure 1-8 presents an artist's rendering of a flyover as seen from street level. These structures are necessary to allow the freight and LRT tracks to "switch places": to maintain the required track separation between the BNSF freight and LRT tracks that would share a right-of-way, the BNSF freight tracks will be shifted and placed south of the LRT alignment in the City of Glendora for the first 4.3 miles of the project, but further east, the freight tracks would need to be placed *north* of the LRT alignment in order for BNSF trains to continue service to freight customers in Pomona and La Verne, whose properties are to the north of the right-of-way. The flyovers would eliminate the need for LRT at-grade crossings at these locations; however, the existing at-grade crossing would remain in place for the BNSF/Metrolink tracks. Although removing the need for LRT at-grade crossings at these locations would be a benefit for local traffic circulation, the benefit is incidental, since traffic volumes on Lone Hill Avenue and Towne Avenue are not high enough to warrant grade separations, according to Metro's criteria.

Source: Parsons Brinckerhoff 2011, updated 2013. Note: This is a simulated image intended to show the approximate height of the structure, and not an actual design, which would be refined in preliminary engineering and final design.

Figure 1-8. Conceptual Flyover Structure at Towne Avenue

At Route 66 in the City of Glendora, the project would replace an existing BNSF railroad bridge with two new bridges (one for LRT tracks and one for freight tracks). At Monte Vista Avenue in the City of Montclair, an additional LRT bridge would be constructed next to the existing BNSF railroad bridge.

Traction Power Supply Substations (TPSS) Facilities

TPSS facilities are trailer-sized units that contain the electrical equipment that powers the overhead wires ("catenary") that light rail trains use. Figure 1-9 presents a typical example of a TPSS. A total of 11 TPSS facilities would be located along the alignment at intervals of approximately 1.0 to 1.5-miles. The facilities would be located within the existing right-of-way wherever possible. In a few locations, where right-of-way is too constrained for a TPSS facility to fit, minor property acquisition may be required. The locations of possible property acquisitions are described below and listed in Appendix C.

Source: Parsons Brinckerhoff 2011

Figure 1-9. Typical Traction Power Supply Substation Facility
(Existing TPSS facility located along the existing Metro Gold Line alignment)

1.3.3.2 City of Glendora

Route Description

The "stub end" segment east of the Azusa-Citrus Station, which is part of the Pasadena to Azusa extension currently under construction, is approximately 0.2 miles long. From that point, approximately 750 feet east of Citrus Avenue, and continuing to Lone Hill Avenue, the LRT tracks would be placed north of the relocated BNSF track and would abut the north side of Metro right-of-way.

The LRT tracks along the north side of the Metro right-of-way would abut the following:

- A planned residential area between the end of the Pasadena to Azusa Phase and Barranca Avenue;

- An existing public trail varying in width from approximately 40 feet to 75 feet between Barranca and Grand Avenues with existing residences north of the trail;
- Existing commercial development between Grand and Glendora Avenues (except a short block of residences near the Carroll Avenue/Washington Avenue intersection and a proposed transit-oriented development at the Glendora Station);
- An existing residential area between Glendora Avenue and the I-210 freeway underpass;
- A business and commercial area between the I-210 freeway underpass and Lone Hill Avenue.

Via a flyover structure at Lone Hill Avenue, the LRT tracks would switch to the south side of the BNSF track and the right-of-way east of Lone Hill Avenue. The south side of the right-of-way between Lone Hill and Gladstone Avenues abut a commercial area.

A TPSS facility would be located within the Metro right-of-way on the north side of the LRT tracks near the Carroll Avenue/Washington Avenue intersection but not directly facing existing residences. A second TPSS facility would be placed approximately 250 feet east of Elwood Avenue, south of the tracks facing a commercial area. At this location, the TPSS facility would not fit entirely within the Metro right-of-way, necessitating a full acquisition of the adjacent parcel (a currently vacant area of approximately 3,000–3,500 sq ft). A third TPSS facility in the City of Glendora would be placed approximately on the north side of the tracks, approximately 50 feet south of the I-210 freeway. Most of the TPSS facility would be located within the Metro right-of-way, but a small part of its footprint (approximately 1,500–2,000 sq ft) will be on the Caltrans property adjacent to the I-210 freeway.

There are nine grade crossings in the City of Glendora at Barranca Avenue, Grand Avenue/Foothill Boulevard, Vermont Avenue, Glendora Avenue, Pasadena Avenue, Glenwood Avenue, Elwood Avenue, Loraine Avenue, and Gladstone Street. The highest volume crossing is at Grand Avenue and Foothill Boulevard, where the LRT and freight tracks would run diagonally through the intersection.

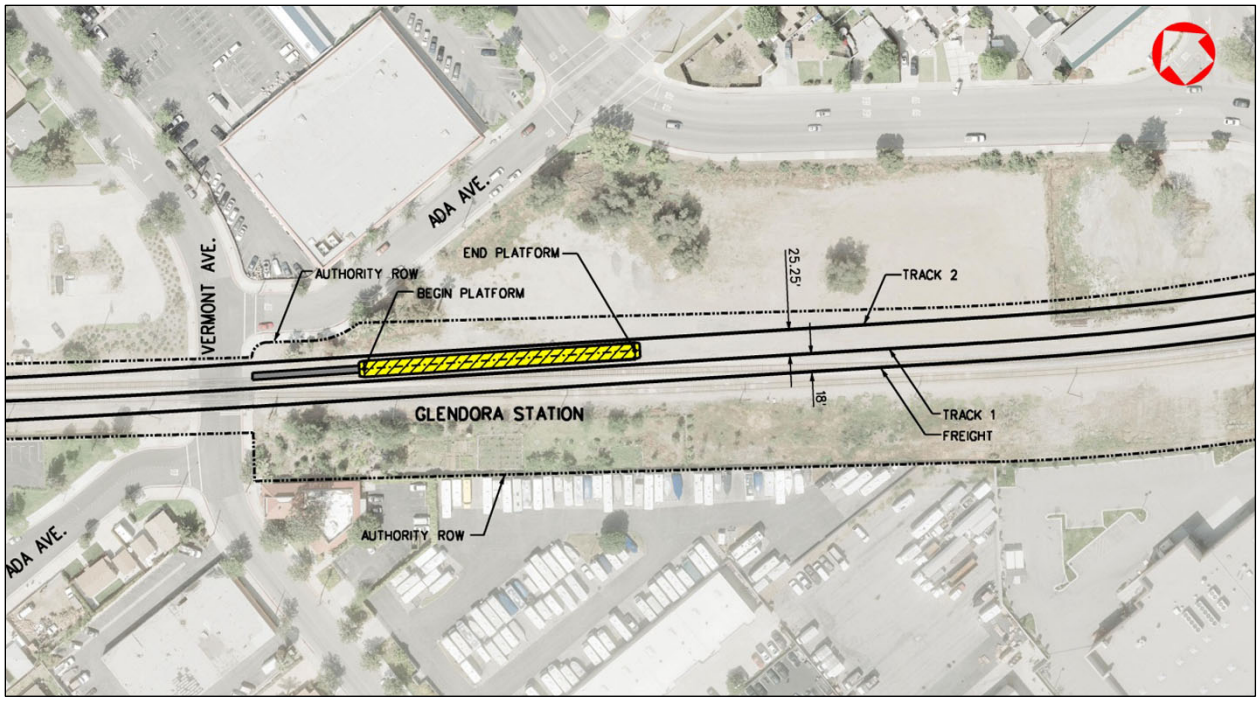
Existing Right-of-Way

Throughout the City of Glendora, the Metro right-of-way is typically 100 feet wide with some short sections narrowing to approximately 75 feet. In several locations, third parties have easement agreements with Metro that permit encroachments into the Metro right-of-way. One of these encroachments includes an access road along the north side of the Metro right-of-way between Loraine Avenue and Dalton Wash that connects to a City of Glendora maintenance yard. Other encroachments are located east of Grand Avenue and Glendora Avenue, as well as between Lone Hill Avenue and Gladstone Avenue on the south side of the right-of-way.

The Authority will make its best effort, where possible and determined to be feasible, to minimize impacts to existing encroachments that would result from the placement of the LRT and BNSF tracks. In a short segment east of Foothill Boulevard, however, the removal of some encroachments is necessary to accommodate and maintain a 30-foot separation between the LRT and freight tracks.

Station Site

The proposed Glendora Station would be located just east of Vermont Avenue. The right-of-way at the proposed station location is sufficiently wide to accommodate the LRT and BNSF tracks and a center platform. The station configuration is depicted on Figure 1-10.



Source: Parsons Brinckerhoff 2011

Figure 1-10. Glendora Station Plan

Parking and Station Access

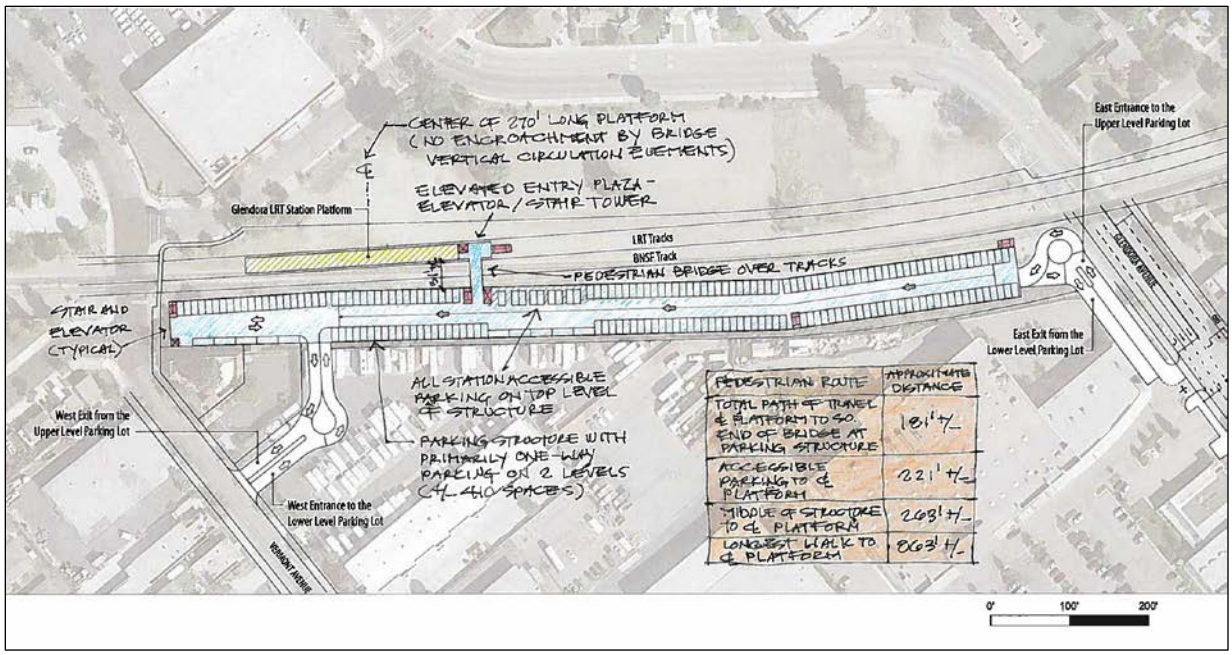
A total of 400 parking spaces would be provided in a new two-level parking structure located on a 2.2-acre parcel south of the Glendora Station and almost entirely within the Metro right-of-way (“Option 1”, Figure 1-11). A land acquisition of approximately 9,000-9,800 sq ft would be needed to provide parking structure access from Vermont Avenue. The acquisition would affect part of a site used for recreational vehicle parking.

The 400-space structure is expected to serve both opening year and 2035 parking needs. To fit within the narrow parcel owned by Metro, the proposed structure would be designed with one-way traffic flow on each level. The lower level would be one-half level below grade, and the upper level would be one-half level above grade, with a structure height of 15 feet. Traffic would flow westward on the upper level and eastward on the bottom level. Travel between levels would be facilitated by a loop ramp at each end of the structure.

Vehicular access and egress would be via Glendora Avenue on the east end and Vermont Avenue on the west end (Figure 1-11). At the Glendora Avenue entrance and exit, turns would be restricted for safety. Access to the parking structure would be via left turns from the northbound lane only. Egress from the garage would be via right turns onto Glendora Avenue only. Right turns into the garage and left turns out of the garage would be restricted. There would be no turn restrictions at the Vermont Avenue entrance/exit.

Pedestrian connections between the platform and parking structure would be via a pedestrian bridge. The pedestrian bridge would connect from the second story of either parking garage option to the station platform. ~~sidewalks on Vermont Avenue and Glendora Avenue. A pedestrian connection may be~~

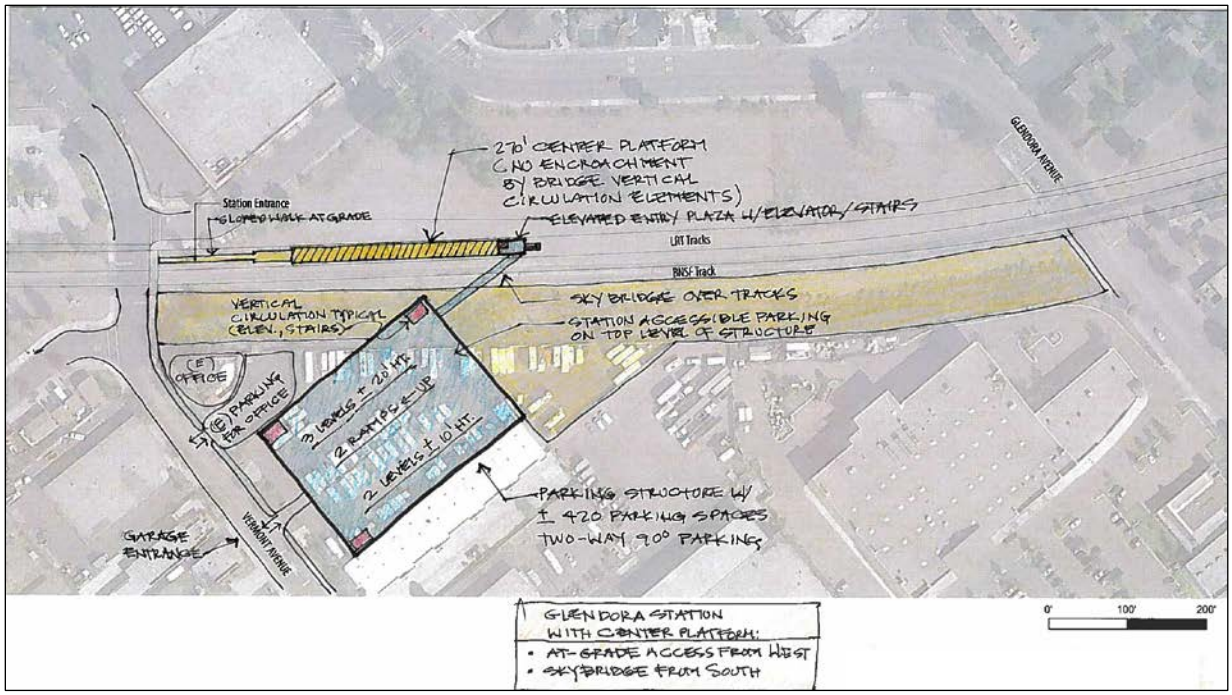
~~constructed to more directly connect the middle of the parking structure with the east end of the station platform~~.



Source: Parsons Brinckerhoff 2011, updated January 2013

Figure 1-11. Glendora Station Parking Structure, Option 1

A second parking option at Glendora Station, similar in design and location to the first, was recommended by the City of Glendora. This redesigned structure ("Option 2") is depicted in Figure 1-12.



Source: Parsons Brinckerhoff 2011, updated January 2013

Figure 1-12. Glendora Station Parking Structure, Option 2

Option 2 is a three-level parking structure, with approximately 420 spaces, and is within the same commercial area as Option 1, and has no new environmental impacts except that the parcel identified as a "partial acquisition" (of 9,000–9,800 sq ft) for Option 1 would be a full acquisition of the entire property. (See Appendix C for details concerning acquisition.)

Vehicular access would be from Vermont Avenue only, avoiding the "sightline" concern at the Glendora Avenue railroad crossing associated with Option 1. Turns into and out of the parking facility would not be restricted. Pedestrian connections would be via a bridge between the structure and the platform. Option 2 is preferred by the City of Glendora.

Engineering Considerations

The existing BNSF railroad bridge at Route 66 would be demolished and replaced with two separate bridges for LRT and freight tracks. Construction of these bridges at Route 66 is expected to be completed mostly within the right-of-way. The partial acquisition of a parcel would be needed on land south of the right-of-way and west of Route 66. The acquisition would be approximately 5,800–6,300 square feet: roughly 300 feet in length (parallel to the right-of-way) and approximately 20 feet in width.

The LRT tracks would pass under the I-210 freeway bridges and would occupy the area of the existing railroad track. The span between the freeway bridge support columns is approximately 40 feet, which is sufficiently wide for two LRT tracks. The relocated freight track would be constructed between the southwest roadway column supports and the southwest bridge abutments.

The LRT centerline on the flyover at Lone Hill Avenue would be positioned directly over the BNSF track centerline, thus minimizing the required length of bridge and allowing all bridge supports to be within the existing Metro right-of-way.

1.3.3.3 City of San Dimas

Route Description

While the approximately 2.1 miles of LRT track in the City of San Dimas would be placed along the south part of the Metro right-of-way, the right-of-way is generally surrounded by residential, mixed use, industrial and commercial uses. ~~with the exception of three areas:~~The residences are mostly clustered in three areas: (1) an approximately 250-foot stretch of a small cluster of single-family homes on the north side of the Metro right-of-way east of Gladstone Avenue that would be adjacent to the relocated BNSF freight track; (2) an approximately 2,000-foot strip between Route 57 and Euclid Avenue on the north side of the Metro right-of-way that would be adjacent or near the relocated freight track; and (3) an approximately 700-foot segment of track west of San Dimas Canyon Road on the north side of the Metro right-of-way, where residences are clustered along the right-of-way and would be adjacent to the relocated freight track. Along the south side of the Metro right-of-way existing land uses abutting the proposed LRT tracks are almost entirely commercial or public streets, except for eight residences between Cataract Avenue and Monte Vista Avenue (where the closest LRT track would be at least 100 feet away from residences).

A TPSS facility would be located outside the Metro right-of-way south of the LRT tracks approximately 200 feet east of Route 57. A partial acquisition of approximately 3,200-3800 square feet would be necessary at this site, which is listed in Appendix C. A second TPSS facility in the City of San Dimas would be located approximately 50 feet west of Monte Vista Avenue and south of the tracks. Because this TPSS facility fits entirely within the Metro right-of-way, no parcel acquisition would be necessary. The TPSS facility would face a commercial property.

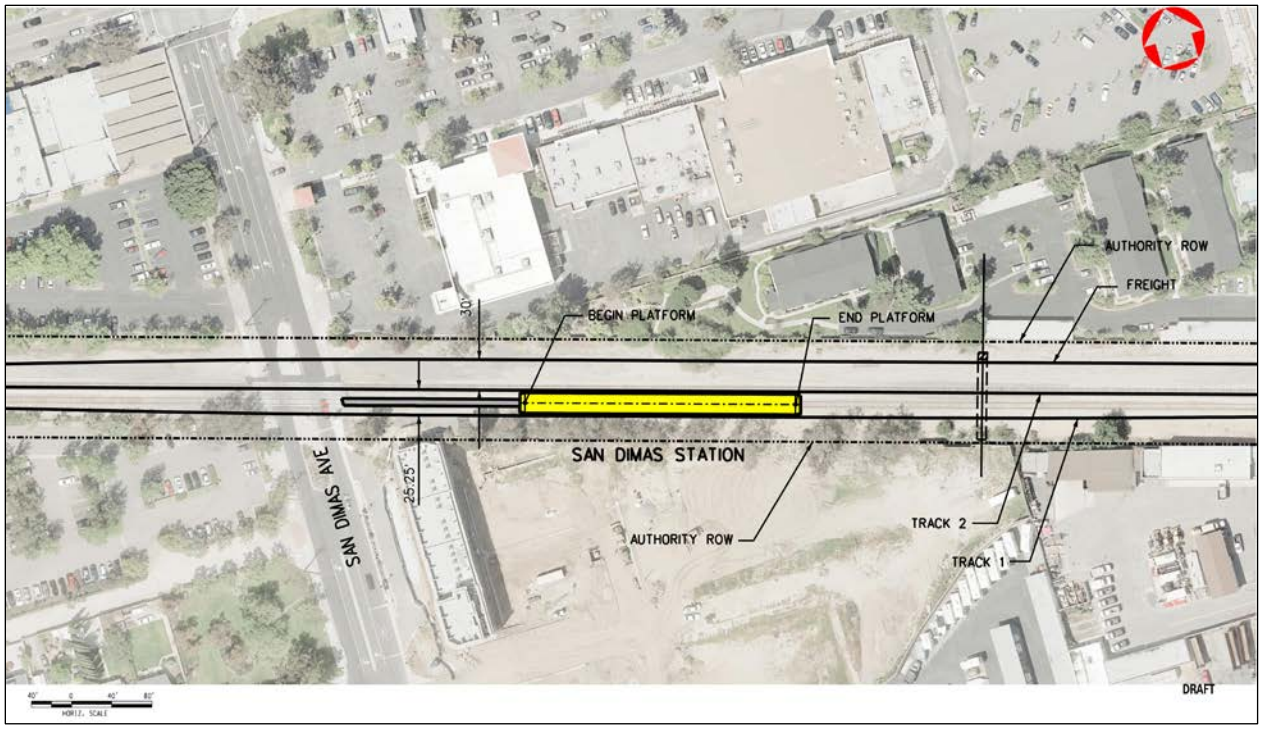
There are six at-grade crossings in the City of San Dimas located at Euclid Avenue, Bonita Avenue/Cataract Avenue, Monte Vista Avenue, San Dimas Avenue, Walnut Avenue, and San Dimas Canyon Road. The highest volume crossing is at Bonita Avenue and Cataract Avenue, where the LRT and freight tracks would run diagonally through the intersection.

Existing Right-of-Way

Throughout the City of San Dimas, the Metro right-of-way is typically 100 feet wide, but in some short sections it is approximately 75 feet. These narrower sections are just west of Acacia Avenue (for a distance of approximately 350 feet) and between Cataract Avenue and Monte Vista Avenue where the north side of the right-of-way is reduced. Although an additional 50 feet on the south side of the right-of-way extends its total width to approximately 125 feet, the usable right-of-way is constrained by offsets at both Cataract Avenue and Monte Vista Avenue. The existing Metro right-of-way is shown in Appendix A.

Station Site

The proposed San Dimas Station would be located between San Dimas Avenue and Walnut Avenue. The proposed station depicted on Figure 1-13 would have a center platform.



Source: Parsons Brinckerhoff 2012

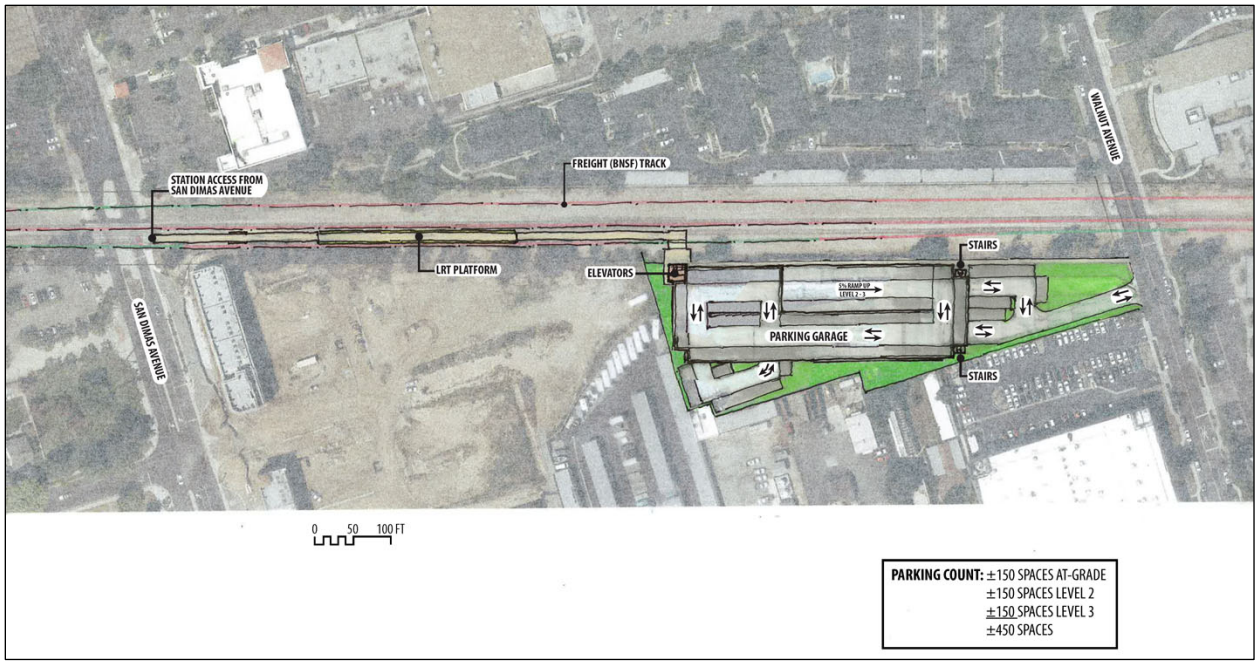
Figure 1-13. San Dimas Station Plan

Parking and Station Access

As shown on Figure 1-14, parking for the San Dimas Station would be provided in a new three-level parking structure just east of the station. The proposed site for the parking structure, bounded by the Grove Station mixed-use development and a storage facility on the west and Walnut Avenue on the east, is currently occupied by the City of San Dimas maintenance yard.

The 450-space parking structure would have one level of parking at-grade and two levels above grade. The structure would be approximately 30 feet in height. Vehicular access and egress would be on Walnut Avenue. Travel between floors would be via sloped-floor parking bays, with two-way traffic. Pedestrian access between the east end of the platform and the parking structure would be provided via a walkway.

Foothill Transit Routes 494 and 499 would continue to use the off-street park-and-ride/transit center across San Dimas Avenue. Passengers transferring between the Gold Line and these Foothill Transit buses would cross San Dimas Avenue using a new crosswalk south of the tracks. Passengers transferring between Foothill Route 492 (on Bonita Avenue) and the Gold Line would use the existing sidewalk on the east side of San Dimas Avenue.



Source: Parsons Brinckerhoff 2012

Figure 1-14. San Dimas Station Parking Structure

Engineering Considerations

At the Route 57 overpass, the span over the existing railroad track is approximately 50 feet wide, which is sufficient to accommodate both the LRT and BNSF tracks. The detailed track clearances will be refined as part of the final design phase.

1.3.3.4 City of La Verne

Route Description

The approximate 2.2-mile LRT alignment in the City of La Verne is ~~entirely~~ mostly adjacent to residential, commercial and industrial areas or public streets. ~~, with the exception of one~~ Most adjacent residences are located in the residential area along the north side of the Metro right-of-way between Wheeler Avenue and B Street where properties would be adjacent to the relocated freight track and along the south side of the Metro right-of-way west of Fulton Road. Wherever possible, the LRT tracks in the City of La Verne would be positioned to avoid having to remove the existing mature trees along Arrow Highway.

A TPSS facility would be placed approximately 800 feet west of Wheeler Avenue, north of the BNSF track. The TPSS facility would be in an industrial zoned area and would face Palomares Avenue. A full parcel acquisition for an area of approximately 1,800-2,200 square feet, would be necessary at this location. A second TPSS in the City of La Verne would be located approximately 600 feet to the east of E Street, south of the Metro right-of-way and east of the proposed parking structure. The TPSS facility would be located on a parcel that is proposed to be acquired for the parking structure.

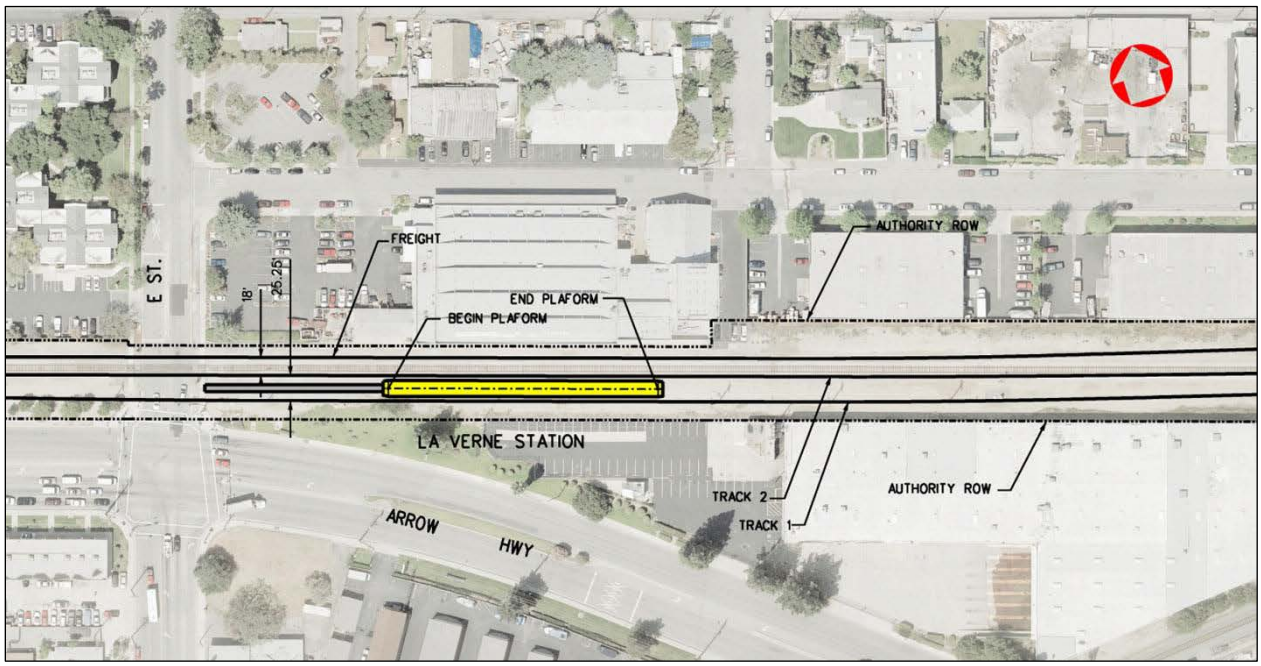
There are five at-grade crossings in the City of La Verne at Wheeler Avenue, A Street, D Street, E Street, and White Avenue.

Existing Right-of-Way

Throughout the City of La Verne, the Metro right-of-way is 100 feet wide except along one short section between B Street and E Street where the width varies between approximately 70 and 75 feet. Just west of Wheeler Avenue, a linear 400-foot encroachment into the fee right-of-way is used for parking and loading access by a local business. The Authority will make its best effort, if possible and determined to be feasible, to minimize impacts to this existing use.

Station Site

The proposed La Verne Station would be located approximately 150 feet east of E Street. The station would have a center platform, and the parking facility would be located just south of the tracks and north of Arrow Highway. The parking structure would be constructed on a lot with a vacant industrial building that is for sale. The station plan is depicted on Figure 1-15.



Source: Parsons Brinckerhoff 2011

Figure 1-15. La Verne Station Plan

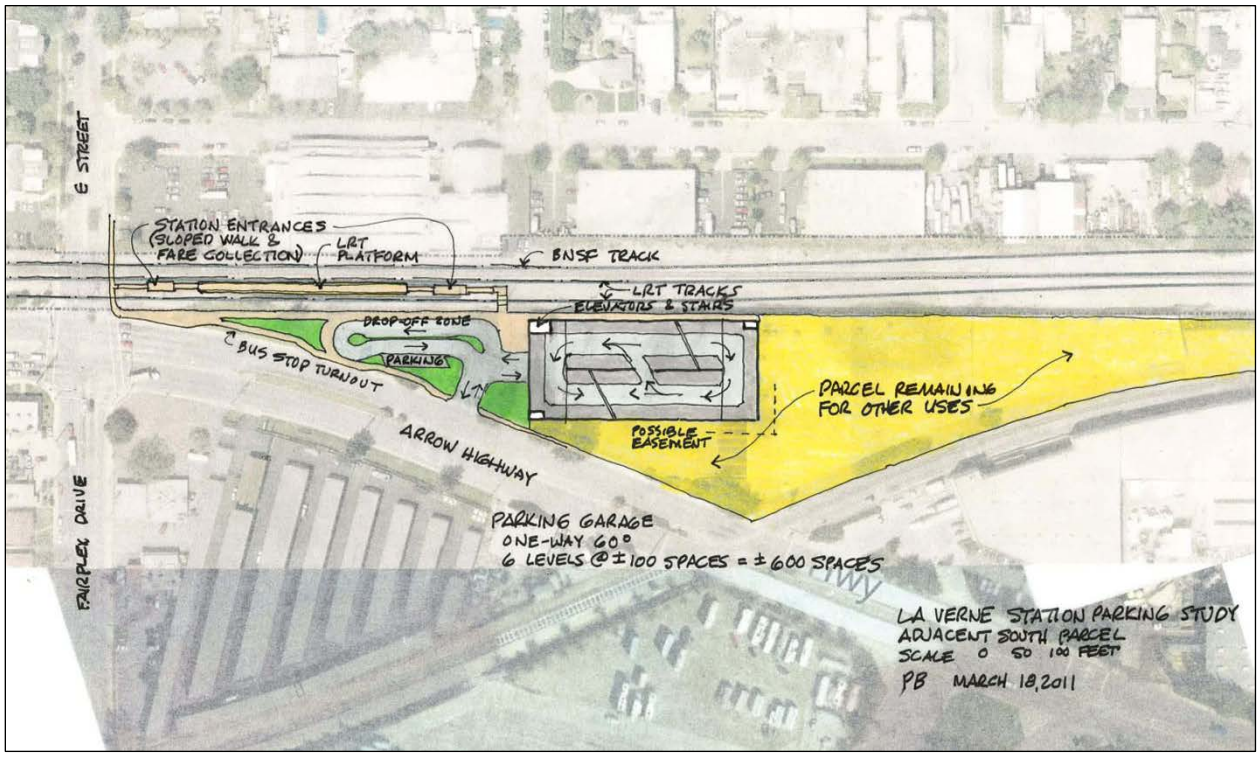
Parking and Station Access

Approximately 400 spaces would be needed at the La Verne Station initially. By 2035, approximately 575 spaces would be needed. As shown on Figure 1-16, 600 spaces would be accommodated in a rectangular six-level sloped-floor parking structure (approximately 55 feet above grade), which would leave the remainder of the parcel available for commercial development.

Vehicular access and egress would be on Arrow Highway. A new signal would be installed to serve the parking structure, the kiss-and-ride area to the west (passenger drop-off and pick-up), and other non-station uses on the remainder of the site. Pedestrian access would be relatively convenient and would require crossing only the eastbound LRT track, either at E Street or at a gate-controlled pedestrian crossing at the east end of the platform.

Bus service does not currently serve the site. Foothill Transit Route 197 comes near the site (on White Avenue) and could potentially be extended to allow passengers to transfer between the bus and the Gold

Line. To accommodate this transfer, a bus stop turnout is shown on the north side of Arrow Highway near E Street.



Source: Parsons Brinckerhoff 2011

Figure 1-16. La Verne Station Parking

Engineering Considerations

West of Wheeler Avenue, an existing BNSF spur track provides service to a Metropolitan Water District (MWD) water treatment plant approximately one mile to the north. MWD wants to maintain this connection. The proposed LRT and BNSF alignments would preserve rail access to this site, as the LRT tracks would be south of the BNSF track through this area.

1.3.3.5 City of Pomona

Route Description

The approximate 1.4-mile LRT alignment in the City of Pomona is ~~entirely~~ mostly adjacent to commercial and industrial areas or Metrolink right-of-way with the exception of ~~one~~ a 500-foot stretch of residential area along the north side of the Metro right-of-way just west and east of Carnegie Avenue and a residential area south of the Metro right-of-way just west of Towne Avenue. This section of residences would abut the LRT ramping down from the flyover at Towne Avenue. The freight track would cross under the LRT flyover at Towne Avenue to return to the south side of the Metro right-of-way and later join the tracks of Metrolink's San Bernardino Line just east of Carnegie Avenue. Aside from the segment east of the flyover at Towne Avenue, the LRT in the City of Pomona would be on the south side of Metro's right-of-way and abut Metrolink's San Bernardino Line.

A TPSS facility would be located approximately 1,200 feet east of Garey Avenue, on the south side of the LRT alignment within Metro right-of-way. Access would be along a commercial driveway that would continue to serve a group of businesses east of Garey Avenue. The TPSS building would be between the LRT and Metrolink tracks, resulting in an acquisition of approximately 3,000-2,500 sq ft.

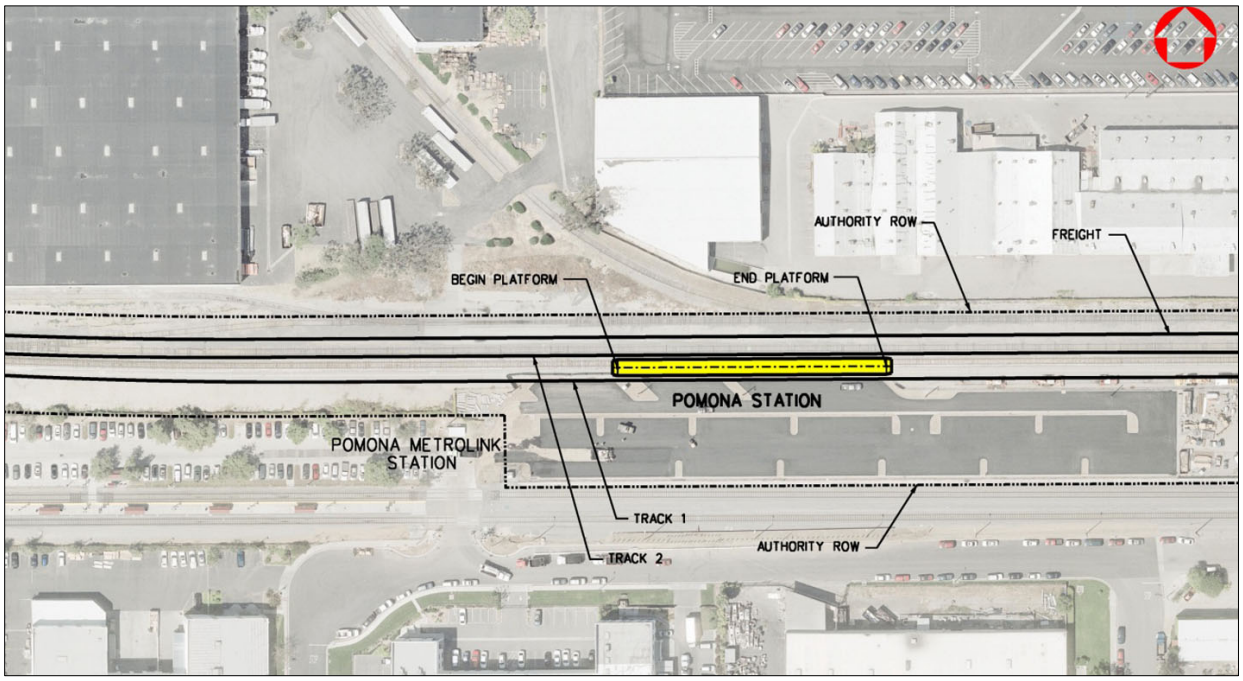
There are two at-grade crossings in the City of Pomona located at Fulton Avenue and Garey Avenue. Garey Avenue, which serves as one of the City of Pomona's major north-south arterials to the I-210 freeway, was evaluated for a grade separation. Pursuant to Metro grade-separation criteria, the traffic volume at this crossing location does not warrant a grade separation. In addition to the grade crossings, a "flyover" crossing structure is proposed at Towne Avenue (Figure 1-8).

Existing Right-of-Way

Throughout the City of Pomona, the Metro right-of-way is typically 100 feet wide. The north side of the right-of-way indents approximately 25 feet for a short segment (approximately 1,100 feet) east of Garey Avenue. Near the old Atchison, Topeka & Santa Fe Station (beginning approximately 1,000 feet west of and ending approximately 1,100 feet east of Garey Avenue), the Metro right-of-way expands approximately 70 feet on the south side, increasing the overall width to 170 feet. Much of this excess land is leased to private businesses or used by Metrolink for parking or maintenance right-of-way.

Station Site

The Pomona Station would have a center platform located west of Garey Avenue and in close proximity to the existing Metrolink station (Figure 1-17). A new parking facility would be constructed on industrial land north of the right-of-way. Available land within the right-of-way for the LRT tracks and station is constrained by the space required for BNSF switching operations that serve major customers north of the Metro right-of-way.



Source: Parsons Brinckerhoff 2011

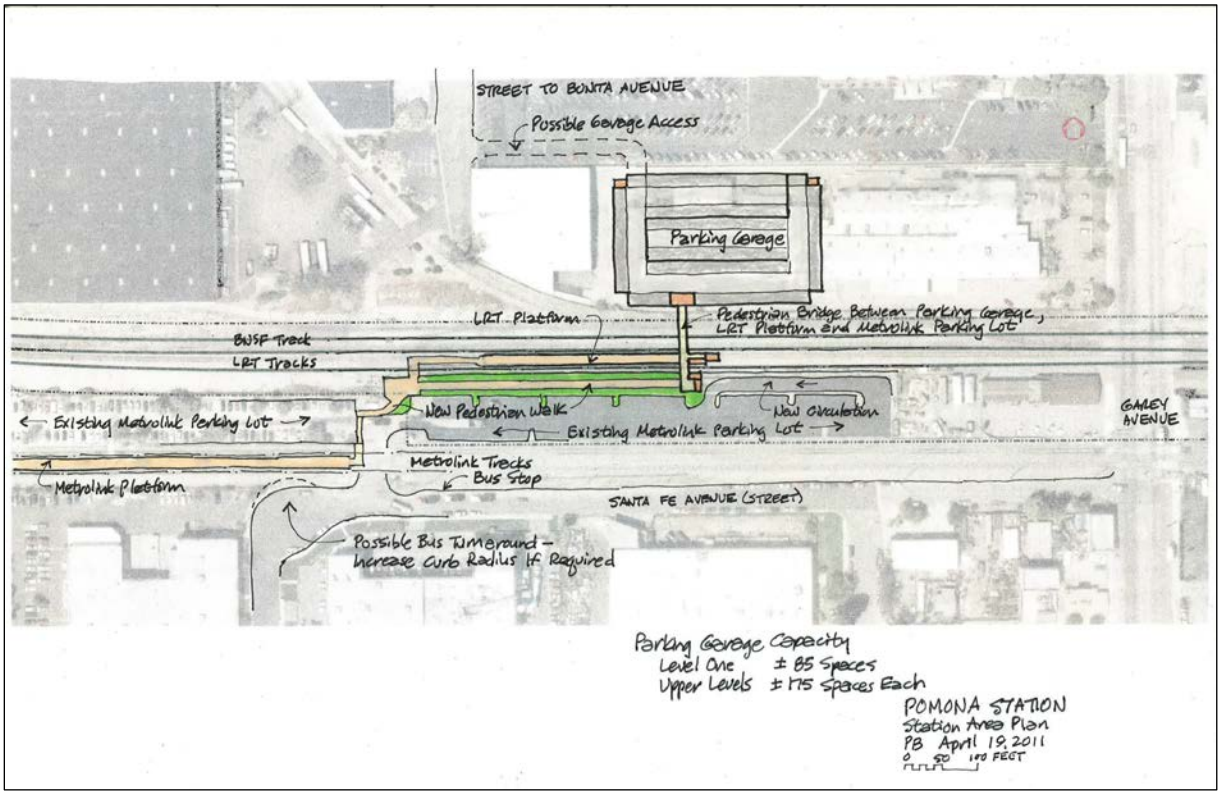
Figure 1-17. Pomona Station Plan

Parking and Station Access

The combined Metro Gold Line and Metrolink parking demand at the proposed Pomona Station are projected to be 1,000 spaces by 2035. The existing Metrolink parking lots contain approximately 250 spaces, requiring the construction of 750 new spaces. As shown on Figure 1-18, these spaces would be provided in a shared Gold Line/Metrolink parking structure just north of the Gold Line station platform. This site is currently part of a larger industrial property with an occupied building. At 4.5 levels (about 45 feet high), the structure would require about a 1.5- acre area.

Vehicular access would be via a driveway on the north side of the structure that would connect to Bonita Avenue via ~~with Garey Avenue. Alternatively, vehicular access could be provided by shared use of~~ an existing driveway that serves the industrial building to the west of the proposed parking site. This ~~alternative~~ vehicular access would also require an easement through the parking lot serving the industrial building just north of the parking site. A pedestrian bridge over the BNSF freight and Metro Gold Line tracks would connect the parking garage and the Metro Gold Line and Metrolink platforms. A permanent partial easement on a parcel located in-between the platforms and the parking structure would be needed.

Foothill Transit Route 492 has a stop on Bonita Avenue near Garey Avenue, and Route 291, which runs on Garey Avenue, could have a stop near the station north of the tracks. From these stops, bus passengers could get to and from the Gold Line platform using the pedestrian bridge that serves the parking structure.



Source: Parsons Brinckerhoff 2011, updated January 2013

Figure 1-18. Pomona Station Parking

Engineering Considerations

An LRT flyover structure is proposed at the BNSF tracks and Towne Avenue. The flyover structure would be aligned along the tracks and street centerlines, thereby minimizing the length of the bridge and allowing all bridge supports to remain within the existing Metro right-of-way. An architectural rendering of the LRT flyover at Towne Avenue is presented in Figure 1-8.

1.3.3.6 City of Claremont

Route Description

The approximate 1.6-mile LRT alignment in the City of Claremont would be on the north side of Metro's right-of-way. Configuring the LRT tracks within the confined area around the City's historic Atchison, Topeka & Santa Fe Depot would require relocating most of the Metrolink track within the City of Claremont limits. BNSF freight service currently shares the Metrolink tracks from a point just west of Cambridge Avenue. ~~Aside from residential areas along the north side of the Metro right-of-way between Carnegie Avenue and Cornell Avenue and between Claremont Boulevard and the Los Angeles/San Bernardino county line, t~~The LRT alignment in the City of Claremont would abut residential, industrial, commercial, or university-owned properties (Claremont University Consortium Central Facilities Services and Human Resources and Keck Graduate Institute). Metrolink's double-tracked San Bernardino Line runs parallel to, and south of, the proposed LRT track alignment. East of Cambridge Avenue, the Metrolink tracks would be relocated closer to the south side of Metro's right-of-way to make room for the LRT tracks. ~~Typically, the south side of Metro's right-of-way abuts business and commercial areas, with the following exceptions: (1) a residential complex between Indian Hill Boulevard and Olive Street; (2) a proposed residential complex between Spring Street and College Avenue; and (3) residential condominiums between Elder Drive and the Los Angeles-San Bernardino county line.~~

A TPSS facility would be built along the south side of the Metrolink tracks approximately 100 feet west of Cambridge Avenue, within Metro's right-of-way. A second TPSS facility would be located approximately 800 feet east of College Avenue, on the north side of the alignment and outside the right-of-way. The parcel on which the TPSS facility would be constructed is owned by the City of Claremont and is currently used as a Metrolink parking lot.

There are four at-grade crossings in the City of Claremont located at Cambridge Avenue, Indian Hill Boulevard, College Avenue, and Claremont Boulevard. The highest volume crossing is Indian Hill Boulevard, which is the main north-south arterial through the City of Claremont connecting the downtown district to the I-10 and I-210 freeways.

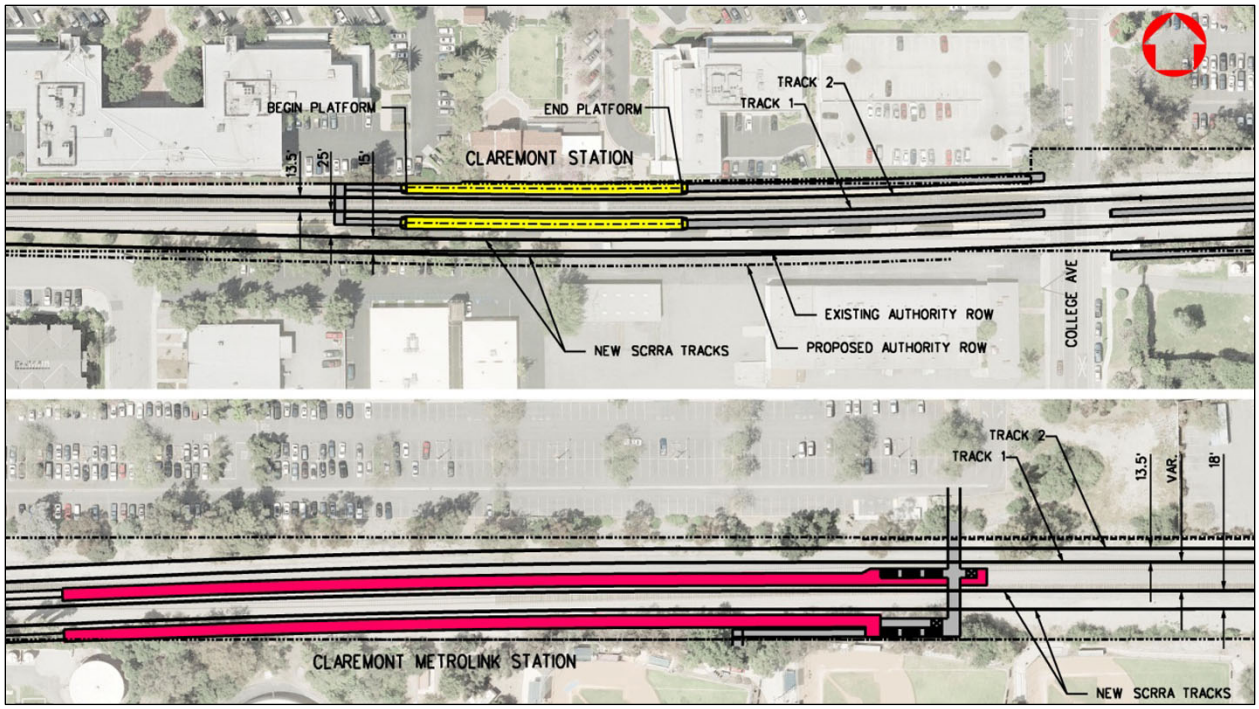
Existing Right-of-Way

Throughout the City of Claremont, the Metro right-of-way is typically 100 feet wide. However, the right-of-way narrows to approximately 75 feet west of Indian Hill Boulevard for about 880 feet and narrows to approximately 65 feet between Indian Hill Boulevard and College Avenue. These narrowed areas severely restrict the placement of a four-track alignment (two LRT tracks plus two Metrolink/freight tracks). Some additional right-of-way would be required to accommodate the four tracks and station platforms.

Station Site

The proposed Claremont Station would be a side platform configuration located directly across from the historic Atchison, Topeka & Santa Fe Depot. The existing Metrolink platforms at that location would be

relocated east of College Avenue, and the Metrolink tracks would be shifted south. The Gold Line platforms would be accessible from the historic depot plaza as well as from College Avenue via the existing promenade (Figure 1-19).



Source: Parsons Brinckerhoff 2011

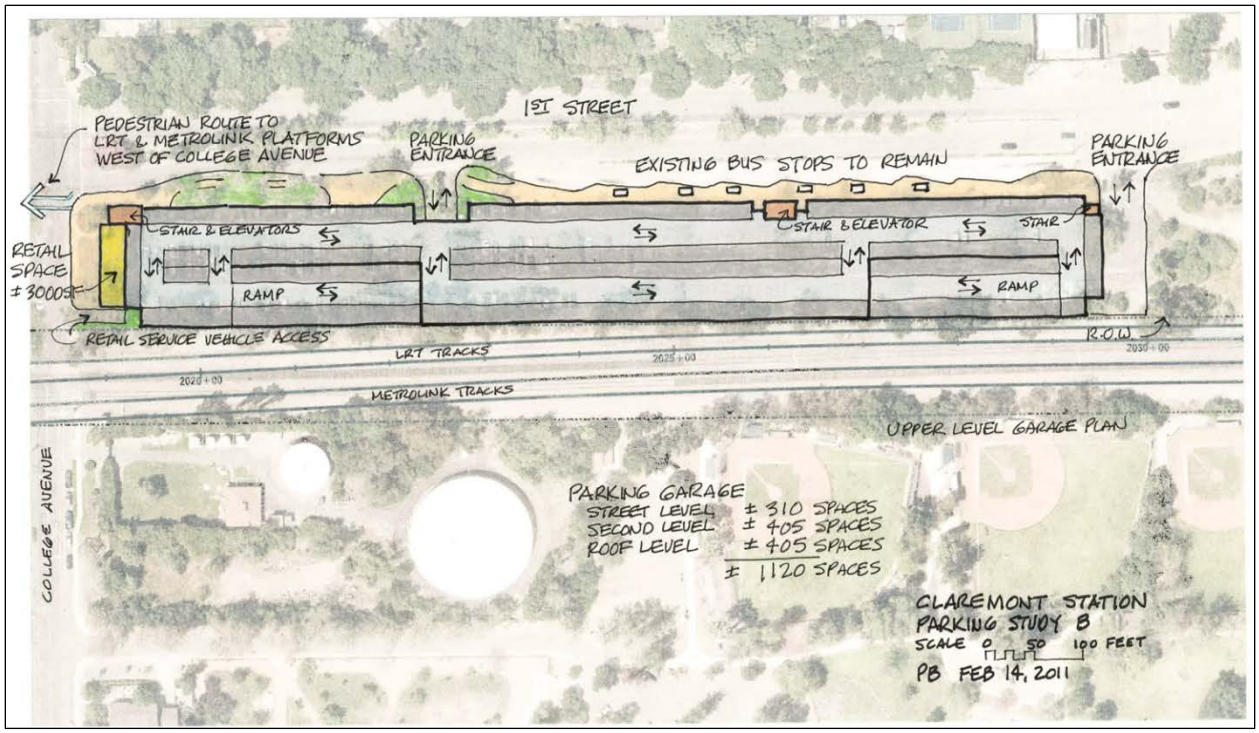
Note: This two-part figure shows (at top) the proposed Gold Line LRT platforms west of College Avenue, and (at bottom) the proposed relocated Metrolink platforms east of College Avenue.

Figure 1-19. Claremont Station Plan

The relocated Metrolink platforms would have access from College Avenue. The land presently used for the park-and-ride facility east of College Avenue would provide the space for a three-level parking structure that would provide parking for both Gold Line and Metrolink passengers.

Parking and Station Access

To accommodate future Metro Gold Line and Metrolink parking demand, a three-level, 1,000-space parking structure is proposed at the parking lot site (Figure 1-20). The height of the structure would be approximately 25 feet above street level. Vehicular circulation between floors would be by sloped parking bays. Provisions would be included for a small amount of retail space on the ground floor at the west end of the structure fronting College Avenue. A pedestrian bridge would be built to connect the parking structure with the Metrolink platform. The City of Claremont has indicated its willingness to pay for an extension of the pedestrian bridge to link the parking structure with the Little League fields to the south of the rail right-of-way.



Source: Parsons Brinckerhoff 2011

Figure 1-20. Claremont Station Parking

Vehicular access would be via a pair of driveways on 1st Street. The driveways would be located so as not to interfere with the bus layover/transfer bays, which are also on 1st Street. To access the Gold Line platforms, pedestrians from the parking facility would walk from the structure via 1st Street, cross College Avenue at grade. They would then walk along the College Avenue sidewalk to either the promenade (for westbound passengers) or the walkway between the eastbound and westbound LRT tracks (for eastbound passengers).

Additionally, an at-grade pedestrian connection would be located at the west end of the platform for passengers who travel on foot between the eastbound platform and Claremont Village and between the eastbound platform and bus stop on 1st Street in front of the depot. This bus stop is served by five Foothill Transit routes (187, 197, 480, 492, and 690). A sixth Foothill Transit Route (292) has a stop in front of the proposed parking structure. Foothill Transit Route 855, which operates on Indian Hill Boulevard has northbound and southbound stops at 1st Street, which is a short walk to the station.

Engineering Considerations

The shifting of the Metrolink tracks southward would require a narrowing of Santa Fe Avenue. Existing parallel parking on the north side of the street would be maintained except for two spaces east of and one space west of Indian Hill Boulevard. All existing parking on the south side of Santa Fe Avenue would remain.

East of Indian Hill Boulevard and north of the right-of-way, a small triangular wedge of land, approximately 250 feet in length and about 5 feet in width at its maximum (600-650 total sq ft), would need to be acquired, with little or no impact to an existing parking lot.

East of Indian Hill Boulevard and south of the right-of-way, a narrow, tapered strip of land approximately 1,100 feet in length and 14 feet in width at its maximum, would need to be acquired, possibly affecting one row of parking.

Just west of College Avenue and north of the right-of-way, an approximately 1,200-1,400 square foot wedge of land in an existing landscaped area would need to be acquired, with no impact to the parking structure north of the landscaped area.

East of College Avenue and south of the right-of-way, a narrow, 100-foot long wedge of land (900-1,100 total sq ft) on the northern edge of the Golden State Water Company (formerly Southern California Water Company) property would need to be acquired; however, the alignment is designed to avoid disruption to the utility's operations and equipment.

1.3.3.7 City of Montclair

Route Description

The approximate 0.7-mile LRT segment in the City of Montclair would be north of Metrolink's San Bernardino Line and would abut a residential, commercial and industrial area and the publicly owned Montclair Transcenter, which includes a Caltrans park-and-ride facility. ~~a publicly-owned park-and-ride facility.~~

Beginning at the Los Angeles/San Bernardino county line and continuing to Monte Vista Avenue, the LRT tracks would be on the north side of the relocated Metrolink tracks and would be mostly within the right-of-way. East of Monte Vista Avenue, an existing park-and-ride facility and transit center (Montclair Transcenter) serves primarily Metrolink and bus passengers. The project is proposed to terminate at this transit center. A TPSS facility is proposed to be located on the north side of the LRT tracks approximately 850 feet east of Monte Vista Avenue (at the track end). The TPSS facility at this location would be in a parcel owned by Caltrans which would be partially acquired for the TPSS and for expanding the right-of-way (the total acquisition is approximately 1.0 acre).

There are no LRT at-grade crossings in the City of Montclair. The existing grade separation at Monte Vista Avenue would be retained and a new LRT bridge constructed, requiring minor modifications to Monte Vista Avenue.

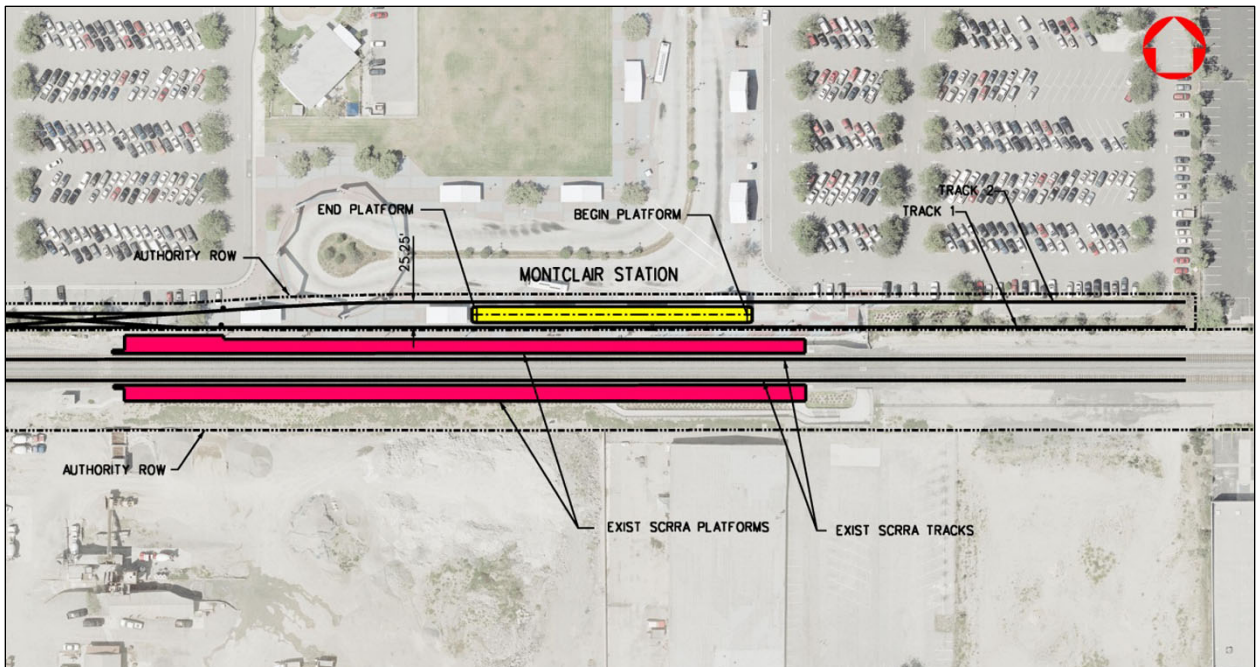
Existing Right-of-Way

Throughout the City of Montclair, the right-of-way is typically 100 feet wide and abuts primarily industrial and commercial uses, and a residential area. Approximately 1,000 feet east of the county border (and east of the residential area), and north of the right-of-way, a narrow wedge of land approximately 850 feet in length and roughly 19 feet in width at its maximum, would need to be acquired.

East of Monte Vista Avenue, a total of approximately one acre of additional land (owned by Caltrans and used for the Montclair Transcenter) would be needed for right-of-way and TPSS facilities.

Station Site

The proposed Montclair Station would be located just north of the existing Metrolink station platforms with convenient pedestrian access to Metrolink trains via the existing pedestrian tunnel (Figure 1-21). The Montclair Transcenter, including a major bus transfer facility and adjacent park-and-ride, would also serve the LRT station.



Source: Parsons Brinckerhoff 2011

Figure 1-21. Montclair Station Plan

Parking and Station Access

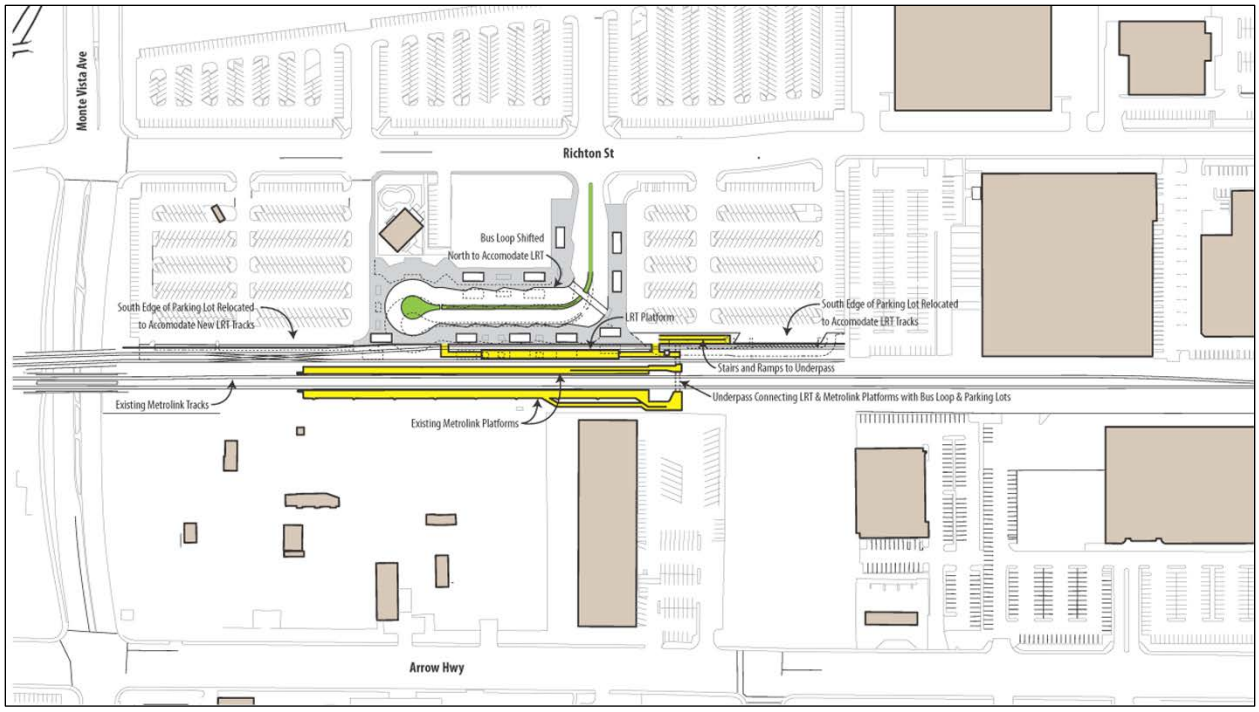
Projections for parking demand at the Montclair Station are 1,520 spaces by 2035 for the Gold Line and Metrolink parking. There are currently more than 1,600 surface parking spaces at the Montclair Transcenter where the LRT station is proposed. The existing lots are sufficient to serve parking demand, even with the addition of Gold Line service.

The *North Montclair Downtown Specific Plan* calls for future transit parking to be located in several parking structures south of the Gold Line and Metrolink tracks. Figure 1-22 illustrates the current parking lots that could be used for parking until those lots are developed for other uses in the future pursuant to the City Specific Plan.

An existing pedestrian tunnel under the westbound Metrolink track connects the surface lots to the Metrolink platforms. As part of the project, this tunnel would be extended north under the Gold Line tracks to connect with the LRT platform. In the future, the pedestrian tunnel would be extended south to connect with the new parking structures. There would also be at-grade access to the Gold Line platform at the west end.

Adding the Gold Line tracks and platform would require reconstruction of the area to the north of the Metro right-of-way. Portions of the bus transfer facility, as well as the ramp and stair that lead to the Metrolink platforms, would be moved and reconstructed.

The reconstructed bus transfer facility would have 13 bus bays to serve seven Foothill Transit, five Omnitrans, and one Riverside Transit Agency routes. Relocation of the bus transfer facility would not affect the on-site day care facility near Richton Street.



Source: Parsons Brinckerhoff 2011

Figure 1-22. Montclair Station Parking

Engineering Considerations

A new LRT bridge would be built over Monte Vista Avenue, which would roughly match the present Metrolink grade separation configuration. The existing Metrolink bridge over the San Antonio Wash would be expanded to serve the LRT and relocated Metrolink tracks.

1.4 CONSTRUCTION METHODS

Construction of the Build Alternative project would utilize conventional construction techniques and equipment commonly used in the Southern California region. Major project elements would include:

- Demolition and reconstruction of existing structures
- Roadway improvements
- Relocation of existing freight alignment
- Construction of new bridges and the renovation/widening of existing bridges
- Construction of at-grade trackwork and stations
- Construction of pedestrian accessways
- Installation of specialty system work, such as overhead contact electrification systems and communications and signaling systems
- Construction of TPSS facilities
- Construction of parking structures
- Construction of soundwalls
- Subgrade preparation and placement of rail ballast

All work would conform to industry specifications and standards. The construction equipment would include pile-driving and trenching equipment, bulldozers, rollers, cranes, concrete trucks, pumping equipment, flatbed trucks, dump trucks, and rail-mounted equipment. Temporary traffic detours and truck routes would be required during construction. The total time that to construct the project is anticipated to be three to five years and a Construction Management Plan would be implemented throughout the entire construction period to reduce potential impacts. Construction would begin after the funding for the project is secured.

The required construction easements (i.e., the areas needed temporarily during construction in addition to the actual project footprint) would vary along the alignment depending on the type of construction and the adjacent land use. Easements would be minimized as much as possible to avoid impacts to adjacent traffic and land uses; right-of-way already owned by Metro and the Construction Authority would be utilized as much as possible. Lane and/or road closures would be scheduled to minimize disruption, and traffic management plans would be approved by the individual Cities prior to construction. Freight movements would be impacted as little as possible. Construction staging areas would be identified during preliminary engineering.

Construction would occur simultaneously at several locations along the route and would follow all applicable state and local regulations for building and safety. Working hours would be varied to meet special circumstances as needed. Standard construction methods have been assumed in this Final EIR for the environmental analysis. Actual durations for construction activities would depend on final designs, the contractors' means and methods, project funding, restrictions on working hours, and other similar variables. Durations estimates presented in Table 1-7 are based on similar LRT projects and the conceptual design for the proposed project.

The Build Alternative project would cross under the I-210 freeway, and State Route 57. Coordination with Caltrans would be required for proceeding with construction at each undercrossing. Within Caltrans right-of-way, Caltrans design and construction standards, as well as approvals would be required.

Table 1-7. Construction Methods

Construction Activity		Description	Estimated Duration[1]
Demolition / Reconstruction of Existing Structures		Demolition and the associated reconstruction of existing structures would be required to accommodate widened cross sections within the right-of-way in some locations (see Appendix C).	12 months
Utility Relocation		Both above ground and underground utilities would need to be relocated, modified, or protected in place. In some cases, major utilities, such as water supply and distribution lines and sewer mains, may need to be relocated to maintain access and appropriate spacing.	12 months
Trackwork and soundwalls		Trackwork construction would involve relocating the existing freight line, preparing the track bed and ballast, and installing LRT tracks. In areas where the rail alignment runs next to and parallel to a local street, periodic lane closures may be required for the delivery of materials. Soundwalls would be constructed along the track in identified areas. Minor cross streets may be temporarily closed, but access to adjacent properties would be maintained through detours or alternative access routes. Major cross streets would require partial closures, with half of the street operating at all times.	24 months
Stations and parking structures		At-grade station and parking structures construction involves removing existing surface materials, preparing subgrade, forming and constructing an elevated concrete platform, ramps and stairs, and installing the station furnishings, such as the canopy, hand railings, lighting, signage, and ticket vending machines.	6 to 8 months per station with several stations constructed concurrently
Elevated "Flyover Structures" (Grade-Separated Crossings)	Foundation and Support Columns	Construction of the column foundations for the elevated parts of the track would use cast-in-place drilled shafts, rather than driven piles. These shafts could be 80 to 100 feet deep. Temporary or permanent steel casings may be required to support the drilled holes where the water table is high. After the pile steel reinforcement is placed, the concrete would be placed. Once these foundations are complete, the columns themselves would be formed and cast-in-place on the shafts. Foundations and support columns would be constructed in alternate blocks to limit traffic impacts.	18 to 24 months
	Superstructure	The elevated superstructure could be constructed using either cast-in-place concrete or precast concrete elements that would be erected and installed at the site.	
	Installation of Other System Components	Once construction of the superstructure is completed, most work on the remaining elements of the elevated track, including trackwork, the catenary system, and other components, would be conducted from the top of the structure.	12 months
	Transitions	The transitions from an at-grade alignment to the elevated alignment would require the placement of retained fill on both sides of the aerial guideway. Foundations and retaining walls would be constructed, fill materials would be imported and placed, the track bed would be constructed, and the track would be laid. Necessary safety features and other minor components would be installed.	9 months
TPSS facilities		Each TPSS facility would include a substation concrete slab with grounding mat. The TPSS facility would be delivered to the site, connected to the slab, and connected to the utilities.	3 months
Operating Systems		The operating systems that would be installed would include communications, train control, and traction power supplied through an overhead contact system. The overhead contact system would consist of poles connected to drilled shaft foundations with overhead wires to supply power to the trains. In addition, communications and control systems would be installed along the alignment. Installation of the operating systems would occur simultaneously with other construction.	18 months
Street Improvements		At the final stage of construction, streets and crossings would be restored to their preconstruction conditions. In some cases, street improvements would be made, such as new site modifications, cul-de-sacs, landscaping, traffic control modifications, signage, and lighting.	24 months

Source: Parsons Brinckerhoff 2011

[1] Many construction activities would occur concurrently and therefore, the durations shown are not consecutive.