

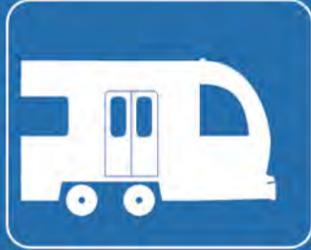
Metro Gold Line Foothill Extension Construction Authority

REQUEST FOR PROPOSALS (RFP) C1144
INTERMODAL PARKING FACILITIES DESIGN SERVICES

APPENDIX 3

Metro Gold Line Foothill Extension Bus Interface Plan – DRAFT

Chapter 1



METRO GOLD LINE FOOTHILL EXTENSION

BUS INTERFACE PLAN DRAFT FINAL REPORT



Metro Gold Line Foothill Extension
Construction Authority



MELÉNDREZ

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An important element in the implementation of the Foothill Extension Pasadena to Azusa Project is ensuring that stations are accessible for riders regardless of access mode. The purpose of reviewing and analyzing bus services in the project corridor is to identify the needs and issues, and to recommend new services or modifications to existing routes (alignment or operational characteristics) in order to integrate the bus and light rail transit systems. The objective is to create a coordinated and seamless interface between nearby bus services and the extended Gold Line.

This chapter contains an overview of the existing bus services that travel near the proposed Metro Gold Line Foothill Extension Pasadena to Azusa Project light rail stations. It is organized in three parts:

1. Study Area Conditions
2. Discussions with Bus Operators
3. Rider Survey

STUDY APPROACH

The review and analysis of existing bus services began with meetings with the city, local and regional bus operators that offer service near the proposed Foothill Extension Pasadena to Azusa Project. The objectives of these meetings is to understand the accessibility challenges faced around the planned stations, as well as to request information for the routes operating within the area being analyzed, such as existing alignment, bus stop location, operational characteristics, and other relevant information.

This section defines the existing conditions within a one-half-mile radius around the light rail stations proposed in this segment of the Metro Gold Line Foothill Extension. Existing conditions have been compiled for the following elements:

- Land use characteristics and demographics
- Existing local bus services
- Existing local bus ridership
- Expected future changes to bus services
- Local and paratransit bus operations

LAND USE AND DEMOGRAPHICS

The land use and demographic data is presented along the proposed alignment for the Metro Gold Line Foothill Extension Pasadena to Azusa Project and around each of the six proposed stations. Land use data is based on information contained in City General Plans and aerial images. Demographic data published by the Southern California Association of Governments (SCAG) for the 2008 Regional Transportation Plan (RTP) is used to discuss demographic trends along the alignment of the proposed extension, both for the existing condition and the future. Totals for socioeconomic variables such as population and employment refer to a one-half-mile area around each station.

Figure 1-1 illustrates the estimated 2010 population and employment densities along the proposed alignment of the Gold Line Extension. For analysis purposes, the population and employment densities around the proposed stations are compared to an average regional density value, where the region is defined as the San Gabriel Valley.

As can be observed in Figure 1-1, population and employment densities around the proposed stations vary significantly, usually decreasing with the distance from the alignment of the extension. Table 1-1 contains the estimated population

and employment figures in a one and a half-mile area of influence around the alignment. The area of influence is divided in three half-mile intervals for better representation.

The Azusa-Citrus and Irwindale stations are among the stations with the lowest population densities in a one-half mile area of influence. The Irwindale Station is located within an industrial/employment area, while Azusa-Citrus Station is adjacent to the Citrus Community College and a large vacant planned development area. The stations with the highest population densities are Azusa-Alameda, Monrovia and Duarte. Existing employment densities are highest around the Sierra Madre Villa and Arcadia stations. Existing conditions for land use and demographics at each station are further detailed on the following pages.

FIGURE 1-1 POPULATION AND EMPLOYMENT DENSITIES ALONG THE ALIGNMENT OF THE GOLD LINE FOOTHILL EXTENSION –FROM PASADENA TO AZUSA

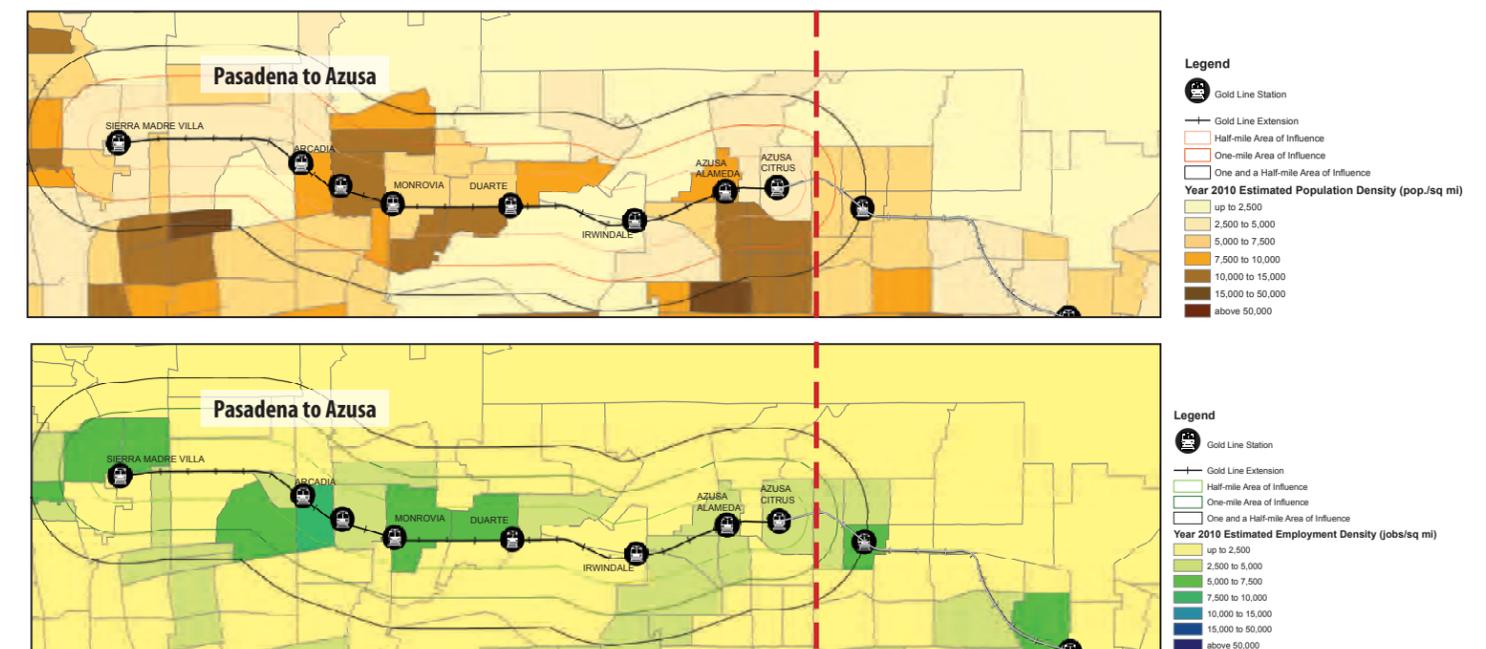


TABLE 1-1 POPULATION AND EMPLOYMENT FIGURES AROUND THE PASADENA TO AZUSA EXTENSION

Area of Influence (miles)	2010	
	Population	Employment
0 to 0.5	63,395	43,850
0.5 to 1.0	71,630	36,070
1.0 to 1.5	76,645	25,805
Total	211,670	105,725



EAST PASADENA - SIERRA MADRE VILLA STATION

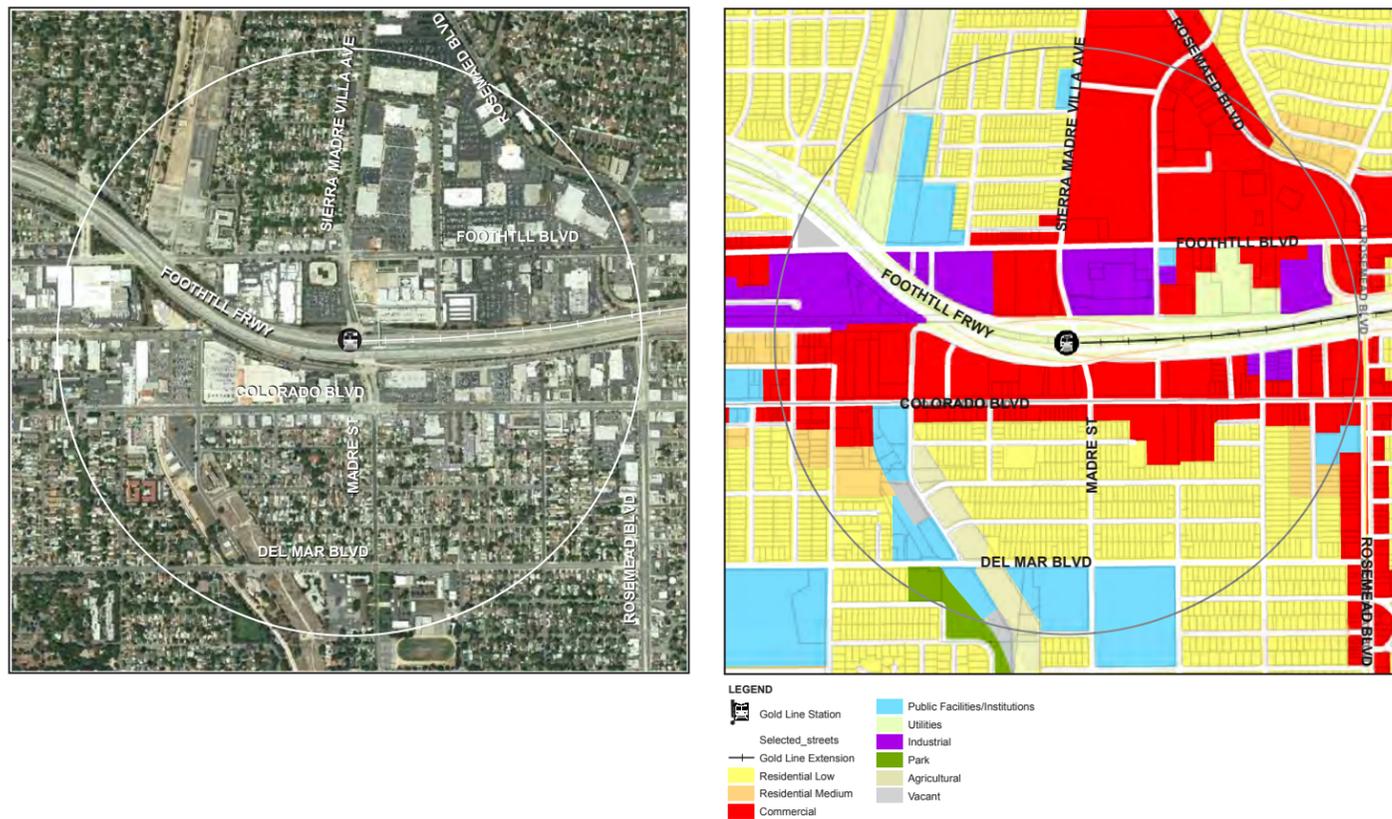
Sierra Madre Villa Station is the current terminus of the first phase of Metro Gold Line service. The station is located in the City of Pasadena, south of Foothill Boulevard, between Sierra Madre Villa Avenue and N. Halstead Street. This station serves as an intermodal transportation hub connecting local and regional transit services, provided by Metro, Foothill Transit, Pasadena community buses (ARTS and dial-a-ride), local City shuttle services (Sierra Madre, Arcadia), and also provides service for commuters that reach the Sierra Madre Villa Station by car and park in the structure adjacent to the station.

The current land uses surrounding the Sierra Madre Villa Station are commercial, industrial and low density residential. Figure 1-2 illustrates the location of the station and the existing land uses around the Sierra Madre Villa Station.

The station is located in an area that has low population density when compared to the average subregional population density. The total population estimated to live in a one-half mile distance of the station is approximately 3,600 persons. Employment density around the station area is above the average for the region, with about 3,200 jobs estimated to be located in one-half mile of the station.

The Sierra Madre Villa Station falls within the boundaries of the East Pasadena Specific Plan, which recommends changing the existing land use zoning to provide more commercial and residential use in the area around the station, in order to take advantage of the transit access provided.

FIGURE 1-2 AERIAL IMAGE AND EXISTING LAND USES AROUND SIERRA MADRE VILLA STATION



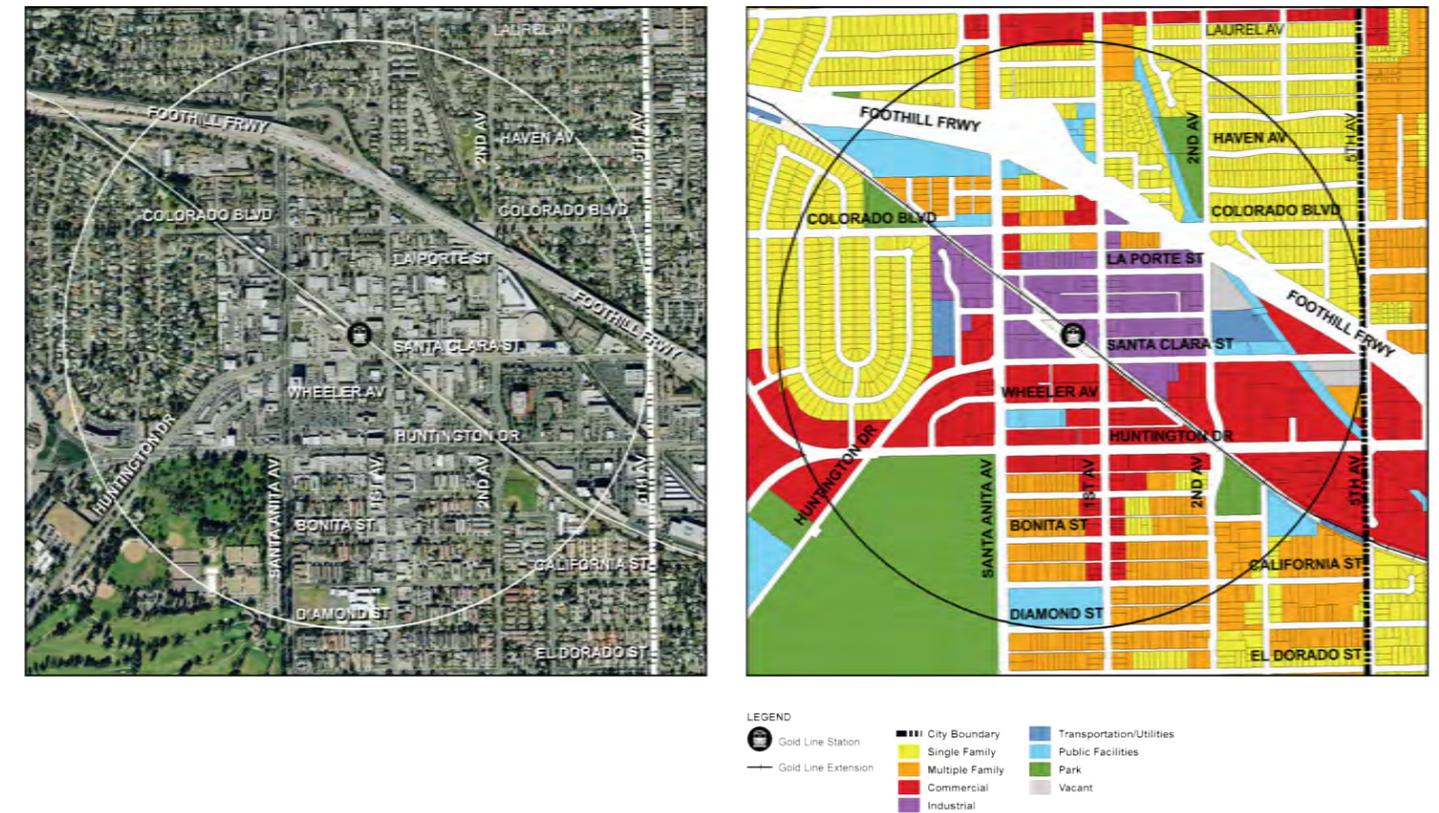
ARCADIA STATION

The location proposed for the Arcadia Station is northwest of the intersection of Santa Clara Street and 1st Avenue. The station is adjacent to commercial and industrial land uses, which can be identified in Figure 1-3. Other land uses such as single family and multiple family residences are among the most common uses within one-half-mile of the station, and can also be seen in Figure 1-3.

Arcadia Station is located in a medium-low population density area, but employment densities around the station are high when compared to the average values for the region. The total population in a one-half mile distance of the station is about 4,300 persons. Around 5,900 jobs are located in the same area.

The proposed location of the Arcadia Station is compatible with the City's General Plan, and is located within Arcadia's Central Redevelopment Project Area. In the area around the station, the City's General Plan proposes to reduce the areas designated for commercial and industrial uses only, introducing mixed-uses and allowing denser occupancies of multiple family residences.

FIGURE 1-3 AERIAL IMAGE AND EXISTING LAND USES AROUND ARCADIA STATION



MONROVIA

The proposed Gold Line station in the City of Monrovia is adjacent to the City's Historic Santa Fe Depot, north of West Duarte Road and west of Myrtle Avenue. The most common land uses south of the station are industrial and residential and can be observed in Figure 1-4. The land uses north of the rail tracks are mainly industrial from the tracks to the Foothill Freeway (I-210), with a predominance of residential and commercial uses north of I-210.

A large number of parcels designated as residential surrounding the station area are zoned as low density. There are some medium-high residential uses, and the resulting mix is a population density similar to the average subregional population density. The estimated population within a half-mile from the station is close to 6,600 persons. The estimated number of jobs within a half-mile of the station is around 3,100.

The City of Monrovia has plans to develop the area immediately adjacent to the station. One area of particular relevance is the area bounded by the I-210 Foothill Freeway to the north, Duarte Road to the south, Magnolia Avenue to the west and Shamrock Avenue to the east. This proposed redevelopment project, the Station Square Transit Village, is an eighty-acre site that would replace current industrial use with residential, commercial (retail and office), public open space and hotel rooms.

DUARTE

The Duarte Station site is located north of Duarte Road, between East Circle Drive and Highland Avenue. Figure 1-5 illustrates the general location of the station and the existing land uses surrounding it.

A large portion of the area surrounding the Duarte Station is dedicated to public facilities, with the City of Hope National Medical Center located immediately south west of the station site. Employment and population densities around the station are lower than the average regional densities, with a total estimated population of less than 2,300. There are about 5,600 jobs within a half-mile of Duarte Station.

The City of Duarte General Plan contains reference to fifteen approved specific plans, of which three are partially or fully contained in the half-mile area of influence around the station. These specific plans are for areas located north of the Foothill Freeway. The planned uses are medium density residential (single family units and assisted/independent living for seniors) and neighborhood commercial. The Duarte Gold Line Station is the subject of a separate Specific Plan which proposes mixed-use transit oriented development around the station.

FIGURE 1-4 AERIAL IMAGE AND EXISTING LAND USES AROUND MONROVIA STATION

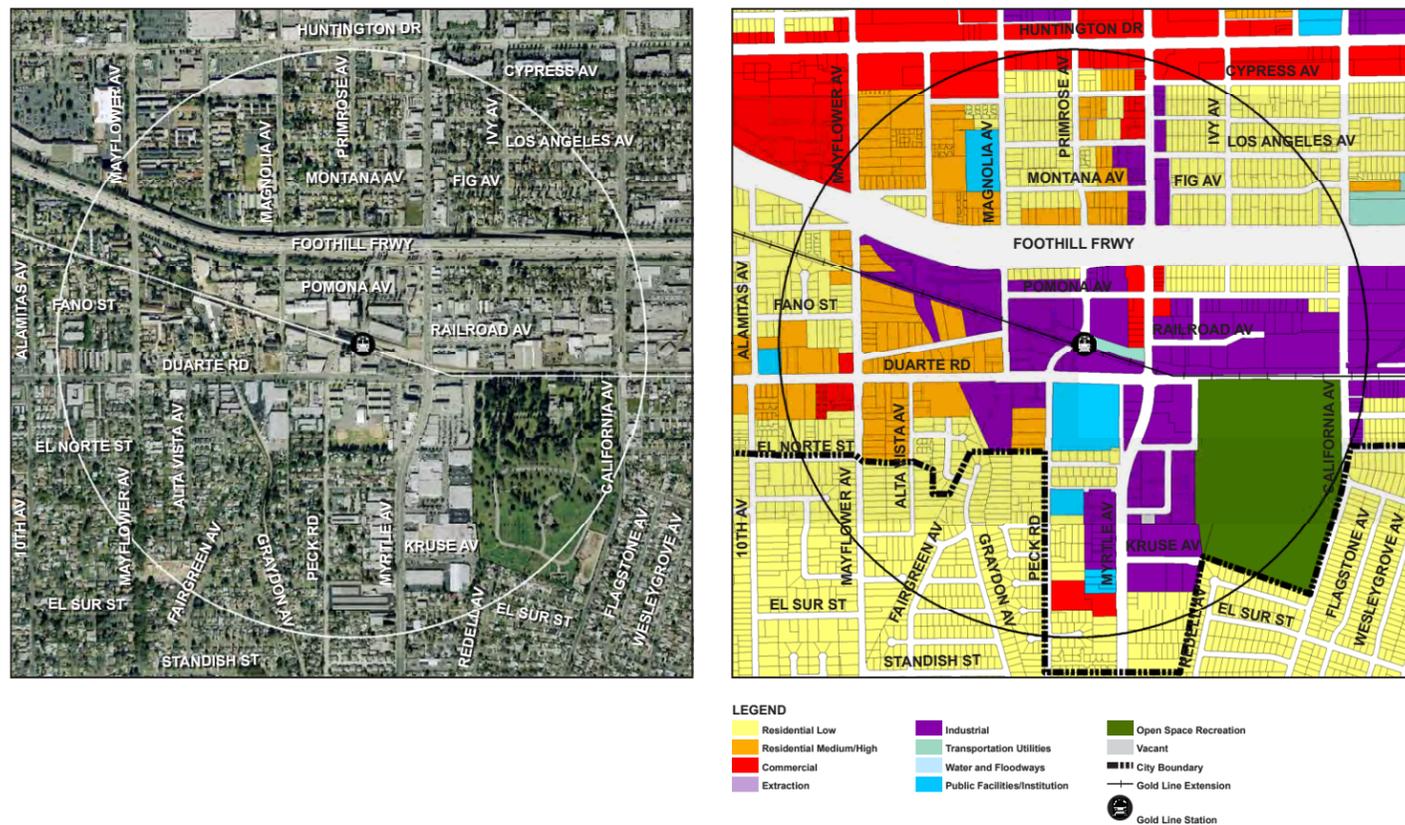
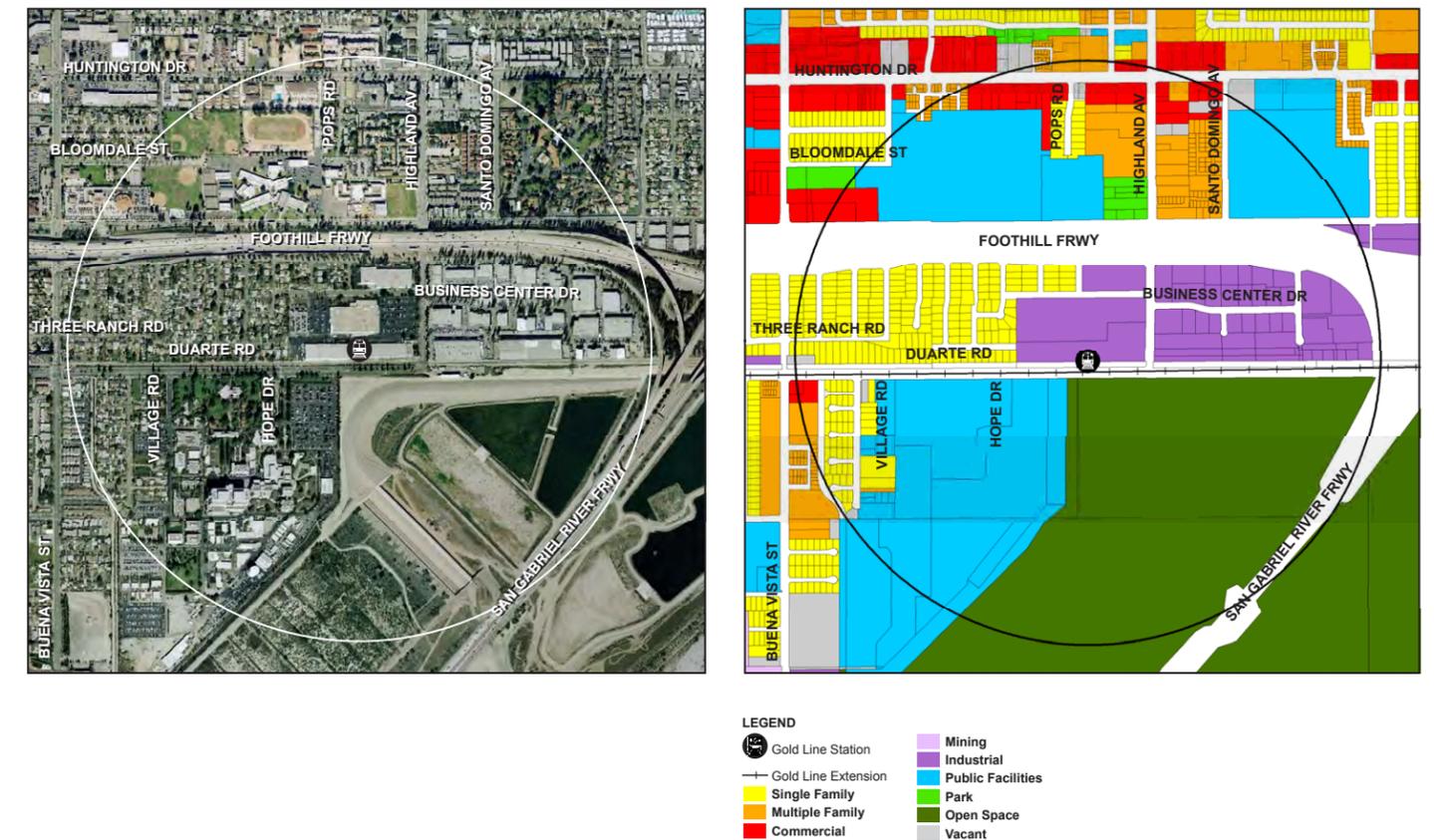


FIGURE 1-5 AERIAL IMAGE AND EXISTING LAND USES AROUND DUARTE STATION



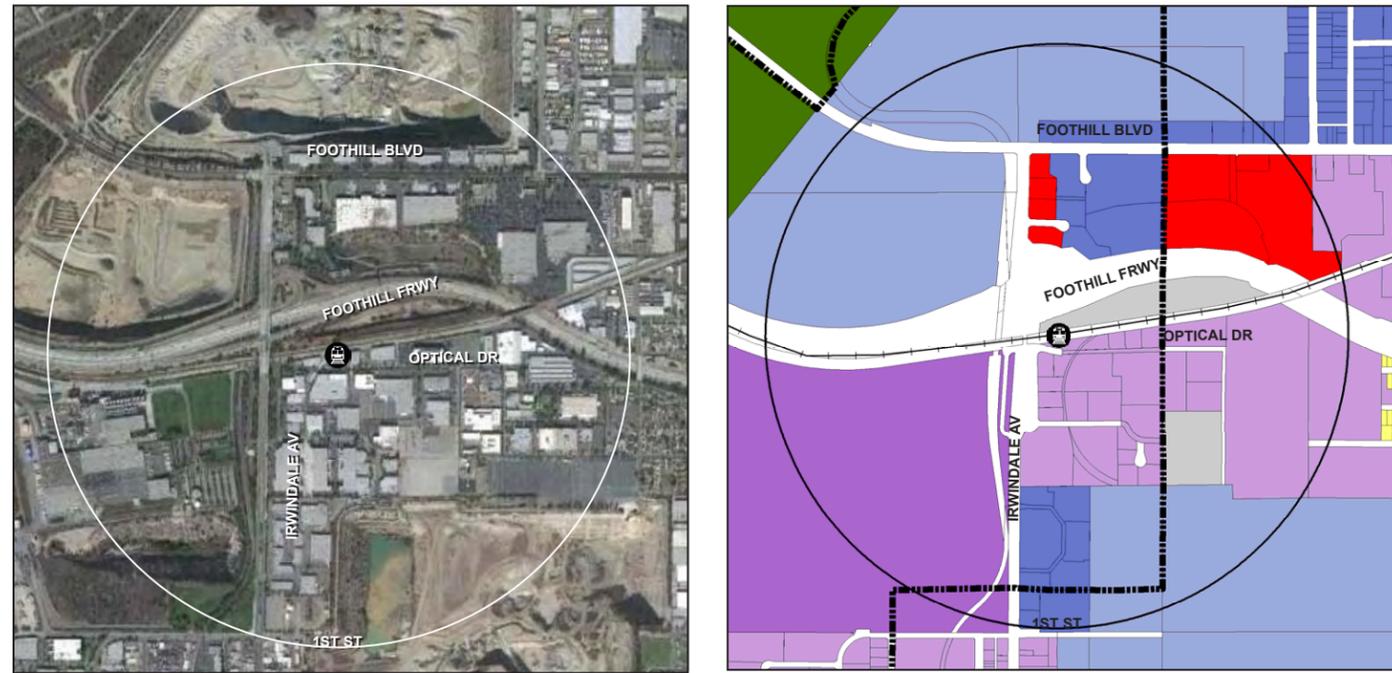
IRWINDALE

The Irwindale Station is located in the City of Irwindale, close to the city's boundary with Azusa. The station site is positioned just east of Irwindale Avenue and south of the I-210 Foothill Freeway, in an area of industrial land use. Access to the station is provided by Avenida Padilla. Figure 1-6 illustrates the general location of the station and the land uses within the area of influence.

Employment densities around the station are considered to be low when compared to average subregional densities, with an estimated total of about 2,100 jobs within a half-mile of the Irwindale Station. Population densities are significantly lower than the population density for the region, with an estimate of less than 100 people living within a half-mile from the station.

Irwindale's General Plan contains the allows for land use changes in the area of influence of the station. These changes include the substitution of industrial land uses north of the I-210 Foothill Freeway by commercial and mixed uses. The proposed station is also located within the boundaries of the City of Irwindale Redevelopment Project Area

FIGURE 1-6 AERIAL IMAGE AND EXISTING LAND USES AROUND IRWINDALE STATION



LEGEND

- Gold Line Station
- Gold Line Extension
- City Boundary
- Low Density Residential
- Commercial
- Mining
- Business Park
- Industrial
- Heavy Industrial
- Open Space
- Vacant

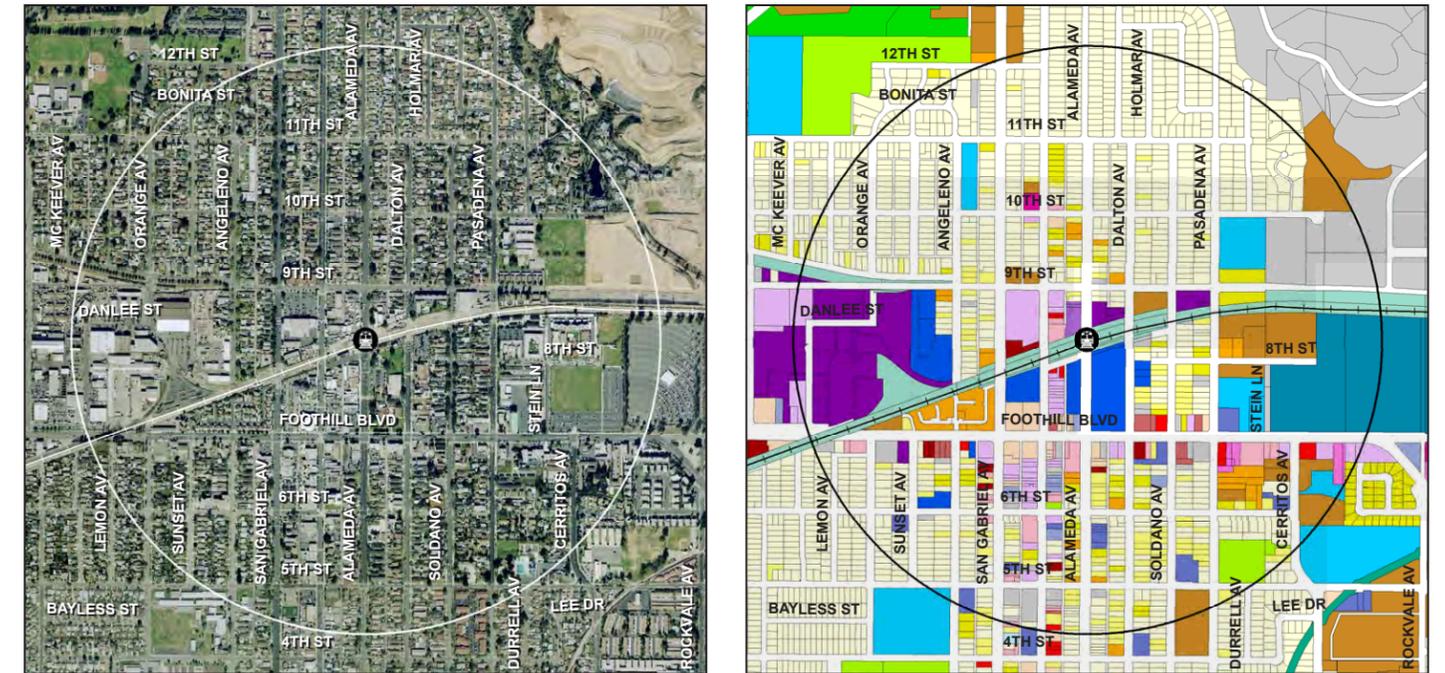
AZUSA - ALAMEDA

The Azusa-Alameda Station is located off of Alameda Avenue, between East Santa Fe Avenue and East 9th Street, in Azusa's Historic Downtown District. The proposed station site is adjacent to the historic Azusa Santa Fe Railroad Depot and near to the Azusa City Hall and Library. Land uses near the station include commercial, residential, and governmental. Land uses within a half-mile of the station area are very diverse, as can be seen in Figure 1-7.

Employment and population densities around the station are similar to the average for the subregion, with a total estimated population of 8,000 persons and 4,300 jobs within a half-mile from the station.

The City of Azusa General Plan identifies the area surrounding the proposed station as a transit oriented district, and has plans to promote higher densities for residential uses, as well as the introduction of residential and commercial mixed uses in the stations area of influence. The station is also located within the boundaries of the Azusa Central Business District Redevelopment Project and is surrounded by projects such as: Downtown North, Azusa Village Center (Block 36), and affordable senior housing and a library. The City Hall/Library complex is also schedule for modifications.

FIGURE 1-7 AERIAL IMAGE AND EXISTING LAND USES AROUND AZUSA-ALAMEDA STATION



LEGEND

- Very Low Density
- Low Density
- Low Medium Density
- Medium Density
- High Density
- Mobile Home
- Retail
- Office
- Services
- Food Services
- Automobile Services
- Motel/Hotel
- Club/Hall
- Multi-Tenant Building
- Warehouse/Storage
- Light Manufacturing
- Preschool/Daycare
- School
- College
- Church/Temple
- Parking Lots
- Governmental
- Railroad
- Utilities/Flood Control
- Park
- Golf Course
- Natural Open Space
- Vacant
- Gold Line Extension
- Gold Line Station

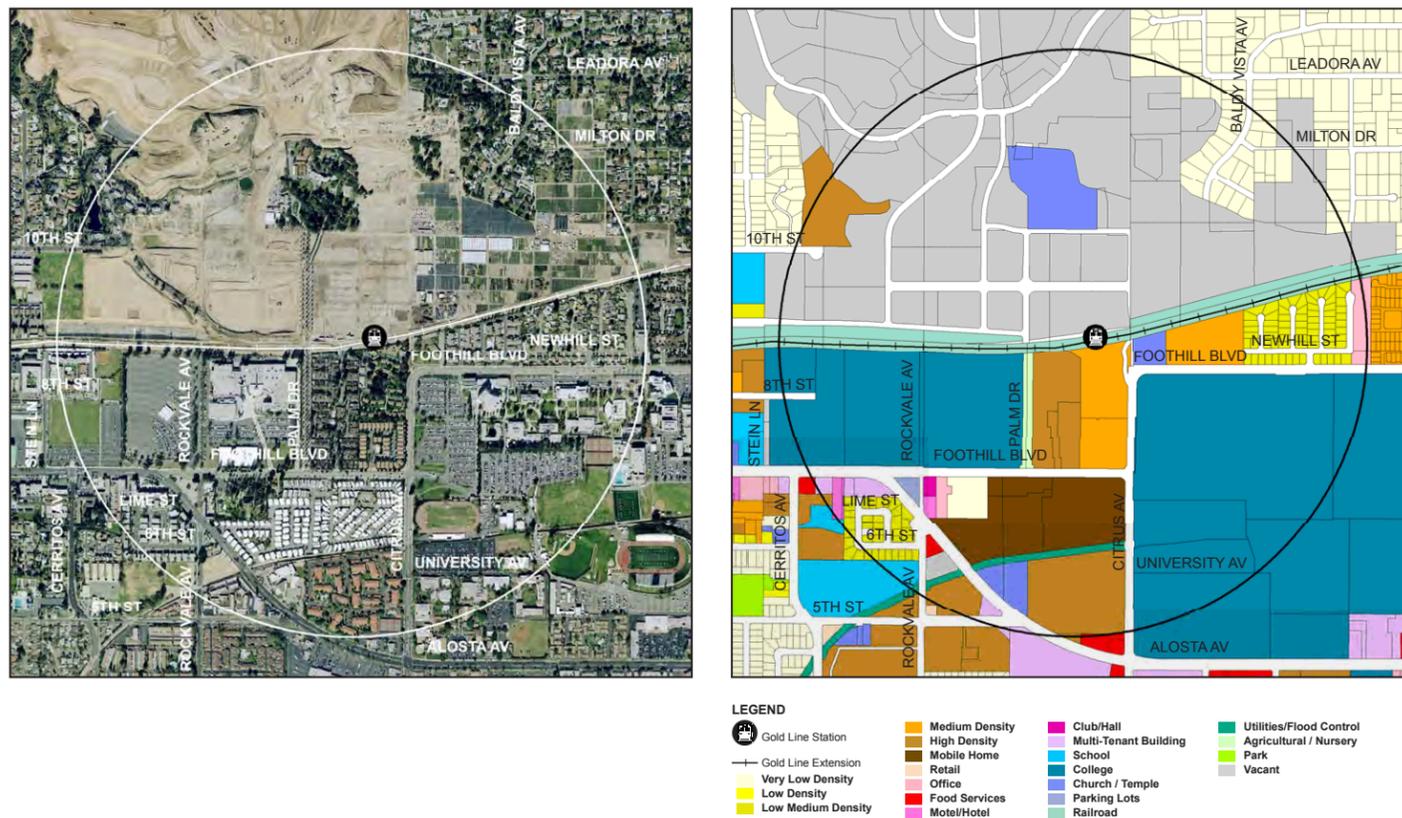
AZUSA - CITRUS

The Azusa-Citrus Station is located north of Foothill Boulevard, between Palm Drive and Citrus Avenue. Most of the area of influence located north of the rail tracks has been claims for a major redevelopment project (Rosedale Master Planned Communities). The area to the south is consists mostly of residential and educational uses, as can be seen in Figure 1-8. Major land uses in the station area include Citrus College, Azusa Pacific University to the southeast, with other portions of Azusa Pacific University to the southwest.

While residential population densities are relatively high to the southwest of the station, due to the vacant lands to the north and campuses to the southwest, population densities around the station are low compared to the regional density, with a total estimated population of about 4,600. Employment densities are similar to the average estimated for the subregion. Around 2,500 jobs are located within a half-mile of the Azusa-Citrus Station, primarily at the two campuses.

The City of Azusa General Plan proposes densification of residential land use within the Rosedale Master Planned Community, a 518-acre development that would introduce new homes, a community center and small scale commercial uses north of the station. This is a significant development that would be directly served by the station.

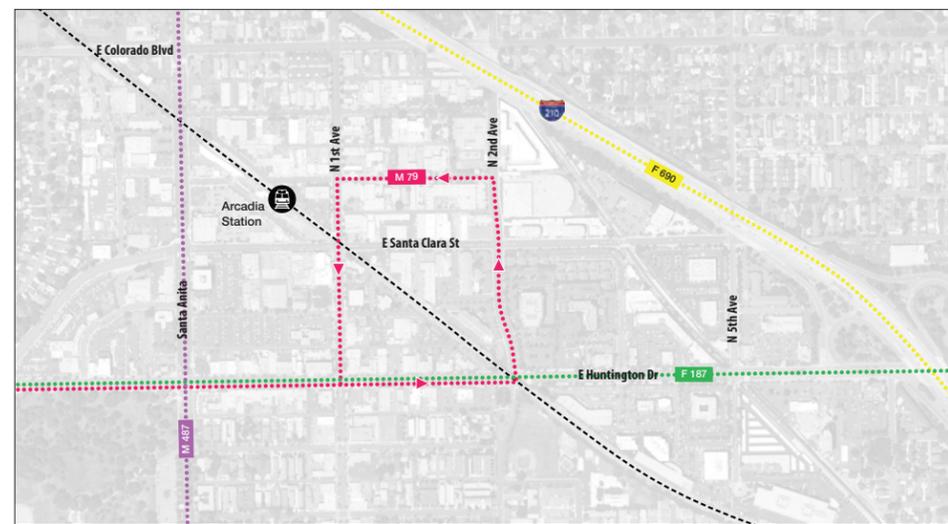
FIGURE 1-8 AERIAL IMAGE AND EXISTING LAND USES AROUND AZUSA-CITRUS STATION



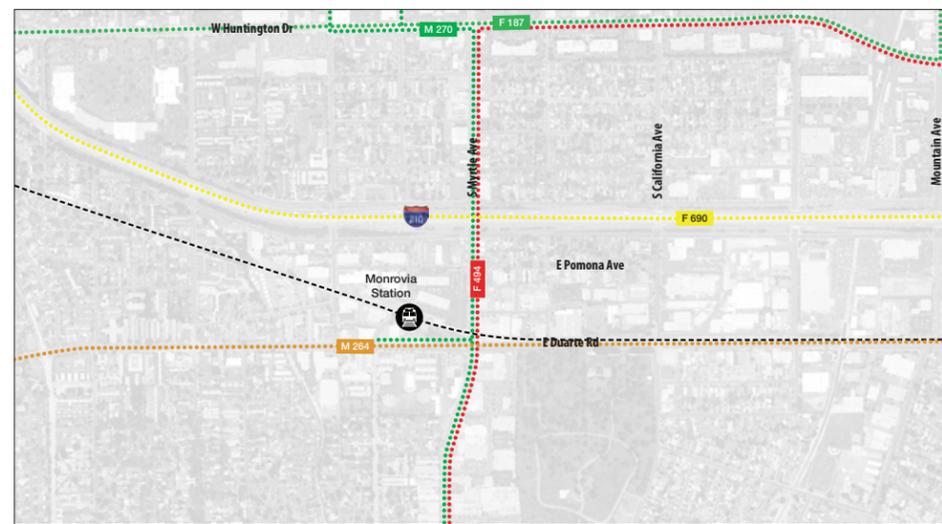
EXISTING LOCAL BUS SERVICES

Existing local fixed route bus services around the planned stations are reviewed in this subsection. Existing local bus lines in the vicinity of each proposed station of the Gold Line Foothill Extension from Pasadena to Azusa are presented in Figure 1-9. Operational characteristics of local bus services are analyzed for the lines operated by the two primary bus operators in the corridors Metro and Foothill Transit.

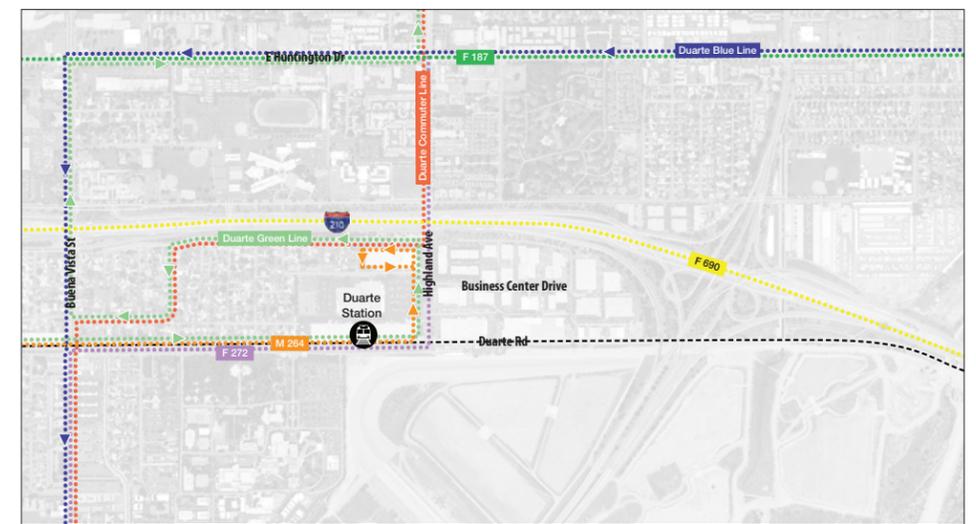
FIGURE 1-9 BUS SERVICES IN THE VICINITY OF PROPOSED GOLD LINE FOOTHILL EXTENSION STATIONS – PASADENA TO AZUSA



Arcadia



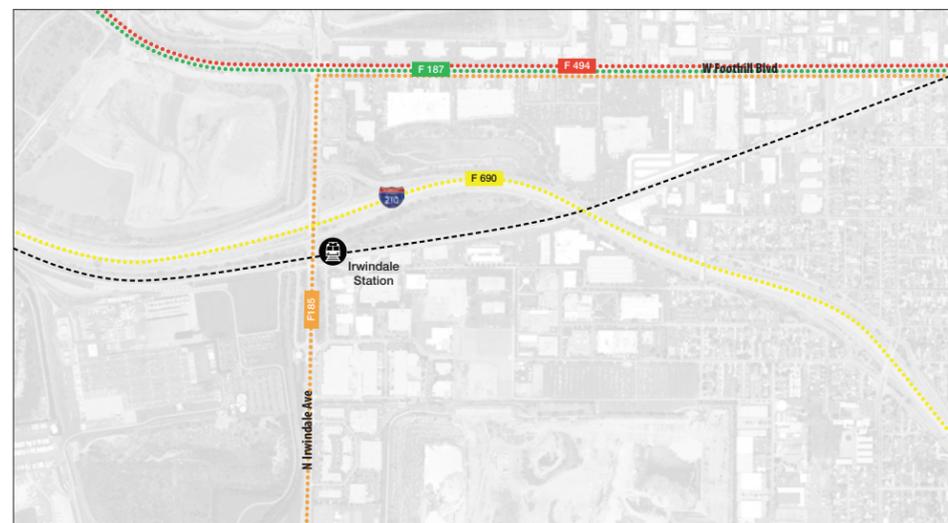
Monrovia



Duarte

Alignment Overview: Arcadia, Monrovia and Duarte Stations Bus Services

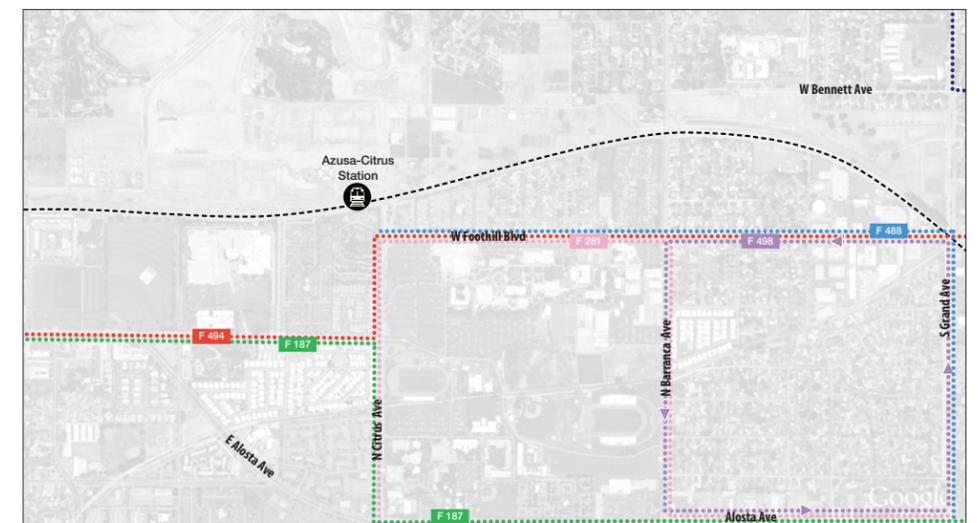
FIGURE 1-9 BUS SERVICES IN THE VICINITY OF PROPOSED GOLD LINE FOOTHILL EXTENSION STATIONS – PASADENA TO AZUSA



Irwindale



Azusa-Alameda



Azusa-Citrus



CHAPTER 1 | REVIEW OF EXISTING BUS SERVICES

EXISTING LOCAL BUS SERVICES NEAR STATIONS

The existing bus lines identified in Figure 1-9 are characterized in terms of service availability to transit users. This availability is indicated by line headway, which is the amount of time between two consecutive departures of a transit line. As one transit service may pass close to more than one station, service statistics are presented by service provider and line. Table 1-2 summarizes bus service in the vicinity of the proposed Gold Line stations.

TABLE 1-2 SUMMARY OF EXISTING BUS SERVICE NEAR PROPOSED GOLD LINE STATIONS

Operator	Line No.	Description	Weekday	Saturday	Headway		Stations Served					
					Sunday	Sierra Madre Villa	Arcadia	Monrovia	Duarte	Irwindale	Azusa Alameda	Azusa Citrus
Metro	79	Arcadia - Los Angeles via Huntington Dr & Las Tunas Dr	average 20-30 min in peak directions/hours, average 40 min otherwise	average 40-60 min all day**	average 35-60 min all day**							
	177	La Cañada - Sierra Madre Villa Gold Line Station via I-210 & California Blvd & Walnut St	average 20 min in peak directions/hours, 60 min otherwise	No service	No service							
	181	Pasadena - Hollywood via Colorado Blvd and Hollywood Blvd ***service to Sierra Madre Villa Gold Line Station	average 30 min (5:45 am - 8:00 pm) 60 min (before 5:45 am and after 8:00 pm)	average 30 min (9:45 am - 5:00 pm) 60 min (before 9:45 am and after 5:00 pm)	average 30 min (11:30 am - 7:15 pm) 60 min (before 11:30 am) 40 min (after 7:15 pm)							
	264	Altadena - Duarte Altadena - El Monte	average 60 min all day**	average 60 min all day**	average 60 min all day**							
	266	Lakewood - Pasadena via Rosemead & Lakewood Blvds	average 20-40 min in peak directions/hours, average 40-45 minutes otherwise, 60 min (after 8:30 pm)	average 40 min (7:30 am - 7:15 pm) 30 min (before 7:30 am) 60 min (after 7:15 pm)	average 40 min (6:30 am - 4:00 pm) 50 min (before 6:30 am) 40-60 min (after 4:00 pm)							
	268	La Cañada Flintridge - El Monte via Baldwin Ave & Washington Blvd ***service close to Sierra Madre Villa Gold Line Station	average 30 min in peak directions/hours, 60 min otherwise	average 50 min all day**	average 50 min all day**							
	270	Norwalk - Monrovia via Workman Mill Rd & Peck Rd	average 40-60 min in peak directions/hours, 60 min otherwise	average 60 min all day**	No service							
	487	El Monte - Downtown LA Temple City - Downtown LA	average 20-30 min in peak directions/hours, 25-45 min otherwise	60 min all day**	60 min all day**							
Foothill Transit	185	Azusa - West Covina - Hacienda Hts. via Irwindale	average 30 min all day**	30 min all day**	30 min all day**							
	187	Montclair - Claremont - Glendora - Pasadena	average 20 min all day**	30 min all day**	30 min all day**							
	272	Duarte - Baldwin Park - West Covina	average 30 min in peak directions/hours, 60 min otherwise	60 min all day**	60 min all day**							
	280	Azusa - Puente Hills Mall via Azusa Ave	average 20 min all day**	30 min all day**	30 min all day**							
	281	Glendora - West Covina - Puente Hills Mall	average 30 min all day**	average 60 min all day**	average 60 min all day**							
	488	Glendora - West Covina - El Monte	average 30 min (4:00 am - 8:15 am/2:30 pm - 6:45 pm) average 60 min other periods	60 min all day**	60 min all day**							
	492	Montclair - Arcadia - El Monte via Arrow Hwy	average 30 min (all day**)	30 min all day**	30 min all day**							
	494	San Dimas - Glendora - El Monte	30 min am peak direction/hours, average 20 min pm peak direction/hours	No service	No service							
	498	Citrus College - Downtown Los Angeles Express Service	average 10-30 min peak periods/directions only	No service	No service							
	690	Montclair - Pasadena via 210 Freeway Corridor	average 10-30 min peak periods/directions only	No service	No service							
Pasadena ARTS	31	Northwest Pasadena/Sierra Madre Villa Station	average 30 min in peak directions/hours, 60 min otherwise	60 min all day**	No service							
	32	Northwest Pasadena/Sierra Madre Villa Station	average 30 min in peak directions/hours, 60 min otherwise	60 min all day**	No service							
	40	Sierra Madre Villa Station - Old Pasadena	20 min (6:00 am - 8:15 am) 30 min (8:15 am - 3:30 pm /6:00 pm - 7:30 pm) 15/30 min (3:30 pm - 6:00 pm)	30 min all day**	No service							
	60	Pasadena City College - Hastings Ranch	35 min all day**	No service	No service							

Notes: *Service hours rounded to the closest 15 minutes ** Hours of operation vary by line Sources: Metro Service, internet - November 2010 Pasadena ARTS Service, internet - November 2010 Foothill Transit Service, internet - November 2010

Summary of Bus Services Near Stations

Foothill Extension Bus Interface Plan



MELÉNDREZ



Operational data for the existing local Metro and Foothill Transit bus services around the planned stations are discussed below. Detail of available data may vary by line due to type of operation (contracted or not).

EXISTING LOCAL BUS TRANSIT RIDERSHIP

Transit ridership for existing local fixed route bus services around the Gold Line Phase 2A stations are presented in Table 1-3. Detail of available data on ridership may vary by line due to operator and type of operation (contracted or not).

As reflected in Table 1-3 weekday boardings on the selected bus routes around each of the proposed Gold Line Phase 2A stations ranges from 3% to 7% of the route's total boardings. An exception occurs for Metro Lines 177 and 264, where boardings within half a mile of some of the proposed stations account for 11% to 22% of the route's boardings. Saturday and Sunday boardings Table 1-4 around the proposed stations follow a similar trend to the one observed on the weekday boardings. Metro Route 264 has the highest percentage (20%), with boarding rates varying from 2% to 7% at most stations.

TABLE 1-3 AVERAGE DAILY RIDERSHIP – WEEKDAY

Operator	Line No.	Ridership Summary (Average Weekday Boardings)								
		Total Along Alignment	Stops Located Half-Mile Around Stations						Azusa Alameda	Azusa Citrus
			Sierra Madre Villa	Arcadia	Monrovia	Duarte	Irwindale			
Metro	79	4,200		295						
	177	415	45							
	181	n/a	x							
	264	685	155		40	40				
	266	4,475	205							
	268	2,125	45							
	270	2,455			80					
	487*	3,965	135	155						
	Foothill Transit	185	1,940				x		x	
187		6,055	150	215	0	0	10	195	60	
272		415				x				
280		3,405						x		
281		2,055						x	x	
488		1,575								
492		1,995								
494		135			x		x	x	x	
498		865							x	
690	275	x	x	x	x	x				

Sources: Metro, Foothill Transit, data processed by IBI Group

Note: Stop ridership data from Foothill Transit is not disaggregated by line and cannot be presented in this table, ridership rounded to closest 5.

* Metro Line 487 together with line 489

TABLE 1-4 AVERAGE DAILY RIDERSHIP – SATURDAY

Operator	Line No.	Ridership Summary (Average Saturday Boardings)								
		Total Along Alignment	Stops Located Half-Mile Around Stations						Azusa Alameda	Azusa Citrus
			Sierra Madre Villa	Arcadia	Monrovia	Duarte	Irwindale			
Metro	79	n/a		x						
	177	No Service								
	181	n/a	x							
	264	480	95		30	55				
	266	3,375	165							
	268	1,240	40							
	270	980			65					
	487*	1,160	60	100						
Foothill Transit	185	1,185				x		x		
	187	3,120	x	x	x	x	x	x	x	
	272	225				x				
	280	2,040						x		
	281	785						x	x	
	488	855								
	492	1,865								
	494	No Service								
	498	No Service								
690	No Service									

Sources: Metro, Foothill Transit, data processed by IBI Group

Note: Stop ridership data from Foothill Transit is not disaggregated by line and cannot be presented in this table, ridership rounded to closest 5.

* Metro Line 487 together with line 489



CHAPTER 1 | REVIEW OF EXISTING BUS SERVICES

DAILY OPERATING STATISTICS

Daily ridership and service data are presented in Table 1-5 for each route servicing the area surrounding the proposed Gold Line Foothill Extension from Pasadena to Azusa. The information is presented by type of day (weekday, Saturday or Sunday) and also contains an indicator of the productivity of each route (boardings divided by the number of hours the transit vehicle is in revenue service).

TABLE 1-5 DAILY OPERATING SUMMARY

Operator	Line No.	Operational Summary (Average Weekday)			Operational Summary (Average Saturday)			Operational Summary (Average Sunday)		
		Boardings (B)	Revenue Vehicle Hours (RVH)	B/RVH	Boardings (B)	Revenue Vehicle Hours (RVH)	B/RVH	Boardings (B)	Revenue Vehicle Hours (RVH)	B/RVH
Metro	79 ¹	4,200	112.8	36.2	n/a	65.09	n/a	n/a	60.2	n/a
	177	415	22.3	18.6	No Service			No Service		
	181 ¹	n/a	119.9	n/a	n/a	107.6	n/a	n/a	94.9	n/a
	264 ¹	685	34.0	20.6	480	30.6	15.6	360	30.9	11.7
	266	4,475	99.8	44.9	3,375	79	42.7	2,780	71	39.2
	268	2,125	69	30.8	1,240	42.1	29.5	930	42.1	22.1
	270	2,455	68.5	35.9	980	52.6	18.6	No Service		
	487 ¹	3,965	109.3	36.3	1,160	58.7	19.8	895	58.7	15.2
	Foothill Transit	185	1,940	86.8	22.3	1,185	86.8	13.7	1,045	88.5
187		6,055	239.7	25.3	3,120	239.7	13.0	2,935	244.4	12.0
272		415	24.5	16.9	225	24.5	9.2	210	25.0	8.4
280		3,405	90.4	37.7	2,040	90.4	22.6	1,930	92.1	21.0
281		2,055	80.7	25.5	785	80.7	9.7	635	82.3	7.7
488		1,575	65.5	24.0	855	65.5	13.1	1,010	66.8	15.1
492		1,995	94.5	21.1	1,865	94.5	19.7	2,180	96.3	22.6
494		135	9.1	14.6	No Service			No Service		
498		865	68.7	12.6	No Service			No Service		
690		275	24.7	11.1	No Service			No Service		

Notes: ¹ Revenue vehicle hours calculated based on the proportion of hours of the selected route in the group route (79 = 78 & 79 & 378), (181 = 180 & 181), (264 = 264 & 267), (487 = 487 & 489)

Sources: Metro, Foothill Transit, data processed by IBI Group

SUMMARY REPORT BY SERVICE TYPE

Annual and one month average data are presented in Table 1-6 for each route servicing the area surrounding the proposed stations of the Gold Line Foothill Extension. The table also contains the average monthly boardings divided by the average number of revenue vehicle hours.

TABLE 1-6 SUMMARY BY SERVICE

Operator	Line No.	Operational Summary				
		Annualized RVH*	Monthly RVH (average for FY09)	Average Weekday Boardings	Total Monthly Boardings (B) (average for FY09)	B/RVH
Metro	79 ¹	35,648	2,971	4,090	n/a	n/a
	177	5,687	474	414	9,108	19.2
	181 ¹	41,689	3,474	n/a	n/a	n/a
	264 ¹	12,065	1,005	701	18,782	18.7
	266	33,675	2,806	4,477	123,118	43.9
	268	22,226	1,852	2,125	55,446	29.9
	270	20,203	1,684	2,456	57,944	34.4
	487 ¹	34,319	2,860	3,966	95,476	33.4
	Foothill Transit	185	31,691	2,504	1,817	46,131
187		87,496	7,132	5,749	141,325	19.8
272		8,935	762	391	9,635	12.6
280		32,978	2,767	3,240	8,327	29.8
281		29,469	2,451	1,979	46,038	18.8
488		23,912	2,026	1,536	39,487	19.5
492		34,490	3,009	3,013	79,166	26.3
494		3,314	194	155	3,136	16.2
498		25,089	1,461	1,005	18,290	12.5
690		9,014	580	49	6,351	11.0

Notes: *Annualized data for Metro was estimated for each line using daily data provided and considering 255 weekdays, 52 Saturdays and 58 Sundays.

¹ Revenue vehicle hours and revenue vehicle miles proportional to the estimated hours and miles of the selected route in the group route (79 = 78 & 79), (181 = 180 & 181), (264 = 264 & 267), (487 = 487 & 498)

Sources: Metro, Foothill Transit, data processed by IBI Group



FUTURE CHANGES TO BUS SERVICES

Future changes to local fixed route bus services are analyzed to assess the impacts of these changes on the Gold Line Extension ridership.

LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY

Currently, the Los Angeles County Metropolitan Transportation Authority (Metro) does not have major changes planned for bus services. Metro is in the process of reviewing the scope and sustainability of all transit services in Los Angeles County. Aspects of this analysis include State funding issues, the effects of Measure R, as well as the function of all transit operators in the County. The expected outcomes of this review are recommendations to restructure, coordinate and consolidate the existing system. Future service plans are to be studied in a subsequent phase.

The agency also recently adopted its Long Range Transportation Plan, which identifies the region's transportation needs

and deficiencies. Transit service changes to address the needs identified in the Long Range Transportation Plan will be addressed in the review of transit services that will follow this effort.

FOOTHILL TRANSIT

Foothill Transit does not have any current specific plans to implement major changes to the transit services provided.

LOCAL AND PARATRANSIT BUS OPERATIONS

Paratransit and local shuttles are among the transit services available to residents of some of the cities that are along by the alignment of the Gold Line Extension from Pasadena to Azusa. These services can be county or city-operated, and may be accessible to the population as a whole or just to the elder and disabled. These services and respective characteristics and ridership are presented in Table 1-7.

TABLE 1-7 LOCAL AND PARATRANSIT SERVICES IN THE CITIES SERVICED BY THE GOLD LINE FOOTHILL EXTENSION – PASADENA TO AZUSA

City/Cities	Service	Eligibility	Registration	Reservation	Cancellation	Service Area	Service Times			Fares	Average Daily Ridership (FY09)	Average Monthly Ridership (FY09)
							Weekday	Saturday	Sunday			
Monrovia	Monrovia Dial-a-Ride (Monrovia transit)	All residents within the service area	None	24 hours in advance of trip. Same day service is provided subject to availability of vehicle time and capacity	N/A	City of Monrovia and surrounding unincorporated areas + Arcadia Methodist Hospital and Arcadia and Social Security Office	7:00 am - 10:00 pm	8:30 am - 6:00 pm	8:30 am - 6:00 pm	\$ 1.00 regular one-way, \$ 0.75 Senior discount one way	128	3,815
Pasadena	Pasadena Dial-a-Ride	Seniors / Disabled / Companies	Application Proof of age or Disability required	24 hr – 5 days in advance; same day service subject to availability	4 hours prior to scheduled pick-up time	Pasadena, San Marino, Altadena, Kinneloa Mesa, San Pasqual, East Pasadena, East San Gabriel, East San Gabriel Island, West Arcadia	7:00 am - 9:00 pm	9:00 am - 7:00 pm	7:00 am - 7:00 pm	\$ 0.75 (effective July 1st 2009) Attendants ride free	Estimate: 28 (Altadena) 6 (Unincorp L. A. County) 113 (Pasadena) 1 (San Marino) 30 (escorts) Total = 158*	847 (Altadena) 173 (Unincorp L. A. County) 3375 (Pasadena) 30 (San Marino) 311 (escorts) Total = 4737*
Arcadia	Arcadia Transit Dial-a-Ride (curb-to curb service)	All residents within the service area		required	no information	All origins and destinations within City limits	7:00 am - 9:30 pm	7:00 am - 7:00 pm	7:00 am - 7:00 pm	Senior Citizens - \$.025 Disabled persons - \$.025 All other riders - \$1.00 Monthly pass available for seniors and persons with disabilities for \$5.00	300 (estimate)**	9,096
Azusa	Azusa Dial-a-Ride (curb-to-curb service)	Azusa residents age 60+ and their spouses / persons under 60 years of age with disability with a current Access Service, Inc. or L.A.C.T.O.A.I.D. card	Application Proof of age and residency required	required	Must be done in timely manner. If not – considered "no-show". No-show policy.	Non-medical appointments are limited to Azusa City limits. Medical and Social Service appointments service the following communities: Azusa, Baldwin Park, Covina, Duarte, Glendora, Irwindale, Monrovia, San Dimas. West Covina, Senior Center	8:00 am - 4:00 pm	No service	Service available on a limited basis for pre-arranged Azusa trips only	\$ 0.25 to \$ 1.50 (depends on the community visited)	135	3,200
Monrovia	Old Town Trolley	everyone in the area	none	none	N/A	stretch of Huntington Drive to Old Town (M-F) and hotels on W Huntington Dr to Old Town's Family Festival, movie theater and restaurants	11:00 am - 6:00 pm	no service	no service	free	45 (estimate)**	1,000
Duarte	Duarte Transit Service	General public	N/A	N/A	N/A	fixed routes inside the City's boundaries, linking residential areas to business areas	7:00 am - 7:00 pm	8:00 am - 6:00 pm	no service	Free to all passengers	737 (Dec/09)	17,466 (Dec/09)

Note: *Average monthly data from July/08 to April/09 ** estimate – data received for a different time period and converted



CITY OF PASADENA LOCAL SERVICE AND PARATRANSIT OPERATIONS

City of Pasadena operates a shared curb-to-curb transit service for registered senior citizens and persons with disabilities that cannot use fixed-route transit. The Pasadena Dial-A-Ride is provided for eligible residents of Pasadena, San Marino, Altadena and some unincorporated areas of the Los Angeles County

Service is provided Monday through Friday from 7:00 AM to 9:00 PM, from 9:00 AM to 7:00 PM on Saturdays and from 7:00 AM to 7:00 PM on Sundays.

CITY OF ARCADIA LOCAL SERVICE AND PARATRANSIT OPERATIONS

City of Arcadia currently operates a general public dial-a-ride service. The program has been operating for thirty-five years, with the goal to make transit service available for senior citizens and people with disabilities. This curb-to-curb service serves well the existing patrons, but since the service is limited to locations within the City boundaries, it does not provide service to the public that needs to go outside the City. The service is subsidized for senior citizens and persons with disabilities, and eligibility is based on age (over 62 years) and proof of disability.

The service is available Monday through Friday from 7:00 AM to 9:30 PM, and from 7:00 AM to 7:00 PM on Saturday and Sunday. The program operates on a first call, first service basis, and reservations in advance are needed in order for a trip to occur.

The service is funded by transit formula allocation program through Metro, and uses a full service contractor to operate the services. The total ridership in Fiscal Year 2009 was close to 110,000 passengers, with an average revenue mileage of 20,000 miles per month.

CITY OF MONROVIA LOCAL SERVICE AND PARATRANSIT OPERATIONS

The City of Monrovia operates a general public dial-a-ride service within the city limits and specific county areas located south of the City limits. The service is called Monrovia Transit and has been operating since 1983. Monrovia Transit is provides curb-to-curb service for all Monrovia residents and visitors Monday through Friday from 7:00 AM to 10:00 PM and from 8:30 AM to 7:00 PM on Saturday and Sunday. School-age youths are not allowed to use the service on weekdays between 8:00 AM and 4:00 PM during the school year.

City of Monrovia also provides a free trolley service. The trolley service runs on a fixed route between Huntington Drive business corridor and Old Town section of the City on Myrtle Avenue. This service operates Monday through Friday, from 11:00 AM to 6:00 PM, with 15 minute intervals between trips. The average monthly usage is estimated to be 1,000 riders.

Proposition A local return funds are used for the operation of the DAR and Trolley, and AB 2766 monies are used to fund the discount bus pass program. Both services offered by the City are provided by a contract operator.

CITY OF DUARTE LOCAL SERVICE AND PARATRANSIT OPERATIONS

City of Duarte has operated a fixed route bus system since mid 1980s, linking residential areas of the City of Duarte to business areas, transporting local residents to and from local venues and other transit. The system is free, and the City also offers discounts (50%) for residents to purchase MTA and Foothill Transit bus passes.

The system is composed of three routes: Green Route, Blue Route and the Commuter Line. The service hours for the Green Route are Monday through Friday from 7:00 AM to 7:00 PM, with buses every hour. The Blue Route has the same weekday

hours, but also operates on Saturday from 8:00 AM to 6:00 PM. The Commuter Line is intended to provide transportation between residential areas and locations where the riders can board a Metro or a Foothill Transit bus line, and runs only on weekdays from 5:30 AM to 7:00 PM. The average monthly ridership is around 20,000 passengers.

The City owns and operates the system, and funding for the system is provided by Proposition A Transportation Fund and Proposition C Transportation Fund.

CITY OF AZUSA LOCAL SERVICE AND PARATRANSIT OPERATIONS

The City of Azusa currently provides local dial-a-ride vans, local shuttles and bus pass discounts to disabled and senior citizens (over 60 years and spouses). The program has been operating since 1978 and its goal is to help these citizens to reach their destinations. The services are considered adequate and no improvements are currently planned. The City has plans to add or change the services provided with the opening of the Gold Line Foothill Extension. The service is operated by the City and funded by Proposition A and C.

The service provided is a local door-to-door service, and prioritizes residents going to medical appointments. The service is available Monday through Friday from 8:00 AM to 4:00 PM, with limited service on Sundays (only pre-arranged trips), and does not function on major holidays. The program operates on a first call, first service basis, and reservations in advance are needed in order for a trip to occur. The system transports from 2,800 to 3,600 passengers per month.

ACCESS SERVICES

Los Angeles County is also served by Access, an American with Disabilities Act mandated public transportation service that provides transportation for people unable to use the fixed-route transportation system on their own. Access is a curb to curb shared-ride service provided for areas that are located within a ¾ mile distance of fixed-route bus and rail lines. The service runs seven days a week, from 4:00 AM to 12:00 AM. Eligibility is determined through in-person evaluation, and considers the ability of the person, without help of anyone: get to and from the bus, to get on and off an accessible bus, and understand which bus to get on and where to get off. The eligible users of Access are granted use of fixed-route buses and Metro Rail at no cost.

Recurring rides are available upon approval of Standing Order request. The one-way fare is based on distance traveled and maximum fare is \$2.70 for areas served by the system within Los Angeles County.

DISCUSSIONS WITH BUS OPERATORS

To identify existing issues and assist in developing improvement plans, several meetings were held with the two primary bus operators that provide service to the vicinity of the proposed light rail stations. These meetings focused on identifying potential route refinements that would achieve the best interface for the transit users.

LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY

Discussions of possible modifications to bus routes and bus stops in order to make connections between transit services more convenient for transit users included these topics:

- What bus routes make sense to connect to individual light rail stations
- Perspective on the ridership of the routes in the vicinity of the stations
- Access challenges Metro faces today, and how this might impact the proposed stations
- Intelligence and guidance on individual city thoughts relating to re-routing bus service
- Current issues related to the bus service that might be pertinent to the study

Highlights of the discussions are summarized below by station.

Sierra Madre Villa Station

- The Sierra Madre Villa station will need changes to its service as it will no longer be a terminal station
- There are routes in the area that currently do not serve the station, such as Route 264
- There are some noise concerns regarding the existing operations
- There are bus layover and stop capacity constraints at Sierra Madre Villa station. In many cases buses need to layover in the same stall as their stop, which reduces the capacity of the facility to accommodate additional buses. Pasadena ARTS service takes up one of the layover spaces

Arcadia Station

- At the Arcadia station, it would be beneficial to relocate the current terminus and layover stop for Route 79 from its current location off of 2nd Avenue to a site adjacent to the planned Gold Line station. A bus turnout along Santa Clara Street would be a good location for a stop and layover location.
- Would be willing to consider realignment of route 487 from Santa Anita Avenue to First Avenue to connect to the Arcadia station.
- Route 79 has opportunity to serve as a good connection from the Arcadia station to Arcadia Mall and planned development at Santa Anita Park. Restrooms will be needed at the station for terminating routes
- It would be good to provide an off-street transfer facility
- The city's shuttle system needs to be considered

Monrovia Station

- At the Monrovia station, there are challenges for getting pedestrians across Myrtle Avenue from the northbound direction. Pedestrian access for Route 270 needs to be carefully considered. The location of the stop is an issue. A crosswalk, more lights, and/or other protection are needed
- Far side stops are generally preferable, but closeness to the train platform would be better in this case. It may not be possible to stop too close to the tracks

Duarte Station

- In Duarte, there are challenges in getting pedestrians across Duarte Road to City of Hope. No controlled crossing is provided. There is limited space on north side of roadway for a stop adjacent to the station. Most bus routes currently operate in a loop fashion eastbound on Duarte Road and returning to Huntington Drive to travel back west
- Route 264 will loop or terminate at this station. The proximity to the City of Hope medical center is a key element of this station
- Metro would prefer to turnaround and lay over at the station. A restroom would be needed
- There are limited sidewalks in the area now. Pedestrian access to the platform will be a concern
- Foothill Transit routes are also expected to layover at this station

The team also discussed with Metro Staff the conduction of a Rider Survey. Metro Staff agreed that it would be logical to survey riders on routes that would connect to the Gold Line, and suggested that some parallel routes could be surveyed also. Trying to get information on their propensity to use the Gold Line would be desirable.

A follow-up meeting will be requested with Metro staff in the beginning of 2011 to discuss the findings and to receive Metro's review and analysis of initial recommendations. The intention is to work cooperatively towards the identification of interface improvements at the Arcadia, Monrovia and Duarte stations.

FOOTHILL TRANSIT

The team asked to meet with Foothill Transit in order to work with the agency to identify the feasible improvements for bus amenities and accessibility at the light rail stations located within the service area for Foothill Transit service, and to request data to utilize the analysis. Foothill Transit is the bus operator that has most lines within the area of influence of the planned Gold Line stations. An exhibit of the area surrounding all the stations along the extension's alignment was provided at the meeting. Discussions of connectivity and accessibility were conducted using the exhibit as a reference.

The team initiated discussion of possible modifications to bus routes and bus stops in order to make connections between transit services more convenient for transit users. Topics discussed included:

- What bus routes make sense to connect to individual light rail stations
- Perspective on the ridership of the routes in the vicinity of the stations
- Access challenges Foothill faces today, and how this might impact the proposed stations
- Intelligence and guidance on individual city thoughts relating to re-routing bus service
- Current issues related to the bus service that might be pertinent to the study



Foothill Transit staff had several suggestions related to bus routes, stops and pedestrian access at the stations along the alignment. These comments included:

- At the Azusa Station, the layover of Route 185 is problematic at the north end
- In Duarte, there are pedestrian accessibility challenges on Duarte Road. There is need to provide a safe way for pedestrians to access City of Hope
- Route 488 is a candidate for realignment and connection to the light rail service at Glendora Station
- Foothill Transit has worked with the City of Monrovia in the past to provide a connection to the Monrovia Station
- Montclair Station is very close to the County boundary. Issues associated with the changes of jurisdiction need to be considered while proposing connectivity solutions to the station
- Route 492 may present a good opportunity to connect to the light rail service

Another meeting will be requested with Foothill Transit later in 2011 to discuss the findings and to receive the Agency's review and analysis of initial recommendations. The intention is to work cooperatively towards the identification of interface improvements.

RIDER SURVEYS

A series of surveys were prepared and administered to sample passengers of existing transit services and San Gabriel Valley residents who live or travel in close proximity to the new light rail stations proposed as part of the Metro Gold Line Pasadena to Azusa Extension. Four surveys were conducted to reach different target markets within the study area:

- Bus Rider Survey – Targeting riders on bus routes (Metro, Foothill Transit, and Duarte Transit) that intersect or operate in close proximity to the proposed Pasadena to Azusa Extension.
- Gold Line Rider Survey – Targeting riders of the existing Gold Line light rail line between Pasadena and East Los Angeles.
- Telephone Survey – Targeting residents of the San Gabriel Valley living in varying degrees of proximity to the planned Pasadena to Azusa Extension.
- Bicyclist Survey – Targeting bicyclists (recreational and commuter) who live in the San Gabriel Valley in varying degrees of proximity to the planned Pasadena to Azusa Extension.

The purpose of these surveys is to help in estimating which existing transit riders, residents, and cyclists would use the Pasadena to Azusa Extension as part of their commute (regular or not), as well as identify the service changes and/or attributes of the bus/rail interface that these passengers consider important.

Results and observations from the four surveys are summarized in this chapter. More detailed technical memorandums are provided as an appendix to this report.

BUS RIDER SURVEY

The bus rider survey instrument comprised questions that sought to elicit the following types of information:

- transit behavior of current bus riders,
- frequency of current bus use,
- transfer patterns,
- origin/destination information of current bus riders
- intended use of the Gold Line extension by current bus riders,
- potential boarding and destination stations among current bus riders
- intentions to use the bus system after completion of the Gold Line extension,
- intended frequency of use of the Gold Line Extension among current bus riders,
- interest among bus riders in using further extensions of the Gold Line to Montclair and then on to the Ontario Airport.

Trained surveyors distributed survey forms to passengers on board designated buses on the following routes:

- Metro
 - 79
 - 264
 - 270
 - 487
- Foothill Transit
 - 185 • 284
 - 187 • 488
 - 272 • 492
 - 280 • 494
 - 281 • 498
- Duarte Transit
 - Blue
 - Green
 - Commuter

Surveyors rode these bus routes within five miles of the Gold Line Extension route and to a point where catching the return bus was convenient, but never less than five miles from the Extension route. Surveyors collected completed survey forms before or when passengers alighted the bus. Survey respondents were also provided with a prepaid mail-back option in case they were unable to complete their survey on-board.



The survey was administered on weekdays. In order to complete this project and to collect an adequate number of completed surveys, surveyors were in the field six days in November 2010 and another four days in January 2011. The January dates were necessary to ensure that the designated bus routes each had an adequate number of completed surveys.

A total of 1,044 completed surveys were collected as the sample of on-board bus riders. This represents a margin of error of approximately +/- 3% at the 95% level of confidence. Sample sizes by bus route are as follows:

Bus Route	Sample Size
Metro 79	51
Metro 264	57
Metro 270	90
Metro 487	53
Foothill 185	51
Foothill 187	215
Foothill 272	47
Foothill 280	50
Foothill 281	47
Foothill 284	47
Foothill 492	48
Foothill 494	57
Foothill 488	99
Foothill 498	47
Duarte Transit	85
Total	1044

Three essential information components were obtained from a review of the bus rider survey data:

- Travel Behavior of Current Bus Riders
- Attitudes and Anticipated Transit Behavior among Current Bus Riders Who Intend to Use the Gold Line Extension
- Interest among Bus Riders in Using Further Gold Line Extensions

The most noteworthy finding is that a very substantial portion of bus riders on the subject routes, who, for the most part, are not now using the existing Gold Line, plan to use the Gold Line Foothill Extension from Pasadena to Azusa, especially riders currently using Foothill Transit Route 187, Metro Route 264, and Duarte Transit buses.

Travel Behavior

Cross-streets at origins and at destinations for the one-way trip made by bus respondents at time of interview are provided in the appendix. This information was provided, at least in part, by 775 respondents or 74 percent of the sample. Table 1-8 shows the primary originating and destination cities associated with the one-way trip according to the

bus route on which the respondent was interviewed. For Metro buses, the originating cities are dominantly Monrovia, Arcadia, and El Monte while the destination cities are largely Pasadena, Monrovia, and Los Angeles. With regard to Foothill Transit buses, originating cities are for the most part Azusa, Covina, and West Covina. The dominant Foothill Transit destination cities also include West Covina, and Covina along with Glendora.

TABLE 1-8 Primary Originating and Destination Cities of Bus Riders for their One-Way Trip by Bus Route

Bus Route	Primary Originating Cities	Primary Destination Cities
Metro		
79	Arcadia, Azusa	Pasadena, Los Angeles
264	Pasadena, Monrovia	Arcadia, Duarte, Pasadena, Monrovia
270	El Monte, Monrovia	El Monte, Monrovia
487	Arcadia, El Monte, Monrovia	Los Angeles, Monrovia, Pasadena
Foothill Transit		
185	Azusa, Pomona, West Covina	La Puente, Pasadena
187	Pasadena, Azusa, Duarte	Pasadena, Monrovia, Los Angeles
272	Duarte, Pasadena, Baldwin Park	Duarte, Pasadena, West Covina
280	Azusa, La Puente, Pasadena	Azusa, West Covina
281	Azusa, Covina, West Covina	West Covina, Los Angeles, Glendora
284	Covina, El Monte	Glendora, Covina
487	Arcadia, El Monte, Monrovia	Los Angeles, Monrovia, Pasadena
488	Covina, La Puente, Azusa	Covina, Glendora, West Covina
492	Baldwin Park, Irwindale, Los Angeles, Montebello	El Monte, Irwindale, San Dimas
494	El Monte, Irwindale, Azusa	Los Angeles, El Monte, Arcadia, Azusa, Covina
498	Covina, Glendora	Covina, Baldwin Park, Glendora
Duarte Transit		
Blue, Green, Commuter	Duarte, Monrovia	Duarte, Pasadena, Azusa

The survey results indicate that bus respondents are frequent users of transit. That is, over 8 in 10 bus respondents (84 percent) currently use Metro and/or Foothill Transit or Duarte Transit buses at least 3 days per week (61 percent – 5 or more days per week and 23 percent – 3-4 days per week). Transit usage ranges from a low for bus passengers on Metro route 79 (52 percent—at least 3 days per week) and Foothill route 284 (62 percent -- at least 3 days per week) to a high on Foothill routes 272 (100 percent – at least 3 days per week) and 281 (95 percent).

Attitudes and Anticipated Travel Behavior

Survey results indicate that 70 percent of bus passengers intend to use the Gold Line Extension once it is constructed. This is a substantial percentage of bus riders especially in light of the fact that only 6 percent of bus respondents use the Gold Line currently at some point during their one-way trip. Bus riders on Foothill route 187 (88 percent) and Metro route 264 (85 percent) indicate the greatest interest in potentially using the Gold Line Extension, while bus respondents on Foothill route 284 (42 percent) and Metro route 79 (49 percent) express the least amount of interest in using the Extension.



The three most frequently cited boarding stations by bus riders who intend to use the Gold Line are the new stations at Azusa-Citrus College (23 percent), Monrovia (15 percent) and Duarte (14 percent). Bus passengers on the following Foothill Transit routes expect to use the Azusa-Citrus College station extensively to board the Gold Line:

- Route 498 (69 percent of respondents)
- Route 488 (56 percent of respondents)
- Route 281 (50 percent of respondents)
- Route 280 (48 percent of respondents)

Bus passengers on Metro routes identified the Monrovia and Arcadia stations as their most likely boarding station. With regard to destinations, bus passengers expect to most likely use new stations at Azusa-Citrus, Monrovia, Duarte, and Arcadia. The Irwindale station was identified as the least likely station to be used among the new stations.

Approximately 7 in 10 (72 percent) of bus respondents who intend to use the Gold Line Extension also plan to continue using the bus system along with the Gold Line on their typical transit trip. This percentage rises to a high of 87 percent on Foothill Route 281 and 84 percent on Foothill Route 494. On the other hand, the percentage of riders who plan to continue using the bus falls to a low of 39 percent on Foothill Route 284.

Interest in Using Further Extensions of the Gold Line

There is relatively strong interest in using secondary Gold Line extensions. Seventy-two percent of bus survey respondents intend to use a secondary extension of the Gold Line ultimately planned to operate from Azusa to Montclair. Over three-fifths (61 percent) of bus passengers expressed interest in using the further extension of the Gold Line to the Ontario Airport.

GOLD LINE RIDER SURVEY

A key element of the survey effort was to gain an understanding about the extent to which current Gold Line riders plan to make use of the Gold Line Pasadena to Azusa Extension. It is equally important to understand how current rail riders may adjust their travel behavior when the Gold Line Foothill Extension from Pasadena to Azusa is operational. The results of an on-board survey of current Gold Line riders are summarized here. This survey was designed to identify the transit behavior of existing riders, as well as their attitudes, opinions, and intended use of the Gold Line after the Pasadena to Azusa Extension is constructed.

Method of Research

Trained surveyors distributed survey forms to passengers on board rail cars of the Gold Line at all rail stops between Sierra Madre Villa and Downtown Los Angeles Union Station and then collected completed survey forms before passengers alighted the rail car. A prepaid mail-back option was provided for those respondents unable to complete the survey while on-board. The survey took place on weekdays. In order to complete this project and to collect an adequate number of completed surveys, surveyors were in the field four days. They started their day as early as 5:00 AM and ended it as late as past midnight. A total of 1,104 completed surveys were collected as the sample of current Gold Line riders.

Survey Results

Travel Behavior of Current Gold Line Riders

- Sierra Madre Villa is currently the most important boarding station during the AM Peak (before 9:00AM--35 percent) morning commute, and it is also very important as a departing station at midday (9:00AM-to-3:00PM--14 percent), PM Peak (3:00PM-to-7:00PM--15 percent), and at night (after 7:00PM--18 percent), when commuters return home.
- Nearly three-fourths (73 percent) of Gold Line riders exit the Gold Line at the Los Angeles or east Los Angeles stations in the AM Peak.
- Nearly three-fifths (56 percent) of current Gold Line riders board the Gold Line at the Los Angeles or east Los Angeles stations at night and two-fifths board at these stations during the PM Peak. This is consistent with a typical pattern of commutation where passengers who alighted in the AM peak are returning home after their work day.
- Well over one-half (55 percent) of respondents walk from their point of origin to their first bus or train that they used for their current one-way trip. Walking is least common in the AM Peak period (45 percent). Over one-third (35 percent) of Gold Line riders during the AM Peak gained access to transit by driving alone to the station and parking there.
- Walking (34 percent), transferring from buses (21 percent) and rail transit (16 percent) and driving alone and parking (16 percent) are the primary transportation modes for accessing the Gold Line. Modes of egress from the Gold Line are also led by walking (37 percent), transfers to rail transit (32 percent) and buses (14 percent).
- Among those who identified their transit sequence, nearly three-fourths (73 percent) either made no transfers (36 percent) or made just one transfer (37 percent).
- Further, over three-fifths (63 percent) of respondents indicated that their use of the Gold Line was their first or only mode of their trip and 27 percent said that the Gold Line represented their second mode.

Attitudes and Anticipated Transit Behavior among Current Gold Line Riders Who Intend to Use the Gold Line Extension

- Over four-fifths (82 percent) of all respondents indicated they would use the Gold Line Foothill Extension.
- Once the Gold Line is extended only 10 percent of respondents plan to board their first train of the day at Sierra Madre Villa (12 percent in the AM peak). What is particularly noteworthy is the fall off of Sierra Madre Villa boardings from the AM Peak of 35 percent at present to 12 percent after construction of the Gold Line Foothill Extension. The difference is made up in large part by use of new stations—especially Azusa-Citrus College (9 percent), Monrovia (9 percent) and Arcadia (8 percent).
- Almost one-sixth (13 percent) of those respondents who intend to use the Gold Line Foothill Extension plan to depart their first trip on the Gold Line at Arcadia followed closely by the Azusa-Citrus station (11 percent), Downtown Azusa (9 percent) and Monrovia (8 percent). The new stations are clearly thought by existing riders to be important points of departure and destination.
- Irwindale is the newly planned station on the Gold Line Foothill Extension that is least intended as a boarding or a destination station by those who intend to use the extension.
- Nearly three-fifths (58 percent) anticipate using the Gold Line Foothill Extension five or more days per week (40 percent) or three to four days per week (18 percent) and seven of ten respondents plan to use the Gold Line Extension on weekends.

Interest in Using Further Extensions of the Gold Line

- Nearly four-fifths (79 percent) of respondents expressed interest in using the Azusa to Montclair extension of the Gold Line.
- Over seven in ten (71 percent) respondents are interested in using a further extension of the Gold Line to the Ontario Airport.

TELEPHONE SURVEY

- Besides surveying existing transit riders, it is important to determine if residents near the proposed Pasadena to Azusa Extension and throughout the San Gabriel Valley would consider using the light rail service for their transportation needs. To this end, a telephone survey was conducted among residents of the San Gabriel Valley who could reasonably make use of the Gold Line Foothill Extension.
- This summary of survey results is divided into eight essential information components as follows:
 - Demographic Statistics/Respondent Characteristics
 - Current Use of Public Transit
 - Current Gold Line Riders Who Plan to Use the Gold Line Extension
 - New Riders of the Gold Line (after proposed construction of the Gold Line Extension)
 - Reasons for Not Using the Gold Line Extension and Features that Could Cause Respondents to Use it
 - Long Term Plans to Extend the Gold Line
 - Opinions Regarding the Use of Measure R Funds for Various Transportation Purposes
 - Satisfaction with Transit Characteristics and Transit Systems in the San Gabriel Valley
- In order to obtain a sample that represents a broad cross section of the population in the San Gabriel Valley who are likely to consider using the Gold Line Extension, the survey population base was stratified into five distinct areas and a specific sample size was ensured in each area. These areas or tiers and their respective sample sizes are as follows:
 - Tier 1: Residents who live within a radius of one-half mile of the newly proposed Gold Line stations on the Pasadena to Azusa Extension
 - Tier 2: Residents within a Primary Driving Area that could access one of the six proposed stations via car. The northern boundary of this area is the San Gabriel Mountains. The area runs one-half of the distance from the proposed alignment of Gold Line Foothill Extension to I-10 on the south but in no event to the south of the alignment for the Metrolink San Bernardino Line. The western boundary is Sierra Madre Villa and the eastern boundary is Glendora/Covina.
 - Tier 3: Residents in western San Gabriel Valley
 - This area is outside the primary driving area and west of Sierra Madre to the Los Angeles City limits and south to SR 60.
 - Tier 4: Residents in central San Gabriel Valley
 - This area is outside the primary driving area from Sierra Madre to Azusa and south to La Puente and South El Monte.
 - Tier 5: Residents in eastern San Gabriel Valley
 - This area is outside the primary driving area from Azusa to the Los Angeles County/San Bernardino County line –

south to West Covina/Pomona/Walnut.

Current Use of Public Transit

- Transit usage among survey respondents is quite high. It is noteworthy that those who use either the bus or the rail range from nearly one-fifth (19 percent) in the primary driving area to nearly one-half (48 percent) among western San Gabriel Valley respondents. The median percentage of those who use either the bus or rail, among the five geographic areas, is 26 percent.
- The existing Gold Line between Pasadena and East Los Angeles (32 percent) is clearly the dominant choice of rail users in the western San Gabriel Valley followed by the use of Metrolink (11 percent).
- The existing Gold Line is used least among rail riders who reside in the central San Gabriel Valley (2 percent) and in the eastern San Gabriel Valley (1 percent).
- In the area within one-half mile of the proposed new Pasadena to Azusa Extension stations, in the primary driving area, and in western San Gabriel Valley, about 60 percent of respondents are favorably inclined to use the Gold Line Foothill Extension. In the central San Gabriel Valley and in the eastern San Gabriel Valley, outside of the primary driving area, respondents are less favorably inclined to use the Gold Line Foothill Extension.

Current Gold Line Riders Who Plan to Use the Gold Line Extension

- There is strong interest among current Gold Line riders to use the proposed Gold Line Pasadena to Azusa Extension.
- Among current Gold Line riders, who live within one-half mile of the newly proposed Gold Line stations, 94 percent intend to board at one of the new stations. Their primary proposed boarding stations are Azusa-Citrus College (47 percent) and Arcadia (27 percent).
- Within the primary driving area, 90 percent of current Gold Line riders plan to board at a new station – primarily Arcadia (45 percent) and Monrovia (33 percent).
- Among current riders who live within the primary driving area and among current riders who reside in the western San Gabriel Valley, three-fifths plan to exit at one of the new Gold Line stations. For those in the primary driving area, the new exit stations are Downtown Azusa and Monrovia (each 20 percent).
- For respondents who live within one-half mile of the newly proposed stations, just over two-fifths (44 percent) of current Gold Line riders intend to alight at a new station. The specific stations are: Azusa-Citrus College, Arcadia, Monrovia, Irwindale, and Duarte.
- Current Gold Line riders, who plan to use the Gold Line Extension, will do so for a purpose that is different from their current purpose – largely the social-recreation trip. The dominance of the social/recreation trip is consistent with the respondents' stated intention of increasing the use of the Gold Line on weekends.

New Riders of the Gold Line (after proposed construction of the Gold Line Extension)

- For those who intend to be new Gold Line riders, once the Gold Line Foothill Extension is in place, these new riders intend to board dominantly at Azusa -- residents within one-half mile of the proposed stations (65 percent), those who live in the primary driving area (41 percent), and those who live in the eastern San Gabriel Valley (28 percent).
- In the primary driving area and in the eastern San Gabriel Valley, nearly three-fifths (58 percent and 56 percent respectively) of new riders plan to drive themselves to their specific boarding station.



- Respondents who live within one-half mile of the new stations and those who reside in the western San Gabriel Valley largely intend to walk to the boarding stations (38 percent and 24 percent respectively).
- In the western San Gabriel Valley and in central San Gabriel Valley, the bus would be the dominant mode used to get to boarding stations.
- Once the Gold Line is extended, new riders intend to use the Gold Line largely for social/recreational activities, especially among respondents in the primary driving area (52 percent) and those in western San Gabriel Valley (50 percent).
- The shopping trip will become important for those new riders who reside within one mile of the new stations.

Reasons for not using the Gold Line Extension and Features that Could Cause Respondents to Use it

- For respondents who reside in closest proximity to the proposed new stations, safety at the rail stations is the most important feature in potentially causing them to use the Gold Line Foothill Extension. Respondents would also be influenced to use the extension by the availability of free parking at the stations.
- In four of the five areas (excluding primary driving area), respondents would also be heavily influenced to use the extension by a comfortable train ride
- In the western San Gabriel Valley and in the eastern San Gabriel Valley, respondents would be particularly motivated to use the extension if the new rail trip is faster than their current trip.
- In each of the 5 geographic areas, making bicycle lockers available is the least important feature that would influence respondents to use the extension.

Long Term Plans to Extend the Gold Line

- There is considerable interest in using the proposed Gold Line Extension Azusa to Montclair project to all planned stations including Glendora, San Dimas, La Verne, Pomona, and Claremont.
- Interest is strongest in the area within one-half mile of the newly proposed stations and in the primary driving area.
- Respondents exhibit a similar pattern of interest with regard to potential use of a Gold Line extension to access the Ontario Airport (within one-half mile – 82 percent) and primary driving area – 78 percent.)

Opinions Regarding the Use of Measure R Funds for Various Transportation Purposes

- For various transportation programs or facilities covered by Measure R, respondents indicated whether they believe Measure R funds are put to good use for such purposes. Respondents affirmed these uses of Measure R funds ranging from approximately 60 percent to 75 percent over the various programs and facilities.
- Those, who believe that Measure R funds are being put to good use, were further asked to rate the quality of provision of the program. Respondents (all geographic areas included) are most satisfied with the provision of carpool lanes. With regard to carpool lanes, satisfaction was highest in the primary driving area and in the central San Gabriel Valley.
- Beyond carpool lanes, respondents are also satisfied with discounted transit fares. High ratings are recorded for discounted transit fares in three areas – within one-half mile of the proposed new station, in the primary driving area, and in the central San Gabriel Valley.
- Respondents are least satisfied with street resurfacing and pothole repairs, especially within one-half mile of the new stations.

- There is substantial support for other ballot initiatives similar to Measure R that are designed to raise funds to build or improve transit systems throughout Los Angeles County – ranging from 63 percent in the central San Gabriel Valley to 69 percent in the eastern San Gabriel Valley.
- Respondents, who do not support other Measure R type ballot initiatives or are uncertain about their support, do show some level of additional support for ballot initiatives that would assure that the San Gabriel Valley transit systems would receive their fair share of the funds. This additional support ranges from 11 percent in the western San Gabriel Valley to 16 percent in the primary driving area.

Satisfaction with Transit Characteristics and Transit Systems in the San Gabriel Valley

- Respondents are most satisfied with transit characteristics involving the rail and least satisfied with those pertaining to the bus.
- For the times that trains operate, the means range from 1.96 (scale 1-5, where 1 is very satisfactory) in the western San Gabriel Valley to 2.37 in the eastern San Gabriel Valley. Similarly favorable means are recorded for Gold Line fares with means ranging from 1.99 in the area within one-half mile of the new stations to 2.46 in the eastern San Gabriel Valley.
- Respondents are least satisfied with the availability of express buses (2.57) and the times that buses operate (2.55). With regard to express buses, means range from 2.45 in the primary driving area and in western San Gabriel Valley to 2.70 in the area within one-half mile of the new stations. For the times that buses operate, means range from 2.39 in the central San Gabriel Valley to 2.71 in the western San Gabriel Valley.
- The most important characteristic that would motivate non-users of transit to try rail or bus is the availability of more routes and stops. This characteristic is most prevalent in eastern San Gabriel Valley (38 percent) followed by western San Gabriel Valley (30 percent).

BICYCLIST SURVEY

A survey of bicyclists was conducted that sought to elicit the following types of information:

- Potential use of the Gold Line Foothill Extension from Pasadena to Azusa in association with bicycle travel (regarding both near term and long range extensions of the Gold Line),
- Characteristics of respondent bicycle users,
- Desired station features of bicycle users, and
- Surface street routes.

Two primary sources of bicycle riders were identified: bicycle clubs and bicycle shops in the San Gabriel Valley area. It was determined that contacting bicycle users through these sources was the most efficient way to access this population. Several bicycle clubs agreed to distribute the survey form to their members. From this source, 92 surveys were obtained. Several bicycle shops agreed to place surveys on their counter so that customers could easily complete the survey while they were in the shop. From this source, 33 surveys were obtained. Thus, a total of 125 completed surveys of bicycle users were obtained.

The results of the bicyclist survey are summarized below.

Bicycle Riders Use of the Gold Line

- Respondent bicyclists demonstrate that a large proportion of them use the Gold Line in conjunction with their bicycle travel and intend to continue using it when the Gold Line Foothill Extension becomes available.
 - 60 percent of the respondents currently use the Gold Line in coordination with their bicycle and 77 percent expect to use the extension with their bicycle.
 - More than one-half (52 percent) of the respondents use the Gold Line currently in association with their bicycles and also intend to coordinate bicycle use with the extension.
 - One-fourth of respondents do not currently use the Gold Line in conjunction with their bicycle but do plan to use the extension in coordination with their bicycle.
 - The primary reason offered by respondents for not intending to use the extension with their bicycle is that they do not travel to the areas that will be served by the extension
- Respondents plan to use the extension in coordination with their bicycle dominantly for non-commuting trips. Only 15 percent of these potential trips would be used for commuting to and from work.
- Respondents plan to use the extension in conjunction with their bicycle somewhat infrequently. More than two-fifths (43 percent) plan to use the extension with their bicycle less than once per week and another 30 percent plan such trips 1-2 days per week.

Issues Associated with Coordinating Bicycle Travel with Use of the Gold Line Extension

- Nearly one-half (48 percent) of respondents always plan to take their bicycle on the train when they use the Gold Line Foothill Extension. Another 45 percent sometimes plan to take their bicycle on the train but other times they plan to park and lock their bicycle at the station.
- Safety and security of the respondents' bicycle is of paramount importance in the decision to take a bicycle on the train and/or leave it at the station.
 - Well over three-fifths of respondents (63 percent) would not be willing to leave their own bicycle locked at their home station and rent a bicycle at their destination station (assuming rentals would be available) to complete their trip.
 - A substantial proportion of respondents (79 percent) are influenced by the quality of bicycle storage facilities at the stations when they make a decision whether or not to take their bicycles with them during rail travel. Over two-fifths (41 percent) of the respondents prefer individual locker rentals and another 34 percent prefer secure storage rentals.
 - The availability of better and easier bicycle storage on the trains is the single most important feature (28 percent of all mentioned features) that would motivate respondents to use the extension in conjunction with their bicycle more frequently than they already do.
 - The second most cited feature that would motivate more use of the bicycle in association with the proposed extension is better bicycle storage at the stations (16 percent of all mentioned features).

Origin and Destination Preferences on the Proposed Gold Line Extension

- When the Gold Line Foothill Extension becomes available, nearly half of the respondents (49 percent) would board the train at their home-based trip origin at one of the newly proposed extension stations. The largest proportion of respondents would board at Arcadia (12 percent) and Azusa-Citrus College (11 percent) while the smallest proportion would board at Irwindale (3 percent) and Duarte (5 percent). The remaining 51 percent would board at an existing station.
- Respondents intend to make more use of the new stations on the Gold Line Foothill Extension at the destination end of their trip than they intend at the origin. For example, over three-quarters (77 percent) of respondents plan to use the newly proposed stations at destination, while the remaining 23 percent plan to exit at one of the existing Gold Line stations. The largest proportion of respondents plan to exit at Duarte (21 percent) and Arcadia (17 percent). The smallest proportion of respondents would exit at Irwindale (4 percent).

Longer Range Plans for the Gold Line

- There is support for coordinating bicycle use with further extensions of the Gold Line beyond Azusa. Nearly four-fifths (78 percent) of respondents have an interest in coordinating bicycle use with an extension of the Gold Line to such places as Glendora, San Dimas, La Verne, Claremont, Pomona, and Montclair.
- Nearly three-fifths (59 percent) of the respondents would be interested in using their bicycle in coordination with the Gold Line if it were extended even farther to the Ontario Airport.

