SAN GABRIEL VALLEY COG
TRANSIT FEASIBILITY STUDY

Mobility Problem Definition Report

Document Review Tracking Stamp		
		Original Print Date August 23, 2021
Document Activity Name Date Completed		
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REVISION LOG

Any changes to this document will be re-submitted for review and approval by San Gabriel Valley Council of Governments (SGVCOG).

REVISION DATE	AFFECTED PAGES	REASON FOR CHANGE
	All Pages	INITIAL ISSUE
9/28/2021	*Some Pages*	SGVCOG / Metro Comments
10/13/2021	*Some Pages*	SGVCOG / Metro Comments

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1 INTRODUCTION

To understand the history of mobility problems within the San Gabriel Valley (SGV or valley), it is important to highlight the community characteristics and travel patterns of the Study Area, and recognize the issues documented in earlier studies and reports. While the SGV includes a diverse set of cities, communities, populations, land uses, economic centers, and transportation networks, they share and collectively have similar mobility constraints. This report summarizes the prominent mobility issues for the SGV to establish the focused areas of need for transit mobility options.

Once the mobility constraints are identified, the study purpose will be developed to describe the basic study area challenges and ascertain where improved transit investment is needed. This statement will be the essential justification of transit investment and will set the framework for goals and objectives to evaluate project alternatives.

1.1 Study Background

The SGV is a diverse and significantly influential area within eastern Los Angeles (LA) County. Home to over two million residents within its 375 square miles, the SGV Study Area is bordered by the City of Los Angeles/San Fernando Valley to the west, San Bernardino County to the east, the San Gabriel Mountains to the north, and the Gateway Cities/Orange County to the south. For this report, the Study Area in its entirety is inclusive of the 31 San Gabriel Valley Council of Government (SGVCOG) cities:

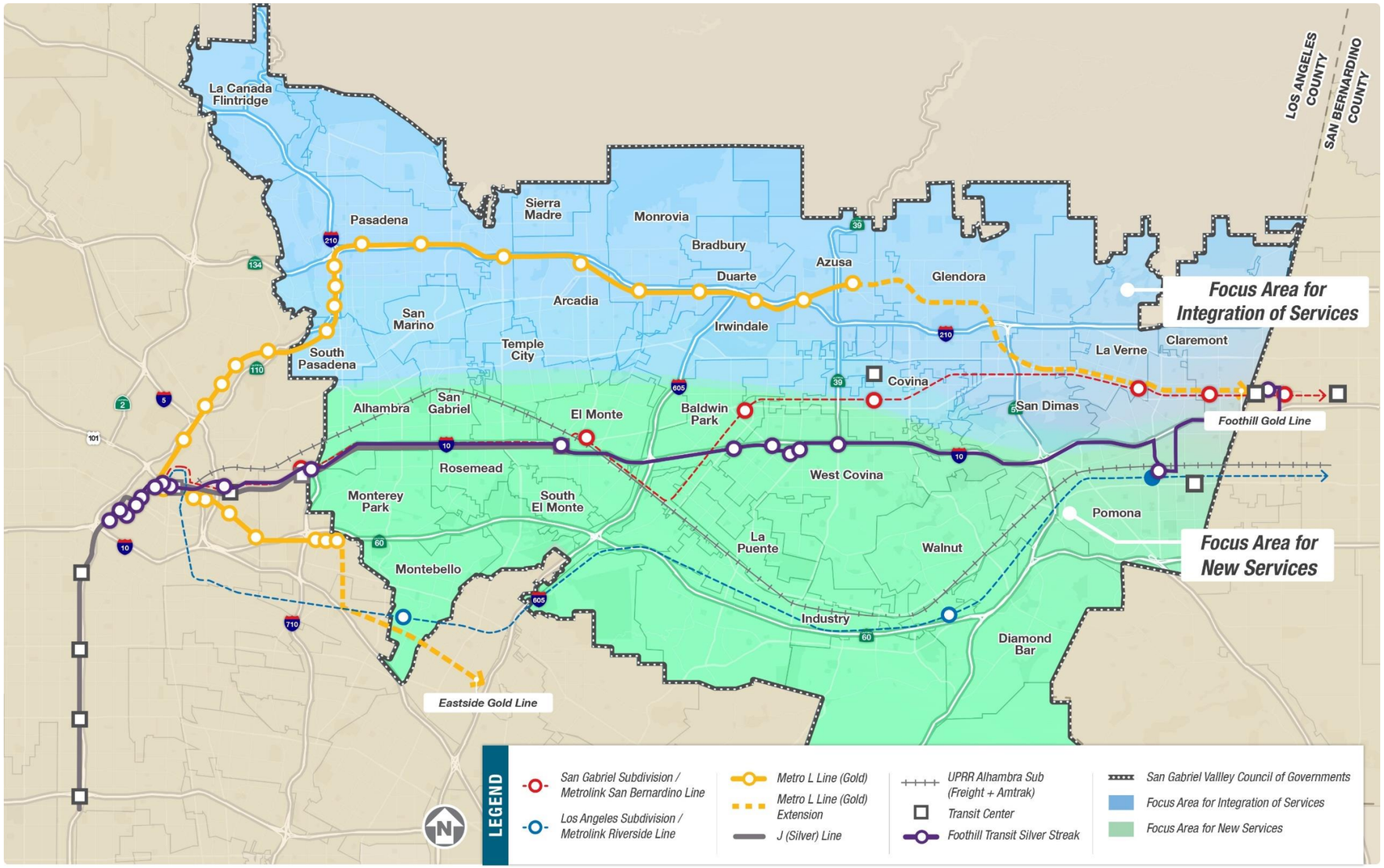
1. Alhambra
2. Arcadia
3. Azusa
4. Baldwin Park
5. Bradbury
6. Claremont
7. Covina
8. Diamond Bar
9. Duarte
10. El Monte
11. Glendora
12. Industry
13. Irwindale
14. La Canada Flintridge
15. La Puente
16. La Verne
17. Monrovia
18. Montebello
19. Monterey Park
20. Pasadena
21. Pomona
22. Rosemead
23. San Dimas
24. San Gabriel
25. San Marino
26. Sierra Madre
27. South El Monte
28. South Pasadena
29. Temple City
30. Walnut
31. West Covina

The Study Area also includes LA County Districts 1, 4, and 5; San Gabriel Valley Municipal Water District; Three Valleys Municipal Water District; and the Upper San Gabriel Valley Municipal Water District.

For the purposes of the SGV Transit Feasibility Study (Study), there are two different focus areas within the Study Area boundaries. The *Focus Area for Integration of Services* leverages existing assets such as the Metro L (Gold) Line to integrate with connecting services. The *Focus Area for New Services* targets areas that may be currently underserved and lacking high quality frequent transit service. While Metrolink and the J Line do serve this area, these services are

mostly aimed at commuters travelling to and from downtown at peak times during the week, and does not support many local trips, particularly north-south trips. The Focus Area for New Services generally includes the Interstate 10 (I-10) and State Route 60 (SR-60) corridors, both of which serve as vital east/west travel corridors through the valley. **Figure 1** illustrates the Study Area boundaries and the two focus areas.

Figure 1 - Study Area Map



Earlier studies help establish the history of mobility issues within the SGV. A review was conducted of several studies to inform the identification of the transportation constraints and challenges within the Study Area. The following documents were reviewed as part of this effort:

- REGIONAL PLANS AND STUDIES
  - Southern California Association of Governments (SCAG) 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (Connect SoCal) (2020)
  - Metro Re-Evaluation Major Investment Study (2000)
  - Metro Rapid Demonstration Project (2000)
  - Metro Vision 2028 Strategic Plan (2018)
  - Metro 2020 Long Range Transportation Plan (LRTP) (2020)
  - Metro Equity Platform Framework (2018)
  - Metro Better Bus Program (2021)
  - Metro BRT Vision and Principles Study (2021)
  - Metro NextGen Bus Plan (2020)
  - Measure M Subregional Program (2018)
  - Metro Transit Oriented Communities Policy (2019)
  - San Gabriel Valley Regional Bicycle Master Plan (2014)
- PROJECT STUDIES
  - Downtown Pomona Specific Plan (2019)
  - Eastside Transit Corridor Phase 2 Final Alternatives Analysis (and Addendum) (2009)
  - Eastside Transit Corridor Phase 2 Draft EIR/EIS (2014)
  - Eastside Transit Corridor Phase 2 Post Draft EIS/EIR Technical Study (2017)
  - El Monte Station Relocation Feasibility Study (2016)
  - Final SR 60 and Combined Alternatives Issues and Constraints Report (2020)
- SUBREGIONAL STUDIES
  - Subregional Mobility Matrix San Gabriel Valley (2015)
  - Foothill Transit Business Plan and Budget FY 2021-2022 (2021)
- CITY SPECIFIC PLANS
  - City of Covina Bicycle Master Plan (2011)
  - City of Duarte Bicycle Master Plan (2016)
  - City of Monrovia Bicycle Master Plan (2018)
  - City of Pasadena Bicycle Transportation Action Plan (2015)
  - City of Pomona Active Transportation Plan (2012)
  - City of Rosemead Bicycle Transportation Plan (2012)
  - City of South Pasadena Bicycle Master Plan (2011)
  - City of Temple City Bicycle Master Plan (2011)
  - City of West Covina Active Transportation Plan (2018)

Information derived from these studies include:

Increased travel demand:

- *"San Gabriel Valley produces about 6.1 million person trips each weekday. Over the next 10 years, vehicle trips in the study area are expected to grow by five percent (an additional 382,300)."* – Subregional Mobility Matrix (SGV) (2015). [1]
- *"…number of work trips taken to and from the project study area in 2006 is forecast to increase 32 percent by 2035."* – Eastside Transit Corridor Phase 2 Draft EIR/EIS (2014).

Longer travel times:

- "*…average peak-period travel time within the project study area[2] is expect to increase 34 percent for morning and afternoon peak periods, respectively."* – Eastside Transit Corridor Phase 2 Draft EIR/EIS (2014).
- *"Reconnect Scenario: Provide fast/frequent/reliable service to create a competitive transit network. Transit First Scenario: Improve speed and reliability, customer wait time, invest in off-street layover terminals to improve frequency and reliability of transit service."* – *Metro NextGen Bus Plan* (2020).

Transit-dependent population/equity:

- *"…there is a vast disparity among neighborhoods and individuals in Los Angeles County in their ability to see and seize opportunity."* – Metro Equity Platform Framework (2018)
- *"Strategy 4.1 Advance equity through institutional transformation to eliminate disparities. 4.1d. Prioritize investment to support those with the greatest mobility needs."* – Metro 2020 LRTP (2020).
- *"…transit-dependent residents who need convenient and reliable transit options to get them where they want and need to go; 38 percent of the project area[3] population is under age 18 or over age 65, 16 percent of households are categorized as low-income, and 12 percent of all households have zero-vehicles."* – Eastside Transit Corridor Phase 2 Draft EIR/EIS (2014).

Increasing freeway congestion and arterial congestion:

- *"Improving mobility and reducing congestion on the main freeways that intersect the San Gabriel Valley, including SR-110, I-210, I-10, SR-60, I-710, SR-71, I-605, and SR-57."* – Subregional Mobility Matrix (SGV) (2015).
- *"Major arterials in the project area, like the freeways, experience heavy morning and evening peak period congestion, which negatively affects access for both automobiles and buses.*" – Eastside Transit Corridor Phase 2 Draft EIR/EIS (2014).

[1] Original Source: Metro 2014 Short Range Transportation Plan
[2] Note that "project study area" in this quote reflects the study area for the Eastside Transit Corridor Phase 2 Project which is located southeast of the SGV Transit Feasibility Study Area (see Figure 1, Metro L Line (Gold) Extension).
[3] Note that "project area" in this quote reflects the study area for the Eastside Transit Corridor Phase 2 Project which is located southeast of the SGV Transit Feasibility Study Area (see Figure 1, Metro L Line (Gold) Extension).

- Major challenges facing the LA region include climate change, a housing crisis, and congestion, *"less congestion means options to bypass traffic, and improved travel times by using technology and policies to manage traffic flow, respond to incidents and increase the efficiency of the roadway transportation system."* – Metro 2020 LRTP (2020).

Goods movement and heavy truck traffic:

- SGV Subregional Transportation Priorities include: *"Reducing congestion caused by goods movement, including reducing truck congestion, congestion at at-grade crossings, and regional freight rail congestion."* – Subregional Mobility Matrix (SGV) (2015).
- *"The SR 60, I-5 and I-10 Freeways along with some study area[4] arterial streets…are subject to heavy truck traffic due to port traffic and local manufacturing distributions*" – Eastside Transit Corridor Phase 2 Final Alternative Analysis Report (2009).

Population/employment growth:

- *"…expected to rise in the San Gabriel Valley by 8 and 4 percent over the next decade [population and employment, respectively]."* – Subregional Mobility Matrix (SGV) (2015).
- Population densities (12 percent by 2035), employment densities (7 percent by 2035), and concentration of activity centers are expected to increase. – Eastside Transit Corridor Phase 2 Draft EIR/EIS (2014).

Transit oriented communities (TOC):

- *"Expanding the transit network and fostering development in transit-oriented communities is central to the region's plan for meeting mobility and sustainability goals while continuing to grow the regional economy*." – SCAG Connect SoCal – Transit Backbone (2020).
- *"TOCs are places (such as corridors or neighborhoods) that, by their design, allow people to drive less and access transit more."* – Metro TOC Policy (2019).

Limited travel options:

- *"While 19 bus operators, Metrolink and Metro Gold Line serve the study area, transit ridership is well below the county average…due in part to a limited rail network and bus level of service in the San Gabriel Valley compared to the rest of the County."* – Subregional Mobility Matrix (SGV) (2015).

[4] Note that "project study area" in this quote reflects the study area for the Eastside Transit Corridor Phase 2 Project which is located southeast of the SGV Transit Feasibility Study Area (see Figure 1, Metro L Line (Gold) Extension).

- *"…with limited regional rail system connections, residents of and visitors to the project study area[5] can rely only on available bus systems operating on the same congested roadway network."* – Eastside Transit Corridor Phase 2 Draft EIR/EIS (2014).
- Bus riders make up 75% of Metro's ridership, and they are disproportionately from Equity Focus Communities. *"Better Bus works toward providing dignified trip experiences for all riders, by addressing the greatest inequities first, which are largely felt by our bus riders."* – Metro Better Bus Program (2021).
- *"The main goal of the Comprehensive Operational Analysis (COA) will be to identify feasibility strategies to best address new travel patterns which improving the overall customer experience to improve ridership. These goals can be achieved by addressing meeting unmet needs, providing better frequencies, and implementing strategies to improve overall system speed."* Project/initiatives identified in the 2021 Plan include: Bus Signal Priority Expansion, Corridor Enhancements (through the COA), Gold Line Extension Phase 2B – Azusa to Pomona, Inter-County Service Improvements, Line Productivity, Creation of Frequent Transit Network, and Innovative Service Delivery – Foothill Transit Business Plan (Short-Range Transit Plan FY 2022 through FY 2024) (2021).

Based on the review of these previous studies, several mobility problem themes emerge. Particularly, population and economic growth, the need to improve transit systems, heavy truck traffic and goods movement, and lack of alternative modes of travel have led to long travel delays and lack of connectivity for transit dependent and disadvantaged communities. These studies indicate that mobility issues will continue to stress the existing transportation network and cause additional burdens to these communities unless new transit investments and management of current systems are undertaken. Appendix A provides abstracts for these reports.

[5] Note that "project study area" in this quote reflects the study area for the Eastside Transit Corridor Phase 2 Project which is located southeast of the SGV Transit Feasibility Study Area (see Figure 1, Metro L Line (Gold) Extension).

2 MOBILITY PROBLEM

This section provides a description of the major mobility problems within the context of the Study Area land uses, demographics, traffic congestion, and transit system needs.

2.1 Land Use

Within the diverse Study Area, land uses have been historically shaped by topography, freight line corridors, suburban development, and the east-west freeway network connecting the City of Los Angeles to the eastern communities in the region. This is reflected in the diverse land use patterns that have emerged with concentrations of housing, industrial, commercial, institutional/educational, and other activity centers.

Per the land use information described in the Study Area Definition Report, the predominant zoning within the SGV is low density residential (40.0%). The cities of West Covina and Walnut have the largest percentage of single-family residential land use relative to other land uses in their cities. Several cities have concentrations of higher density residential (zoned medium to high density) including Monterey Park, Alhambra, Pasadena, and Rosemead, which have closer access to commercial centers, rail stations, and other major activity centers (see Study Area Definition Report). Other higher density residential housing is located near institutional/educational centers within the cities of Pomona, Claremont, and La Verne (e.g., Mt. San Antonio College, Cal Poly Pomona, Azusa Pacific University, University of La Verne, and the Claremont College Consortium).

Commercial uses are spread throughout the Study Area, with some cities having one or two major commercial centers with large retail anchors (e.g., Westfield Santa Anita Mall, The Shops at Montebello, Puente Hills Mall, and West Covina Mall), in addition to local retailers/strip malls that serve local communities and neighborhoods. Several cities have downtown historic commercial districts, such as La Verne, Monrovia, Pasadena, and San Dimas, which serve as both local and regional attractions. There are also large medical centers throughout the Study Area including City of Hope (Duarte), the San Gabriel Valley Medical Center (San Gabriel), Garfield Medical Center (Monterey Park), Kaiser Permanente (notably Baldwin Park and Irwindale), Kindred Hospital (West Covina and Baldwin Park), Greater El Monte Community Hospital (South El Monte), Monrovia Memorial Hospital (Monrovia), and the Pomona Valley Medical Center (Pomona).

Figure 2 provides land use patterns and

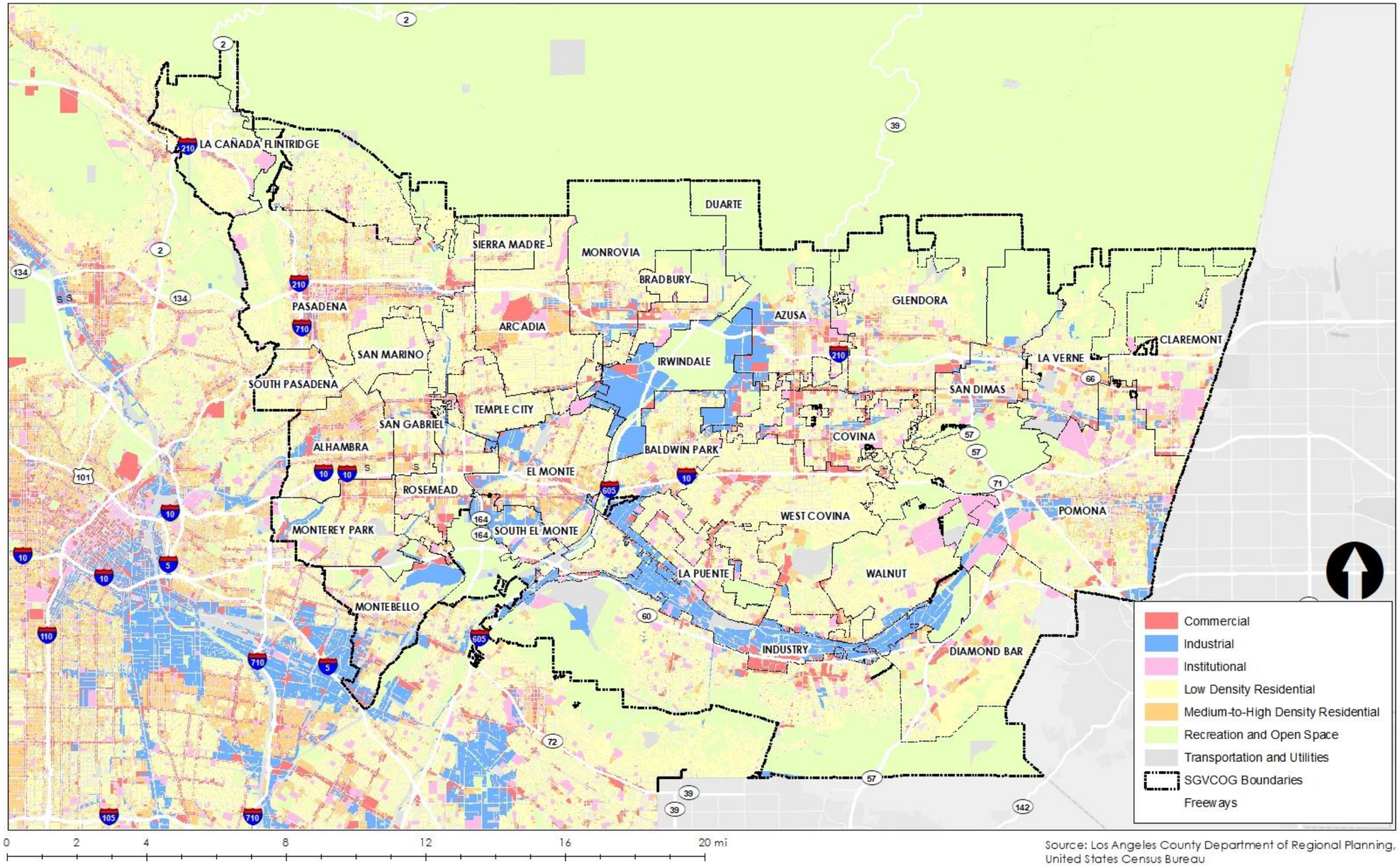
Figure 3 illustrates some of the highlighted activity centers. Activity centers were selected based on a qualitative review of key destinations within the SGV, and stakeholder feedback. Each type of activity center had its own criteria used to determine its qualifications:

- Cultural (Major): Attract at least 100,000 visitor annually
- Cultural (Minor): Represent diversity of cultural resources within the SGV
- Educational Institutions: Any college or university in the SGV
- Employment: Company headquarters located in the SGV

- Entertainment: Have a capacity of at least 5,000 visitors daily
- Recreation and Open Space: largest and most notable recreation facilities
- Commercial: Offer a mixture of retail and dining, whether as a walkable shopping district or purpose-built mall

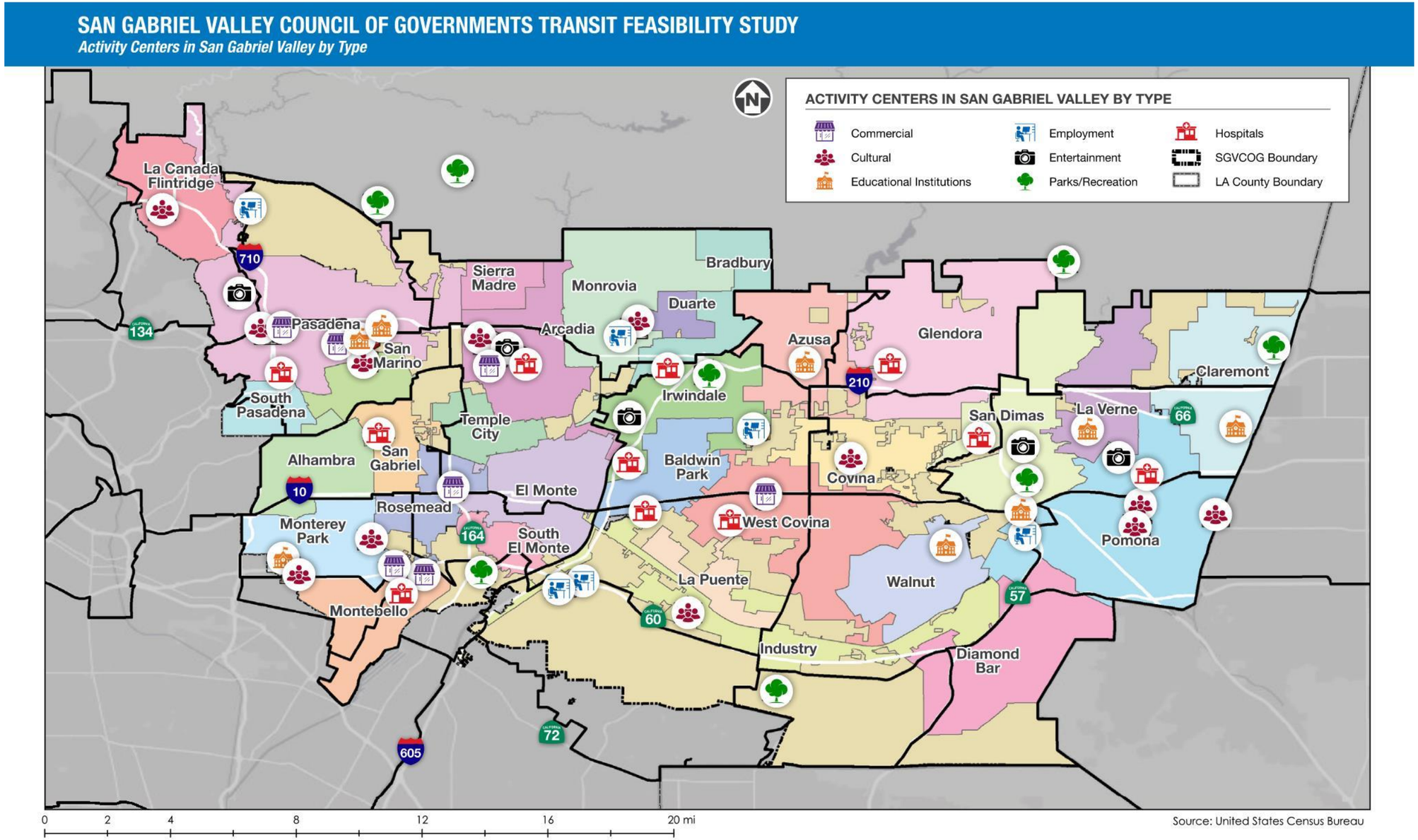
To focus development and growth, density needs to be encouraged in areas where transit is accessible and mobility options are available. Per SCAG's Connect SoCal (2020-2045 RTP/SCS), the region's housing supply has not kept up with population growth and the number of households throughout the SCAG region is anticipated to grow from 6 million to 7.6 million by 2045. Metro's TOC Policy further emphasizes the need to provide equitable access to a multi-modal transit network and to organize land use planning for more holistic community development. To plan for this growth, community development needs to be focused in areas where transit is accessible. As such, land use densities should be higher and single occupant vehicles should be discouraged where new transit systems are planned. Combined, this will help to accommodate the anticipated growth, minimize air quality issues, and reduce vehicle miles traveled (VMT).

Figure 2 - SGV Land Use



Source: Los Angeles County Department of Regional Planning, United States Census Bureau

Figure 3 - SGV Activity Centers



In addition to typical land use growth, cities are required by California housing law to provide zoning opportunities to accommodate their share of the statewide housing needs[6]. In 2021, SCAG developed the Regional Housing Needs Assessment (RHNA) allocation plan for each jurisdiction in the region, including all cities within the Study Area. Each jurisdiction must plan for its RHNA allocation in the housing element of its General Plan by ensuring there are sufficient sites and zoning to accommodate their very-low, low, moderate, and above moderate income housing unit requirements. To address this requirement, housing development should be focused in areas where transit is accessible and convenient.

Table 1 presents the final RHNA allocation plan for each city within the SGVCOG. Overall, the Study Area received an allocation of 89,616 residential units, with the highest amounts within the cities of Pomona, Pasadena, El Monte, Alhambra, and West Covina. The plurality of housing units are "Above Moderate-Income Units", with 36,934 units, or 41.2% of units in the San Gabriel Valley. Very low income units make up 28.1% of SGVCOG's housing allocation. The table provides additional information, providing detail on a city-by-city basis.

Table 1 - San Gabriel Valley Housing Allocation Plan

	Very-Low Income Units	Low Income Units	Moderate Income Units	Above Moderate-Income Units	Total Units
Alhambra	1,774	1,036	1,079	2,936	6,825
Arcadia	1,102	570	605	937	3,214
Azusa	760	368	382	1,141	2,651
Baldwin Park	576	275	263	887	2,001
Bradbury	16	9	9	7	41
Claremont	556	310	297	548	1,711
Covina	614	268	281	747	1,910
Diamond Bar	844	434	437	806	2,521
Duarte	269	145	137	337	888
El Monte	1,797	853	1,233	4,619	8,502
Glendora	735	386	388	767	2,276
Industry	6	4	2	5	17
Irwindale	36	11	17	55	119
La Canada Flintridge	252	135	139	86	612
La Puente	544	275	275	835	1,929
La Verne	414	239	223	470	1,346
Monrovia	519	262	254	635	1,670
Montebello	1,314	707	777	2,388	5,186
Monterey Park	1,324	822	848	2,263	5,257
Pasadena	2,747	1,662	1,565	3,455	9,429
Pomona	2,799	1,339	1,510	4,910	10,558
Rosemead	1,154	638	686	2,134	4,612
San Dimas	384	220	206	438	1,248

[6] SCAG 6th Cycle Final RHNA Allocation Plan, adopted 3/4/21 and Updated 7/1/21. Accessed from https://scag.ca.gov/rhna on 8/22/2021.

	Very-Low Income Units	Low Income Units	Moderate Income Units	Above Moderate-Income Units	Total Units
San Gabriel	846	415	466	1,296	3,023
San Marino	149	91	91	66	397
Sierra Madre	79	39	35	51	204
South El Monte	131	64	70	312	577
South Pasadena	757	398	334	578	2,067
Temple City	630	350	369	837	2,186
Walnut	427	225	231	410	1,293
West Covina	1,653	850	865	1,978	5,346
SGVCOG	**25,208**	**13,400**	**14,074**	**36,934**	**89,616**

Source: SCAG 6th Cycle Final RHNA Allocation Plan, 7/1/2021. Very Low Income = 0-50% of area median income; Low Income = 50-80% of area median income; Moderate Income = 80-120% of area median income; Above Moderate Income = 120% of area median income.

2.2 Demographics

Trends in population and employment provide context for mobility challenges within the SGV. The SGV's population currently accounts for approximately 19% of LA County's 10.2 million residents and 18% of LA County's 4.9 million jobs. As such, the SGV accounts for a significant share of the county's housing and economic base. Providing mobility options to communities within the SGV is critical, as its population and employment densities are an average of two to four times higher when compared to LA County as a whole. **Table 2** illustrates the comparative densities of the SGV and LA County.

Table 2 - Existing Population and Employment Comparison

	San Gabriel Valley	LA County
Population (# of persons)	2.0 million	10.2 million
Population density (persons per square mile)[1]	5,330	2,150
Employment (# of jobs)	905,620	4.9 million
Employment density (jobs/square mile)	4,750	1,030

Source: U.S. Census Bureau, American Fact Finder 2015-2019 ACS 5-year data profiles. Note: [1]SGV has a total of 375 square miles and LA County has a total of 4,750 square miles. Density calculation includes vacant, recreational, and open space uses within SGV and LA County.

As shown in the Study Corridor Definition Report, higher population densities are dispersed throughout the Study Area with the greatest concentrations (persons per square mile) located within the cities of El Monte, La Puente, Baldwin Park, Alhambra, and Rosemead. These census tracts have densities of up to 13,000 persons per square mile, which is six times the density of LA County (2,150 per square mile). This is partly since LA County has a lot of preserved land in its northern and western portions. The San Gabriel Valley is largely built out, with a few major parks constituting most of the open space in the region.

Employment density within the SGV has similar patterns as the population density. In particular, there are a higher number of jobs concentrated in the center of the valley specifically within the

cities of Pasadena, San Gabriel, El Monte, South El Monte, Baldwin Park, Alhambra, La Puente, Temple City, Arcadia, and Pomona. These communities have employment densities of over 5,000 jobs per square mile, which is nearly five times the density of LA County (1,030 per square mile).

In addition to population and employment densities, the SGV has a significant number of transit dependent communities. Transit dependent populations typically consist of minors, seniors, and minority populations. These populations are generally lower income than white populations or working-age adults. Generally, transit dependent populations have limited mobility options due to financial and/or connectivity constraints, or do not have access to a private vehicle. These groups of people also tend to constitute most "captive" transit riders, or transit riders who take transit by necessity rather than choosing to take transit over a personal vehicle. The following section provides information on these three categories. This also affects their ability to access employment opportunities both locally (via bus/LRT/shuttle/TNC options) and regionally (via commuter rail).

Per the American Fact Finder 5-year data profiles (2019), a total of 44% of SGV residents are either minors or seniors (23% minors and 21% seniors). In terms of households, 23% of total households are considered low-income (less than $35,000 per year) and 15.7% are zero-car households (no access to vehicles). **Table 3** summarizes the transit-dependent characteristics of the SGV.

Table 3 - Existing Transit Dependent Population Charteristics

Population Characteristic	Total #	Percentage of Total SGV Population
Minors (persons under the age of 18 years)	460,000	23%
Seniors (persons over the age of 65 years)	420,000	21%
TOTAL SGV	**2.0 million**	
Zero-Car Households	91,300	23%
Low-Income Households	62,330	16%
TOTAL SGV	**397,000**	

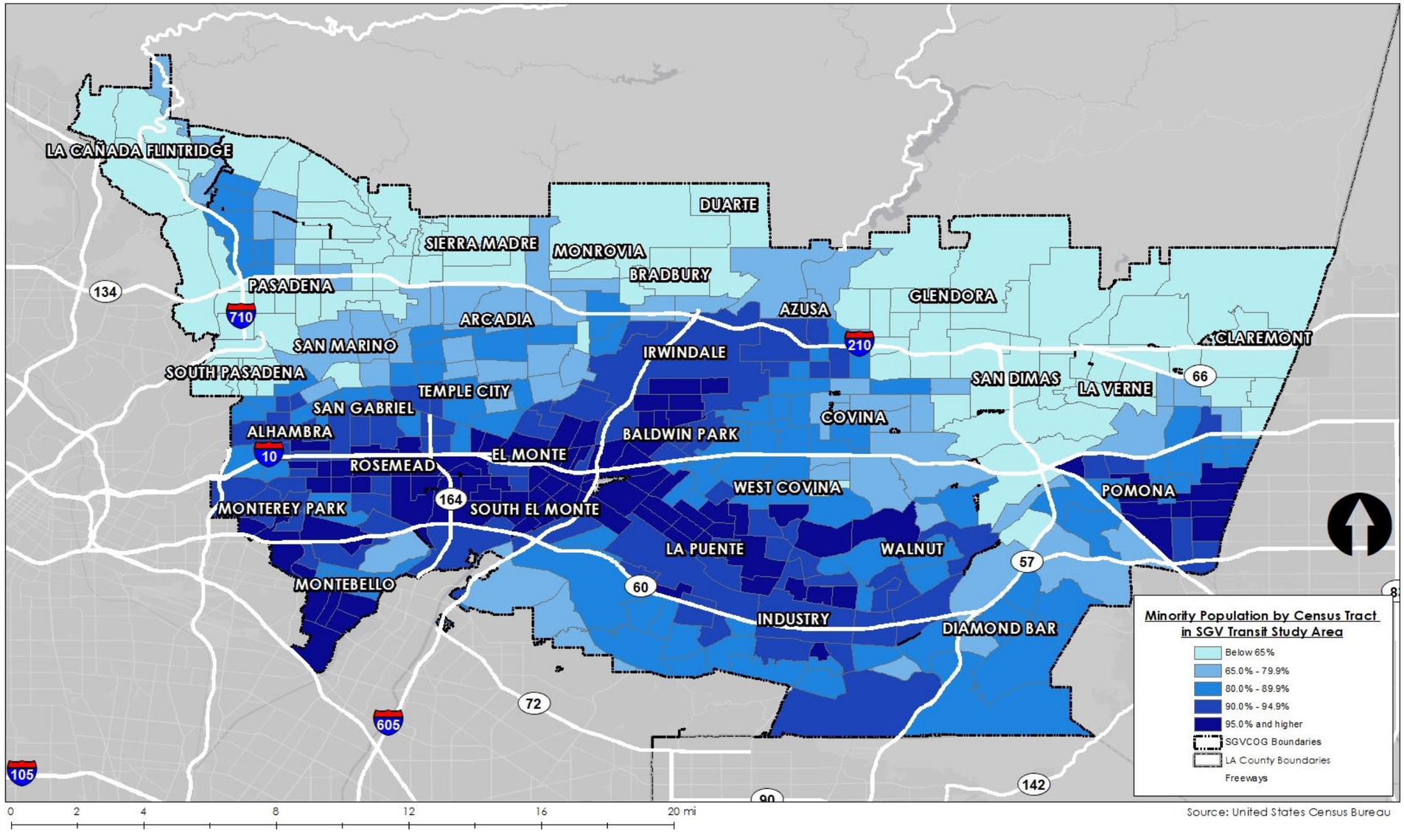
Source: U.S. Census Bureau, American Fact Finder 2015-2019 ACS 5-year data profiles.

For the SGV, another important demographic characteristic is the high percentage of minority populations within its communities[7]. Based on 2019 Census information, minority populations comprise about 80% of the total population of the SGV, with some census tract populations comprised of more than 93% minority residents. EFCs are concentrated in Pasadena, Azusa (both along I-210), Alhambra, San Gabriel, Rosemead, El Monte, South El Monte, Baldwin Park, Covina, Pomona (along I-10), Monterey Park, Montebello, and Industry (along SR-60). Most evident regarding mobility is the concentration of minority communities living near I-10, SR-60, and I-605 freeways and within the middle to southern portion of the SGV. This generally

[7] U.S. Census defines race and Hispanic origin differently. For this study, minority populations include those who identify as Hispanic/Latino, and by race: Black or African American, Asian, Native Hawaiian and Other Pacific Islander, and American Indian/Alaska Native

overlaps with the Study Area's *Focus Area for New Services* within the I-10 and SR-60 corridors to target communities that are currently underserved and lacking quality transit service (as illustrated in **Figure 1**). **Figure 4** below shows the concentrations of minority populations with the SGV.

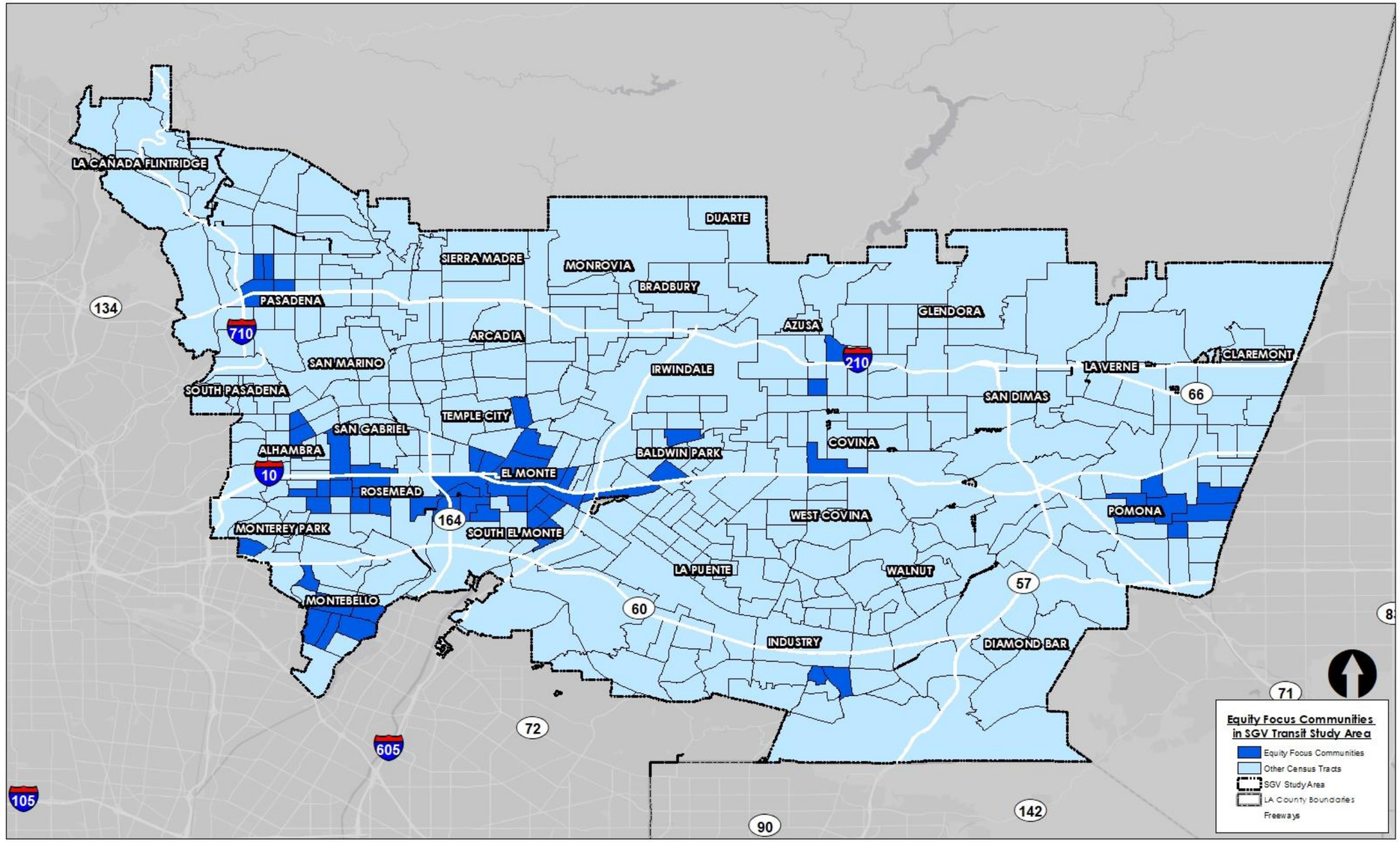
Figure 4 - Minority Populations in the SGV



To supplement information about transit dependent populations, Equity Focus Communities (EFC) data was also analyzed to understand the needs of communities which historically have had less access to economic and investment opportunities[8]. Census tracts with EFCs are located throughout the SGV, including communities located near Pasadena, Alhambra, Rosemead, Montebello, El Monte, South El Monte, Baldwin Park, Azusa, Covina, and Pomona (see **Figure 5**).

[8] Metro defines EFCs as communities with more than 40% of households are low-income and either 80% of households are non-white, or 10% have no access to a vehicle.

Figure 5 - Equity Focus Communities within SGV



Source: Los Angeles County Metropolitan Transportation Authority (Metro), United States Census Bureau

There are many enclaves in the San Gabriel Valley that represent various cultures, and where English is not the only spoken language. Based on 2019 Census information, approximately 64% of households in the San Gabriel Valley have one or more family members who speak another language besides English.[9] Spanish, Russian, Korean, Chinese, Vietnamese, Arabic, and Tagalog all have sizable numbers of speakers in the San Gabriel Valley.[10] There are several cities in the San Gabriel Valley that are home to predominantly Asian and Asian American residents.[11] The communities in the San Gabriel Valley with the highest percentage of Asian residents, relative to the City's total population, include Monterey Park, Walnut, Rowland Heights, and San Gabriel. Foreign born residents in these communities originate from China, Taiwan, the Philippines, and Vietnam. In the cities of South El Monte, La Puente, Baldwin Park, Montebello, El Monte, Azusa, and Pomona, there are large Latino populations relative to each city's total population. Mexico and El Salvador are the most common birthplaces for foreign born residents in these cities.[12]

It should be noted that each city and community in the San Gabriel Valley has their own distinct culture and history. As such, the mobility issues for these communities should be examined at the immediate station and local level once new transit corridor concepts are defined.

2.3 Transportation Issues

Traffic congestion not only constrains the mobility of residents, workers, and visitors in SGV, it also has environmental and economic consequences. Per Metro's 2020 LRTP, congestion reducing strategies will lead to a reduction in vehicle miles traveled (VMT) and vehicle hours of delay (VHD) per capita. The benefits of congestion reduction and travel savings will ensure better, healthier communities and lead to economic stability with reliable travel times for workers and goods movement.

Mobility issues for the SGV related to its congested freeway and arterial networks highlight the effects on all forms of travel including vehicles, truck system/goods movement, express bus, and local community transit. The Study Area transportation facilities consist of seven major freeways and a complex network of arterials that flow through 31 cities. The SGV is also served by several rail, bus, and local transit systems including Metro, Metrolink, Foothill Transit, Amtrak, and several city-run shuttle and bus services (see Study Area Corridor Report for a detailed description of the transportation network).

[9] The 2019 Census Data provides a category for English only households. This total number of English only households were divided by the total number of households in the San Gabriel Valley. The difference between the total number of households and English only households were identified as non-English only households. Non-English only households can be defined as one or more persons speaking another language besides English.
[10] US Census Bureau. 2019 ACS 5-Year Estimates
[11] Los Angeles Times (n.d.). *Mapping LA*. Los Angeles Times. https://maps.latimes.com/neighborhoods/ethnicity/asian/neighborhood/list/
[12] Los Angeles Times (n.d.). *Mapping LA*. Los Angeles Times. https://maps.latimes.com/neighborhoods/ethnicity/latino/neighborhood/list/

Based on analysis conducted in the Study Area Corridor Report, substantial congestion is prevalent throughout the Study Area, but there are typical patterns of high westbound travel in the morning and high eastbound travel in the evenings; these patterns are especially observed on I-10 and SR-60. Travel data, in both this report and the Study Area Definition Report, was extracted from October 2019 to reflect pre-COVID-19 travel patterns. Arterials that run parallel to these freeways also experience heavy activity levels during peak periods, particularly as these roadways serve as alternative routes to the congested freeways. In addition, arterials that facilitate connections with freeways in the north/south directions also experience heavy congestion during the morning and evening peak periods. Besides arterial streets, there aren't any rapid alternatives (such as rail service) to north-south travel other than freeways, which creates more difficulties than east-west trips are currently served by the L line and two Metrolink lines.

Travel time and average travel speeds across the Study Area further highlight congestion experienced within and across SGV. **Table 4** summarizes existing travel times and average speeds along segments of the freeways within the SGV.

Table 4 - Freeway Morning & Evening Peak Hour Travel Times and Average Travel Speeds

Freeway	Segment Start	Segment End	Distance (Miles)	AM Travel Time (Minutes)	Average AM Speed (mph)	PM Travel Time (Minutes)	Average PM Speed (mph)
210	San Bernardino County Line	SR-57 Interchange	7.5	7.0	64.3	12.5	36.0
210	SR-57 Interchange	I-605 Interchange	8.1	17.0	28.6	14.0	34.7
210	**I-605 Interchange**	**SR-134 Interchange**	**11.7**	**25.5**	**27.5**	**32.5**	**21.6**
210	La Canada City Limits	SR-134 Interchange	6.4	6.5	59.1	6.0	64.0
10	San Bernardino County Line	SR-57 & SR-71 Interchange	5.7	6.0	57.0	15.0	22.8
10	SR-57 & SR-71 Interchange	I-605 Interchange	11.4	22.0	31.1	18.0	38.0
10	I-605 Interchange	SR-164 Interchange	4.3	7.5	34.4	15.0	17.2
10	SR-164 Interchange	I-710 Interchange	5.5	7.5	44.0	16.5	20.0
60	San Bernardino County Line	SR-71 Interchange	1.2	2.0	36.0	2.0	36.0
60	SR-71 Interchange	SR-57 Merge	4.0	8.5	28.2	4.0	60.0
60	SR-57 Merge	SR-57 Split	1.7	3.0	34.0	3.0	34.0
60	**SR-57 Split**	**I-605 Interchange**	**11.9**	**25.5**	**28.0**	**12.0**	**59.5**
60	I-605 Interchange	I-710 Interchange	8.4	10.0	50.4	8.5	59.3
605	I-210 Interchange	I-10 Interchange	5.6	6.0	56.0	6.0	56.0
605	I-10 Interchange	SR-60 Interchange	2.8	5.0	33.6	4.0	42.0
605	SR-60 Interchange	SGVCOG Boundary	0.8	2.0	24.0	1.0	48.0
57	I-210 Interchange	I-10 Interchange	4.0	4.0	60.0	4.0	60.0
57	I-10 Interchange	Sr-60 Merge	3.3	7.0	28.3	3.0	66.0
57	Sr-60 Merge	SR-60 Split	1.7	3.0	34.0	5.0	20.4
57	SR-60 Split	Orange County Line	4.3	9.0	28.7	17.0	15.2
71	I-10 Interchange	SR-60 Interchange	4.5	8.0	33.8	10.5	25.7

Note: Segment starts and ends are reversed for PM Peaks
Source: Google Maps, Estimated Travel Times, Wednesday, October 9th, 2019, 8:00am (AM), 5:30pm (PM)[13]

[13] Automobile data was retrieved for 8AM on Wednesday October 9th, 2019. Transit data was forecasted to October 6th, 2021 at 8AM as historical data was not available.

Existing travel patterns were analyzed by jurisdictional boundaries to understand higher concentrations of trip movements. Travel sheds within the SGVC and surrounding areas were established by dividing the SGV into a four-by-five grid, generally using the freeways as borders between zones. External zones were created by using geographic landmarks and consolidating major incorporated cities into colloquial areas (ex: Gateway Cities, Westside Cities). The zones characterized internal travel within SGV with enough detail to understand travel patterns between zones. The travel zones are described below with the top activity pairings between zones highlighted in

Table 5**.**

Zone 1 includes southern Pasadena, northern and eastern South Pasadena, all of San Marino, and portions of unincorporated East Pasadena.

Zone 2 includes Monterey Park, western portion of Rosemead, a small portion of northern Montebello, a small section of southern Alhambra, and unincorporated South San Gabriel.

Zone 3 includes the western portion of Montebello, and portions of East LA.

Zone 4 includes majority portions of Arcadia, Temple City, and El Monte with small portions of Duarte, Rosemead, and unincorporated North El Monte and Mayflower Village.

Zone 5 includes majority of South El Monte, western portion of Rosemead, southern portion of El Monte, and portions of Whittier Narrows Recreation/Natural Areas.

Zone 6 includes western portion of Montebello, and portions of Whittier Narrows Recreation/Natural Areas.

Zone 7 includes all of Irwindale, majority of Baldwin Park, northwestern portions of West Covina, southwestern portion of Azusa, western fringe of Covina, and unincorporated Vincent.

Zone 8 includes western portion of West Covina, all of La Puente, western portion of Industry, unincorporated Avocado Heights, Valinda, and West Puente Valley.

Zone 9 includes unincorporated Hacienda Heights and La Habra Heights.

Zone 10 includes the majority of Covina, southern fringe of Glendora, western section of San Dimas, and small sections of Azusa.

Zone 11 includes eastern West Covina, all of Walnut, eastern portion of Industry, western portion of Pomona, small section of Diamond Bar, unincorporated South San Jose Hills, and Cal Poly Pomona.

Zone 12 includes the western portion of Diamond Bar, and unincorporated Rowland Heights and Otterbein.

Zone 13 includes southern portions of San Dimas, La Verne, and Claremont, and the Northern portion of Pomona.

Zone 14 includes the majority of Pomona, and a small section of northern Diamond Bar.

Zone 15 includes the majority of Diamond Bar.

Zone 16 includes majority of Alhambra, all of San Gabriel, and the majority of unincorporated East Pasadena.

Zone 17 includes all of La Cañada Flintridge and western Pasadena.

Zone 18 includes northern portions of San Dimas, La Verne, and Claremont as well as unincorporated Golden Hills.

Zone 19 includes the majority of Glendora and eastern portions of Azusa.

Zone 20 includes the majority of Azusa.

Zone 21 includes the majority of Duarte and Monrovia, all of Bradbury and Sierra Madre, northern portion of Arcadia, and unincorporated Kinneola Mesa.

Zone 22 includes the northern portion of Pasadena and unincorporated Altadena.

Zone 101 includes the majority of East LA and mid-gateway cities.

Zone 102 includes northern Orange County**.**

Zone 103 includes northwestern Riverside County.

Zone 104 includes southwestern San Bernardino County**.**

Zone 105 includes the eastern portion of the San Fernando Valley.

Zone 106 includes the westside cities, and coastal cities from Malibu to port of Los Angeles.

Zone 107 includes the Gateway Cities, South LA, and Long Beach.

Zone 108 includes the majority of Orange County.

Zone 109 includes the southwest portion of Riverside County.

Zone 110 includes San Bernardino and nearby cities.

Zone 111 includes the western portion of the San Fernando Valley and southern Ventura County.

Zone 112 includes Santa Clarita and northern Ventura County.

Zone 113 includes the northern portions of uninhabited LA County, Palmdale, and Lancaster.

Zone 114 includes the northern portion of San Bernardino County.

Zone 115 includes Indio and the Coachella Valley, eastern Riverside County, and portions of Imperial County.

Zone 116 includes Palm Springs and Southern Riverside County.

Zone 117 includes Glendale and northeastern Los Angeles**.**

Zone 118 includes Downtown Los Angeles.

Table 5 - Top Zone Pairs

Zone Pair	Average Daily Trips[14]
14 &104	150,000
3 & 101	124,000
4 & 16	119,000
8 & 11	110,000
13 & 104	109,000
14 & 103	89,000
8 & 7	86,000
1 & 22	85,000
2 & 101	84,000
6 & 101	79,000
4 & 5	76,000
4 & 22	69,000
4 & 21	68,000
4 & 7	62,000
11 & 103	60,000
7 & 10	60,000
1 & 117	56,000
1 & 4	56,000
1 & 16	54,000
1 & 105	49,000

Error! Reference source not found. illustrates major travel patterns within and to/from the Study Area. As shown, the highest number of daily trips occurs between Pomona (Zone 14) and Ontario (Zone 104), Montebello (Zone 3) and Gateway Cities (Zone 101), and Arcadia (Zone 4) and San Gabriel/Alhambra (Zone 16). This travel information provides a planning-level understanding of the gaps between travel demand and existing transit services.

[14] Data provided by Teralytics; October 2019.

Figure 6 - Top 20 Activity Zone Pairs

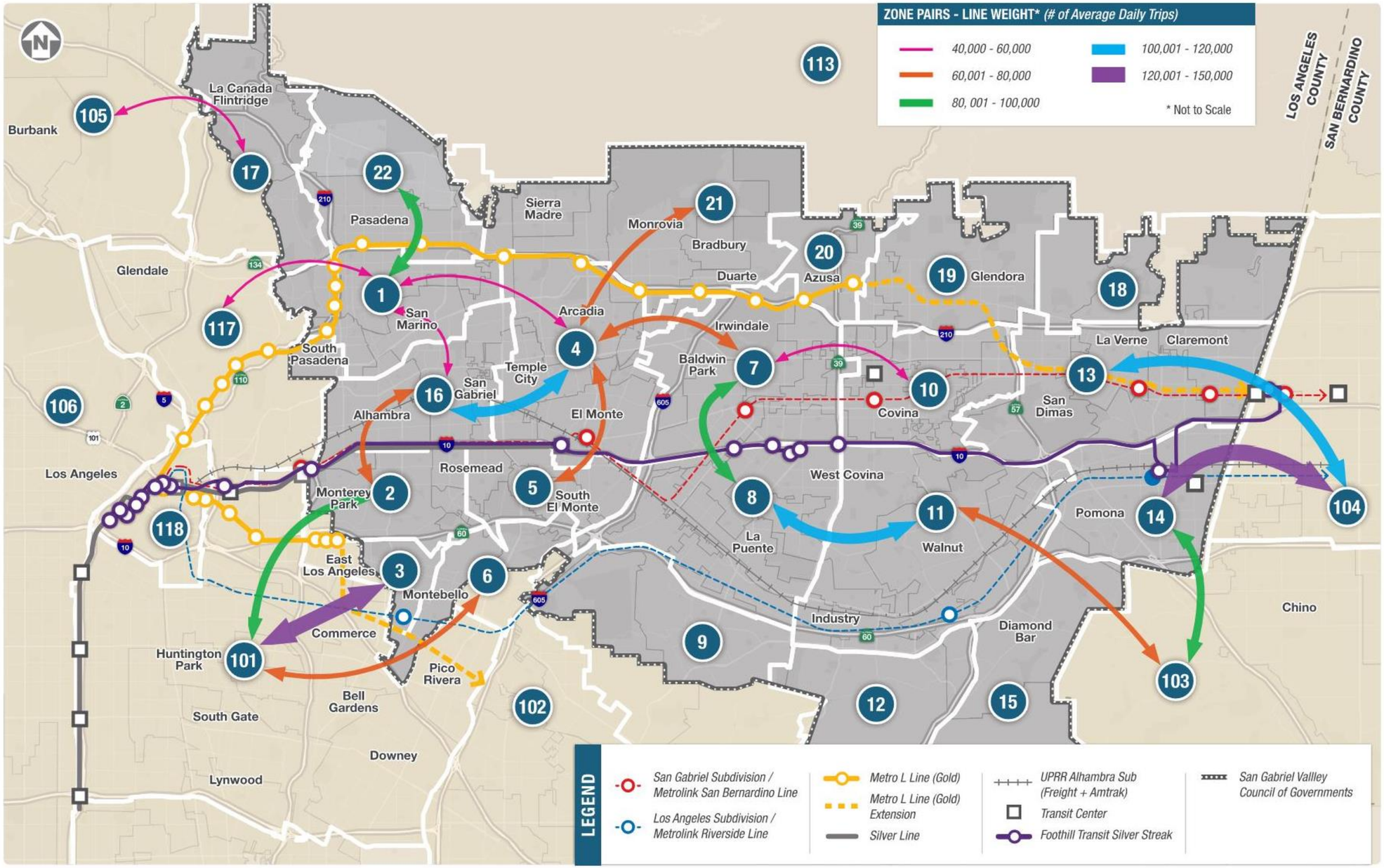
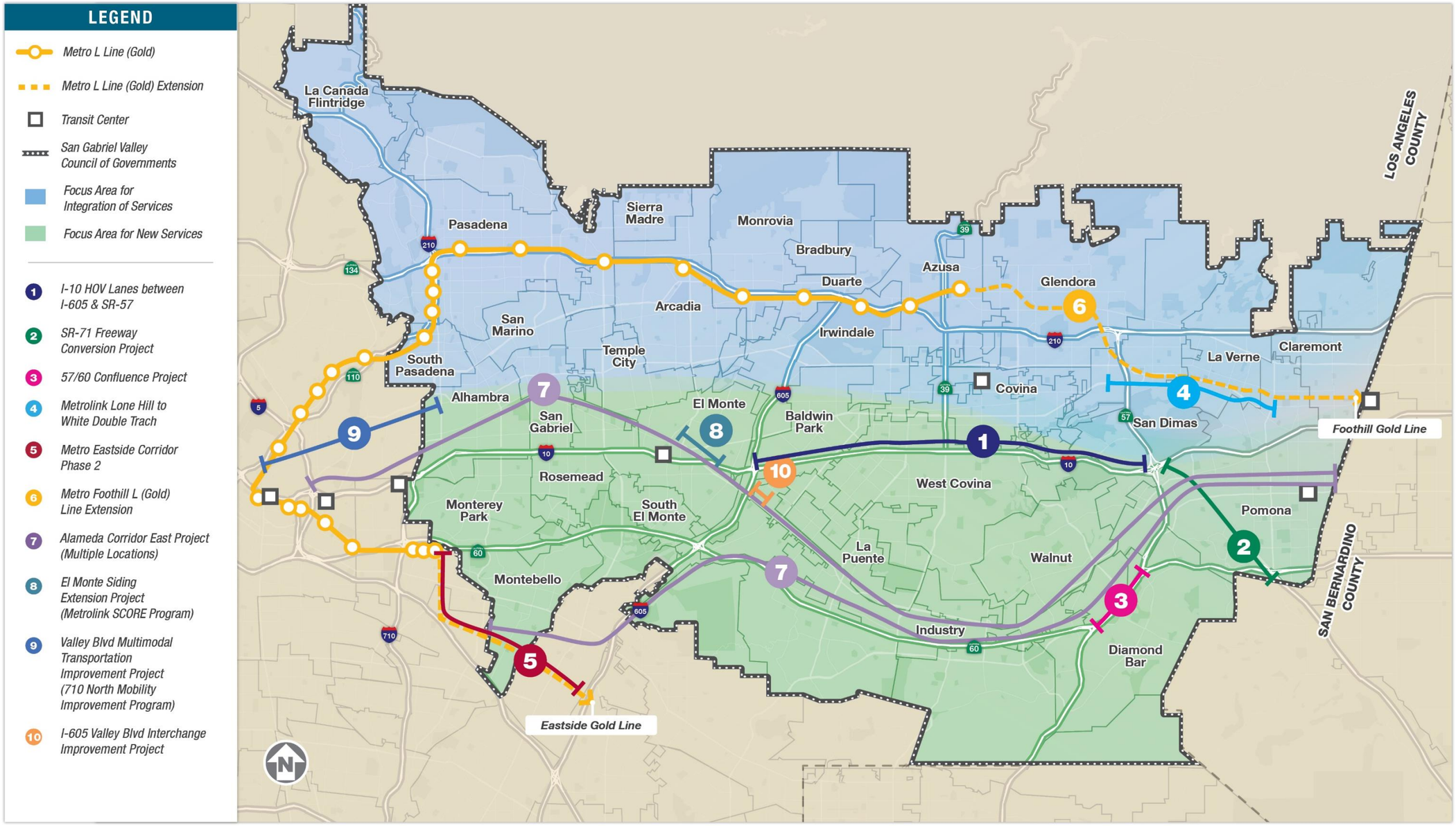


Figure 7 - Proposed Transportation Projects in SGV



For each of the top twenty activity zones highlighted in Error! Reference source not found., a comparison of estimated travel time for automobiles and transit between activity centers was analyzed. **Table 6** provides the drive time and transit time comparison as well as average vehicle speeds between the primary activity centers. These activity centers were selected as an origin and destination with each of the zones to calculate comparative travel times.

Table 6 - Travel Information forTop 20 Origin and Destination Activity Center Pairs for San Gabriel Valley (AM Peak, Automobile v. Best Transit Option)

Rank	Primary Activity Centers	Drive Time (minutes)	Driving Distance (miles)	Average Speed (mph)	Transit Travel Time (minutes)
1	Pomona Metrolink Station (Downtown) to Ontario Airport	19	10.5	33.2	36
2	Montebello Civic Center to Citadel Outlets	12	3.5	17.5	43
3	Santa Anita Racetrack to Alhambra Hospital	24.5	7.6	18.6	43
4	Kaiser Hospital (Baldwin Park) to Puente Hills Mall	19	11.3	35.7	47
5	North Pomona Metrolink Station to Ontario Airport	19	11	34.7	59
6	Pomona Metrolink Station (Downtown) to Chino Town Square	13	6	27.7	50
7	Kaiser Hospital (Baldwin Park) to Baldwin Park Metrolink Station	8.5	2.2	15.5	44
8	The Paseo (Pasadena) to St. Luke Medical Center	37	14	22.7	87
9	East LA Community College to Citadel Outlets	14	2.9	12.4	26
10	Montebello Town Center to Citadel Outlets	12	3.5	17.5	59

Rank	Primary Activity Centers	Drive Time (minutes)	Driving Distance (miles)	Average Speed (mph)	Transit Travel Time (minutes)
11	East LA Community College to Alhambra Hospital	12.5	4.6	22.1	35
12	Santa Anita Racetrack to Five Points (El Monte)	21	7.7	22.0	48
13	Santa Anita Racetrack to Monrovia Civic Center	9	3.4	22.7	18
14	Santa Anita Racetrack to Baldwin Park Metrolink Station	22	8.6	23.5	58
15	Puente Hills Mall to Chino Town Square	33.5	16.5	29.6	109
16	Baldwin Park Metrolink Station to Covina Metrolink Station	15	4.4	17.6	9
17	The Paseo (Pasadena) to Glendale Galleria	15	8.4	33.6	34
18	The Paseo (Pasadena) to Santa Anita Racetrack	19	6.9	21.8	36
19	The Paseo (Pasadena) to Alhambra Hospital	17	4.3	15.2	42
20	NASA JPL to North Hollywood Station	35	18.7	32.1	75

Source: Google Maps[15]

[15] Google Maps, Automobile data was retrieved for 8AM on Wednesday October 9th, 2019. Transit data was forecasted to October 6th, 2021 at 8AM as historical data was not available.

Goods movement comprises a significant usage of the transportation network within the SGV, given the number of freight routes from the greater Los Angeles Area to/from the Inland Empire and points east. The movement of goods occur via both freight rail and trucks. Rail is primarily used along the Alhambra Subdivision of the Union Pacific Railroad (UPRR), which parallels Valley Blvd and runs primarily east-west through the SGV. The Los Angeles Subdivision of the UPRR hosts the Riverside Metrolink line, which runs to the south of the Study Area in Montebello, Industry, and through Pomona, where it meets with the Alhambra Subdivision. The Burlington Northern Santa Fe (BNSF) Mainline connects with the Port of Long Beach and the Port of Los Angeles and travels east, traveling to the south of the Study Area, where it meets Riverside.

The main east-west truck routes are on SR-60 and I-10, and north-south along I-710, I-605, and SR-57. These facilities provide direct access to the Ports of Los Angeles and Long Beach, plus the light industrial, warehouse and logistics uses throughout the Study Area. As such, it is difficult to develop or add new transportation facilities (e.g., transit or roadway/freeway lane expansions) without conflicting or affecting these existing rail and truck operations. Potential accessibility and operational conflicts will need to be considered to address the existing and growing goods movement industry.

Figure 8 - Truck Bottlenecks in the SCAG Region was developed by SCAG and displays Truck Bottlenecks in the SCAG Region. In the SGV, truck bottlenecks are concentrated along the I-210, I-10, SR-60, I-605, and SR-57 Freeways.

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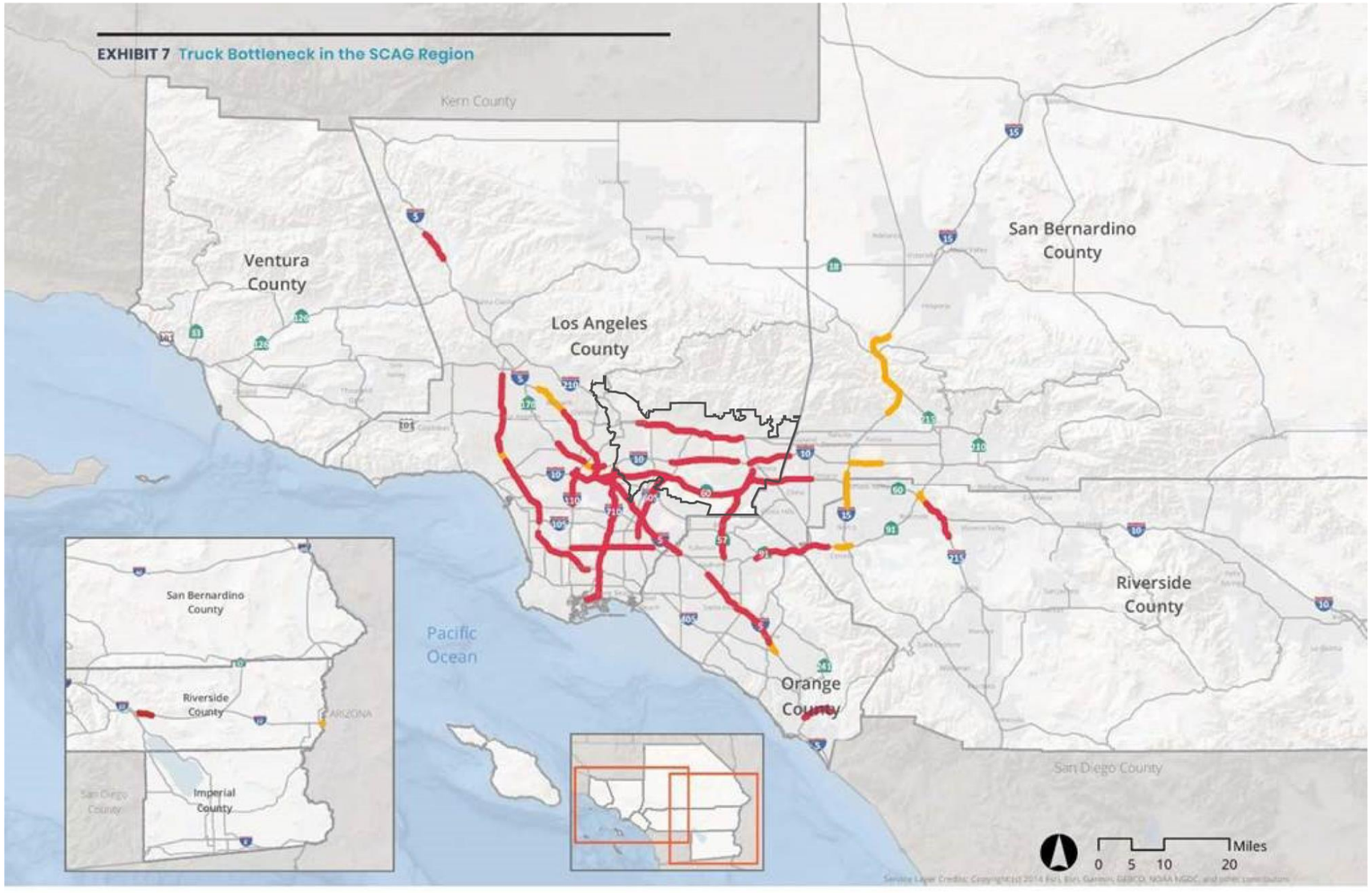
Figure 8 - Truck Bottlenecks in the SCAG Region

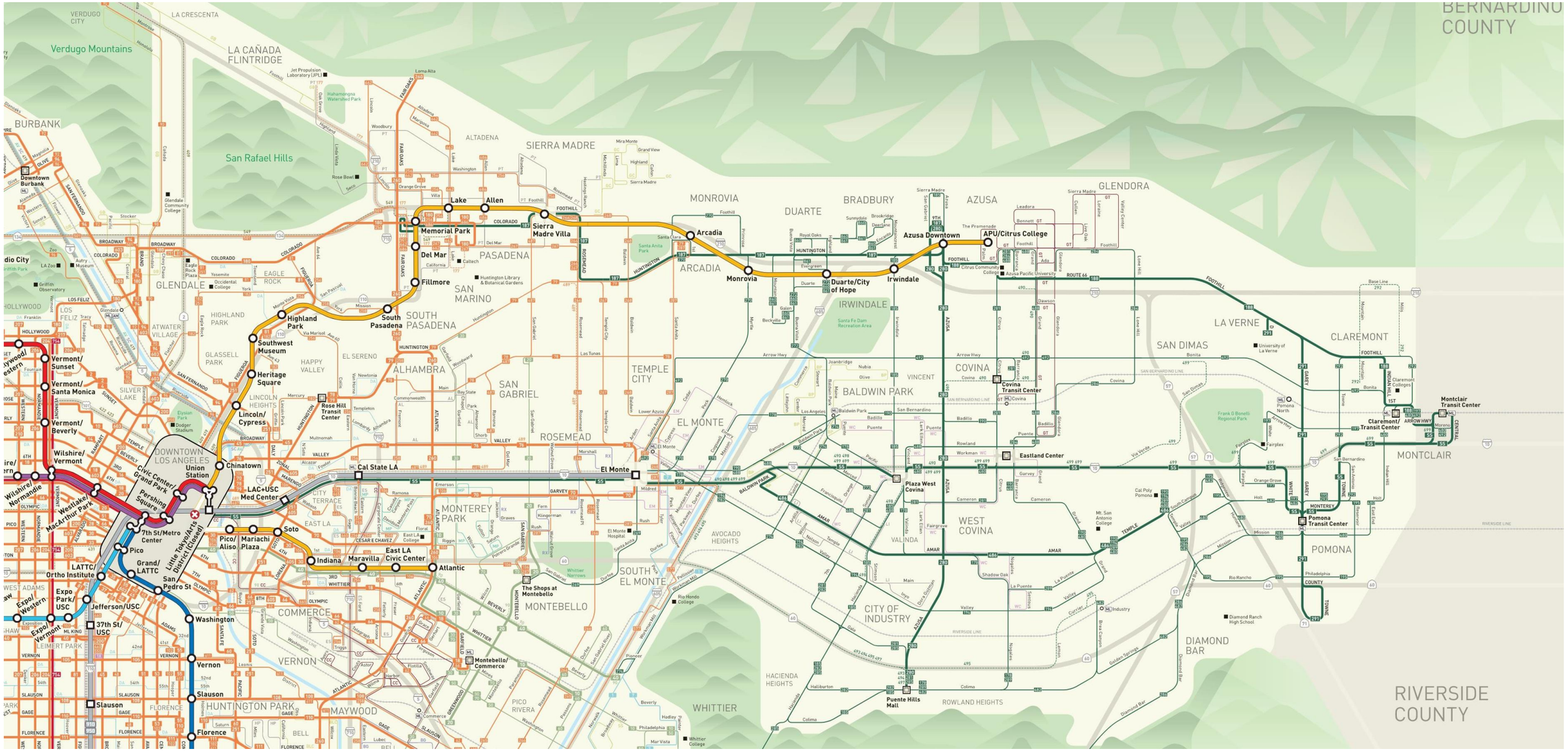


Transit constraints within the SGV are operational and related to the availability and accessibility of local and regional bus services. East-west transit services are available via Metrolink and Metro's L (Gold) Line; however, these systems are limited by the Metro L (Gold) Line's service capture area or Metrolink's infrequency of service. Based on analysis conducted in the Study Area Corridor Report, there is need for improved transit services in the north-south corridors, particularly to transit-dependent and EFC communities. Currently, most of the existing bus services are local and limited/express routes. Although these local routes serve the transit-dependent and EFC communities, they generally do not provide continuous, dedicated north-south travel. In particular, the EFC communities that are located more remotely, including communities near Covina, Industry, and Pomona, have limited local connections to high-quality transit. It should be noted that Metro and Foothill Transit are in the process of reallocating service to improve frequencies and transit capacities, which may improve transit connectivity in the Study Area.

Foothill Transit Service is located primarily in the eastern half of the SGV, except for east/west services that terminate in Downtown Los Angeles. These are Foothill Transit routes 481, 493, 495, 497, 498, 499, 699, and Silver Streak. **Figure 9, Figure** 10**, & Figure** 11 present the Metro NextGen Bus & Rail System Map and Foothill Transit System Map in the SGV. These maps highlight the existing and planned transit services within the Study Area. These maps illustrate the lower density and frequency of transit services in the SGV relative to other parts of LA County.

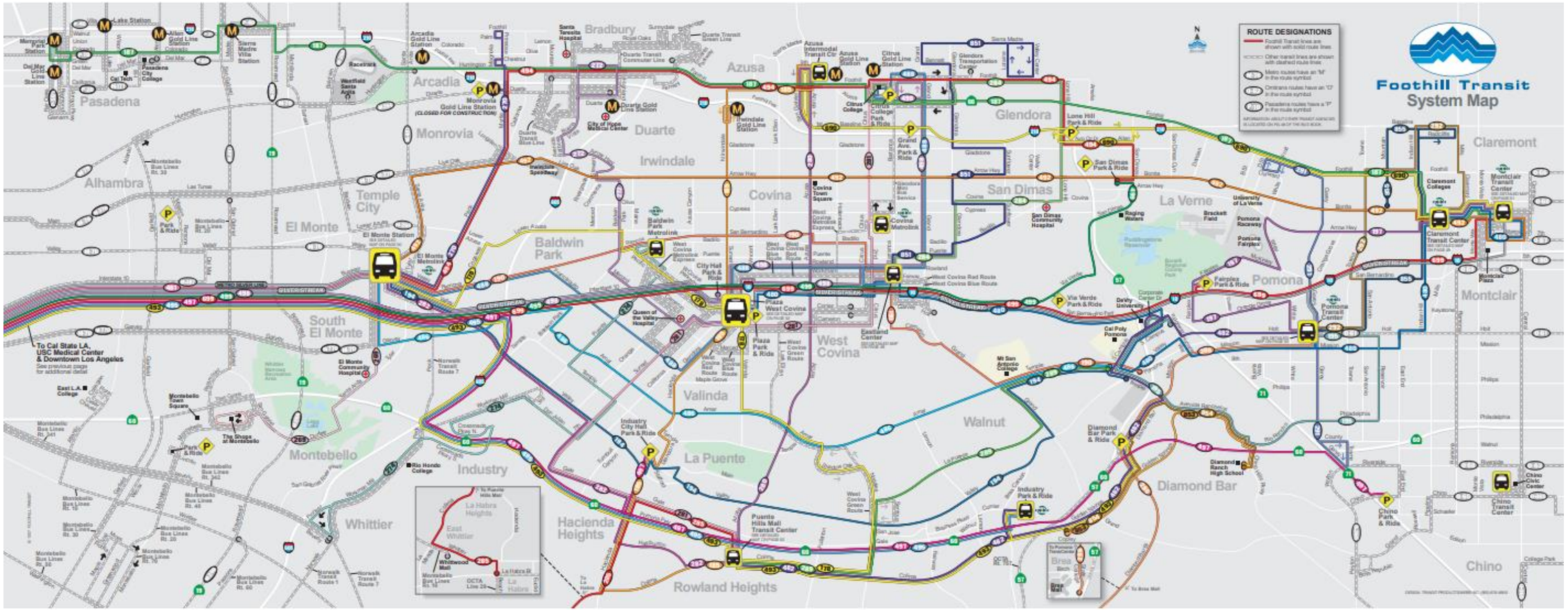
Figure 9 - Metro NextGen Bus & Rail System Map

Figure 10 - Metro NextGen Bus & Rail System Map (San Gabriel Valley Detail)



Source: Metro NextGen Bus & Rail System Map

Figure 11 - Foothill Transit System Map in the SGV



Source: Foothill Transit System Map

There are several planned and funded transportation infrastructure improvements within the SGV. These projects vary from freeway lane management (e.g., Express Lanes, HOV, and transition connectors) and widenings (SR-71 Freeway Conversion Project), major rail investments (Eastside Transit Corridor Phase 2 and Gold Line Foothill Extension), and bus improvements (Metro NextGen Bus Plan/Better Bus). Although these transportation investments will address some focused mobility issues, feasible solutions serving identified demands for the SGV is needed to ensure those communities that truly need better mobility can access and connect to these upcoming projects.

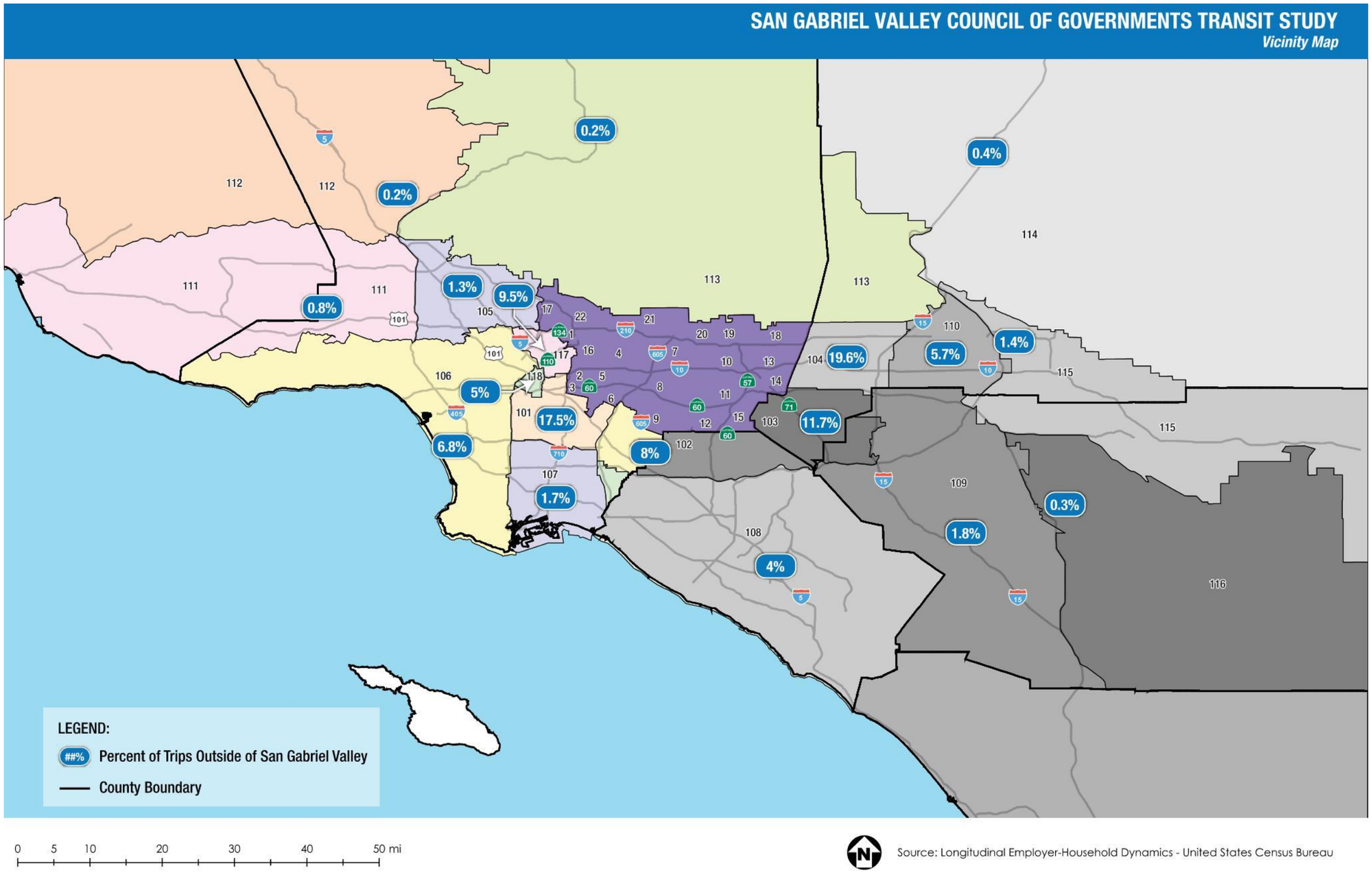
2.4 Travel Markets

Within the SGV, there are around 2,500,000 person trips taken each weekday[16]. Of these, approximately 61.0% of the Study Area's vehicle trips occur entirely within the SGV.[17] Based on the Subregion Mobility Matrix Study, approximately 4.4% of total trips on an average weekday use the SGV as a passthrough.[18] With over 40 transit routes in the Study Area, transit ridership is 3.6% compared to 5.8% in all of Los Angeles County.[19]

Figure 12 - External Trips from the SGV displays trips originating from the SGV and terminating in external areas. The most popular destinations outside of the SGV include Upland/Ontario (19.6%), Gateway Cities (17.5%), and Chino Hills (11.7%)[20]. For comparison, trips to Downtown LA account for 5.0% of external trip terminations.[21]

[16] Data provided by Teralytics; October 2019.
[17] Data provided by Teralytics; October 2019.
[18] Los Angeles County Metropolitan Transportation Authority (Metro). (2015, March*). Archive Search Metro's Board Records from 1993-2015.* http://libraryarchives.metro.net/DPGTL/studies/2015-subregional-mobility-matrix-san-gabriel-valley-v4.pdf
[19] U.S. Census Bureau, American Fact Finder 2015-2019 ACS 5-year data profiles
[20] Absolute percentage of all external trips originating from the SGV.
[21] Absolute percentage of all external trips originating from the SGV.

Figure 12 - External Trips from the SGV



3 STUDY PURPOSE

3.1 Mobility Problem Summary

At 365 square miles, the SGV is a large subregion with a complex transportation network that serves 31 diverse cities and their communities. This network of congested freeways; a complicated arterial system that is shaped by topography, freight corridors, and suburban development; and a disconnected transit system that is constrained by existing rail or congested arterials contributes to the mobility issues and constraints of the valley. Based on the information and analysis above, the key mobility problem themes for the SGV are presented in **Table 7** below.

Table 7 - Key Mobility Problem Themes

Topic	Mobility Problem
Land Use Densities	The predominant zoning within the SGV is low-density residential (40%). Density needs to be encouraged in areas where transit is accessible and mobility options are available.
Housing Allocations	Cities are required to provide zoning to accommodate their share of the statewide housing needs. Each jurisdiction must ensure there are sufficient sites and zoning to accommodate their housing unit requirements. The Study Area received an allocation of 89,616 residential units.
High Population and Employment Densities	The SGV accounts for a significant share of the county's housing and economic base (almost 1/5 of the LA County's residents and jobs). Providing mobility options within the SGV is critical, as its population and employment densities are an average of two to four times higher when compared to LA County as a whole.
Transit Dependent Populations	The SGV has a significant number of transit dependent communities that have limited mobility options due to financial and/or connectivity constraints, or are vehicle constrained. This also effects their ability to access employment opportunities both locally and regionally. A total of 44% of SGV residents are either minors or seniors, 23% of total households are considered low-income, and 15.7% are zero-car households (no access to vehicles). Minority populations comprise about 80% of the total population of the Study Area, with minority groups exceeding 93% of the population in some census tracts.
Equity Focus Communities	EFC areas, which historically have less access to economic and investment opportunities, are located throughout the SGV with communities. EFCs are concentrated in Pasadena, Azusa (both along I-210), Alhambra, San Gabriel, Rosemead, El Monte, South El Monte, Baldwin Park, Covina, Pomona (along I-10), Monterey Park, Montebello, and Industry (along SR-60). While these EFCs may rely on transit as their primary mode of travel, some have limited access to reliable transit services.
Freeway and Arterial Congestion	Traffic congestion not only constrains the mobility of residents, workers, and visitors in SGV, it also has environmental and economic

Topic	Mobility Problem
	consequences. Substantial congestion is prevalent throughout the Study Area, but there are patterns of high westbound travel in the morning and high eastbound travel in the evenings on the I-10 and SR-60. Arterials that run parallel to these freeways also experience heavy activity levels since these roadways serve as alternative routes to the congested freeways, and are also signalized which disrupts continuous flow of traffic. North to south arterials, particularly in the western part of the study area carry the majority of north/south travel due to the lack of rail transit options for these trips as well as the gap in the I-710 freeway.
Goods Movement Conflicts	Goods movement is a significant use of the transportation network within the SGV. As such, it is difficult to develop or add new transportation facilities (e.g., transit or roadway/freeway lane expansions) without conflicting or affecting existing rail and truck operations.
Transit	Transit constraints are operational and related to the availability and accessibility of local and regional bus services. East/west transit services are available via Metrolink and Metro's L (Gold) Line; however, these systems are limited. There is also need for improved transit services in the north/south corridors, particularly to transit-dependent and EFC communities. Currently, most of the existing bus service are local and limited/express routes and generally do not provide continuous, dedicated north/south travel.
Travel Markets	Given the size of the SGV and the large number of activity centers within the study area boundaries, travel patterns are decentralized and irregular in length. Additionally, many trips pass through the SGV while traveling between external origins and destinations, which further adds to traffic and transit volumes as well as congestion in the area. The prominence of low-density housing throughout the area presents challenges for consolidating trips into transit hubs, which is necessary to provide robust transit options.

3.2 Study Purpose

The purpose of new transit investment in the SGV is to enhance mobility and provide more reliable, convenient, and accessible transit options for a subregion that has a large share of transit dependent populations, a vast housing and economic base, and historic Equity Focus Communities that are constrained by existing transportation systems. Given the mobility problems defined in the SGV, the study purpose is the following:

- Reduce travel times for transit to establish transit as an attractive alternative to the automobile.
- Establish connectivity with key origins and destinations throughout the SGV.
- Provide a wider array of good transit options for residents of SGV, particularly for transit dependent populations and EFCs within the SGV.
- Expand service and increase frequency to underserved markets.

- Create opportunities through transit-oriented communities to accommodate anticipated growth and housing allocation needs.

3.3 Goals and Objectives

The following section identifies goals and objectives, as solutions to mobility problems in the SGV. Goals provide high-level and visionary guidelines for the feasibility study and objectives provide measurable steps towards attaining goals.

G1 - Develop near-term and long-term mobility options for SGV

The purpose of the study is to identify feasible transit solutions that enhance mobility in the SGV. This can be achieved by packaging near term cost-effective projects, (e.g., shorter segments) with larger capital improvements or long-term projects (e.g. increased headways, fixed guideway such as LRT, HRT, or other fixed guideway transit, extension of near term project).

Objective(s):

- Develop a Transit Feasibility Study with projects that fulfill near-term needs, while also establishing long-term visionary solutions.

G2 – Provide all-day transit service for peak and off-peak trips

There is a growing number of off-peak/non-work-related trips in the SGV. Current transit services, such as Metrolink, primarily address peak commute time periods (7-9AM) and (4-6PM) with some lines running weekday only. However, this does not accommodate riders that may need to travel during off-peak weekday hours or weekends including service workers, students, families, recreational travelers, and those with early morning or late-night shifts. Providing reliable and accessible all-day and weekend service will be important in meeting varying transit needs within the SGV.

Objective(s):

- Establish/improve local transit connections with existing transit assets, such as the Metro L (Gold) Line, Metrolink, and Foothill Transit's Silver Streak.
- Create reliable east/west service during off-peak time periods (midday, late night, early morning, and weekends).
- Address peak period demand while aiming for convenient service all day long

G3 – Address unmet mobility needs for trips within the SGV

The SGV is comprised of residential communities, employment centers, and commercial corridors, resulting in 61% of total trips remaining internal to the SGV.[22]

Objective(s):

[22] Data provided by Teralytics; October 2019.

- Develop direct and convenient connections between key origins and destinations within the SGV.
- Support north/south connectivity and access throughout the SGV.
- Identify programs that can help close first/last mile gaps, such as Metro Micro, other on-demand rideshare service, active transportation, and public/private partnerships for shuttle services.

G4: Create accessible transit service for SGV communities

The SGV is home to several equity focus communities (EFCs), minority households, low-income households, and zero-vehicle households. These communities have a history of disinvestment, relying on transit as a primary mode of travel, including minors (persons under 18 years of age) and seniors (65 and older). Areas with high concentrations of transit-dependent populations and EFCs should be focus areas for new and improved service.

Objective(s):

- Emphasize targeted, frequent, and reliable services in areas with high concentrations of EFCs, zero-vehicle households, low-income, minority, senior, and minor populations that rely on transit for mobility.
- Identify and plan routes that are accessible for minors and senior populations.

G5: Balance the needs of goods movement and transit when selecting routes for new services

There are many critical routes for goods movement throughout the SGV. For example, I-710 functions as a lifeline for trucks and connects SGV with the Port of Los Angeles and the Port of Long Beach. SR-60, I-10, and I-210 are other key corridors for truck travel, due to its surrounding industrial land use and east/west connectivity with Los Angeles and San Bernardino Counties. For this reason, it is important to identify which corridors may be considered for freight improvements while concomitantly developing transit improvements. Any projects planned to facilitate or increase freight traffic could provide additional difficulties in implementing transit service due to congestion.

Objective(s):

- Identify freight conflicts to avoid with transit projects.
- Develop transit improvements that don’t preclude long-term solutions to goods movement.
- Minimize conflicts with rail freight by staggering transit service times and separating facilities.

G6 – Develop transit service that is compatible with surrounding land use

Transit hubs are key locations in the transit system where multiple transit services meet and exchange passengers. Transit hubs are complimented by their surrounding land uses. Transit oriented communities (TOC) can create housing near transit stops and stations, thereby

reducing the need for a personal vehicle and promoting transit ridership. Geographic constraints are also important when considering the relationship between transit and land use. The SGV is constrained by varying topography including by mountains to the north, hills to the south, and sensitive park land and water resources.

Objective(s):

- Increase the quality and quantity of transit service at principal transit hubs.
- Develop services that can support future development of transit-oriented communities (TOC) to create housing density and promote ridership.
- Develop transit that considers physical and environmental constraints when identifying routes.

4 APPENDIX A – DOCUMENT REVIEW

4.1 Southern California Association of Governments (SCAG) 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (Connect SoCal) (2020)

SCAG is the largest metropolitan planning organization in the nation. SCAG is responsible for long-rage planning of the region. The 2020-2045 Regional Plan/Sustainable Communities Strategy aims to create stepping blocks towards a more mobile and sustainable region by making connections between transportation networks, planning strategies, and people. This document's goals are centered around four main categories: economy, mobility, environment, and healthy/complete communities. This is a key document to be referenced by planning agencies when planning transportation projects.

4.2 Metro Re-Evaluation Major Investment Study (2000)

This study identifies and analyzes a variety of fixed guideway transit service extensions, including heavy rail, light rail, and bus alternatives. Re-evaluation is done to pinpoint a Locally Preferred Alternative (LPA) that is environmentally clear for further project planning. This re-evaluation came about after Metro suspended work on extensions of the Metro Red Line subway project in January of 1998 and reaffirms their commitment to fund fixed guideway transit improvements.

4.3 Metro Rapid Demonstration Project (2000)

This project was initiated in March 1999 following a feasibility study done in response to a field visit to Curitiba, Brazil, whose urban design and public transportation model has been applauded internationally. This study recommended that Metro and the City of Los Angeles conduct a demonstration along select major arterials with consistent ridership and varying characteristics to study the feasibility of a full-scale deployment of BRT within the MTA system. The Metro Rapid lines were implemented on June 24, 2000 and coincided with the top seven key attributes lined out in Curitiba's plan. This demonstration succeeded and fulfilled the projects seven original objectives. Phase two of the program was implemented in the spring of 2001, with the program slowly being replaced by the NextGen Bus Plan. Document 4 – Metro Vision 2028 Strategic Plan (2018)

This plan is the agency-wide overarching vision for transforming mobility in LA County over the next 10 years. Using public input collected through a year-long public outreach campaign, the plan includes specific action points that to help achieve defined outcomes through 2028. Five goals are presented and planned to be tackled at from several angles using a variety of strategies.

4.4 Metro Vision 2028 Strategic Plan (2018)

Metro's Vision 2028 Plan provides a strategic vision for transforming mobility in Los Angeles over the next ten years. The report focuses on mission, vision, performance outcomes, and

goals for Metro. Prior to writing the document, Metro conducted public outreach to understand challenges and receive community feedback. Key challenges that the plan addresses include an over-strained transportation system, diverse mobility needs, technological changes growing rapidly, affordable housing shortage, and policies that favor the single occupancy vehicle (SOV). The plan identifies the following goals:

"1. Provide high-quality mobility options that enable people to spend less time traveling.

2. Deliver outstanding trip experiences for all users of the transportation system.

3. Enhance communities and lives through mobility and access to opportunity.

4. Transform LA County through regional collaboration and national leadership; and

5. Provide responsive, accountable, and trustworthy governance within the Metro organization"

4.5 Metro 2020 Long Range Transportation Plan (LRTP) (2020)

LA Metro's Long Range Transportation Plan (LRTP) is an overview of Metro's current projects, and what the agency's goals are for the next 30 years. It describes how Metro's projects are funded, planed, built, and managed. The LRTP's focus is on improving transit riders' experiences through improvements on the county's busiest streets. Metro will add more than 100 miles of rail during the plan's life span, as well as encourage implementation of the NextGen Bus Plan to make bus service more rapid and frequent. Once these plans are complete, 36% of jobs in LA County will be within a 10-minute walk of high-quality rail or bus rapid transit, improving ridership and decreasing greenhouse gas emissions in the county.

4.6 Metro Equity Platform Framework (2018)

This framework defined a set of pillars to outline how Metro will transform its decision-making practices to center the needs of LA County's most vulnerable communities. It encourages staff and board members to think differently and prioritize the needs of the transit users whose lives could be radically changed through LA's transportation system. This Equity Platform should be used as a framework for specific analyses and actions attached to Metro initiatives.

Metro utilizes this equity framework when making decisions to prioritize the needs of LA county's most vulnerable populations and communities. Metro recognizes that its decisions

4.7 Metro Better Bus Program (2021)

This is a $2.1-billion, five-year plan to advance the Metro Bus system by improving ride speed and comfort and addressing inequalities experienced throughout the system. Key elements included in this plan are similar to other LA Metro plans, however, this program's purpose is to consolidate most of the bus upgrades into one cohesive plan. This allows stakeholders and riders to find updated information on bus improvements. Addressing the concerns of LA Metro riders is the core concern for Better Bus, with 37 bus-specific improvements in planning stages or underway.

4.8 Metro BRT Vision and Principles Study (2021)

This study focuses on the standardization of the Metro's BRT system. The overall vision, operational standards, and design guidelines are clearly defined. Additionally, the study identifies new corridors aligned with LA Metro's future service needs and is to be used for future reference when funding becomes available.

4.9 Metro NextGen Bus Plan (2020)

This plan aims to implement a new bus system in LA County that is quicker, more frequent, more reliable, and more accessible than currently offered. The development of the project was guided by both technical data and personal experiences. Through questionnaires, meetings, events, presentations, and workshops, nearly 20,000 LA County residents' comments were collected and used to create the basis of this plan.

4.10 Measure M Subregional Program (2018)

In November 2016, a ½ cent sales tax was implemented to provide funding for transportation improvements across Los Angeles County. It is expected to fund $3.3 billion in transportation improvements in the San Gabriel Valley over the course of 40 years. The program was put in place to administer the funds through the development of a five-year plan.

4.11 Metro Transit Oriented Communities Policy (2019)

This policy creates a framework for how Transit Oriented Communities (TOCs) should be evaluated in the planning of Metro's projects. The plan outlines TOC's in Metro's context and develops goals and approaches for how Metro will enable TOCs. The plan defines activities of "transportation purpose" so that these actions can become eligible for funding under Measure M guidelines.

4.12 Downtown Pomona Specific Plan

Pomona adopted a specific plan for its downtown which implements the vision for the city that was previously established in the city's general plan. The plan focuses improvements around the existing Downtown Pomona Metrolink Station to create a walkable, mixed use environment that consolidates trips within downtown.

4.13 Eastside Transit Corridor Phase 2 Final Alternatives Analysis (and Addendum) (2009)

Metro initiated plans for a high-capacity transit connection to the Eastside Extension Phase 1 project by conducting this *Eastside Transit Corridor Phase 2 Alternatives Analysis Report (2009)*. During the alternatives analysis study process, 47 initial alternatives were evaluated and screened down to four feasible build alternatives. To further refine the build alternatives for environmental analysis, Metro conducted the *Eastside Transit Corridor Phase 2 Alternatives Analysis Addendum* (2009) with applied additional evaluation criteria and conceptual level engineering. In October 2009 the Metro Board of Directors approved the advancement of two LRT build alternatives along with the No Build and Transportation Systems Management (TSM) alternatives into the EIS/EIR process for the Eastside Transit Corridor Phase 2 Project.

4.14 Eastside Transit Corridor Phase 2 Draft EIR/EIS (2014)

In 2014, Metro released a Draft EIR/EIS for the Metro Gold Line Eastside Phase 2 Project to extend from the terminus at Atlantic Station further east into Los Angeles County. This document provides an environmental analysis for two build alternatives (SR 60 and Washington LRT), and additionally considers a no build alternative.

4.15 Eastside Transit Corridor Phase 2 Post Draft EIS/EIR Technical Study (2017)

This document evaluates the three transit alternatives (SR 60, Washington, and a Combined Alternative) that would extend the existing Metro Gold Line Eastside Extension into East Los Angeles County. In response to public comments, the Metro performed this technical study addressing several environmental and engineering challenges identified in the 2014 Draft EIS/EIR. Given the design constraints, environmental impacts, and outreach input, the SR 60 and Combined Alternative were withdrawn from consideration and a Recirculated Draft EIR is currently being developed.

4.16 Final SR 60 and Combined Alternatives Issues and Constraints Report (2020)

The Final SR 60 and Combined Alternatives Report provides an in-depth analysis identifying the major engineering and environmental challenges of the SR-60 Alternative for the Eastside Transit Corridor Phase 2 Project. The report determines that the Operating Industries Inc (OII) Superfund site, Whittier Narrows Flood Control Basin, and Whittier Narrows Recreation Area, have potential environmental conflicts. Additionally, the environmental justice communities, neighboring residential and commercial land uses, and major utility impacts, present more concerns. The report concludes that the SR 60 alignment is inconsistent with Metro's policies and programs and would require exhaustive coordination and unconventional permitting. Following the release of the Report, the Metro Board decided to withdrawal the SR 60 and Combined Alternative from consideration for the Eastside Phase 2 Project. In its absence, funding was allocated to a separate study (SGVCOG Transit Feasibility Study) to identify transit improvements in the SGV.

4.17 El Monte Station Relocation Feasibility Study

In 2016, Metro's Board unanimously approved a motion that would examine the feasibility of relocating three Metrolink stations (Northridge, El Monte, & Montebello/Commerce), and creating a new station at the base of Rio Hondo College. Part of this study involves improving connectivity between the El Monte Train Station and the El Monte Bus Transit Center.

4.18 Subregional Mobility Matrix San Gabriel Valley (2015)

This document aided the creation of the Metro LRTP by consolidating the SGV subregional transportation goals for reference when planning future investments. Additionally, it covers baseline transportation conditions, which identifies critical needs and gives an initial screening into current proposed projects. The goals outlined in this matrix are consistent with six themes that are common among all subregions. The finalized report includes high-level evaluation of

projects and programs proposed throughout the report and was designed to provide critical input for Metro's LRTP.

4.19 City of Covina Bicycle Master Plan (2011)

Covina's Bicycle Master Plan contains an array of actions, improvements, policies, and strategies to build out a better bicycling network for the city. Goals of the plan include complete streets, environmental sustainability, and transit integration.

4.20 City of Duarte Bicycle Master Plan (2016)

Duarte's Bicycle Master Plan includes several improvements in the form of Class I, II, and III bike lanes. The plan aims to improve connections with existing bicycle and transit infrastructure as well as increasing options for biking between schools, employment centers, retail, and other important areas of the city.

4.21 City of Monrovia Bicycle Master Plan (2018)

Monrovia's Bicycle Master Plan includes the addition of bike lanes, trails, and routes throughout the city, as well as improving bike parking and storage throughout the city. It also aims to improve north-south connectivity in the city, which is made difficult due to the L (Gold) line having only six crossing points in Monrovia.

4.22 City of Pasadena Bicycle Transportation Action Plan (2015)

Pasadena's Bicycle Transportation Action Plan sets a goal of having every neighborhood within a quarter mile of an effective bicycling route. The plan aims to vastly increase the number of trips by bike for commute, recreation, shopping, and socializing.

4.23 City of Pomona Active Transportation Plan (2012)

The City of Pomona adopted a combined pedestrian and bicycle transportation plan in 2012. In total, the plan proposes over 70 miles of bike infrastructure throughout Pomona.

4.24 City of Rosemead Bicycle Transportation Plan (2012)

Rosemead's Bicycle Transportation Plan aims to create a set of improvements for bicycle riders of various travel purposes and skill levels, especially in creating safe routes to school for children. The city cites safety as a major concern and inhibitor of modal switch to bicycle travel and aims primarily to improve safety for cyclists in Rosemead.

4.25 City of South Pasadena Bicycle Master Plan (2011)

In 2011, The City of South Pasadena updated their bicycle master plan. It aims to facilitate non-vehicle trips between areas in the city surrounding regional transit infrastructure. The city will utilize this plan as part of a wider effort to reduce VMT and congestion throughout the South Pasadena.

4.26 City of Temple City Bicycle Master Plan (2011)

Temple City's Bicycle Plan aims to increase the number of people travelling by bike in the city while improving public safety and increasing public awareness and support for biking.

4.27 City of West Covina Active Transportation Plan (2018)

West Covina's Bicycle Plan plans to create a greater spread of trips between walking, cycling, transit, and driving. The plan aims to integrate with regional plans, reduce congestion and pollution, and advance social equity in West Covina.