

# WEST GLENDALE

SUSTAINABLE TRANSPORTATION & LAND USE STUDY

## EXISTING CONDITIONS REPORT



## ACKNOWLEDGEMENTS



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# INTRODUCTION



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## INTRODUCTION

The consultant team has gathered and assessed preliminary information to form the framework for the West Glendale Sustainable Transportation and Land Use Study. This analysis establishes the technical framework that will form the foundation for development of subsequent study work tasks.

### Content

The Existing Conditions Report consists of a series of memoranda that verify existing land use and transportation conditions in the West Glendale Study Area, including the following:

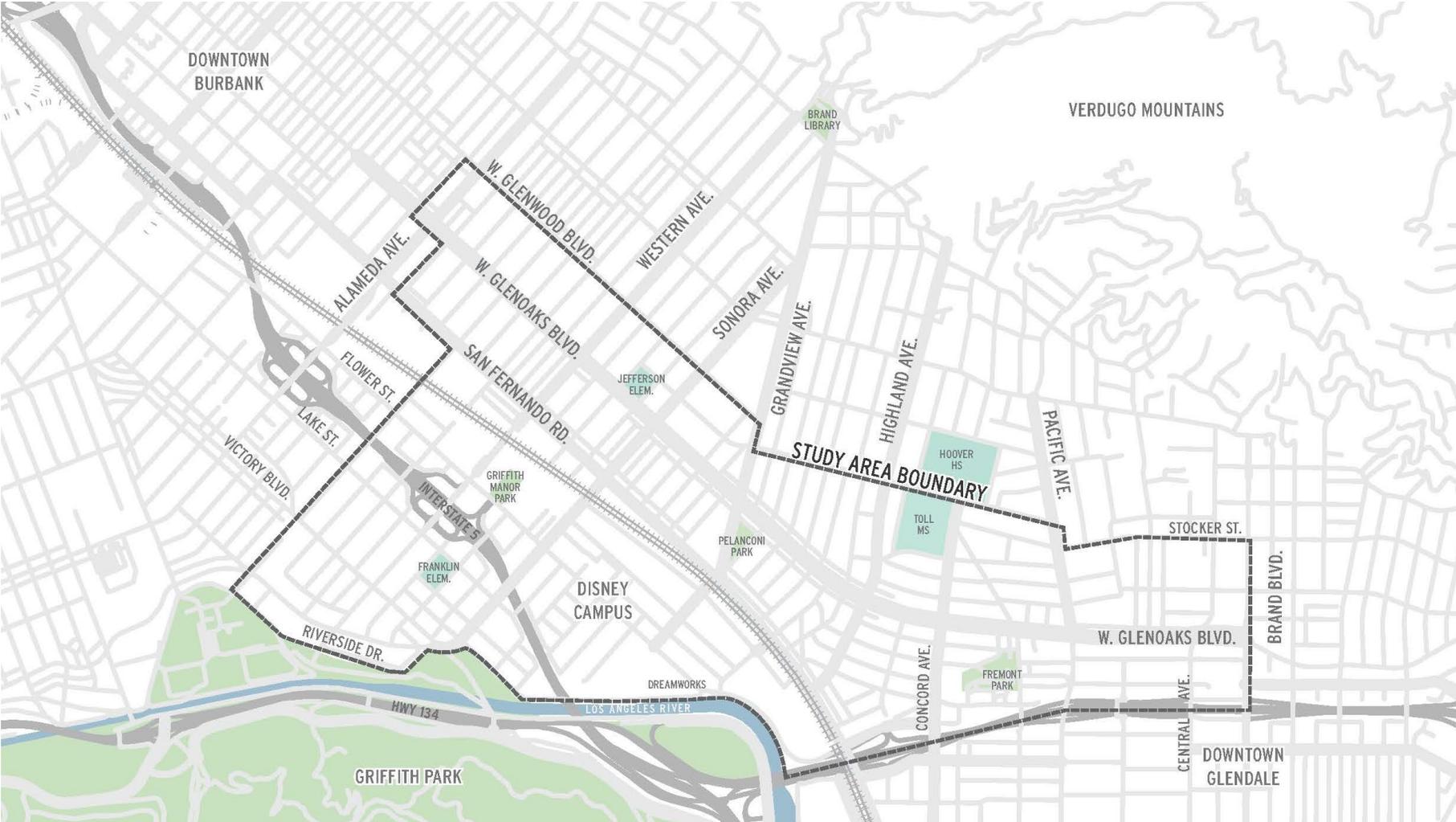
- **Review of Policy Framework and Planning Studies.** Assessment of past planning efforts that that this planning effort must address and be consistent with
- **Transportation Analysis.** An initial assessment of the walking, biking, transit, and street network existing conditions.
- **Land Use Analysis.** An overview of existing land use existing conditions in the Study Area
- **Traffic Counts & Forecasts.** An assessment of locations being studied to evaluate the feasibility of land use changes and bicycle and pedestrian improvements.

### Study Area

The Study Area is within the greater West Glendale Community long-range planning area of the City of Glendale and abuts the City of Burbank. Community Plan 'influence areas' outside the study area boundary include hillside residential neighborhoods and commercial districts, including the nearby Kenneth Village shopping area. The study area includes notable uses such as the Walt Disney Company's Grand Central Creative Campus, the DreamWorks Animation studios, and the Glendale Narrows Riverwalk along the Los Angeles River.

Base mapping information for the study area has been gathered at a 'planning level' of detail, and includes parcel lines, streets, walkways, easements, rights-of-ways. Existing and proposed transit station platform, roadway alignment and other related elements will be included as the planning process progresses.

**Study Area**





# **POLICY FRAMEWORK & PLANNING STUDIES**

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## **POLICY FRAMEWORK & PLANNING STUDIES**

The policies and plans summary provides a context for and informs planning decisions. Each assessment has been undertaken through the lens of addressing key Study objectives—creating an integrated multi-modal Glenoaks corridor, connecting complete streets, and fostering development of supportive land uses.

The consultant team has reviewed and assessed City of Glendale existing and ongoing plans and studies related to the West Glendale Sustainable Transportation and Land Use Study. These include:

- Glendale Plan Circulation Element
- Trails Master Plan
- Urban Art Program
- Downtown Specific Plan and South Glendale Community Plan
- Downtown Mobility Study
- Streetcar Feasibility Study (ongoing)
- Bicycle Transportation Plan
- Safe and Healthy Streets Plan
- Space 134 Freeway Cap Park Vision Plan

The consultant team has also gained familiarity with similar efforts in adjacent communities as well as regional, statewide and Caltrans documents affecting the study area, including:

- Burbank Citywide Complete Streets Plan
- Burbank Bike Master Plan
- North Hollywood-Pasadena BRT Study (ongoing)
- LA County Metro Active Transportation Strategic Plan
- LA County Metro First/Last Mile Strategic Plan
- Los Angeles/Glendale/Burbank Metrolink Feasibility Study
- Southern California Association of Governments Regional Transportation Plan
- California Complete Streets Act
- SB 743

### **Glendale Plan Circulation Element (1998)**

The Circulation Element addresses both transportation and recreational bicycle and pedestrian travel with an emphasis on the role of bicycling and walking as a general means of transportation. The plan strives to reduce parking demand and carbon emissions through enhancing pedestrian infrastructure and increasing carpooling and parking management programs.

### **Glendale Trails Master Plan (2008)**

The Citywide Trails Master Plan establishes guidelines for multipurpose (pedestrian, bicycle, equestrian) trail development, trailhead design, public access to open space and park areas, signage, and volunteer programs. In addition, detailed maps and plans for trails within the Verdugo Mountains, the San Rafael Hills, and the San Gabriel Mountains were approved by City Council in early 2008.

### **Glendale Urban Art Program (2010)**

The Urban Art Program mandates the inclusion of public art in new development. Through the addition of public art, the program hopes to encourage pedestrian activity and diversify Glendale's cultural environment. The implementation of the public art results from collaboration between artists, developers, designers, city officials, and community members.

## South Glendale Community Plan

Developed in 2018, the South Glendale Community Plan provides an official guide to development within the neighborhoods and commercial districts. The Plan envisions the maintenance, enhancement, or transformation of South Glendale’s various neighborhoods, centers, and corridors over the next quarter century. In general, the scale and character of South Glendale’s residential neighborhoods are maintained, while corridors such as Central Avenue, Colorado Street, and portions of Broadway and Glendale Avenue are transformed with higher-density, mixed-use buildings that take advantage of existing and proposed transit routes. Meanwhile, the multi-family blocks parallel to the Broadway, Central Avenue, and Colorado Street transit corridors are re-zoned as an ‘affordable housing overlay zone’ to provide affordable and inclusionary housing. **The following key components impact the Study.**

### San Fernando Road Vision

A ‘Creative Corridor’ initiative to grow San Fernando Road’s creative industry, which then accounted for over 1/3 of area businesses. The corridor continues to evolve with a mix of industrial and light industrial uses north of Pacific Avenue and creative arts and infill housing projects defining the area between Pacific Avenue and Tropic.

### Pacific Avenue Gateway Center

The Pacific Avenue Gateway provides convenient access to the 134 Freeway and to residential and commercial areas, including the Downtown via Pioneer Drive and Doran Street. Large, underdeveloped parcels at Pacific Avenue and Pioneer Drive offer the potential for introducing mixed-use buildings that accommodate employment and/or residential uses. With streetscape improvements, the new buildings will create an attractive and welcoming gateway into south Glendale and introduce urban amenities near the hotel and the Vineyard neighborhood to the south. Streetscape improvements and pedestrian

enhancements, including consistent street trees, wider sidewalks and highly visible crosswalks, will make the Pacific Avenue Gateway an easy and attractive place to walk.

### Vision

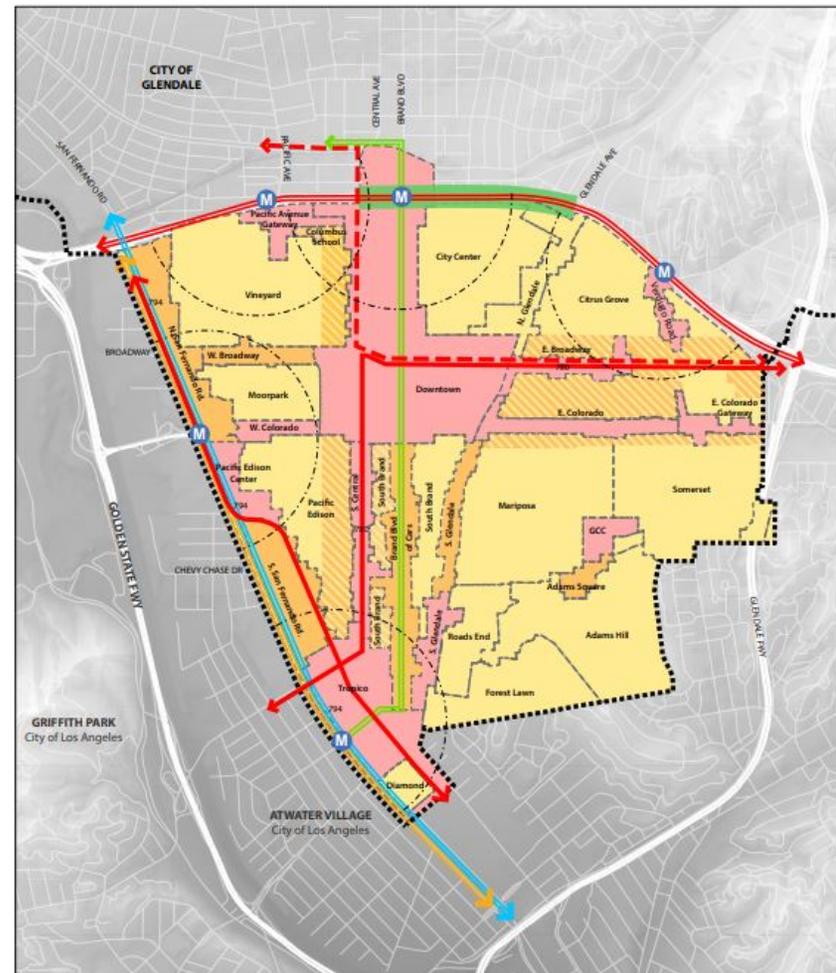


Figure 2.1 The Project

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|---|---|---|
| <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: yellow; border: 1px solid black; margin-right: 5px;"></span> Areas to Maintain</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: orange; border: 1px solid black; margin-right: 5px;"></span> Areas to Enhance</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: red; border: 1px solid black; margin-right: 5px;"></span> Areas to Transform</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: yellow; border: 1px solid black; margin-right: 5px;"></span> Areas to Maintain/Enhance</li> </ul> | <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid blue; margin-right: 5px;"></span> Amtrak/MetroLink Trains</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid green; margin-right: 5px;"></span> High Speed Rail (Proposed)</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px dashed red; margin-right: 5px;"></span> Proposed Brand Street Car</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid red; margin-right: 5px;"></span> Proposed Metro Light Rail Extension</li> </ul> | <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: red; border: 1px solid black; margin-right: 5px;"></span> Metro 780 &amp; 794 Route (Existing)</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: red; border: 1px solid black; margin-right: 5px;"></span> Metro BRT (Proposed)</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: blue; border: 1px solid black; border-radius: 50%; margin-right: 5px;"></span> Transportation Center</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: green; border: 1px solid black; margin-right: 5px;"></span> Space 134</li> </ul> |
|---|---|---|

## South Central Corridor

The South Central Corridor consists of the portion of South Central Avenue between Elk Avenue to the north and Cypress and Magnolia Avenues to the South. South Central Avenue is a major arterial that accommodates public transit service, including Metro Local, Rapid, and Shuttle bus lines and Glendale Beeline service. It is lined with an eclectic mix of retail, commercial, and residential uses reflecting a variety of time periods and architectural styles that accommodate frequent public transit with direct access to the Metrolink Station. The South Central Corridor growth continues with higher density, 4- to 6-story mixed-use buildings fronting South Central Avenue, transitioning to 2- to 4-story apartments and condominiums next to adjacent neighborhoods and alongside streets.

### Framework Diagram

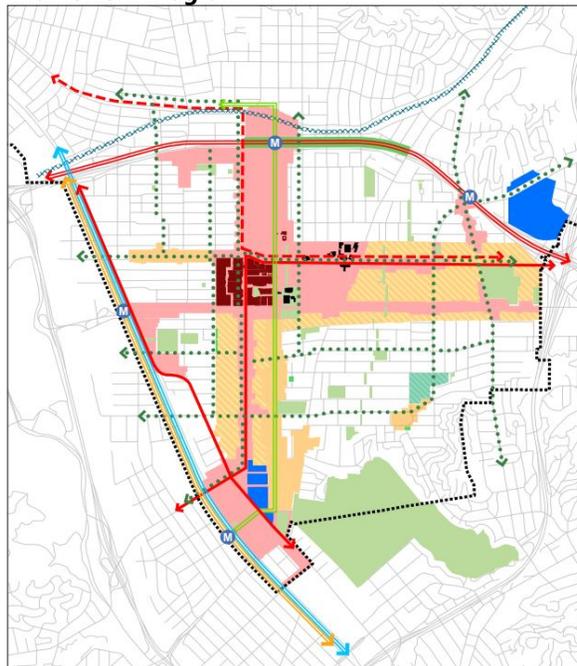


Figure 3.1 Framework

- |   |  |   |
|---|--|---|
| <ul style="list-style-type: none"> <li>Areas to Enhance</li> <li>Areas to Transform</li> <li>Medical Campuses</li> <li>Open Space</li> <li>Civic</li> </ul> | <ul style="list-style-type: none"> <li>Affordable Housing Overlay Zone</li> <li>Verdugo Wash</li> <li>Amtrak/Metrolink Trains</li> <li>High Speed Rail (Proposed)</li> <li>Brand Street Car</li> </ul> | <ul style="list-style-type: none"> <li>Metro Light Rail Extension</li> <li>Primary Bikeways</li> <li>Metro 780 &amp; 794 Route (Existing)</li> <li>Metro BRT (Proposed)</li> <li>Transportation Center</li> </ul> |
|---|--|---|

## Expansion of Bicycle and Open Space Network.

Greenways will be introduced along key streets and bicycle lanes will link Glendale residents, office workers, and commuters with South Glendale's parks, schools, and neighborhood centers.

### Mobility Network Diagram

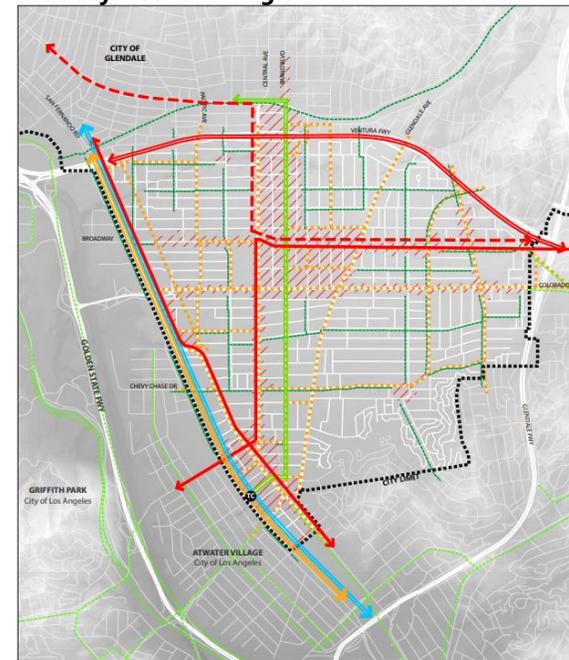


Figure 3.6 Mobility Network

- |  |   |  |
|--|---|--|
| <ul style="list-style-type: none"> <li>Primary Pedestrian Areas</li> <li>Primary Bicycle Streets</li> <li>Primary Transit Streets</li> </ul> | <ul style="list-style-type: none"> <li>Amtrak/Metrolink Trains</li> <li>High Speed Rail (Proposed)</li> <li>Brand Street Car</li> <li>Metro Light Rail Extension</li> </ul> | <ul style="list-style-type: none"> <li>Metro 780 &amp; 794 Route (Existing)</li> <li>Metro BRT (Proposed)</li> <li>Glendale Transportation Center</li> </ul> |
|--|---|--|

## Downtown Specific Plan

The Downtown Specific Plan (DSP), a mixed-use development district, guides the development of Glendale's city center. It provides for a vibrant array of commercial (retail, service, office, entertainment) uses and very high density, urban housing/mixed-use developments.

**The following key components impact Study.**

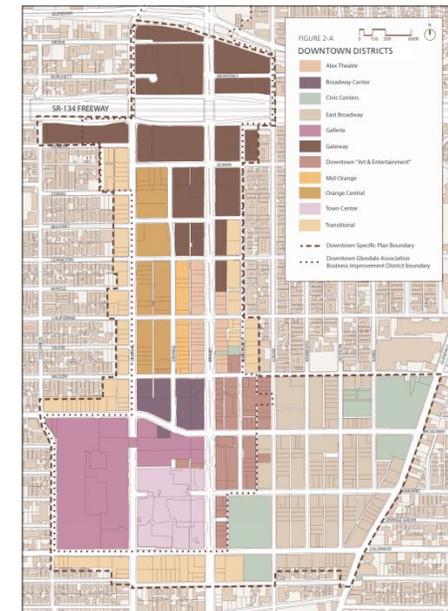
### Gateway District

Located at the northern portion of the Downtown Specific Plan (DSP) area, the Gateway District features the most visibly noted skyline of Downtown Glendale. Characterized by high-rise development, the district is home to numerous corporate headquarters and businesses whose multi-storied towers are visible from the various viewpoints throughout the city and the 134 Freeway. The focus of the area is the continued promotion and location of corporate headquarters, new hotels, mixed-use and residential buildings, complementary/accessory service and retail businesses at the street level, as well as the introduction of appropriate night-time entertainment uses. **Parcels within the West Glendale Study area east of Central Avenue are part of the Gateway District. Land use concepts must be consistent with this district vision.**

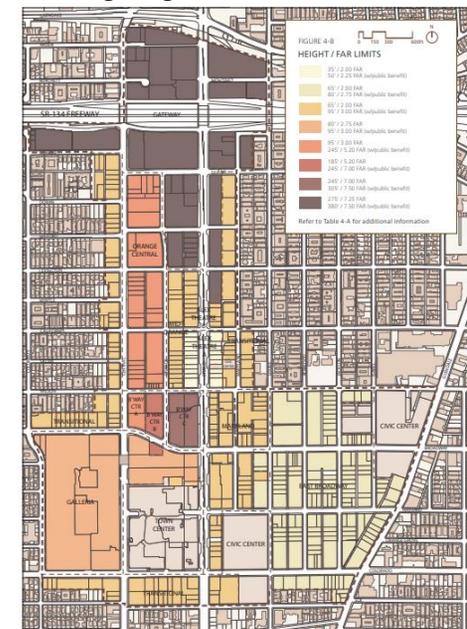
### Building Heights and Floor Area Ratios

Each Downtown district has height and floor area criteria. In the DSP, development density is defined by the Floor Area Ratio (FAR). Provided the urban design standards are met, the maximum by-right height and FAR allowed for each district may be built. A Community Benefits program has been included as part of the DSP that allows for additional height or floor area for qualified projects providing the community benefits identified as priorities to the City's vision. Projects participating in the Community Benefits program that provide additional public benefits, such as additional publicly accessible open space, greater diversity in housing mix, mobility improvements and public art on-site, may qualify for additional development potential up to the maximum. **Parcels within the West Glendale study area must comply with these requirements.**

### Downtown Districts



### Building Heights/Floor Area Ratio Limits



## Streetscape Typologies

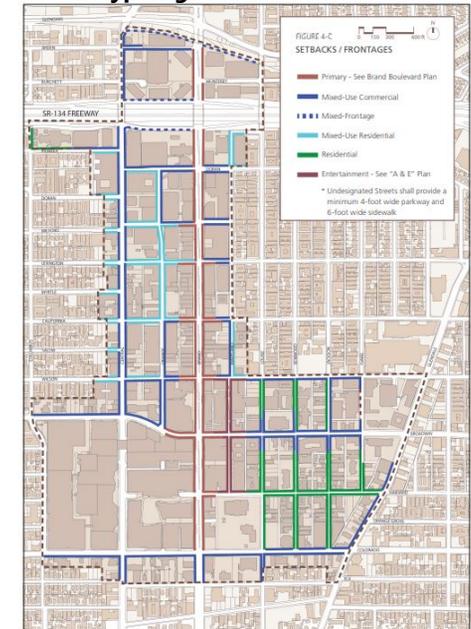
The treatment of sidewalks, setbacks and building facades vary, based on the different uses, functions and scales of different streets. Downtown's image and comfort are largely determined by the physical proportions of the streets and public rights-of-way, as defined by facing buildings, their frontages, setbacks, parkways and the streets themselves. Collectively, these shape the pedestrian experience by creating a sense of enclosure and well-defined pedestrian zones. As such, the street and setback dimensions directly affect the quality and pace of the pedestrian experience. In order to enhance and regulate the streetscapes and pedestrian experience, the DSP establishes a set of street types with different design considerations. Street types are defined street width, land use context, and transportation/pedestrian characteristics. The classifications are meant to serve as a guide for designing appropriate streetscape environments. **Parcels within the West Glendale study area along Central Avenue and Arden Avenue are designated as 'Mixed-use Commercial Streets'. Development must comply with these typologies.**

## Mobility Network

The mobility network shows the proposed hierarchy and priority of transportation modes on existing streets, as well as potential opportunities to expand this network with new streets. The network map shows a new street classification which includes Pedestrian Priority Streets, Transit Priority Streets, Bicycle Priority Streets and Auto Priority Streets and a methodology to balance the sometimes competing needs of these different modes.

**Within the West Glendale Study area, both Central Avenue and Brand Boulevard are identified as 'Vehicular Mobility Streets' while Brand is also designated as a 'Transit Priority Street'. Street development must comply with these designations.**

## Street Typologies



## Mobility Network



## Downtown Mobility Study

The Mobility Study gathers under a single umbrella the full range of best-practices to reduce auto congestion and promote multi-modal transportation. Each of these—free bus shuttle, parking benefit districts, in-lieu fees, and transit-priority streets, among others—are tailored to the physical vision articulated by the Downtown Specific Plan.

The essential strategy of the Downtown Mobility Study is to rethink the street network, identifying primary streets for different types of users. While capacity will be increased where necessary, streets will be designed for the mobility of people. The Study proposes that Glendale’s approach to streets should focus on moving people, not cars:

- Each street should have a primary purpose (auto traffic, transit, pedestrian, bicycle) and should be designed to maximize efficiency and comfort of that mode.
- The City should evaluate each type of street according to a set of standards that optimizes use of its primary mode. Glendale should have a system to balance between all modes.

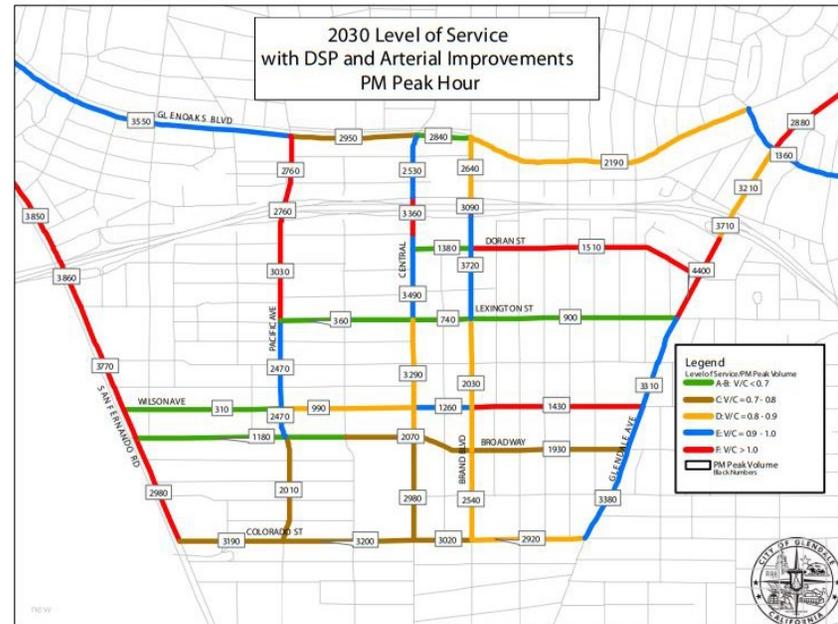
**The following key components impact the Study.**

### Primary Auto Streets

Primary Auto Streets give first priority to moving automobile traffic. In terms of measuring their performance and design, they essentially follow the existing definition of a primary arterial street in Glendale. On these streets, first priority is given to meeting automobile level of service standards (e.g., in signal prioritization). Other modes, while not entirely ignored, take second priority.

**Central Avenue through the West Glendale Study planning area is designated as Primary Auto Street.**

## 2030 Level of Service Analysis



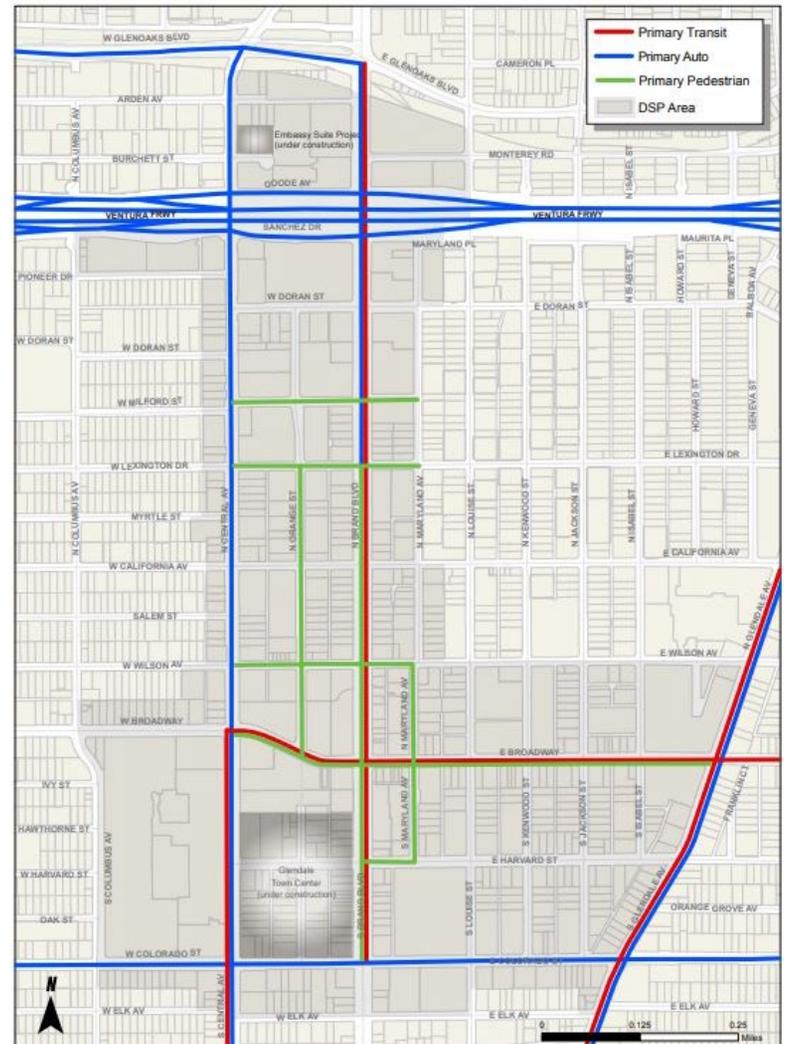
## Primary Transit Streets

In most cities where growth has occurred with little or no increase in traffic congestion, a fundamental part of that success was improving the visibility and reliability of transit service. A key part of most improvements is protecting transit vehicles from rising traffic congestion that will otherwise cause steadily declining transit speeds, increasing unreliability, higher operating costs, and eventual deterioration of the entire transit network. In addition, key corridors—including all transit corridors and connections between transit corridors and major destinations—should ideally give the highest possible level of comfort and safety for pedestrians. Primary Transit Streets give first priority to moving transit. These are the streets where, for example:

- Signal prioritization devices and traffic signal timing should give first priority to speeding up buses, even at the expense of some loss of performance or automobile level of service.
- Bus bulb-outs should be installed where needed, and where first priority is given for investments in transit amenities, such as better shelters.
- High priority must be given to creating excellent conditions for pedestrians, in the design of both streets and buildings.

**Proposed peak hour transit service streets include Brand Boulevard and Glenoaks Boulevard.**

## Street Classifications



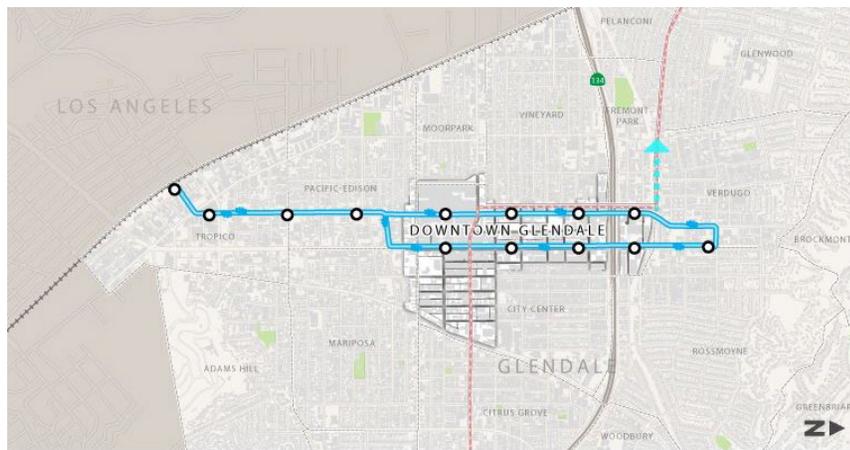
## Streetcar Feasibility (ongoing)

The City of Glendale is currently engaged in a streetcar feasibility study that would seek to connect the Larry Zarian Transportation Center with the vibrant heart of the Downtown. A modern streetcar line would establish a connection between its centers of entertainment, dining, shopping, and residents along the Brand Boulevard and Central Avenue corridors. With connections to Beeline bus service, Metro bus lines, and rail service at the Larry Zarian Transportation Center, the streetcar has the potential to attract visitors and tourists in addition to creating an improved transit connection for those who live and work in Glendale. Two routes are being assessed.

### Route 1

The loop option would utilize both Brand Boulevard and Central Avenue to connect with the Larry Zarian Transportation Center. A northbound track would service Central Avenue north of Colorado Street, while a southbound track would service Brand Boulevard. South of Colorado the north and southbound tracks would both operate on Central Avenue until they connect at the Larry Zarian Transportation Center, with existing Amtrak and Metrolink services.

### Route 1



LEGEND ○ Stop location — Proposed BRT route alternative — Alternative 1 Central/Brand Loop — Phase 2



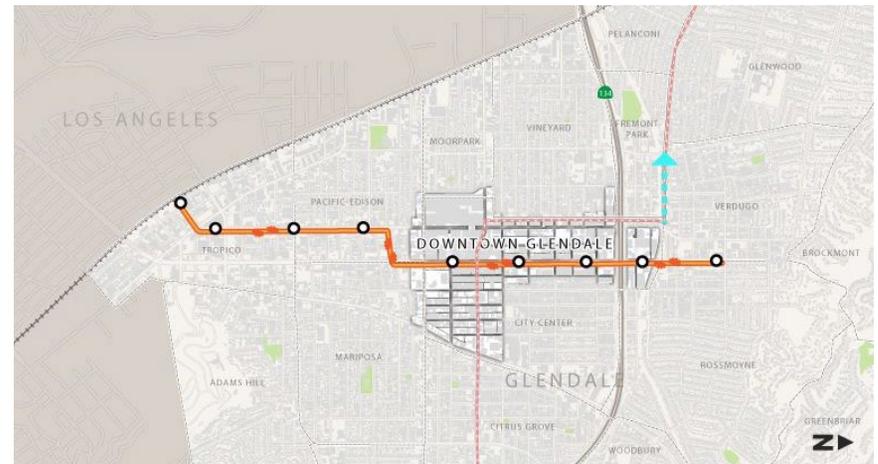
Potential streetcar configuration: looking north at Central Avenue and Laurel Street

### Route 2

The bi-directional option would serve north and southbound tracks on Central Avenue, south of Colorado Street, and move to Brand Boulevard north of Colorado Street. This would concentrate the streetcar on Glendale’s most popular pedestrian street and the center of entertainment, dining, and shopping activity within the city.

**Both Route options include alignments and stops that are within the West Glendale Sustainable Land Use and Transportation Study**

### Route 2

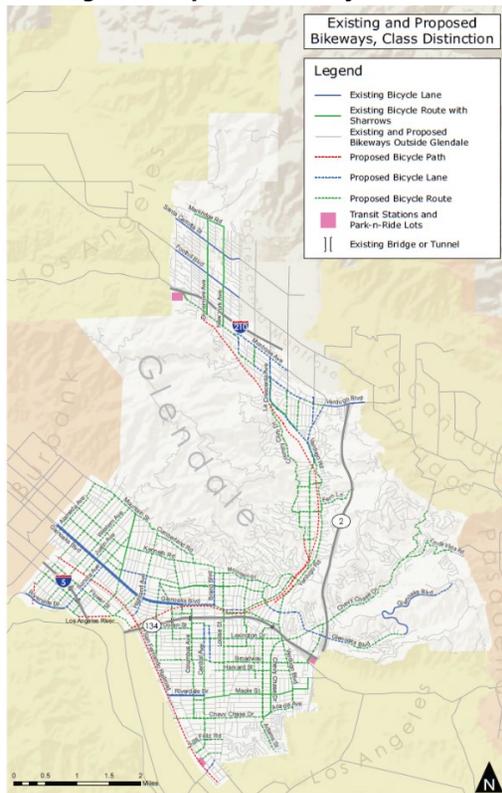


LEGEND ○ Stop location — Proposed BRT route alternative — Alternative 2 Two-Way Brand — Phase 2

## Bicycle Transportation Plan (2012)

Completed in 2012, The Bicycle Transportation Plan embraces a vision for an active and healthy community, where bicycling can serve as primary form of transportation for residents and visitors. The Plan identifies current Glendale plans and policies that support opportunities for healthier lifestyles, reduced dependence on automobiles, safer streets, reduced energy consumption, and the creation of vibrant neighborhoods. The Glendale Bicycle Transportation Plan serves as an important next step toward integrating bicycles into the transportation system. The Plan intends to guide the City in planning, development, design, and maintenance for new and upgraded bicycle facilities for the next 20 years. **Multiple routes and improvement options are within the West Glendale Sustainable Transportation and Land Use Study.**

### Existing and Proposed Bikeways



## Goals, Policies, and Actions

Glendale hopes to accomplish several goals with the Bicycle Transportation Plan:

1. Create an environment where people of all ages can circulate safely and easily on a bicycle.
2. Increase the number of bicyclists by enticing more people to use their bicycles instead of driving.
3. Promote the health of Glendale residents.
4. Enhance the economic viability of Glendale.
5. Reduce greenhouse gas emissions and energy consumption.
6. Develop and implement an educational program for safe bicycling.

In order to accomplish these goals, the City outlines in the Plan many policies with subsequent actions that effect the West Glendale Sustainable Transportation Study and Land Use, including:

1. The City will develop a complete bikeway network throughout Glendale
2. The City will actively accommodate and encourage safe and convenient bicycle utilitarian trips to schools, employment sites, stores, parks, and other destinations throughout Glendale.
3. The City will take steps to reduce the bicycle-involved crash rate (fewer crashes per mile ridden).

The City will make bicycle parking available, secure, and convenient throughout Glendale.

1. The City will work to implement Safe Routes to School (SRTS) programs in each Glendale school within the next 10 years.
2. The City will ensure that new development is bikeable, walkable, and barrier-free.
3. The City will implement this Bicycle Transportation Plan within 20 years.

## Planned Projects

To better accommodate and encourage bicycling in Glendale, the City plans many improvements including new bikeways, bicycle parking, links to transit, amenities, and programs. The network provides access to destinations such as schools, parks, hospitals, commercial corridors, housing, and regional connections. While confident cyclists may be comfortable bicycling on a major arterial that has a bicycle lane, a novice cyclist may feel more comfortable on a parallel neighborhood street. This Plan aims to serve all types of users. These include the following design tools:

- Sharrows. These pavement markings enhance Class III routes and show drivers and bicyclists where to ride in the lane.
- Colored bicycle lane. Coloring the pavement below the bicycle lane stencil can enhance the visibility and traffic calming effects of bicycle lanes.
- B-type Sharrows. This device provides more frequent and prominent markings of the shared use arrow and is used to emphasize the shared lane more than a typical sharrow.
- Road Diet. A road diet is the elimination of one or more lanes (parking, travel, or two-way-left-turn) to make room for bicycle facilities.
- Signage. Wayfinding signage can enhance the bikeway network, especially on Class III facilities.

## Planned Glenoaks Boulevard Projects in Study Area Vicinity

<b>(10) GLENOAKS BOULEVARD</b>			
<b>FROM:</b> Alameda Ave.		<b>TO:</b> Highland Ave.	
<b>EXISTING</b>	<ul style="list-style-type: none"> <li>• 5' bike lanes on both sides</li> <li>• 6 lanes, center median, on-street parking</li> <li>• 47' wide to median</li> </ul>	<b>PROPOSED</b>	<ul style="list-style-type: none"> <li>• Widen bike lane on both sides to 6' with painted hatched buffer</li> <li>• Option: Add 7' bike lane without painted hatched buffer</li> </ul>
<b>FROM:</b> Highland Ave.		<b>TO:</b> Pacific Ave.	
<b>EXISTING</b>	<ul style="list-style-type: none"> <li>• 6 lanes, on-street parking both sides, center median</li> <li>• 5' bike lane</li> <li>• 50' wide to median</li> </ul>	<b>PROPOSED</b>	<ul style="list-style-type: none"> <li>• Widen bike lane on both sides to 6' with painted hatched buffer</li> <li>• Option: Add 7' bike lane without painted hatched buffer</li> </ul>
<b>FROM:</b> Pacific Ave.		<b>TO:</b> Brand Blvd.	
<b>EXISTING</b>	<ul style="list-style-type: none"> <li>• 6 lanes with center-median</li> <li>• 38' to 40' wide to the median</li> <li>• No on-street parking</li> <li>• 13' curb lane eastbound side</li> <li>• 14' curb lane east of Central Ave.</li> </ul>	<b>PROPOSED</b>	<ul style="list-style-type: none"> <li>• Add 6' to 7' bike lane</li> <li>• Eastbound direction between Pacific Ave. and Central Ave. is 33' and will require sharrows</li> <li>• Accommodate bike lanes between Pacific Ave. and Central Ave. with new development</li> <li>• Add multipurpose path on south side of Glenoaks Blvd. along Verdugo Wash from Pacific Ave. to Central Ave.</li> </ul>
<b>FROM:</b> Brand Blvd.		<b>TO:</b> Louise St.	
<b>EXISTING</b>	<ul style="list-style-type: none"> <li>• 4 lanes with parking on westbound side only</li> <li>• 56' wide</li> </ul>	<b>PROPOSED</b>	<ul style="list-style-type: none"> <li>• Add bike route with B-type sharrows</li> </ul>
<b>FROM:</b> Louise St.		<b>TO:</b> Geneva St.	
<b>EXISTING</b>	<ul style="list-style-type: none"> <li>• 4 lanes with on-street parking both sides</li> <li>• 60' wide</li> </ul>	<b>PROPOSED</b>	<ul style="list-style-type: none"> <li>• Create a road diet with 2 lanes, on-street parking and center-turn lane</li> <li>• Add 6'-wide bike lanes</li> </ul>

## Safe and Healthy Streets Plan

Through its recommended policies, programs, and resources, the Safe and Healthy Streets Plan seeks a new vision of Glendale where residents live safer, healthier lives by walking and riding a bicycle for both transportation and recreation. This vision promotes the goal of creating a transportation network that meets the needs of all road users, including pedestrians, bicyclists, transit passengers, and people of all ages and abilities, as well as motor vehicles.

**The Plan includes a number of recommendations that may support concepts developed as part of the West Glendale Sustainable Land Use and Transportation Study.**

Policies to maintain and update design standards that reduce vehicular speeds:

- Maintain and update traffic calming measures in the Glendale Traffic Calming Program

Policies that incorporate best practices in pedestrian and bicycle facility design:

- Strive to implement detailed pedestrian and bicyclist design guidelines, derived from FHWA pedestrian and bicyclist safety guidelines, that exceed minimum state and federal standards, and to be incorporated into the Bikeway Master Plan, Safe Routes to School Plan, and other pedestrian or bicyclist related documents.
- Continue with implementation of mobility standards that encourage walking, biking, and transit use.
- Establish and encourage bicycle sharing facilities.
- Incorporate pedestrian and bicyclist project review into all capital improvement projects. Continue referring to the Bikeway Master Plan and FHWA Pedestrian Safety Guidelines for all Capital Improvement projects. Pursue inexpensive and experimental pilot projects for pedestrians and bicyclists that can be made

permanent whenever a pilot project is successful or dropped when it is not.

- Pursue inexpensive and experimental pilot projects for pedestrians and bicyclists that can be made permanent whenever a pilot project is successful or dropped when it is not.

### One of Five Overarching Policies

## ENGINEERING

# 5



**Goal: Continue to enhance pedestrian and bicyclist safety in all Capital Improvement Projects. Use best practices to improve and enhance ease of use and safety, ensuring routine accommodation of pedestrians and bicyclists.**

## Space 134 Freeway Cap Park Vision Plan

The intent of the Plan is to reestablish a connection between the residential neighborhoods north of the freeway and the downtown core through a cap park comprised of two parts, the Heart (Downtown Park) and the Soul (Neighborhood Park).

Space 134 will eventually extend for a .7-mile length of the freeway between Central and Balboa avenues, but will be built in phases, with the first phase to be built between Central Avenue and Brand Boulevard. Glendale is planning on private and public funding sources to help pay for the cap park, with hopes to start construction after 2020.

**The segment of the park that is adjacent to the West Glendale Sustainable Land Use and Transportation Study area extends between Central Avenue and Louise and would be oriented toward downtown. It would include a restaurant, a mobility hub with bike parking and rental facilities, and transit connections.**

From Louise east to Balboa, in the more residential areas, there would be a playground, community centers, and sports courts. There would be three event spaces throughout Space 134. The downtown section could handle large-scale events like festivals. Much-desired walking trails will run the length of the cap park.

## Glendale Freeway Ramps/Space 134 Preliminary Engineering Study

The City of Glendale issued a Request for Proposals (RFP) to solicit proposals from qualified consultants to provide Preliminary Engineering for the Glendale Freeway Ramps / Space 134 Project. The RFP focuses on identifying Preliminary Engineering and delivery of federally funded transportation infrastructure.

This plan will continue to evolve as the project undergoes more specialized technical studies, as further public input is received, and as important questions are addressed relating to engineering, air quality, traffic and noise impacts among other issues.

## Space 134 Freeway Cap Park Vision Graphic



## **Burbank Citywide Complete Streets Plan (ongoing)**

Since January 2019, the City of Burbank has been working on a Citywide Complete Streets Plan. If the plan is adopted, it will recommend strategies to make Burbank's future streets more 'Complete'. Burbank's Complete Streets are defined as streets that are designed, operated, and maintained to enable safe access for all users — pedestrians, bicyclists, motorists, and transit riders of all ages and abilities.

The Complete Streets Plan strives to fulfill the City's Burbank 2035 General Plan by creating an actionable project for the community. The Plan will identify future goals and policies, catalog existing street infrastructure conditions, identify new infrastructure standards, and develop an implementation plan for future projects. The Plan will identify benchmarks for ways in which the City of Burbank can improve safety, sustainability, health, transportation equity, connectivity, and economic vitality to build better neighborhoods and develop responsibly in the future.

### **The following key components impact the Study.**

#### **Extending Bicycle Access Citywide**

Burbank has a broad and growing network of bicycle infrastructure that provides commuting and recreational options citywide. The existing bicycle network does, however, face some challenges.

- There are barriers presented by rail and freeway infrastructure that create gaps in the network. The bicycle network should prioritize high-demand gaps, especially connections to Downtown Burbank, the regional San Fernando bike path, and the LA River bike path.
- The bicycle network should improve reliability and legibility, i.e., it should provide clear long-distance corridors for north/south and east/west travel and provide a consistent bicycling experience for the entire ride.
- To reduce the threshold of entry for novice bicyclists, efforts should be made to expand the City's protected bicycle infrastructure.

The City of Burbank is currently conducting rounds of events to provide the community opportunities to participate in developing ideas, concepts, and analyzing approaches that address the wide range of issues that the community identified.

This planning effort is being conducted by the City of Burbank and is supported by grant funding from the State of California Department of Transportation (Caltrans) via the Sustainable Communities Grants Program.

## Burbank Bike Master Plan (2009)

The Bike Master Plan provides policy goals for bicycle infrastructure in Burbank over a 25-year period. Burbank understands the relation between robust bicycle infrastructure, sustainability and quality of life. The plan proposes two 'Bicycle Boulevards', or streets with low vehicular traffic and high bicycle traffic, on Flower Street and Kenneth Road. It also proposes linking the Downtown Burbank MetroLink Station to the Glendale City Limits via a Class I Bike Path.

### Key Complete Streets Element— Alameda Avenue Underpass BRIDGING INFRASTRUCTURE BARRIERS



#### ALAMEDA AVENUE UNDERPASS



Alameda Avenue is a major arterial that connects east-west under the I-5 Freeway and rail corridor. The existing pedestrian connections at the underpasses are uninviting and present a barrier in the City.

#### POTENTIAL DESIGN SOLUTIONS COULD INCLUDE:

- Elevating the sidewalks along both sides of Alameda Avenue as it dips below the freeway, creating a physical separation between pedestrians and vehicles.
- This reduces and eases the grade change that pedestrians (and bicyclists) must negotiate to traverse the underpass.

#### WHAT COULD THIS LOOK LIKE?



## North Hollywood to Pasadena Bus Rapid Transit Corridor Study (ongoing)

The Metro North Hollywood to Pasadena Bus Rapid Transit (BRT) aims to meet growing demand for service between the San Fernando and San Gabriel valleys. BRT uses dedicated bus lanes, frequent service, limited stops, and advanced fare collection techniques to provide a high-quality form of transit.

The on-going study for the North Hollywood to Pasadena Transit Corridor (NoHo to Pasadena BRT) considers a corridor that extends approximately 18 miles and is a key regional connection between the San Fernando and San Gabriel Valleys with connections to the Metro Red, Orange and Gold Lines, as well as Metrolink and other municipal bus lines.

During the summer of 2019, Metro held a 60-day public scoping period to receive comments on the proposed project and environmental issues that the Project's Draft Environmental Impact Report (EIR) should address. Metro ended its scoping period on August 15, 2019 and received over 2,500 comments from numerous stakeholders. The Draft EIR is anticipated to be released in Spring 2020 for public review and comment.

The North Hollywood to Pasadena BRT Project is funded by Measure M and Senate Bill 1, which provide \$267 million in funding. The Project has an anticipated opening date in 2024.

Within Glendale, the BRT operates along Glenoaks Boulevard, before continuing via three different potential routes:

1. At Central Avenue, the BRT could merge onto the SR-134 and continue east toward Eagle Rock
2. Via Central Avenue to Broadway
3. Via Central Avenue to Colorado Street. Both Broadway and Colorado Street are being considered for east-west travel within Glendale as each option provides connections to different key destinations within the city, including the Glendale Galleria, The Americana at Brand and the new Armenian American Museum.

**Through the West Glendale Sustainable Land Use and Transportation Study area, the alignment is along Glenoaks Boulevard, with stops at Alameda Avenue, Grandview Avenue, and Central**

**North Hollywood to Pasadena BRT Corridor**



**Project Description.** The proposed project could include:

- 18 to 21 potential stations. More specific determinations regarding station locations are dependent upon further design development and environmental analysis.
- Enhanced facilities and features for a premium transit service, including signal priority and frequent service
- Potential First/Last Mile improvements to further enhance mobility and access to the proposed BRT Project.

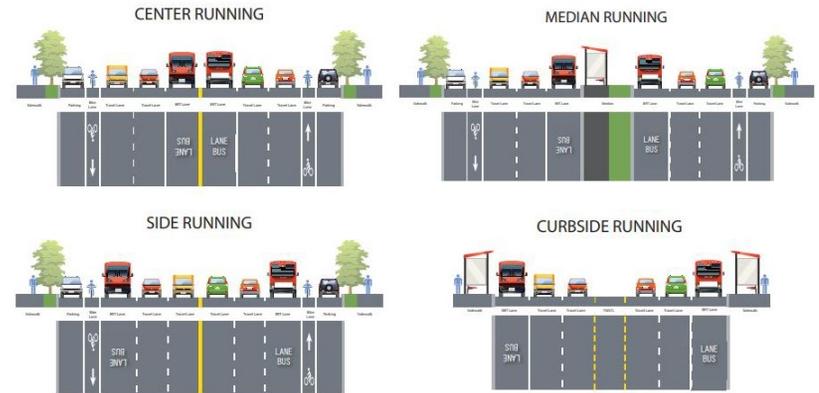
Dedicated bus lanes in areas where there is adequate existing street width. The configuration of dedicated bus lanes could be:

- Curb-running
- Side-running—alongside existing parking and bicycle facilities,
- Median-running—in the center of the roadway or alongside roadway medians

## Potential BRT Lane Configurations



### Examples of Bus Lane Configurations



## **LA County Metro Active Transportation Strategic Plan (2016)**

The Los Angeles County Metropolitan Transportation Authority (Metro) Active Transportation Strategic Plan (ATSP) is intended to be used by local cities and Los Angeles County Transit agencies in setting bicycle- and pedestrian-related priorities that lead to regional improvements. The document discusses the significance of walking and biking with transit as a way of expanding mobility options within the region. The ATSP document inventories and maps existing and planned facilities and provides information regarding past expenditures by the 89 local jurisdictions within the county. The plan focuses on improving first and last mile access to transit and proposes a regional network of active transportation facilities, including shared-use paths and on-street bikeways.

## **LA County Metro First/Last Mile Strategic Plan (2014)**

The Los Angeles County Metropolitan Transportation Authority (Metro) released their First/Last Mile Strategic Plan. The goal of this document is to provide guidelines to improve access to transit across the county, and in doing so, maximize multi-modal benefits. The guidance in this document aligns with the GCCOG SCS, the SCAG RTP/SCS and the Metro Countywide Sustainability Planning Policy, described above. The First/Last Mile Strategic Plan cites the existing conditions, both in terms of design and safety statistics, and introduces the concept of The Path, a proposed countywide transit access network, comprised of a series of active transportation improvements that extend to and from Metro Rail and Bus Rapid Transit (BRT) stations. The document also includes a step-by-step process for identifying a Path network for any given station area and a toolbox of improvements that would help establish a Path network around the station.

## **Los Angeles/Glendale/Burbank Metrolink Feasibility Study (2019)**

Metro conducted a Feasibility Study to understand the outcomes of increasing MetroLink service between the cities of Glendale and Burbank and Union Station. The study recommends achieving bi-directional service on the Antelope Valley Line every 30 minutes by the year 2040 (M Option 30). The study also identified that, compared to other modes of transit, M Option 30 is best suited to meet the specific needs of the corridor.

## **Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy (2016)**

The 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) integrates the region's transportation and land use planning. The non-motorized transportation section provides information regarding existing mode split, bicyclist types, bicycle safety, the California Strategic Highway Safety Plan for bicyclists, and identifies implementation priorities for local jurisdictions. Of the \$556.5 billion transportation expenditures in the RTP, \$12.9 billion are allocated for non-motorized projects. Like the LA County Metro SCS discussed above, the SCAG SCS is superseded by the GCCOG sub-regional SCS but is relevant in understanding regional goals in order to align the proposed bicycle network in Glendale with the rest of the Southern California region.

## California Complete Streets Act (2008)

Assembly Bill 1358, the “California Complete Streets Act of 2008,” requires “that the legislative body of a city or county, upon any substantive revision of the circulation element of the general plan, modify the circulation element to plan for a balanced multimodal transportation network that meets the needs of all users [including] motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods, and users of public transportation...” This provision of the law went into effect on January 1, 2011. The law also directs the Governor’s Office of Planning and Research to amend its guidelines for the development of circulation elements so as to assist cities and counties in meeting the above requirement.

## SB 743 (2013)

SB 743 directed the Office of Planning and Research (OPR) to develop revisions to the CEQA Guidelines to establish new criteria for determining the significance of transportation impacts and define alternative metrics apart from LOS. On September 27, 2013, Governor Brown signed SB 743 into law and started a process that is changing transportation impact analysis as part of CEQA compliance. These changes include elimination of auto delay, Level of Service (LOS), and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts. According to the legislative intent contained in SB 743, these changes to current practice were enacted to “...more appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions.”

In December of 2018, OPR released the Technical Advisory on Evaluating Transportation Impacts in CEQA, which was an update to prior documents offering guidance and discussion of SB 743 implementation. Of particular relevance to this proposed plan is the updated text of the proposed new Section 15064.3 that relates to the determination of the significance of transportations impacts through vehicle miles traveled (VMT), alternatives and mitigation measures and the state’s legislative intent to promote infill development and active transportation as ways of advancing public health and greenhouse gas emission reductions. Transportation projects that provide additional vehicle capacity and may induce increased VMT are also required to be studied with a VMT metric for CEQA purposes.

# TRANSPORTATION ANALYSIS

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## TRANSPORTATION ANALYSIS

### Existing Transportation Network

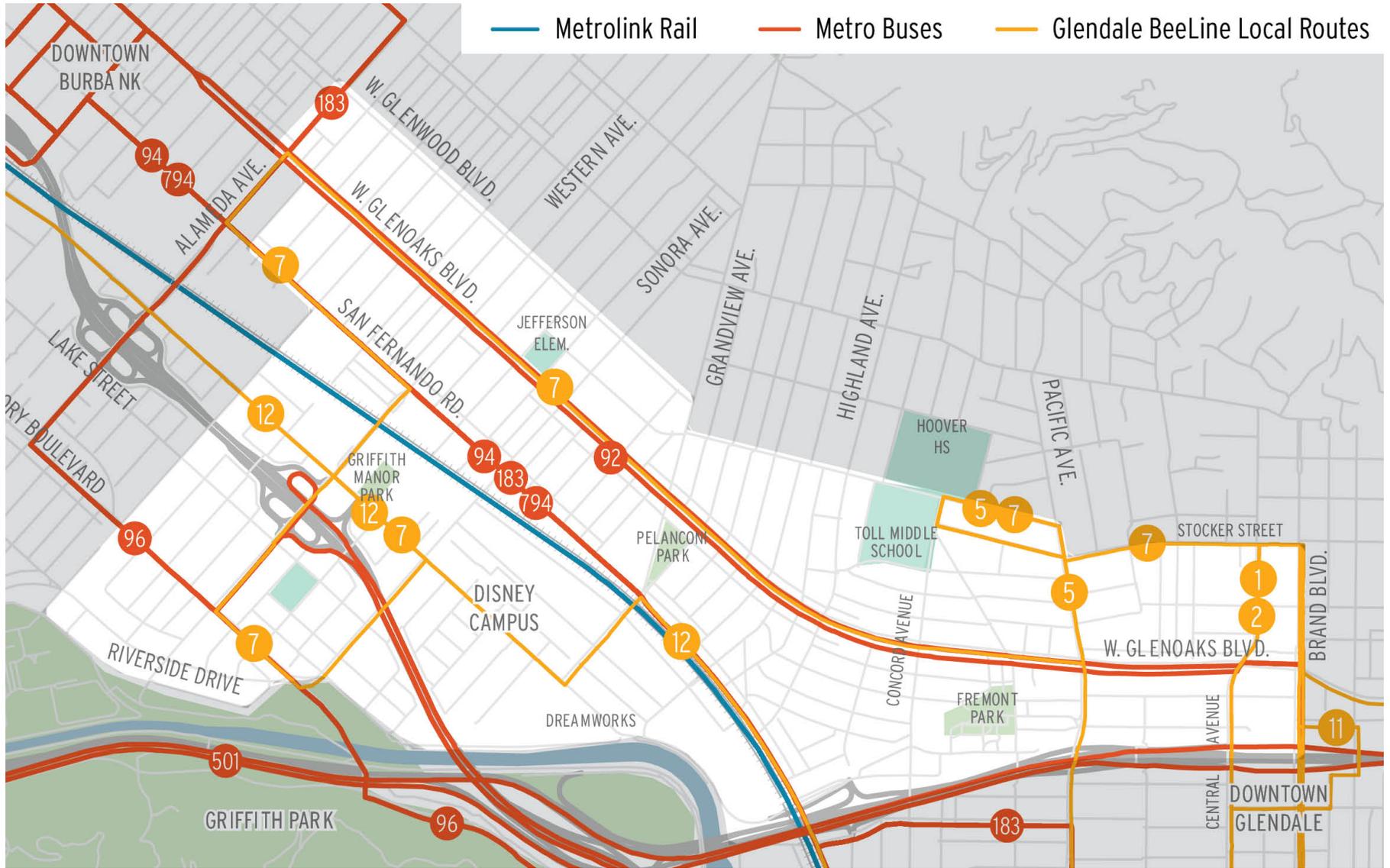
The following section details the transit options, arterial roadways, and bicycle and pedestrian networks that exist in West Glendale.

#### Transit Network

Several modes of public transit provide access to West Glendale. Metro Local Line 94, Metro Rapid Line 794, and Metro Express Line 501 all serve Glendale. Additionally, both MetroLink Ventura County Line and Antelope Valley Line serve the community. Table 1 provides more detail concerning Glendale's access to transit. Transit routes in the study area are shown in the table.

Transit Route	Service Areas	Via	Morning Peak Headways	Evening Peak Headways
Beeline 1/2	GTC to Stocker Square	Central Ave and Brand Blvd	15-20 mins	15-30 mins
Beeline 5	Pacific Community Center to Hoover High School	Riverdale Dr/Pacific Ave/Glenwood Rd	15-20 mins	15-35 mins
Beeline 7	Riverside Rancho to Glendale Community College	Western Ave/Glenoaks Bl/Stocker St/Glendale Ave	10-35 mins	10-35 mins
Beeline 12	GTC to Burbank Regional Intermodal Transportation Center	San Fernando Road	15-30 mins	15-30 mins
Metro Local 92	Sylmar to Downtown Los Angeles	Glenoaks Blvd	20-30 mins	20-30 mins
Metro Local 94*	Sylmar to Downtown Los Angeles	San Fernando Rd	20-25 min	20-25 min
Metro Rapid 794*	Sylmar to Downtown Los Angeles	Hollywood Blvd	30 mins	25 mins
Metro Local 183	Sherman Oaks to Glendale	Doran St/San Fernando Road	30-60 mins	30-60 mins
Metro Express 501	North Hollywood to Pasadena	Ventura Freeway	15 mins	15 mins
Metrolink Ventura County Line	East Ventura to Downtown Los Angeles	Dedicated ROW Parallel to San Fernando Rd	30 mins	60 mins
Metrolink Antelope Valley Line	Lancaster to Downtown Los Angeles	Dedicated ROW Parallel to San Fernando Rd	40 mins.	50 mins.

\*Lines 94/794 operate the same route as local and rapid service. Combined morning and afternoon headways range from 10-20 minutes.



## West Glendale Street Network

Glendale’s street network consists of the major freeways like Ventura Freeway (California State Route 134), arterials, collector streets, and local streets with Interstate 5 located in the northwestern portion of the city. Within the study area, major arterials include: Glenoaks Boulevard, San Fernando Road, Western Avenue, Sonora Avenue, Brand Boulevard, and Colorado Street. The network predominantly follows a north-south grid pattern, with a northwest-southwest grid in West Glendale.

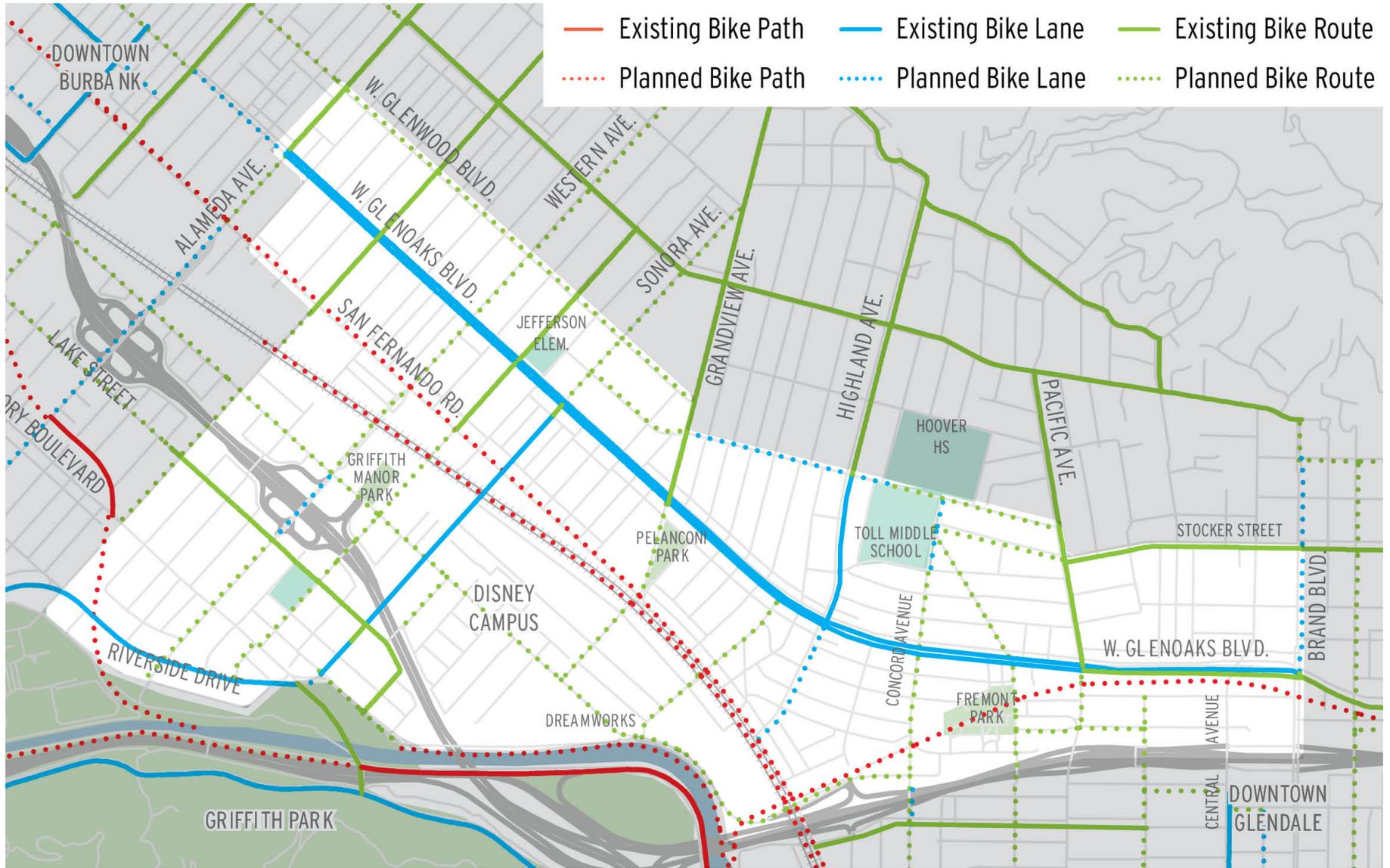
The table provides an overview of the main thoroughfares in the study area. Detailed measurements of the roadway cross-sections were collected to get a more nuanced understanding of how the public right-of-way is being utilized, the type and extent of vehicle, bicycle, and pedestrian facilities available, and to understand where there are

opportunities for modifications that meet the goals of this effort.

The review found that most streets provide sidewalks, parking, and vehicle travel lanes. Bicycle facilities were found on some streets, though it should be noted that per the California Vehicle Code, bicycles are generally expected to ride on-street and can be expected to use vehicle travel lanes, except on streets that have bicycle lanes or protected bicycle lanes.

Most local streets have a similar street width and cross-section that includes two travel lanes, sidewalks, and parking on both sides. Larger streets, such as those listed below, tend to see greater variation among them, in terms of the number of travel lanes, sidewalk width, and presence of a bicycle facility. Figure 2 shows existing and planned bicycle facilities in the study area.

Name	Classification / Descriptions	Parking	Speed	Bike Infrastructure	Pedestrian Infrastructure
San Fernando Road	Major arterial, two travel lanes in each direction and left-turn lanes at intersections	On-street parking permitted on segments of the street	35 mph	None	Sidewalks are present on one or both sides of the street. Crosswalks and curb ramps are generally present throughout
Glenoaks Boulevard	Major arterial, three travel lanes in each direction, and left-turn lanes at intersections. Most of the street has a median	On-street parking permitted on segments of the street	40 mph	Class II bike lanes available throughout most of study area (except eastbound east of Pacific Avenue)	Sidewalks are present on some segments of the street. Crosswalks present on largest cross streets, and curb ramps are generally present
Western Avenue	Major Arterial, has one to two travel lanes in each direction and left-turn lanes at intersections	On-street parking on both sides of the street	35 mph	None	Sidewalks are present on both sides of the street. Crosswalks and curb ramps are present throughout
Sonora Avenue	Multiple segment designations, including community collector, neighborhood collector and minor arterial. Two travel lanes in each direction, left-turn lanes at intersections	On-street parking permitted on segments of the street	35 mph	Class II bike lanes available on most street segments, Class III bike routes available in other segments	Sidewalks are present on both sides of the street. Crosswalks and curb ramps are present throughout
Brand Boulevard	Major arterial, three travel lanes in each direction, and left-turn lanes at intersections	On-street parking on both sides of the street (diagonal parking)	25 mph	None	Sidewalks, crosswalks, and curb ramps are present throughout
Colorado Street	Major arterial, two travel lanes in each direction and left-turn lanes at intersections	Limited on-street parking available	35 mph	None	Sidewalks, crosswalks, and curb ramps are present throughout



## Level of Traffic Stress

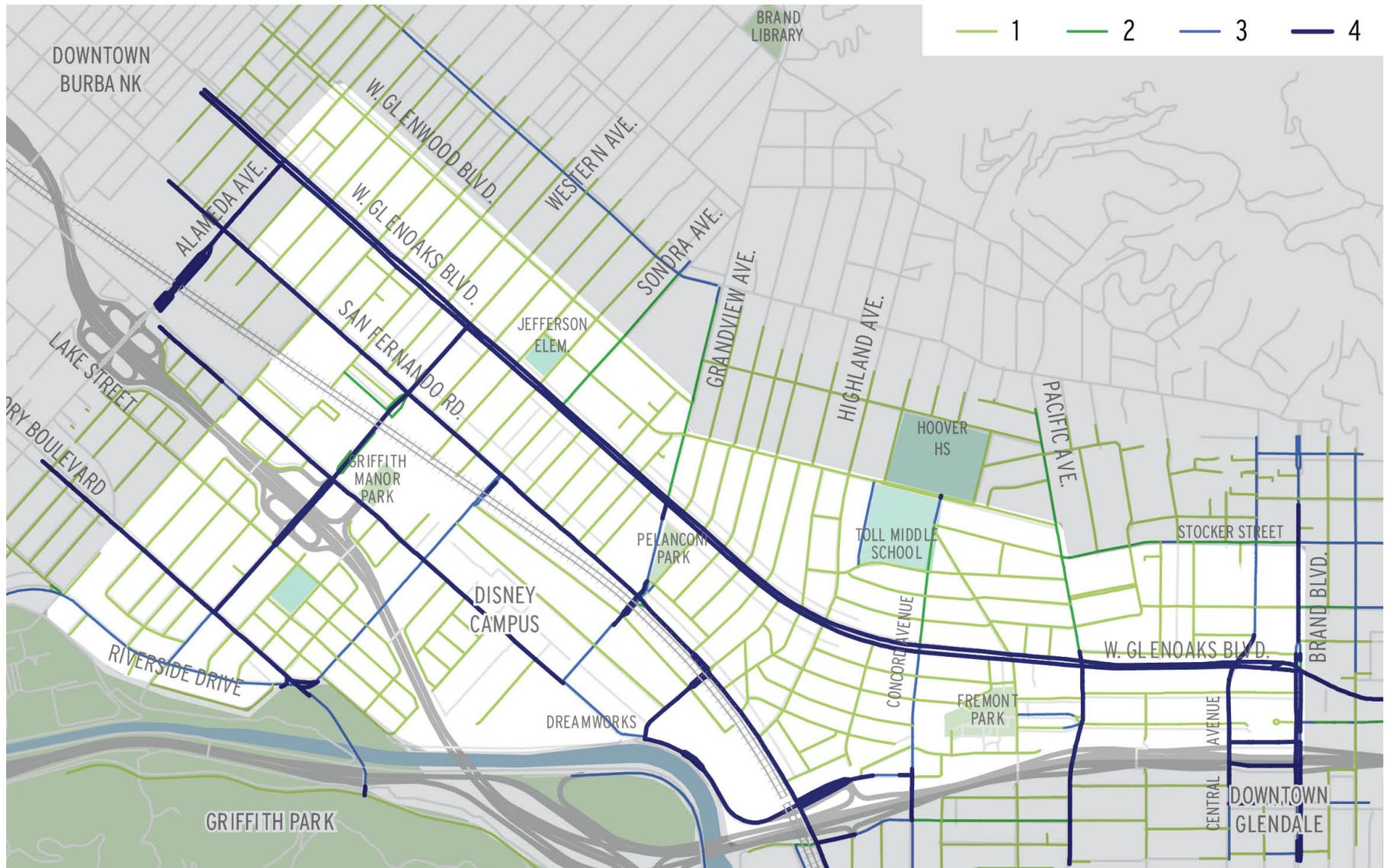
Level of Traffic Stress (LTS) is a framework for assessing bikeability by classifying road segments into four categories and tying those categories to groups of users who will tolerate them. This methodology applies the principals in the Mineta Transportation Paper Institute paper on Low Stress Bicycling and Network Connectivity.

The four categories of LTS are as follows: LTS 1 is intended to be tolerated by “most children”; LTS 2 tolerated by the “mainstream adult population”; LTS 3 tolerated by “American cyclists who are ‘enthused and confident’”; and LTS 4 tolerated only by the “strong and fearless.” The LTS scores are calculated based on several features, including presence of bicycle infrastructure, functional classification, number of vehicle travel lanes, speed limits, and other roadway characteristics, such as whether the facility is a one-way street, a two-way street, or a trail.

OpenStreetMap (OSM) data was used for the LTS calculations. OSM data for the study area was extracted and two key features that are used in the calculation - the number of vehicle travel lanes and speed limits – were cleaned up by comparing the OSM data with observed conditions. Some segments were also missing lanes or speed limit data, these gaps were filled with field checks or inferred based on the OSM functional classification of the roadway. After cleaning up the data, internal calculation tool was used to generate the LTS network categories.

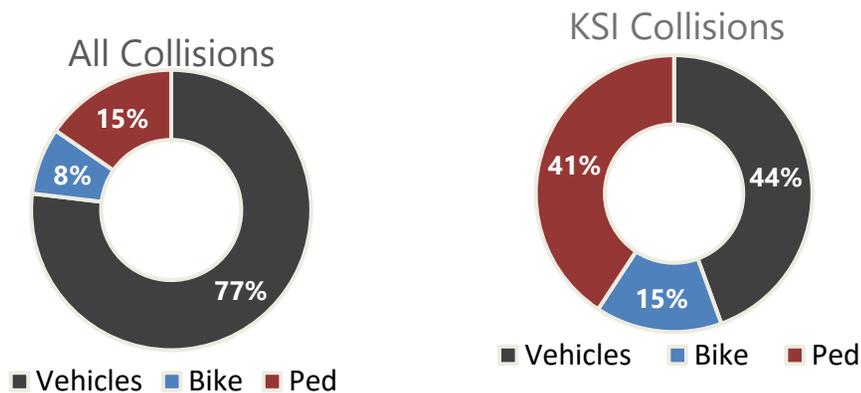
A large portion of road segments are at LTS 1, meaning that they can be tolerated by most children. Most of these roadways are residential streets with a speed limits of 25 mph and travel lanes equal to or less than three lanes. Some secondary roads and most of the tertiary roads perpendicular to Glenoaks Boulevard are LTS 2 or LTS 3, including Grandview Avenue, Pacific Avenue, and Sonora Avenue.

Most of the primary and secondary arterials score the lowest level of bikeability, LTS 4, including Glenoaks Boulevard and San Fernando Road, despite the former having bike lanes in both directions. Although bike lanes are provided, the number of lanes, vehicle volumes, and vehicle speeds do not lead to a particularly comfortable biking environment for the average person who may be interested in traveling via bicycle. Another consideration of note is that neighborhoods tend to be “islands” of comfortable bicycling streets; the larger streets act as barriers that can prevent users from traveling to commercial destinations or beyond the two-lane streets in their neighborhood. Addressing this challenge can substantially increase the appeal and utility that bicycling offers potential users. The LTS network and score for the study area is shown in Figure 3.



## Collisions History

Between 2014 and 2018, 480 collisions (not including collisions that were coded as property damage only) occurred on the local streets in West Glendale. Most collisions involved someone driving (369) and the remaining collisions were split between 74 collisions involving someone walking and 37 collisions involving someone biking. While people walking account for 15 percent of collisions, they disproportionately make up 41 percent of collisions where someone was killed or severely injured (KSI).



### Killed or Severely Injured in a Collision

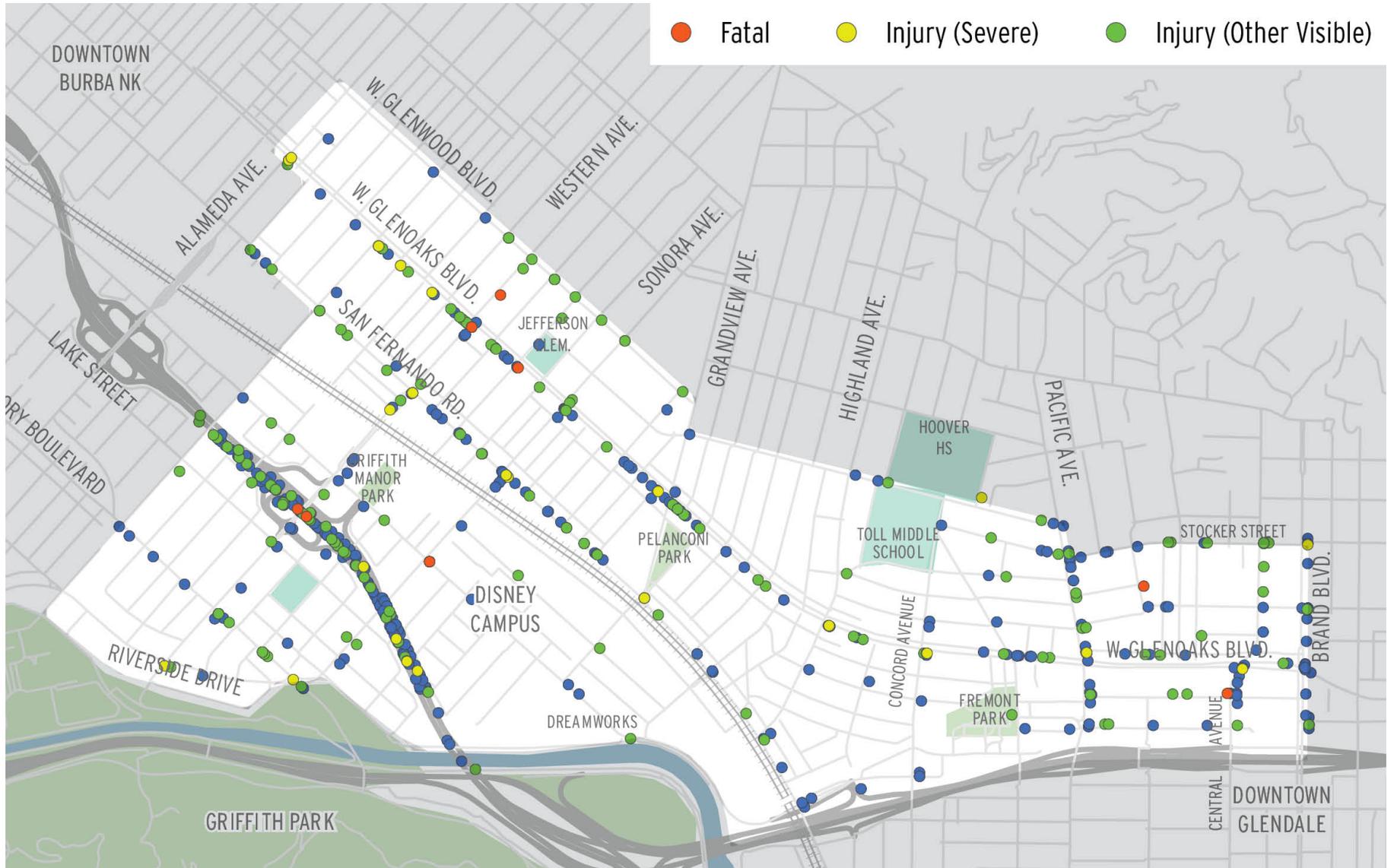
Severe injuries resulting from a traffic crash can result in a number of catastrophic impacts, including permanent disability, lost productivity and wages, and ongoing healthcare costs. These injuries can include:

- Broken or fractured bones
- Dislocated or distorted limbs
- Severe lacerations
- Severe burns
- Skull, spinal, chest or abdominal injuries
- Unconsciousness at or when taken from the collision scene

Throughout this plan, the acronym KSI is used to denote crashes where someone was killed or seriously injured.

The table below displays the intersections in the study area with the most collisions based on the analysis discussed below. Figure 4 presents a map of injury collisions in the study area.

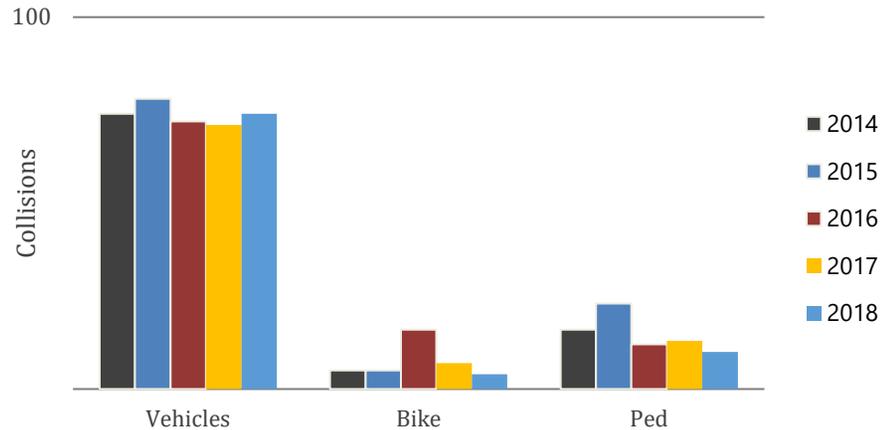
#	Intersection	Collisions	KSI	KSI Bike	KSI Ped
1	SAN FERNANDO RD & WESTERN AV	21	4	0	0
2	GLENOAKS BL & WESTERN AV	17	2	0	2
3	SAN FERNANDO RD & SONORA AV	14	2	0	1
4	BRAND BL & GLENOAKS BL	14	0	0	0
5	PACIFIC AV & ARDEN AV	12	0	0	0
6	PACIFIC AV & STOCKER ST	12	0	0	0
7	GLENOAKS BL & GRANDVIEW AV	11	1	1	0
8	GLENOAKS BL & HIGHLAND AV	10	0	0	0
9	GLENOAKS BL & PACIFIC AV	9	1	1	0
10	CENTRAL AV & STOCKER ST	8	0	0	0



## Collision by Mode

The total number of collisions decreased 7 percent from 2014 to 2018. However, from 2014 to 2015 there was an 11 percent increase in total collisions. The following years saw a consecutive decrease in collisions, the highest happening from 2016-2017 with a 9 percent decrease. Despite the overall decrease, vehicle collisions remained relatively similar every year averaging about 70 percent. Meanwhile collisions involving people walking and people bicycling remained relatively constant as well, from 2015-2016 bicycle collisions notable increased from a total of 5 to a total of 16 collisions.

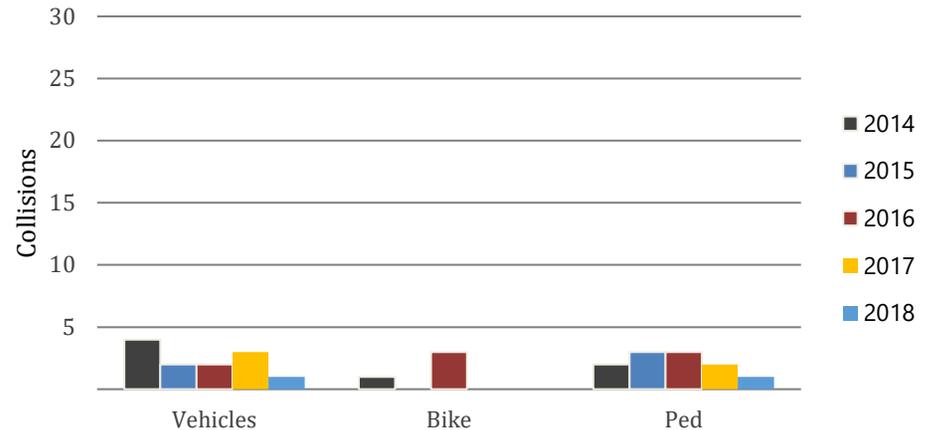
### All Collisions



## KSI Collisions by Mode

While KSI collisions were generally low, people walking, and biking are disproportionately involved in 56 percent of all KSI collisions given they are involved in 23 percent of all collisions in West Glendale. Pedestrian collisions resulting in serious injuries or fatalities made up 41 percent of all KSI collisions with an average of 2 collisions per year between 2014 and 2018. Bicycle and vehicle collisions resulting in serious injuries or fatalities were generally consistent with 0 collision per year except for 2016 (3 KSI bicycle collisions).

### KSI Collisions

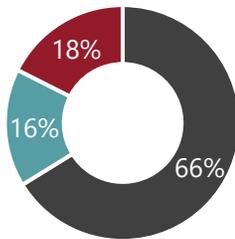


## Behavior

### Pedestrian Location

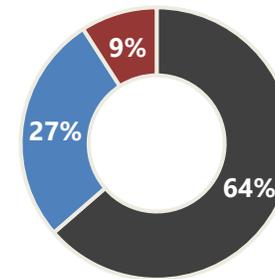
Although crosswalks are designated locations for pedestrians to safely cross streets, most collisions (66 percent) occurred when people were in a crosswalk. The remaining collisions occurred outside of a crosswalk, which include mid-block locations without marked crosswalks (16 percent). In the road, including the shoulder, or not stated (7 percent) and not in road (8 percent). In collisions where someone walking was seriously injured or killed, most collisions occurred while crossing in crosswalk (64 percent) or not in a crosswalk (27 percent). The remaining 9 percent of KSI pedestrian collisions occurred not in road.

All Pedestrians



■ Crossing in Crosswalk ■ Crossing Not in Crosswalk

Pedestrians in KSI Collisions

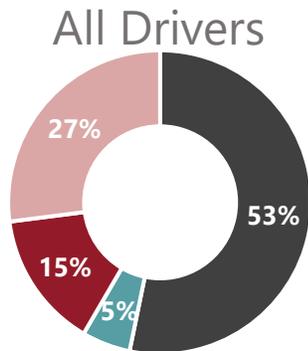


■ Crossing in Crosswalk ■ Crossing Not in Crosswalk ■ Other

## Driver Movement

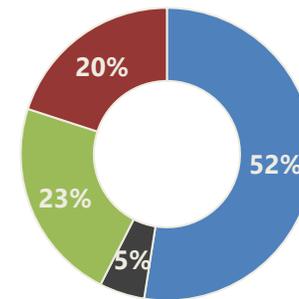
The driver movement preceding a collision can influence the severity of the collision. The percentage of collisions and KSI collisions for drivers that were proceeding straight was very similar; 53 percent of drivers were proceeding straight in all collisions, and 54 percent of drivers were proceeding straight in KSI collisions.

Drivers are generally driving at higher speeds when proceeding straight, which is reflected in the distribution of preceding movements for KSI collisions between vehicles and pedestrians (64 percent). In all collisions, 15 percent of drivers are making a left-turn, and a relatively large proportion (23 percent) of drivers are making a left-turn in KSI collisions.



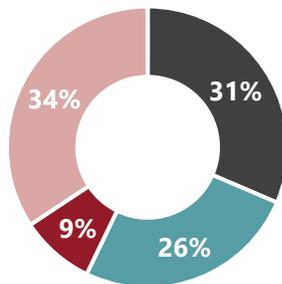
■ Proceeding Straight ■ Right Turn ■ Left Turn ■ Other

### Drivers in KSI Collisions



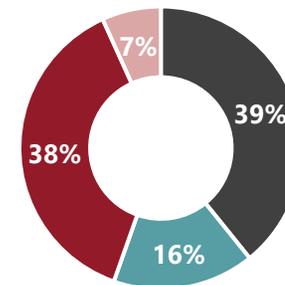
■ Proceeding Straight ■ Right Turn ■ Left Turn ■ Other

### Drivers in Bike Collisions



■ Proceeding Straight ■ Right Turn ■ Left Turn ■ Other

### Drivers in Ped Collisions

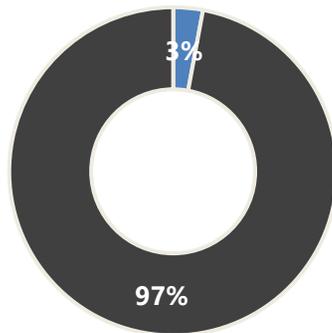


■ Proceeding Straight ■ Right Turn ■ Left Turn ■ Other

## Driving Under the Influence

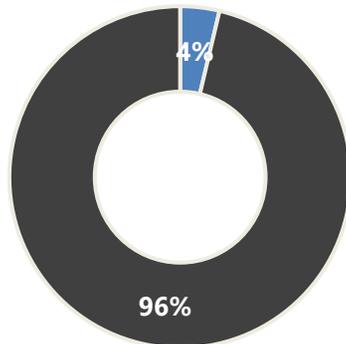
A driver under the influence of alcohol and/or drugs increases the likelihood of a collision resulting in serious injury or a fatality. From 2014 to 2018, 3 percent of collisions involved a driver under the influence. That percentage increased to 4 percent for KSI collisions.

### All Collisions



■ Alcohol Involved ■ No Alcohol Involved

### KSI Collisions



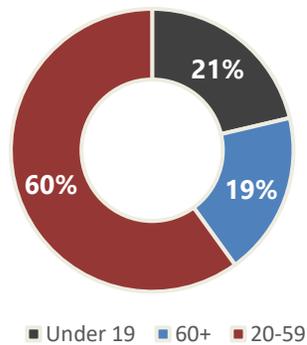
■ Alcohol Involved ■ No Alcohol Involved

## Who

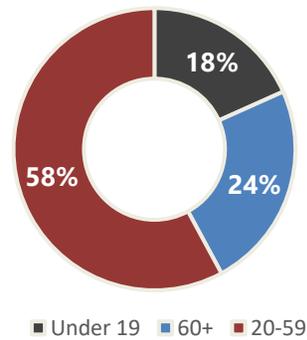
### Victim Age

The age distribution of victims in all collisions roughly reflects the age distribution of the total population in West Glendale with people ages 20-59 involved in the majority of collisions (58 percent) followed by people 60 years and over (24 percent) and under and then people under 19 (18%). Across the board, each age group made up similar percentages for KSI collisions. People ages 20-59 account for 54 percent, 60 years and over 36%, and people under 19 11%. Older people are likely overrepresented in KSI collisions because they are more likely to rely on walking, which also includes walking to and from transit, which makes them more vulnerable to being killed or severely injured in a collision than someone driving a vehicle.

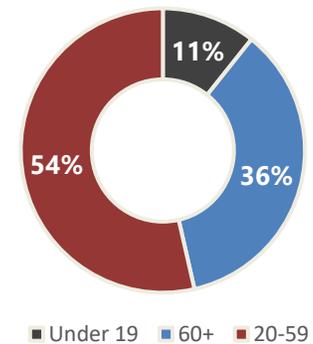
### Total Populatation



### All Victims



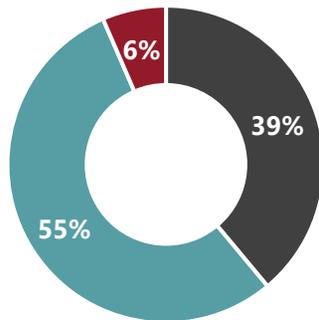
### KSI Victims



## Victim Gender

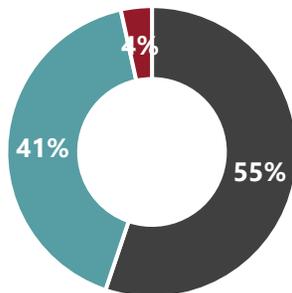
In all collisions, the victim gender breakdown is distributed differently with 55 percent female residents, 39 percent male residents, and 6 percent not stated. In KSI collisions, however, male victims are overrepresented and account for 55 percent of people who were killed or severely injured.

### All Victims



■ Male ■ Female ■ Not Stated

### KSI Victim



■ Male ■ Female ■ Not Stated

## Traffic Counts and Forecast

The impacts and benefits of active transportation improvements for protected bike lanes on Glenoaks Boulevard and a network of connected complete streets in West Glendale have been analyzed. Discussed in this document are the existing traffic conditions, the tools and methodologies applied to forecast future volumes, conceptual corridor planning that informs changes to corridor geometry and signal timing, and the estimated effect on intersection operations and vehicle miles traveled.

### Analysis Summary

This analysis presents the results of a conceptual planning process that sought to incorporate and build off the Metro transit corridor project on Glenoaks Boulevard, explore opportunities to enhance the active transportation environment, and promote sustainable transportation. This effort conducted a transportation evaluation through the following steps:

- Researching and obtaining historic counts in the study area in light of a lack of available data from COVID travel restrictions
- Conducting an existing level of service analysis
- Using the City's Travel Demand Forecasting Model (TDFM) to:
  - Compare potential land use changes with anticipated land use changes in the TDFM
  - Using the TDFM to develop future no project future forecasts that assume implementation of the North Hollywood to Pasadena Transit Corridor Project on Glenoaks Boulevard
  - Using the TDFM to develop future with project forecasts that assume active transportation and first/last mile enhancements
  - Using the TDFM to estimate shifts in travel route and travel mode from potential changes to the Glenoaks Boulevard, Grandview Avenue, and Western Avenue corridors

- Reviewing available data from Metro's Transit Corridor project (no details on intersection analysis and assumptions have been made available as of this writing) to develop concept plans for priority intersections that assume implementation of the transit corridor project and protected bike lanes
- Reviewing geometry, traffic volumes, right-of-way, collision history, signal phasing, and design practices for accommodating protected bicycle facilities and reducing modal conflicts at intersections
- Conducting a level of service analysis that seeks to evaluate the potential impact of adding protected bicycle facilities on Glenoaks Boulevard, Grandview Avenue, and Western Avenue corridors to enhance safety, travel options, economic vitality, air quality, and access to the proposed transit project
- Conducting additional sensitivity analysis that tested additional phasing changes that could provide exclusive bicycle or pedestrian phases at the analyzed locations

While this analysis should be refined as more information is made available about Metro's proposed design and operation of the corridor, this preliminary analysis suggests that enhancing active transportation facilities would not have a detrimental effect. Where modifications to intersections consist of signal treatments or intersection geometry that include the transit corridor, increases in delay were not estimated at more than ten seconds to include protected bikeway facilities. There was one exception: the intersection of Western Avenue & San Fernando Road. The tradeoffs between comfort, convenience, and delay for all users should be further considered and analyzed while refining implementation options on these corridors and for exploring additional design options at Western Avenue & San Fernando Road.

### Study Area Analysis

The effort focused on the area of Glendale generally bounded by the western City limit, the Los Angeles River and Verdugo Wash to the south, Brand Boulevard to the east, and Glenwood Road to the North.

Metro is completing planning and environmental review to implement an 18-mile transit corridor between North Hollywood and Pasadena that would utilize Glenoaks Boulevard between Pacific Avenue and the eastern city limit. The proposed project would include a lane reduction on Glenoaks to accommodate the bus lane in the median-adjacent travel lane. The Metro transit project is a separate effort from the West Glendale Sustainable Transportation and Land Use Study and is assumed to be in place in future baseline conditions for the purpose of identifying and analyzing potential active transportation projects that support sustainability and local goals, while complementing Metro’s transit corridor project.

### Study Scope

The following scenarios were analyzed at the intersection level for the weekday AM peak hour (7:00AM to 10:00AM) and PM peak hour (3:00PM to 6:00PM):

- Existing (2019) Conditions – The existing conditions analysis includes an assessment of traffic volumes and operating conditions.
- Cumulative Year (2040) Conditions – This scenario represents future traffic conditions without the proposed project consistent with land use assumptions in the City of Glendale Travel Demand Forecasting Model (TDFM) for year 2040 and the annual growth projected in the area through 2040. In addition, Metro’s transit corridor project is reflected in this scenario as a baseline network change.

The analysis focuses on the weekday operations. Ten intersections on four corridors were identified for analysis:

1. Western Avenue & Glenoaks Boulevard
2. Sonora Avenue & Glenoaks Boulevard
3. Grandview Avenue & Glenoaks Boulevard
4. Highland Avenue & Glenoaks Boulevard

5. Pacific Avenue & Glenoaks Boulevard
6. Western Avenue & Flower Street
7. Sonora Avenue & Flower Street
8. Grandview Avenue & Flower Street
9. Western Avenue & San Fernando Road
10. Grandview Avenue & San Fernando Road

### Existing (2019) Traffic Volumes and Levels of Service

This section presents the existing (2019) peak hour turning movement traffic volumes for the analyzed intersections, describes the methodology used to assess the traffic conditions at each intersection, and analyzes the resulting operating conditions at each, indicating volume-to-capacity (V/C) ratios, seconds of delay, and levels of service (LOS). Count sheets are available in Attachment A.

### Existing Traffic Volumes

Due to the COVID-19 pandemic and the shelter-in-place orders from the Governor and County in April 2020, turning movements counts could not be collected at these intersections in 2020 since they would not reflect typical conditions. Therefore, historical counts from 2015 and 2017 were used for and an ambient growth factor of 1% per year was applied to adjust the traffic volumes to reflect baseline year 2019. The growth factor was derived using the City’s travel demand forecasting model.

### Level of Service Methodology

Level of service is a qualitative measure used to describe the condition of traffic flow, ranging from excellent “free-flow” conditions at LOS A to overloaded “stop-and-go” conditions at LOS F. Since this is not a land use impact analysis, the City of Glendale is in the process of switching methodology for SB 743, and the analysis focused on answering different questions on the different corridors, two methodologies are applied for the operational analysis– the *Highway Capacity Manual, 6<sup>th</sup> Edition* (HCM) (Transportation Research Board, 2016) methodology and the Intersection Capacity Utilization (ICU) methodology.

The HCM methodology was used to conduct a planning level of service analysis at intersections along the corridors of Glenoaks Boulevard and Western Avenue with the transit corridor project and the proposed bikeway project. This was performed using the Synchro 10 software program. Synchro calculates vehicle delay and level of service (LOS) based on procedures outlined in the HCM. This methodology was used to determine the intersection delay in seconds and corresponding level of service (LOS) at the signalized and unsignalized intersections, as shown in Table 1A. The calculation of delay represents the amount of delay experienced by vehicles passing through the intersection. The unsignalized intersection was analyzed using the two-way stop method from the HCM 6<sup>th</sup> Edition.

The ICU methodology was used to evaluate the operation at a planning level for intersections along the corridors of Grandview Avenue and Flower Street. Volumes are substantially lower along these corridors and the feasibility questions were focused on the spatial feasibility and a simpler methodology was used to evaluate operational feasibility. ICU measures an intersection's capacity to serve all legs of an intersection within a complete signal phase cycle. ICU can also indicate how much reserve capacity the intersection has, or how much the intersection is over capacity. The V/C ratio is then used to find the corresponding LOS based on the definitions in Table 1B. Under the ICU methodology, a V/C ratio is generated for each study intersection based on factors such as the volume of traffic and the number of lanes providing for such vehicle movement and a LOS grade.

Level of Service (LOS)	Signalized Intersection Average Control Delay (sec/veh)	Unsignalized Intersection Average Control Delay (sec/veh)
A	≤ 10.0	≤ 10.0
B	> 10.1 to 20.0	> 10.1 to 15.0
C	> 20.1 to 35.0	> 15.1 to 25.0
D	> 35.1 to 55.0	> 25.1 to 35.0
E	> 55.1 to 80.0	> 35.1 to 50.0
F	> 80.0	> 50.0

Level of Service	Volume/Capacity Ratio	Definition
A	0.000 - 0.600	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	>0.600 - 0.700	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat what restricted within groups of vehicles.
C	>0.700 - 0.800	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	>0.800 - 0.900	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	>0.900 - 1.000	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.000	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.

Source: *Transportation Research Circular No. 212, Interim Materials on Highway Capacity*, Transportation Research Board, 1980.

## Existing Levels of Service

Existing year traffic volumes were analyzed using the HCM and ICU methodologies described above to determine the existing operating conditions at the study intersections. The table summarizes the results of the analysis of the existing weekday morning and afternoon peak hour V/C ratio or delay and corresponding LOS at each of the analyzed intersections. As depicted in Table 3, four intersections operate at LOS C or better during both the AM and PM peak hours. Five intersections operate at LOS C or better during either their AM or PM peak hour.

NO.	INTERSECTION	PEAK HOUR	EXISTING		METHODOLOGY
			V/C or Delay	LOS	
1	Western Avenue &	AM	53.9	D	HCM
	Glenoaks Boulevard	PM	66.5	E	
2	Sonora Avenue &	AM	0.749	C	ICU
	Glenoaks Boulevard	PM	0.931	E	
3	Grandview Avenue &	AM	0.574	A	ICU
	Glenoaks Boulevard	PM	0.677	B	
4	Highland Avenue &	AM	0.685	B	ICU
	Glenoaks Boulevard	PM	0.699	B	
5	Pacific Avenue &	AM	34.4	C	HCM
	Glenoaks Boulevard	PM	45.4	D	
6	Western Avenue &	AM	17.6	B	HCM
	Flower Street	PM	27.2	C	
7	Sonora Avenue &	AM	0.764	C	ICU
	Flower Street	PM	0.803	D	
8	Grandview Avenue &	AM	11.6	B	HCM
	Flower Street (Unsignalized)	PM	40.1	E	
9	Western Avenue &	AM	29.0	C	HCM
	San Fernando Road	PM	36.3	D	
10	Grandview Avenue &	AM	0.469	A	ICU
	San Fernando Road	PM	0.592	A	

## Traffic Projections

### City of Glendale Travel Demand Forecasting Model

The City of Glendale's TDFM was used to develop future traffic forecasts for the study area. It is a local travel demand forecasting model, based on the Southern California Association of Government's regional model, developed as a part of the South Glendale Community Plan study the City of Glendale undertook in 2016. Land use data and the transportation network are primary inputs to the Glendale model to estimate trip generation and assign vehicle trips to the network. The Glendale model has been calibrated to 2015 base year conditions using observed traffic counts, census data, and land use data compiled by City staff.

The future year 2040 model was used to develop future traffic forecasts and vehicle miles traveled (VMT) for the future base and scenarios. The City's TDFM includes land use and population increases which were reviewed to confirm increases in future year land use and population estimates. In consultation with City staff, no changes were made in the land use inputs to the future year model as this analysis focuses on infrastructure changes on local streets and the TDFM includes anticipated growth. Additional modifications were made to transportation network inputs to reflect Metro's transit corridor project on Glenoaks Boulevard as a baseline change in the Future Base model.

### Volume Scenarios, Data, and Forecasts

#### Existing Conditions

Historical counts from 2015 and 2017 were used for existing conditions and an ambient growth factor of 1% per year was applied to adjust the traffic volumes to reflect baseline year 2019.

#### Future Base (2040) Conditions

The Future Base (2040) traffic projections reflect the anticipated growth from existing traffic conditions that can be expected and reflect the

inclusion of three factors in the future no project scenario. The first is the increase in local and regional land development and population, consistent with local and regional targets in the Southern California Association of Governments regional TDFM, that leads to a growth in traffic. The second is the potential for mode shift as a result of Metro's transit corridor project. The third source is the potential for traffic diversion due to the capacity reduction on Glenoaks Boulevard from the implementation of Metro's transit corridor project because it would reduce the vehicular capacity on Glenoaks Boulevard by one-third, converting six total travel lanes to four travel lanes, with a dedicated bus lanes in the future base scenario. Other active transportation improvements that do not result in capacity modifications may take place and are not included in the TDFM analysis as the tool is not sensitive enough to model changes in traffic from improvements at this scale.

#### Area Traffic Growth

Based on the location of study intersections and the anticipated land use growth projected in the City's TDFM, future forecasted intersection volumes were compared against existing counts to develop a growth factor that reflected anticipated growth. A growth factor of one percent per year was applied to adjust the existing year traffic volumes to reflect the effects of regional growth and development for the future base year 2040. For Intersections located south of the Glenoaks Boulevard, a growth factor of one percent per year was applied to all movements as the bulk of development in the area is expected to occur south of Glenoaks Boulevard. For intersections on Glenoaks Boulevard, a growth factor of one-half percent was applied to movements to and from areas that are north of Glenoaks Boulevard to reflect that there is less potential for increases in development and trip making activity in that area. Other movements on Glenoaks Boulevard (through movements and movements to/from the south) were grown by a factor of one percent per year.

### Mode Shift

The potential for mode shift was researched by reviewing Metro's Draft Environmental Impact Report (DEIR) for the North Hollywood to Pasadena Transit Corridor and related project information. The analysis provided to date does not document or estimate a mode shift percentage, potential future traffic reduction, or shifts of traffic volumes related to the project on study corridors. The DEIR does provide an estimate of reduction to regional VMT that was considered in developing an estimate of potential future mode shift. To reflect the potential for mode shift from automobile travel to public transit after the implementation of Metro's transit corridor project in the future base year, a two percent reduction of total volumes was applied to study intersections on Glenoaks Boulevard. The mode shift estimate is based on VMT estimates prepared for this effort and in Metro's DEIR as described above. Per the DEIR, estimated VMT reduction is modest with an estimated VMT reduction of less than one percent. A mode shift reduction would not be limited to increases in the use of transit and would also reflect a shift from automobile trips to walking and biking trips, made easier and more convenient by future projects along the study corridors. Based on the mix of land uses on the corridor and since this analysis is focused on commute peak hours, the total mode shift was limited at two percent of intersection volumes based on available data and to provide a conservative analysis.

### Traffic Diversion

To estimate the potential traffic diversion caused by the capacity modification on Glenoaks Boulevard the network change on Glenoaks Boulevard was coded into Glendale's TDFM. The TDFM's estimated changes in segment volumes were compared between existing conditions and the future base modified capacities to help estimate the magnitude of shifts that could be applied to the 2040 forecasts.

The TDFM results showed a volume shift that primarily affected east-west corridors. Forecast model volumes decreased by approximately 15%-25% on Glenoaks Boulevard during AM and PM peak hours after the transit corridor lane conversion was added to the TDFM. In the meantime, the model forecasts estimated additional volume changes of approximately 10% on San Fernando Road and the potential shifts on other nearby east-west streets. The model outputs displaying this information are available in Attachment D. This shift is limited to vehicles selecting other travel routes. Decreases in traffic due to potential shifts to walking, biking, or transit are described in the section above.

Based on the traffic diversion pattern estimates from the TDFM, shifts were applied as follows:

- A 20% reduction, based on TDFM outputs, of the through east/west volumes on Glenoaks Boulevard
- Using a combination of TDFM outputs and professional judgement, this 20% was shifted to parallel east-west corridors, such as San Fernando Road (10%), Flower Street (7%), Glenwood Road (2%), and Kenneth Road (1%).

### *Land Use*

Land use inputs for the Future Base scenario are consistent with the land use assumptions in the Glendale TDFM for future year 2040. This information can be found in the City's Model Development Report.

## **Intersection Analysis**

### **Future Base (2040) Operating Conditions**

Since the transit corridor is a Metro effort separate from any proposed bikeway projects, the vehicle shifts due to the transit corridor project were accounted for under the Future Base operating conditions as they would be expected to result from implementation of the corridor transit project. The resulting traffic volumes were analyzed at the intersection level. Intersection geometries were modified by removing one through

lane on Glenoaks Boulevard. The table to the right summarizes the level of service under future base conditions.

As shown in the table to the right, the following five intersections are expected to operate at LOS E or F during their AM and/or PM peak hours under Future Base conditions.

- 1) Western Avenue & Glenoaks Boulevard (LOS F in both AM and PM peak hours)
- 2) Sonora Avenue & Glenoaks Boulevard (LOS E in AM peak hour, LOS F in PM peak hour)
- 5) Pacific Avenue & Glenoaks Boulevard (LOS E in PM peak hour)
- 7) Sonora Avenue & Flower Street (LOS E in both AM and PM peak hours)
- 8) Grandview Avenue & Flower Street (Unsignalized, LOS F in PM peak hour)
- 9) Western Avenue & San Fernando Road (LOS E in PM peak hour)

NO.	INTERSECTION	PEAK HOUR	FUTURE BASE		METHODOLOGY
			V/C or Delay	LOS	
1	Western Avenue &	AM	80.9	F	HCM
	Glenoaks Boulevard	PM	116.6	F	
2	Sonora Avenue &	AM	0.929	E	ICU
	Glenoaks Boulevard	PM	1.147	F	
3	Grandview Avenue &	AM	0.731	C	ICU
	Glenoaks Boulevard	PM	0.857	D	
4	Highland Avenue &	AM	0.859	D	ICU
	Glenoaks Boulevard	PM	0.894	D	
5	Pacific Avenue &	AM	43.7	D	HCM
	Glenoaks Boulevard	PM	75.4	E	
6	Western Avenue &	AM	21.2	C	HCM
	Flower Street	PM	42.8	D	
7	Sonora Avenue &	AM	0.920	E	ICU
	Flower Street	PM	0.975	E	
8	Grandview Avenue &	AM	11.7	B	HCM
	Flower Street (Unsignalized)	PM	68	F	
9	Western Avenue &	AM	42.7	D	HCM
	San Fernando Road	PM	65.3	E	
10	Grandview Avenue&	AM	0.586	A	ICU
	San Fernando Road	PM	0.741	C	

# LAND USE ANALYSIS

## LAND USE ANALYSIS

The Land Use Analysis begins with an assessment of the intent of the General Plan and the existing Zoning Code requirements. Existing land use and areas of change are assessed, and a population characteristics and market demand analysis are provided.

### General Plan Assessment

Concurrent with the West Glendale Sustainable Transportation and Land Use Study, the Land Use and Circulation Element (LUCE) of the General Plan is being updated. Changes to the to the LUCE may be influenced by results of this Study.

### Land Use Element 1986

The Land Use Element was comprehensively revised in 1986. Since then, various amendments have been adopted. Because the Element is currently being updated, no review of policies of the 1986 policy document have been provided.

The Land Use Map shows the various land use categories specified in the General Plan and shows the locations where various land uses are allowed. In the West Glendale Study area, residential, commercial, public and industrial uses are consistent with existing zoning.

### Housing Element 2014-2021

The purpose of this Housing Element revision is to identify the City's existing and projected housing needs and to establish goals and policies to guide City officials in daily decision making in addressing these needs. The Housing Element serves as a policy guideline for addressing defined issues which may arise in meeting the housing needs of the community.

The following Vision Statement was developed in order to guide the direction of the document:

*"Housing in Glendale shall meet the needs of all segments of the community while preserving quality of life and neighborhood identity in the context of our regional housing obligations and established policies."*

## Summary of Key Goals

**The following relevant goals set forth in the Eight-Year Plan (2014-2021) may inform land use concepts that will be developed for the Study.**

### GOAL - A City with a Wide Range of Housing Types to Meet the Needs of Current and Future Residents

- Policy 1.1: Provide a variety of residential development opportunities in the City through the zoning of sufficient land with a range of densities.
- Policy 1.3: Provide higher density residential development in close proximity to public transportation, services and recreation.
- Policy 1.4: Continue to promote residential/mixed use development, including live-work units in appropriate locations.
- Policy 1.5: Encourage the development of residential units in the downtown area and along appropriate commercial corridors.
- Policy 1.8: The City shall continue to promote the consolidation of small lots for residential development through the lot width density bonus program.
- Policy 1.9: Encourage flexibility in the Zoning Ordinance to promote a wide range of housing types.

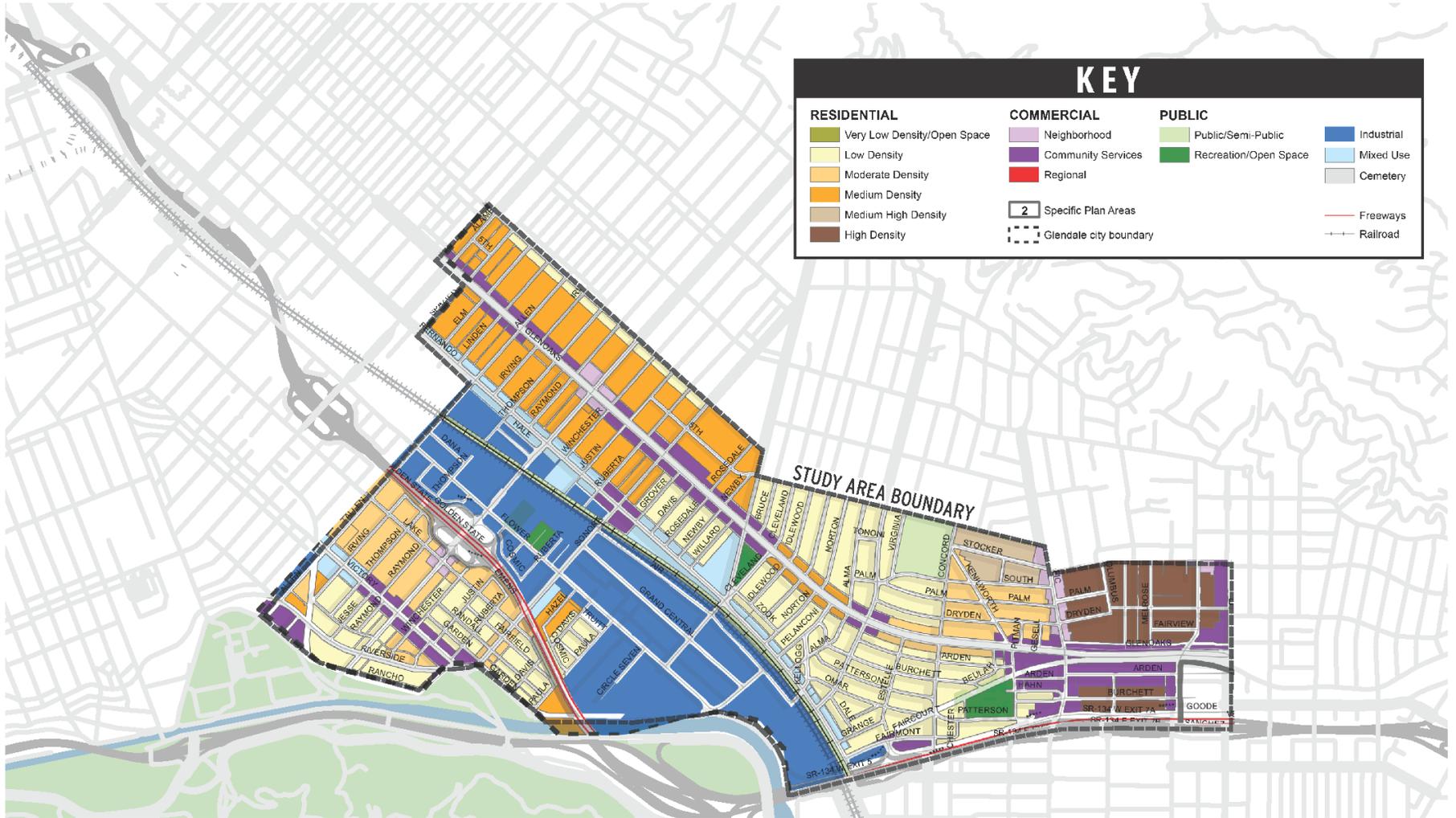
### GOAL - A City with High Quality Residential Neighborhoods that are Attractive and Well Designed

- Policy 2.10: Respect scale, historic continuity, and a sense of community in new residential development.
- Policy 2.11: Consider "target areas" as a strategy to foster safe, sanitary and secure housing; to expand public open space; and to provide a catalyst for neighborhood improvement.

### GOAL - A City with Housing that is Livable and Sustainable

- Policy 6.11: Provide opportunities for residential locations and design that encourage transit, pedestrian, bicycle, and other mobility options.

**General Plan Land Use Map –West Glendale Sustainable Transportation & Land Use Study Area**



## Existing Zoning Code Assessment

Five out of the six Zone Districts and fifteen out of the twenty-three Zones of the City of Glendale's Zoning Code occur within the West Glendale Sustainable Transportation and Land Use Study area.

The Study area is:

- Comprised primarily of residentially zoned parcels and industrial zoned parcels.
- Commercial parcels generally line arterial roadways at depth of a single lot (generally 100' -150' in depth).
- The only Special Use District zones are the CE Commercial Equestrian Zone along Riverside Drive at Allen Avenue and SR Special Recreation public park open spaces and amenity uses. Where they occur, they are at small neighborhood scale.
- There are no Overlay Zones in the Study area.



## Residential Districts

### R-1 Low Density Residential Zone.

The R1 zone is the traditional low-density residential zone. The zone is designed to codify historic development standards in the older, flatter residential sections of the city.

This includes areas in the:

- Glenwood, Grandview, Pelanconi, and Fremont Park neighborhoods generally east of Grandview Avenue and Concord Avenue north of Glenoaks; and east of Sonora Avenue and west of Pacific Avenue south of Glenoaks Boulevard.
- Grand Central and Riverside Rancho neighborhoods just north and south of Interstate 5.

### R-3050 Moderate Density Residential Zone.

This zone is intended to act as a transition and buffer between low density residential land uses and more intensive development and to stabilize well maintained neighborhoods that have been developed generally in harmony with the open space and other amenities associated with low and moderate density residential land uses.

This includes areas in the:

- Riverside Rancho neighborhood generally west of Western Avenue and along Lake Street.
- Glenwood neighborhood generally north of Glenoaks Boulevard between Concord and Pacific Avenues.

**Typical Low Density Residential (Glenwood Neighborhood)**



**Typical Moderate Density Residential (Riverside Rancho Neighborhood)**



### **R-2250 Medium Density Zone.**

This zone is intended to promote medium-size garden-type multiple dwelling residential developments which are efficient and attractive.

This includes areas in the:

- Grandview neighborhood flanking commercial development along Glenoaks Boulevard generally between Glenwood Road and San Fernando Road.
- Grand Central and Riverside Rancho neighborhoods, where a few blocks occur along Interstate 5 and along Riverside Drive.

### **R-1650 Medium High Density Residential Zone.**

The location of the R-1650 zone is based on convenience, adequacy of services, traffic circulation and the existence of open space and recreation areas that support the concentration of population in such zones. It is in the public interest that multiple residential dwelling areas in the community be made pleasant, inviting and efficient.

This includes areas in the:

- Glenwood neighborhood south of Glenwood Road between Concord and Pacific Avenues

**Typical Medium Density Residential (Glenwood Neighborhood)**



**Typical Medium High Density Residential (Glenwood Neighborhood)**



### **R-1250 High Density Residential Zone.**

The location of the R-1250 zone is based on convenience, adequacy of services, traffic circulation and the existence of open space and recreation areas that support the concentration of population in such zones. It is in the public interest that multiple residential dwelling areas in the community be made pleasant, inviting and efficient and that considerations of amenity and attractiveness be addressed.

This includes areas in the:

- Verdugo Viejo neighborhood south of Stocker Street and blocks generally north of Glenoaks Boulevard between Central Avenue and Pacific Avenues. A small pocket of the Fremont Park neighborhood north of Highway 134 generally between Pacific and Central is also zoned R-1250.

**Typical High Density Residential (Verdugo Viejo Neighborhood)**



## Commercial Districts

### C1 Neighborhood Commercial Zone.

The C1 zone is intended as a zone for small shopping centers, professional buildings, service centers, and other commercial activities providing convenience goods and services to the surrounding residential neighborhood.

This includes areas in the:

- Parcels fronting Pacific Avenue north of Glenoaks Boulevard, Stocker Street at the intersection of Central Avenue, and at the intersection of Lake Street and Western Avenue in the River Rancho neighborhood.

### C2 Community Commercial Zone.

The C2 zone is intended as a zone to accommodate shopping and convenience services for the community.

This includes one-parcel-deep areas:

- Fronting Glenoaks Boulevard generally for multiple block lengths interrupted by pockets or residential development, and along Pacific Boulevard south of Glenoaks Boulevard.

### Typical Neighborhood Commercial (Verdugo Viejo/Glenwood Neighborhood)



### Typical Community Commercial (Glenwood Neighborhood)



### **C3 Commercial Service Zone.**

The C3 zone offers a full range of goods and services to the community located along commercial thoroughfares.

This includes parcels fronting:

- Brand Boulevard and Victory Boulevard.

**Typical Commercial Service (River Rancho Neighborhood)**



### **CPD Commercial Planned Development Zone.**

The purpose of the CPD Commercial Planned Development zone is to establish permitted uses and regulations for developing the highest and best use of certain land areas in the city; to promote a desirable type of low profile commercial office building in an open space setting; to protect and enhance the quality of the residential living environment when adjacent to such properties.

This includes areas in the:

- Along the south side of Arden Avenue between Central Avenue and Pacific Avenue and a small pocket of development at the intersection of Concord Avenue and Highway 134

**Typical Community Commercial (Glenwood Neighborhood)**



## Industrial Districts

### IND Industrial Zone

The IND zone is applied to areas appropriate for live/work housing and industrial activities including, but not limited to, assembly, entertainment production, manufacturing, research and development, service, and testing activities

This includes areas generally in the Disney and DreamWorks campuses along with parcels between Western Avenue and Allen Avenue.

Typical Industrial (Grand Central Neighborhood)



## Mixed Use Districts

### IMU Industrial/Commercial Mixed-Use Zone

Industrial mixed-use/large-scale project, including all primary, accessory and temporary uses and structures and all uses, and structures conditionally permitted in the C3 zone. Uses specified in the C3 zone shall be subject to specific development standards as required in the C3 zone.

This includes areas:

- Fronting the south side of San Fernando Road between Grandview Avenue and Allen Avenue and a small pocket of parcels along Victory Boulevard near the intersection of Allen Avenue.

### IMU-R Industrial /Commercial Residential Mixed-Use Zone.

In addition to the uses of the IMU, this mixed-use district permits medical residential congregate living, non-medical residential congregate living, and senior housing uses conditionally.

This includes areas:

- Fronting San Fernando Road adjacent to residentially zoned parcels.

**Typical Industrial/Commercial Mixed Use (Grand Central Neighborhood)**



**Atypical Industrial/Commercial Residential Mixed Use (Glenwood Neighborhood)**



### **SFMU Commercial/Residential Mixed-Use Zone.**

The SFMU zoning district is applied to areas appropriate for a mix of commercial and residential activities. This district allows for a mix of residential and commercial, or just commercial, or just residential (standalone) land uses. The only exception to this provision applies to lots fronting San Fernando Road in the study area, which requires that commercial uses be located along the street frontage.

This includes areas in the:

- At the intersection of Grandview Avenue and along San Fernando Road at the intersection of Western Avenue in the Grandview neighborhood.

**Typical Commercial/Residential Mixed Use (Glenwood Neighborhood)**



## Findings

### Residential District zoning regulations

In conformance with the General Plan, zoning:

- Protects historic residential single-family development as a sole use with limited opportunities for mixed use.
- Protects the low scale residential character of the Study area through multi-family regulations that limit height and require stepped setbacks that ensure compatibility with existing single-family homes.
- Protects existing multi-family residential historic development patterns.
- Does not foster a wide range of building types. Maximum residential densities are not significantly different for all multi-family zones.

### Commercial District zoning regulations

In conformance with the General Plan, zoning:

- Reflect the historic streetcar commercial development pattern along Glenoaks Boulevard.
- C-1 and C-2 regulations include auto-oriented uses and development standards that have incrementally negatively impacted the historic character of Glenoaks Boulevard and Pacific Avenue.
- C-3 regulations lack development standards that promote pedestrian and bicycle access to shopping center uses.
- For all commercial zones, R-1250 High Density residential-styled development is permitted as a mixed use, but there are few instances where residential development over commercial shops occurs.
- CPD zoned regulations promote an 'office park' or campus character. The parcel sizes, lack of a critical mass of CPD zoned parcels that can be assembled to create a campus make this intent difficult to implement. Moreover, located in close proximity to the Downtown, the regulated height and floor area ratios may result in development that does not meet the highest and best use of these strategic parcels.

### Industrial District zoning regulations

In conformance with the General Plan,

- Industrial zoning includes permitted corporate offices, and entertainment production uses that serve unique film, video and broadcasting related businesses associated with the Disney campus and DreamWorks studio uses.
- Traditional manufacturing and processing uses are permitted but are generally limited entertainment production uses.
- Permitted traditional heavy manufacturing uses that are more traditional in nature are permitted, but sites that do not impact residential uses are not numerous.
- Include uses that permitted service, repair, and distribution services that benefit from the proximity of Highway 134 and Interstate 5 regional access routes.

### Mixed Use District zoning regulations

In conformance with the General Plan,

- Both IMU-R and SFMU zones provide opportunities for commercial and residential mixed uses, however small parcel size and location along a busy street make development of residential uses integrated into industrial or commercial development challenging.

## Existing Land Use Assessment

The assessment examines the consistency of the built environment with what is permitted under the current regulatory framework of the City of Glendale Zoning Code. With a few exceptions, existing uses throughout the study area are consistent with current zoning. Exceptions include:

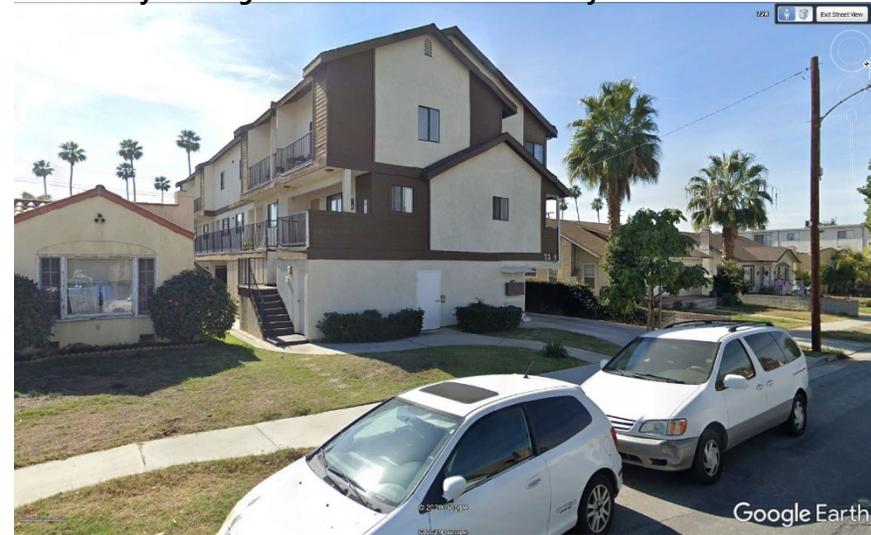
Multi-family buildings in the R-1 zoned neighborhoods, including:

- A cluster of buildings along Grover Avenue, Davis Avenue, Rosedale Avenue, and Willard Avenue in the Grandview neighborhood.
- Clusters of buildings along Concord Avenue, Dryden Avenue, and Virginia Avenue in the Fremont Park and Glenwood neighborhoods.

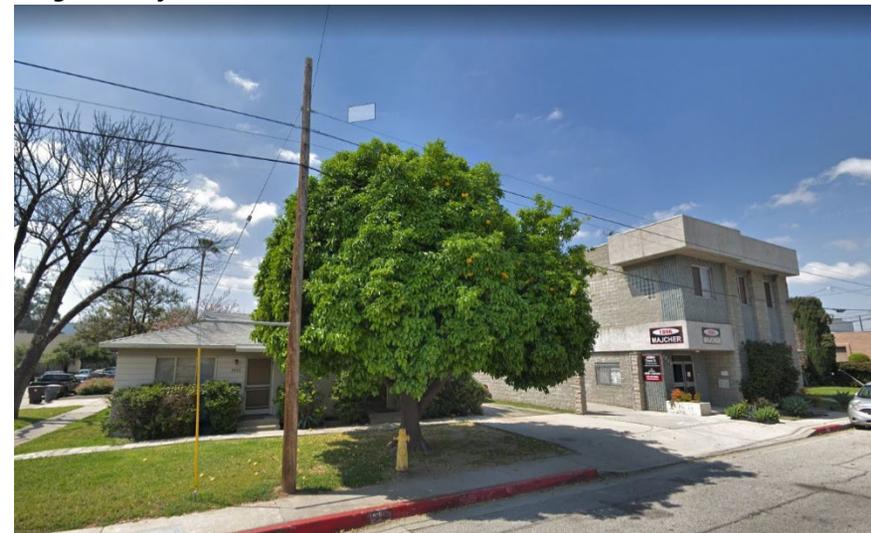
Single family residential buildings in the Industrial zoned district:

- Residences at and near the intersection of Flower Street and Thompson Avenue.

**Multi-family building in R-1 Residential Low Density zone**



**Single-Family Residential in Industrial District**



**Existing Land Use Assessment**



## Areas of Change Assessment

The assessment examines areas along transportation corridors, commercial, industrial and mixed zone districts where there are potential areas to transform or enhance.

Areas to Transform or Enhance:

- These may include vacant parcels where development may occur, parcels that are underutilized such as parcels where small structures exist, but zoning permits more intense development, or where buildings are of low value where land costs are high.
- These may include enhanced structures and sites where building may be improved for existing use or adaptively reused.
- These may include parcels that may benefit from intensification by adding additional structures.

Areas to Enhance:

- These may include parcels that may benefit from intensification by adding additional structures, primarily where large parking lots or vacant sites currently exist.
- These may include parcels where building may be renovated to improve the existing use or adaptively reused.

**Areas to Transform or Enhance—Victory Boulevard Example**



**Areas to Enhance— Western Avenue Example**



# Areas of Change Assessment



## Population Characteristics & Market Demand Analysis

Real estate market conditions and demographics affecting development in each corridor have been assessed. The assessment considers a twenty-year planning horizon for demand for uses based on market trends, demographics, and site conditions. Moreover, the corridor strengths, challenges, and 'gaps' in housing, employment, and commercial, or other development have been identified. For all development forecasts both a low and high estimate has been provided.

### Strengths and Opportunities

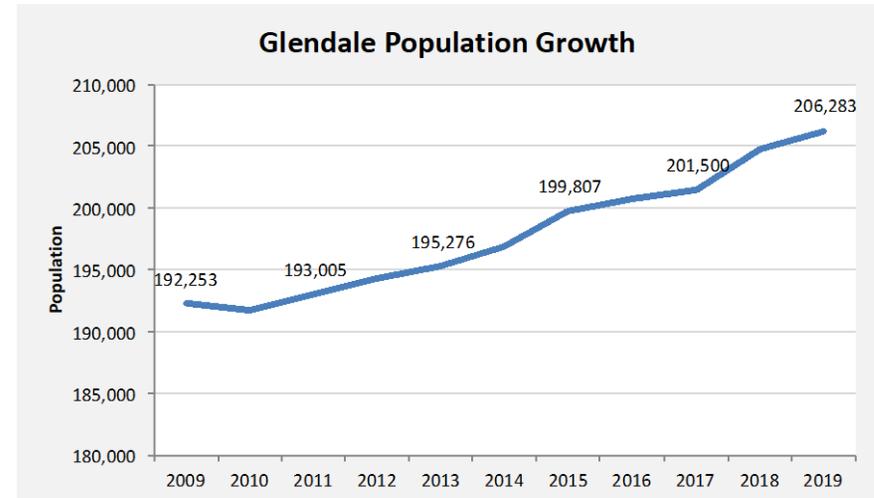
- West Glendale is centrally located within the LA region, which provides its residents access to millions of jobs and local employers with the ability to select from a large, talented, and diverse labor pool.
- The Disney concentration with corporate headquarters, DreamWorks, Imagineering and other facilities has proven that West Glendale is able to attract a very creative and talented workforce.
- Glendale and neighboring Burbank are quality communities with fewer socio-economic challenges as compared to other older cities in the region's core.
- The area is in easy proximity to both Downtown Glendale and Downtown Burbank with their numerous retail, restaurant, employment and entertainment offerings.
- Public investment in transit, complemented by bicycle facilities, will enhance this area's market appeal as a residential and office location.
- The policy climate for more urban scale development appears favorable.

### Challenges Ahead

- West Glendale has a fairly old housing stock and its median household income (\$57,100) is below that of Glendale as a whole (\$64,300) and neighboring Burbank (\$78,200).
- The area has had relatively little new housing construction over the past 20 years resulting in modest declines in both population and households.
- Local housing development has not kept pace with the dynamic entertainment sector employment growth.
- The residential and commercial parcels tend to be small with fragmented ownership making private redevelopment difficult.
- Influenced by the concentration of Disney facilities, land prices tend to be high.

## Glendale Population and Demographics

- Glendale’s population has grown at 1.5 times the rate of Los Angeles County as a whole for the past 10 years.
- Since 2009, the city added over 14,000 residents for a population of 206,300 in 2019.
- Strong job growth particularly in entertainment, hospitality and health services sectors.
- West Glendale’s income is lower than that of Glendale and Burbank.
- West Glendale has lost population during the last decade.



## West Glendale Community Characteristics Comparison

The table to the right compares Glendale, Burbank, and the West Glendale study area population, number of households, average household size and median household income.

The West Glendale Study area:

- Includes a population of 31,170 people which is approximately 15% of the entire City of Glendale’s population.
- Includes 11,779 households which is also approximately 15% of the entire City of Glendale’s households.
- Includes an area average household size of 2.62 which is slightly smaller than the overall City of Glendale household size but is slightly larger than Burbank’s.
- An area median household income less than the overall City of Glendale median household income.

	Glendale	Burbank	Within 3 miles of New MetroLink Station <sup>1</sup>	Within 1.5 miles of New Metro Station	West Glendale Study Area (area 2.5 sq mi)
<b>Population</b>					
2000	194,962	100,299	176,124	59,776	31,997
2010	191,765	103,288	176,584	58,809	31,194
2019	203,715	107,443	188,091	59,821	31,170
<b>Households</b>					
2000	71,810	41,594	68,722	22,145	11,866
2010	72,287	41,920	69,243	22,102	11,880
2019	76,175	42,856	72,859	22,286	11,779
<b>Average Household Size</b>					
2000	2.68	2.39	2.53	2.69	2.67
2010	2.63	2.45	2.53	2.65	2.61
2019	2.65	2.49	2.56	2.67	2.62
<b>Median Household Income</b>					
2019	\$64,266	\$78,209	\$62,904	\$62,828	\$57,089

<sup>1</sup> Within a 3-mile radius from the intersection of San Fernando Road and Sonora Avenue

## West Glendale Market Area

On the next page, the map identifies a three-mile market area radius centered at the intersection of Sonora Avenue and San Fernando Road near the proposed new Metrolink station. The market area includes all of the West Glendale study area and extends to areas to the northwest in the City of Burbank.

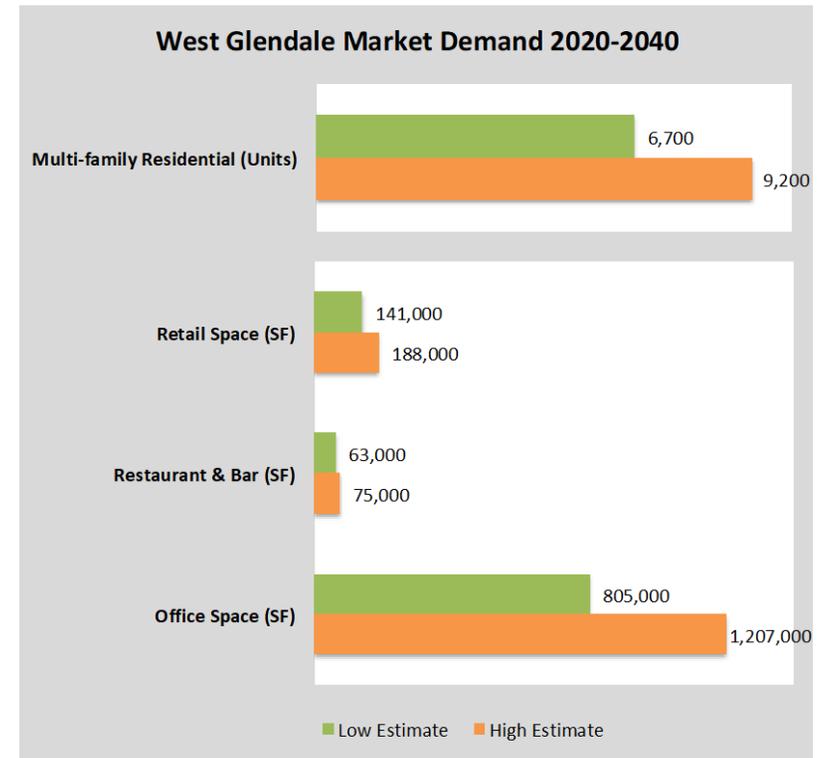
## West Glendale Market Demand 2020-2040

The table and bar chart to the right provide a summary of key uses—multi-family residential, retail, restaurant & bar, office and hotel uses that could occur within the study area based on market trends. The West Glendale market demand summary of potential uses will serve as a baseline ‘target’ for the development of corridor land use concepts that could occur naturally without additional planning actions or implementation strategies.

### SUMMARY OF MARKET DEMAND IN WEST GLENDALE 2020-2040

	2020 - 2040	
	Low Estimate	High Estimate
Multi-family Residential (Units)	6,700	9,200
Retail Space (SF)	141,000	188,000
Restaurant & Bar (SF)	63,000	75,000
Office Space (SF)	805,000	1,207,000
Hotel (Rooms)	100	150

Source: Land Econ Group





### **West Glendale Multi-Family Housing Demand**

- The populations of Glendale and Burbank are forecasted to increase by 28,000 over the next 20 years.
- Average annual absorption of 520 multi-family housing units within 3-miles of the proposed Metrolink Station during the 2014 to 2018 period.
- Located between Downtown Glendale and Downtown Burbank, West Glendale is well located for regional growth
- Transit investment will drive demand in the West Glendale if development sites can be found.

### **West Glendale Retail and Restaurant Demand**

- Average annual absorption of 63,000 square feet of retail space within 3-miles of the proposed Metrolink Station from 2006 through 2018.
- Anticipated retail development will primarily support the surrounding residential neighborhoods and office space.

		Occupied Multi-Family (units)	Avg Annual Absorption Multi-Family (units)	Adjusted Annual Absorption	Projected Unit Growth at Adjusted Pace			Increase in Trade Area Demand
		2018	2014-2018		2020	2030	2040	2020-2040
Within 3 Miles of New Metrolink Station		38,755	518		39,791			
Adjustment Factor 2020-2030	1.6			828		48,075		
Adjustment Factor 2030-2040	1.5			777			55,842	16,052
Vacancy Allowance @	4.0%				41,449	50,079	58,169	16,721
<b>West Glendale Share of 3-Mile Radius Demand (SF)</b>								
Low Share @	40%							6,688
High Share @	55%							9,196

		Historic Growth in Occupied Retail Space (SF)		Average Annual Growth (SF)	Adjustment Factor	Projected Growth at Adjusted Pace (SF)			Increase in Trade Area Demand
		2006	2018	2006-2018		2020	2030	2040	2020-2040
Within 3 Miles of New Metrolink Station		11,870,520	12,623,849	62,777		12,749,404			
Adjustment Factor 2020-2030	1.4				87,888		13,628,288		
Adjustment Factor 2030-2040	1.0				62,777			14,256,062	1,506,658
Vacancy Allowance @	4.0%					13,280,629	14,196,133	14,850,064	1,569,435
<b>Retail vs Restaurant and Bar Space (SF)</b>									
Retail @	60%								941,661
Restaurant and Bar @	40%								627,774
<b>West Glendale Share of 3-Mile Radius Demand</b>						<b>Retail</b>	<b>Restaurant and Bar</b>		
Low Share @						15%	141,249	10%	62,777
High Share @						20%	188,332	12%	75,333

### **West Glendale Multi-Family Housing Demand**

- The population of Glendale and Burbank forecasted to increase by 28,000 over the next 20 years.
- Average annual absorption of 520 multi-family housing units within 3-miles of the proposed Metrolink Station during the 2014 to 2018 period.
- Located between Downtown Glendale and Downtown Burbank, West Glendale is well located for regional growth.
- Transit investment will drive demand in the West Glendale if development sites can be found.

### **West Glendale Retail and Restaurant Demand**

- Average annual absorption of 63,000 square feet of retail space within 3-miles of the proposed Metrolink Station from 2006 through 2018.
- Anticipated retail development will primarily support the surrounding residential neighborhoods and office space.

	Occupied Multi-Family (units)	Avg Annual Absorption Multi-Family (units)	Adjusted Annual Absorption	Projected Unit Growth at Adjusted Pace			Increase in Trade Area Demand
				2018	2014-2018	2020	
Within 3 Miles of New Metrolink Station	38,755	518		39,791			
Adjustment Factor 2020-2030	1.6		828		48,075		
Adjustment Factor 2030-2040	1.5		777			55,842	16,052
Vacancy Allowance @	4.0%			41,449	50,079	58,169	16,721
<b>West Glendale Share of 3-Mile Radius Demand (SF)</b>							
Low Share @	40%						6,688
High Share @	55%						9,196

	Historic Growth in Occupied Retail Space (SF)		Average Annual Growth (SF)	Adjustment Factor	Projected Growth at Adjusted Pace (SF)			Increase in Trade Area Demand
	2006	2018			2006-2018	2020	2030	
Within 3 Miles of New Metrolink Station	11,870,520	12,623,849	62,777		12,749,404			
Adjustment Factor 2020-2030	1.4			87,888		13,628,288		
Adjustment Factor 2030-2040	1.0			62,777			14,256,062	
Vacancy Allowance @	4.0%				13,280,629	14,196,133	14,850,064	
<b>Retail vs Restaurant and Bar Space (SF)</b>								
Retail @	60%						941,661	
Restaurant and Bar @	40%						627,774	
<b>West Glendale Share of 3-Mile Radius Demand</b>					<b>Retail</b>	<b>Restaurant and Bar</b>		
Low Share @					15%	141,249	10%	
High Share @					20%	188,332	12%	
							62,777	
							75,333	

## West Glendale Office Demand

- Disney and DreamWorks studio campuses within walking distance of proposed Metrolink Station.
- Favorable office rents compared to downtown Los Angeles and parts of western LA.
- Demand for conversion of larger floor plate industrial buildings in West Glendale to office and entertainment uses.
- Average annual absorption of 120,750 square feet of office space within 3-miles of the proposed Metrolink Station.

	Historic Growth in Occupied Office Space (SF)		Average Annual Growth (SF)	Adjustment Factor	Projected Growth at Adjusted Pace (SF)			Increase in Trade Area Demand
	2000	2018	2000-2018		2020	2030	2040	2020-2040
Within 3 Miles of New Metrolink Station	14,532,043	16,705,537	120,750		16,947,036			
Adjustment Factor 2020-2030	1.6			193,199		18,879,031		
Adjustment Factor 2030-2040	1.4			169,050			20,569,526	3,622,490
Vacancy Allowance @	10%				18,830,040	20,976,701	22,855,029	4,024,989
<b>West Glendale Share of 3-Mile Radius Demand (SF)</b>								
Low Share @	20%							804,998
High Share @	30%							1,207,497

## Hotel Demand in West Glendale

- The area is well suited for hotels catering to business travelers with its location in the center of LA County and dense concentration of local businesses.
- Hotel room revenue in Glendale has more than doubled in the past 10 years.
- New rail transit links to Glendale, Burbank and Los Angeles downtowns will enhance demand.
- Current proposal to the city for an 850-room hotel in downtown Glendale.
- Opportunity for a 100 to 150-room limited service hotel, located near the historic Grand Central Air Terminal (now Disney Conference Center) located 0.3 miles from the proposed new Metrolink Station.



# APPENDIX

## APPENDIX

### SUMMARY OF MARKET DEMAND IN WEST GLENDALE 2020-2040

	<u>2020 - 2040</u>	
	<b>Low Estimate</b>	<b>High Estimate</b>
Multi-family Residential (Units)	6,700	9,200
Retail Space (SF)	141,000	188,000
Restaurant & Bar (SF)	63,000	75,000
Office Space (SF)	805,000	1,207,000
Hotel (Rooms)	100	150

Source: Land Econ Group

### GLENDALE AREA POPULATION TRENDS

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	<u>2009 - 2019</u>	
												Abs Growth	CAGR
Glendale	192,253	191,719	193,005	194,319	195,276	196,932	199,807	200,716	201,500	204,782	206,283	14,030	0.71%
Los Angeles County	9,801,096	9,818,605	9,885,948	9,972,649	10,040,960	10,098,952	10,155,753	10,185,851	10,226,920	10,254,658	10,253,716	452,620	0.45%
Glendale as Percent of County	1.96%	1.95%	1.95%	1.95%	1.94%	1.95%	1.97%	1.97%	1.97%	2.00%	2.01%		
<u>Surrounding Cities</u>													
Burbank	103,116	103,340	104,659	105,544	106,469	106,482	106,615	106,390	106,300	106,175	105,952	2,836	0.27%
Pasadena	136,502	137,122	139,127	139,887	140,571	141,135	141,438	142,022	144,307	145,003	146,312	9,810	0.70%
City of Los Angeles	3,781,952	3,792,621	3,821,068	3,858,949	3,894,465	3,924,129	3,954,715	3,981,283	4,015,087	4,038,313	4,040,079	258,127	0.66%

Note: Data for 2010 as of April of that year and reflects Census 2010 estimates. All other data are as of January 1st of that year.

**GLENDALE AND SURROUNDING AREA DEMOGRAPHIC PROFILE**

	Glendale	Burbank	Within 3 miles of New MetroLink Station <sup>1</sup>
<b>Population</b>			
2000	194,962	100,299	176,124
2010	191,765	103,288	176,584
2019	203,715	107,443	188,091
<b>Households</b>			
2000	71,810	41,594	68,722
2010	72,287	41,920	69,243
2019	76,175	42,856	72,859
<b>Average Household Size</b>			
2000	2.68	2.39	2.53
2010	2.63	2.45	2.53
2019	2.65	2.49	2.56
<b>Median Household Income</b>			
2019	\$64,266	\$78,209	\$62,904

<sup>1</sup> Within a 3-mile radius from the intersection of San Fernando Road and Sonora Avenue

Source: Esri Business Analyst 2020

**LOS ANGELES COUNTY NON-FARM EMPLOYMENT GROWTH**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2008 - 2018	
												Abs Change	CAGR
Total Nonfarm	4,168,700	3,930,689	3,856,788	3,883,064	3,977,300	4,073,976	4,154,639	4,244,646	4,344,132	4,381,837	4,445,762	277,062	0.65%
Annual Change		-238,011	-73,901	26,276	94,236	96,676	80,663	90,007	99,486	37,705	63,925		
Annual Percentage Change		-5.7%	-1.9%	0.7%	2.4%	2.4%	2.0%	2.2%	2.3%	0.9%	1.5%		
Mining and Construction	156,902	126,941	115,157	114,719	118,591	125,709	128,671	134,748	141,537	145,328	152,237	-4,665	-0.30%
Manufacturing	433,203	389,196	373,487	366,893	365,525	366,064	361,187	357,554	355,370	346,401	342,206	-90,997	-2.33%
Trade, Transportation and Utilities	797,920	739,118	733,691	743,526	757,367	771,593	786,676	803,620	813,790	828,827	841,822	43,902	0.54%
Information	209,622	190,611	190,854	191,261	192,031	193,683	196,577	204,180	227,712	200,526	198,885	-10,737	-0.52%
Financial Activities	236,177	220,298	209,742	209,100	210,644	211,121	207,932	212,402	217,791	219,711	222,138	-14,039	-0.61%
Professional and Business Services	584,356	529,329	527,688	542,092	568,073	594,370	598,935	598,432	597,050	605,303	618,686	34,330	0.57%
<b>Educational and Health Services</b>	<b>488,383</b>	<b>498,562</b>	<b>501,568</b>	<b>516,174</b>	<b>529,977</b>	<b>693,986</b>	<b>714,874</b>	<b>727,717</b>	<b>748,774</b>	<b>776,238</b>	<b>806,008</b>	<b>317,625</b>	<b>5.14%</b>
<b>Leisure and Hospitality</b>	<b>400,519</b>	<b>384,881</b>	<b>385,312</b>	<b>395,379</b>	<b>413,687</b>	<b>435,870</b>	<b>464,627</b>	<b>484,473</b>	<b>506,303</b>	<b>520,557</b>	<b>535,263</b>	<b>134,744</b>	<b>2.94%</b>
Other Services	271,420	269,403	256,034	260,867	289,407	155,537	163,253	171,629	173,887	170,692	156,099	-115,321	-5.38%
Government	590,198	582,350	563,255	543,053	531,998	526,043	531,907	549,891	561,918	568,254	572,418	-17,780	-0.31%

Source: California Employment Development Department, Quarterly Census of Employment and Wages (QCEW)

**NEW, PRIVATELY-OWNED RESIDENTIAL BUILDING PERMITS**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2008 - 2018	
												Annual Avg	% of Total
<b>Glendale</b>													
Single Family Units	78	14	74	141	281	119	21	109	173	172	191	125	54%
Multi Family Units	115	38	56	0	0	120	0	338	10	471	0	104	46%
Total Units	193	52	130	141	281	239	21	447	183	643	191	229	
<b>Burbank</b>													
Single Family Units	11	10	15	6	6	9	22	12	16	17	17	13	19%
Multi Family Units	308	6	3	15	20	0	5	3	251	0	0	56	81%
Total Units	319	16	18	21	26	9	27	15	267	17	17	68	
<b>Pasadena</b>													
Single Family Units	39	20	52	21	22	44	15	26	33	30	31	30	10%
Multi Family Units	510	4	4	4	376	56	669	484	377	141	493	283	90%
Total Units	549	24	56	25	398	100	684	510	410	171	524	314	
<b>City of Los Angeles</b>													
Single Family Units	712	518	636	525	870	1,144	1,668	1,834	1,796	2,360	2,636	1,336	14%
Multi Family Units	5,368	2,089	3,473	5,422	5,830	7,248	9,596	14,179	12,094	12,486	13,663	8,313	86%
Total Units	6,080	2,607	4,109	5,947	6,700	8,392	11,264	16,013	13,890	14,846	16,299	9,650	

Source: U.S. Census

MULTI-FAMILY RESIDENTIAL TRENDS IN GLENDALE AND BURBANK

Year	Inventory Bldgs	Inventory Units	Inventory Avg SF	Effective Rent Per SF	Vacancy Percent	Occupancy Units	Absorption Units
YTD	6,277	77,181	825	\$2.40	3.6%	74,398	422
2018	6,273	76,738	823	\$2.34	3.6%	73,975	940
2017	6,266	75,706	823	\$2.27	3.5%	73,036	727
2016	6,266	74,975	821	\$2.19	3.6%	72,315	576
2015	6,261	74,566	821	\$2.09	3.9%	71,690	925
2014	6,257	73,508	815	\$1.96	3.7%	70,764	647
2013	6,256	72,941	814	\$1.86	4.1%	69,984	93
2012	6,258	72,637	816	\$1.80	3.8%	69,892	103
2011	6,266	72,739	816	\$1.72	4.1%	69,788	323
2010	6,264	72,622	815	\$1.69	4.3%	69,465	410
2009	6,263	72,246	812	\$1.73	4.4%	69,056	(15)
2008	6,258	71,921	809	\$1.83	4.0%	69,069	187
2007	6,243	71,248	804	\$1.81	3.3%	68,881	74
2006	6,240	71,183	804	\$1.71	3.3%	68,807	570
2005	6,232	70,754	802	\$1.60	3.6%	68,237	691
2004	6,227	70,482	802	\$1.50	4.2%	67,550	285
2003	6,219	70,328	802	\$1.48	4.4%	67,265	323
2002	6,215	70,113	801	\$1.47	4.5%	66,943	(22)
2001	6,208	69,602	804	\$1.42	3.8%	66,962	(649)
2000	6,205	69,565	804	\$1.30	2.8%	67,611	(31)

2014-2018	Average Annual Net Absorption (units)			763	Average Vacancy %	3.7%
2009-2013	Average Annual Net Absorption (units)			183	Average Vacancy %	4.1%

Source: CoStar

MULTI-FAMILY RESIDENTIAL TRENDS IN GLENDALE AND BURBANK

Year	Inventory Bldgs	Inventory Units	Inventory Avg SF	Effective Rent Per SF	Vacancy Percent	Occupancy Units	Absorption Units
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2009	6,263	72,246	812	\$1.73	4.4%	69,056	(15)
2008	6,258	71,921	809	\$1.83	4.0%	69,069	187
2007	6,243	71,248	804	\$1.81	3.3%	68,881	74
2006	6,240	71,183	804	\$1.71	3.3%	68,807	570
2005	6,232	70,754	802	\$1.60	3.6%	68,237	691
2004	6,227	70,482	802	\$1.50	4.2%	67,550	285
2003	6,219	70,328	802	\$1.48	4.4%	67,265	323
2002	6,215	70,113	801	\$1.47	4.5%	66,943	(22)
2001	6,208	69,602	804	\$1.42	3.8%	66,962	(649)
2000	6,205	69,565	804	\$1.30	2.8%	67,611	(31)

2014-2018	Average Annual Net Absorption (units)			763	Average Vacancy %	3.7%
2009-2013	Average Annual Net Absorption (units)			183	Average Vacancy %	4.1%

Source: CoStar

**MULTI-FAMILY RESIDENTIAL TRENDS WITHIN A 3-MILE RING OF WEST GLENDALE METRO STATION**

Year	Inventory Bldgs	Inventory Units	Inventory Avg SF	Effective Rent Per SF	Vacancy Percent	Occupancy Units	Absorption Units
YTD	3,274	40,707	848	\$2.60	3.9%	39,108	352
2018	3,271	40,268	844	\$2.52	3.8%	38,755	590
2017	3,268	39,544	846	\$2.46	3.5%	38,166	660
2016	3,268	38,794	842	\$2.38	3.3%	37,509	351
2015	3,267	38,724	842	\$2.28	4.0%	37,159	591
2014	3,265	38,025	835	\$2.12	3.8%	36,568	397
2013	3,266	37,717	833	\$1.98	4.2%	36,136	56
2012	3,269	37,437	837	\$1.92	3.6%	36,079	65
2011	3,277	37,523	837	\$1.84	4.0%	36,014	56
2010	3,278	37,496	836	\$1.79	4.1%	35,959	105
2009	3,279	37,523	836	\$1.85	4.5%	35,854	9
2008	3,274	37,307	832	\$1.94	3.9%	35,845	286
2007	3,262	36,748	824	\$1.94	3.2%	35,558	0
2006	3,256	36,700	824	\$1.79	3.1%	35,557	132
2005	3,254	36,681	824	\$1.67	3.4%	35,426	380
2004	3,252	36,522	824	\$1.57	4.0%	35,047	176
2003	3,249	36,452	824	\$1.55	4.3%	34,872	271
2002	3,248	36,265	822	\$1.55	4.6%	34,602	84
2001	3,243	35,862	826	\$1.47	3.8%	34,518	(309)
2000	3,240	35,825	826	\$1.32	2.8%	34,826	(20)
2014-2018	Average Annual Net Absorption (units)			518	Average Vacancy %		3.7%
2009-2013	Average Annual Net Absorption (units)			58	Average Vacancy %		4.1%

Source: CoStar

**WEST GLENDALE AREA POPULATION PROJECTIONS**

	2019	2020	2025	2030	2035	2040	2020-2030		2030-2040	
							Abs Growth	CAGR	Abs Growth	CAGR
Glendale	206,283	207,643	212,659	219,060	222,751	227,886	11,417	0.54%	8,826	0.40%
Burbank	105,952	105,261	107,061	109,690	111,919	113,393	4,429	0.41%	3,703	0.33%
Los Angeles County	10,253,716	10,279,350	10,455,210	10,670,231	10,865,908	11,008,998	390,881	0.37%	338,767	0.31%
Glendale as Percent of County	2.01%	2.02%	2.03%	2.05%	2.05%	2.07%				

Source: California Department of Finance, Demographic Research Unit; Esri Business Analyst; Land Econ Group

**WEST GLENDALE MULTI-FAMILY HOUSING DEMAND FORECAST**

	Occupied Multi-Family (units) 2018	Avg Annual Absorption Multi-Family (units) 2014-2018	Adjusted Annual Absorption	Projected Unit Growth at Adjusted Pace			Increase in Trade Area Demand 2020-2040
				2020	2030	2040	
Within 3 Miles of New Metrolink Station	38,755	518		39,791			
Adjustment Factor 2020-2030	1.6		828		48,075		
Adjustment Factor 2030-2040	1.5		777			55,842	16,052
Vacancy Allowance @	4.0%			41,449	50,079	58,169	16,721
<b>West Glendale Share of 3-Mile Radius Demand (Units)</b>							
Low Share @	40%						6,688
High Share @	55%						9,196

Source: Land Econ Group

**RETAIL SPACE TRENDS IN GLENDALE AND BURBANK**

Year	Inventory Bldgs	Inventory SF	Occupancy SF	Vacancy Percent	Net Absorption SF Direct	NNN Rent Direct
YTD	3,430	24,486,074	23,722,376	3.1%	(25,831)	\$35.50
2018	3,428	24,478,601	23,752,738	3.0%	(111,578)	\$33.48
2017	3,429	24,485,761	23,873,315	2.5%	264,754	\$33.59
2016	3,427	23,978,892	23,602,741	1.6%	379,884	\$29.92
2015	3,431	24,016,278	23,201,296	3.4%	(96,098)	\$31.03
2014	3,433	24,006,848	23,323,605	2.8%	107,796	\$27.42
2013	3,436	24,032,470	23,108,230	3.8%	377,562	\$25.88
2012	3,435	23,912,121	22,724,690	5.0%	(46,520)	\$25.45
2011	3,445	23,970,609	22,767,943	5.0%	(64,779)	\$25.46
2010	3,450	24,011,315	22,811,427	5.0%	81,486	\$25.73
2009	3,450	24,010,554	22,674,762	5.6%	(381,663)	\$28.94
2008	3,453	24,100,447	23,118,408	4.1%	272,440	\$31.74
2007	3,443	23,496,618	22,876,125	2.6%	211,622	\$33.12
2006	3,437	23,386,728	22,648,465	3.2%	114,725	\$33.27
<i>Average Annual Growth of Occupied SF (2006-2018)</i>				92,023		
<i>Average Vacancy % (2006-2018)</i>				3.7%		

Source: CoStar

**RETAIL SPACE TRENDS WITHIN A 3-MILE RING OF WEST GLENDALE METRO STATION**

Year	Inventory Bldgs	Inventory SF	Occupancy SF	Vacancy Percent	Net Absorption SF Direct	NNN Rent Direct
YTD	1,328	13,091,344	12,622,053	3.6%	3,073	\$36.83
2018	1,327	13,086,494	12,623,849	3.5%	(18,241)	\$36.20
2017	1,329	13,092,434	12,644,721	3.4%	210,564	\$35.58
2016	1,328	12,624,404	12,429,657	1.5%	297,092	\$30.34
2015	1,333	12,663,187	12,137,065	4.2%	(58,775)	\$35.94
2014	1,335	12,671,225	12,195,840	3.8%	(5,416)	\$28.84
2013	1,340	12,707,725	12,201,256	4.0%	371,489	\$27.94
2012	1,340	12,590,038	11,825,024	6.1%	(68,261)	\$28.81
2011	1,347	12,642,317	11,882,318	6.0%	(147,537)	\$27.46
2010	1,351	12,693,641	12,008,560	5.4%	62,819	\$27.82
2009	1,352	12,699,220	11,915,384	6.2%	(315,434)	\$31.49
2008	1,354	12,787,965	12,289,643	3.9%	373,665	\$34.08
2007	1,351	12,220,193	11,936,797	2.3%	41,489	\$40.40
2006	1,349	12,115,196	11,870,520	2.0%	65,160	\$40.02
<i>Average Annual Growth of Occupied SF (2006-2018)</i>				62,777		
<i>Average Vacancy % (2006-2018)</i>				4.0%		

Source: CoStar

**WEST GLENDALE RETAIL AND RESTAURANT DEMAND FORECAST**

	Historic Growth in Occupied Retail Space (SF)		Average Annual Growth (SF)	Adjustment Factor	Projected Growth at Adjusted Pace (SF)			Increase in Trade Area Demand
	2006	2018	2006-2018		2020	2030	2040	2020-2040
Within 3 Miles of New Metrolink Station	11,870,520	12,623,849	62,777		12,749,404			
Adjustment Factor 2020-2030		1.4		87,888	13,628,288			
Adjustment Factor 2030-2040		1.0		62,777		14,256,062	1,506,658	
Vacancy Allowance @		4.0%			13,280,629	14,196,133	14,850,064	1,569,435
Retail vs Restaurant and Bar Space (SF)								
Retail @		60%					941,661	
Restaurant and Bar @		40%					627,774	
<b>West Glendale Share of 3-Mile Radius Demand</b>					<b>Retail</b>		<b>Restaurant and Bar</b>	
Low Share @					15%	141,249	10%	62,777
High Share @					20%	188,332	12%	75,333

Source: Land Eon Group

OFFICE SPACE TRENDS IN GLENDALE AND BURBANK

Year	Inventory Bldgs	Inventory SF	Vacant SF Direct	Occupancy SF	Vacancy Percent	Net Absorption SF Direct	Office Gross Rent Direct
YTD	1,450	27,843,708	1,910,323	25,781,307	7.4%	246,732	\$38.49
2018	1,447	27,838,633	2,151,980	25,561,583	8.2%	(151,634)	\$36.77
2017	1,446	27,928,205	2,089,918	25,627,561	8.2%	18,661	\$34.47
2016	1,443	27,915,971	2,096,345	25,804,351	7.6%	228,916	\$32.26
2015	1,443	27,831,998	2,241,288	25,552,163	8.2%	292,753	\$31.03
2014	1,444	27,856,211	2,558,254	25,185,994	9.6%	659,784	\$29.85
2013	1,447	27,940,692	3,302,519	24,524,367	12.2%	(325,061)	\$30.16
2012	1,438	27,882,785	2,919,551	24,833,544	10.9%	595,026	\$30.03
2011	1,442	27,612,704	3,244,496	24,228,669	12.3%	411,796	\$30.82
2010	1,441	27,616,532	3,660,120	23,718,267	14.1%	(479,068)	\$31.00
2009	1,436	27,553,829	3,113,999	24,103,018	12.5%	(219,392)	\$30.78
2008	1,434	26,533,655	1,913,247	24,404,392	8.0%	(188,226)	\$33.40
2007	1,428	26,252,064	1,443,430	24,696,360	5.9%	414,570	\$33.80
2006	1,428	26,171,525	1,777,461	24,285,609	7.2%	396,709	\$28.85
2005	1,428	25,879,796	1,882,441	23,867,517	7.8%	733,099	\$28.15
2004	1,424	25,430,607	2,166,351	23,119,144	9.1%	619,921	\$27.22
2003	1,424	25,366,210	2,721,875	22,441,725	11.5%	(566,849)	\$26.56
2002	1,422	25,342,876	2,131,692	22,433,015	11.5%	453,620	\$25.26
2001	1,411	24,617,156	1,859,592	22,218,254	9.7%	(278,988)	\$26.88
2000	1,406	24,445,639	1,409,087	22,504,251	7.9%	496,857	\$24.44
1999	1,396	24,067,948	1,528,253	22,241,963	7.6%	640,538	\$24.66
1998	1,394	23,517,414	1,618,257	21,397,424	9.0%	223,155	\$20.78
1997	1,388	23,001,333	1,325,331	21,290,703	7.4%	9,856	\$18.52
1996	1,384	22,875,746	1,209,600	21,425,553	6.3%	(83,492)	\$21.16
<i>Average Annual Growth of Occupied SF (2000-2018)</i>			<i>169,852</i>				
<i>Average Vacancy % (2000-2018)</i>			<i>9.6%</i>				

Source: Costar

OFFICE SPACE TRENDS WITHIN A 3-MILE RING OF WEST GLENDALE METRO STATION

Year	Inventory Bldgs	Inventory SF	Vacant SF Direct	Occupancy SF	Vacancy Percent	Net Absorption SF Direct	Office Gross Rent Direct
YTD	776	18,269,938	1,369,428	16,764,974	8.2%	106,375	\$38.53
2018	776	18,269,938	1,475,803	16,705,537	8.6%	(299,006)	\$36.24
2017	776	18,362,061	1,268,920	16,912,320	7.9%	(125,744)	\$33.04
2016	774	18,334,381	1,115,496	17,206,894	6.1%	257,503	\$32.16
2015	773	18,221,459	1,260,077	16,952,453	7.0%	257,347	\$31.05
2014	774	18,263,426	1,559,391	16,693,018	8.6%	518,321	\$29.52
2013	777	18,347,907	2,162,193	16,118,375	12.2%	204,054	\$29.99
2012	775	18,325,275	2,343,615	15,910,055	13.2%	582,193	\$30.54
2011	779	18,055,194	2,655,727	15,315,472	15.2%	151,174	\$31.08
2010	778	18,049,283	2,800,990	15,177,957	15.9%	(357,652)	\$29.69
2009	771	17,969,978	2,364,033	15,505,371	13.7%	(105,510)	\$29.82
2008	770	17,301,104	1,589,649	15,574,118	10.0%	(210,024)	\$32.72
2007	766	17,125,499	1,204,020	15,838,594	7.5%	398,764	\$31.96
2006	766	17,044,960	1,522,245	15,469,953	9.2%	184,130	\$29.24
2005	764	16,905,931	1,567,346	15,242,734	9.8%	86,113	\$28.28
2004	760	16,609,237	1,356,765	15,147,549	8.8%	398,902	\$27.23
2003	761	16,546,632	1,693,062	14,676,928	11.3%	(214,433)	\$26.78
2002	760	16,532,128	1,464,125	14,688,709	11.2%	306,498	\$25.64
2001	756	16,111,186	1,349,681	14,492,060	10.0%	(188,708)	\$27.58
2000	753	16,105,238	1,155,025	14,532,043	9.8%	420,259	\$24.55
1999	746	15,831,046	1,301,092	14,288,541	9.7%	293,061	\$25.52
1998	744	15,280,512	1,043,619	13,765,752	9.9%	141,256	\$20.37
1997	738	14,976,851	881,214	13,716,945	8.4%	93,756	\$18.97
1996	735	14,956,964	955,083	13,775,191	7.9%	(92,687)	\$22.24
<i>Average Annual Growth of Occupied SF (2000-2018)</i>			<i>120,750</i>				
<i>Average Vacancy % (2000-2018)</i>			<i>10.3%</i>				

Source: Costar

## WEST GLENDALE OFFICE DEMAND FORECAST

	Historic Growth in Occupied Office Space (SF)		Average Annual Growth (SF)	Adjustment Factor	Projected Growth at Adjusted Pace (SF)			Increase in Trade Area Demand
	2000	2018	2000-2018		2020	2030	2040	2020-2040
Within 3 Miles of New Metrolink Station	14,532,043	16,705,537	120,750		16,947,036			
Adjustment Factor 2020-2030	1.6			193,199	18,879,031			
Adjustment Factor 2030-2040	1.4			169,050		20,569,526	3,622,490	
Vacancy Allowance @	10%				18,830,040	20,976,701	22,855,029	4,024,989
<b>West Glendale Share of 3-Mile Radius Demand (SF)</b>								
Low Share @	20%							804,998
High Share @	30%							1,207,497

Source: Land Econ Group

## CITY OF GLENDALE HOTEL ROOM REVENUE TREND

Fiscal Year	TOT Tax Collection	Effective Tax Rate <sup>1</sup>	Room Revenue (\$ millions)	Percentage Change
2009-10	\$2,690,462	10%	\$26.90	13.0%
2010-11	\$3,044,750	10%	\$30.45	13.2%
2011-12	\$3,367,577	10%	\$33.68	10.6%
2012-13	\$3,545,049	10%	\$35.45	5.3%
2013-14	\$3,978,940	10%	\$39.79	12.2%
2014-15	\$4,466,519	10%	\$44.67	12.3%
2015-16	\$6,425,825	12%	\$53.55	19.9%
2016-17	\$6,599,891	12%	\$55.00	2.7%
2017-18	\$6,991,417	12%	\$58.26	5.9%
2018-19	\$7,544,028	12%	\$62.87	7.9%

<sup>1</sup> Tax rate changed from 10% to 12% in April 2015

Source: City of Glendale; Land Econ Group

## WEST GLENDALE HOTEL INVENTORY

Hotel Name	Number of Rooms	Address
Glen Capri Burbank Universal	49	6700 San Fernando Rd
Jewel City Inn	20	1012 Winchester Ave
Extended Stay America	87	1377 W Glenoaks Blvd
Victory Motel Inn		1722 Victory Blvd
Embassy Suites Hilton	272	800 N Central Ave
Hilton Los Angeles North/Glendale	351	100 W Glenoaks Blvd
Griffith Park Motel	11	1634 Victory Blvd
<b>TOTAL</b>	<b>790</b>	

