NORTH BRAND BOULEVARD COMPLETE STREETS DEMONSTRATION PROJECT

December 2024

CHAPTER 1: INTRODUCTION

1.1 PROJECT UNDERSTANDING

The North Brand Boulevard Complete Streets Demonstration Project is one of four projects funded under the Southern California Association of Government's *Go Human* program, which is an important and timely effort that has the potential to make a lasting impact across Southern California. Through the design and implementation of pilot, quick build projects, this initiative allows local agencies to test new concepts and thoroughly engage their constituents to develop tailored visions for creating more walkable, bikeable, transit-friendly, accessible, and livable communities. The Southern California Association of Governments (SCAG) has done a significant amount of planning to implement the *Go Human* program, and since 2016, has provided resources for engagement, education, information sharing, projects, and events for dozens of communities throughout Southern California. These efforts resulted in the North Brand Boulevard Complete Streets Demonstration Project, which piloted new infrastructure designs to reduce traffic collisions and encourage active transportation by installing parking protected bike lanes, curb extensions, and high-visibility crosswalks along North Brand Avenue between Glenoaks Boulevard and Mountain Street.

Quick Build projects allow agencies to explore infrastructure treatments to address local safety needs in the community and provide immediate benefits to residents. The Quick Build projects have the added value of providing a platform for more inclusive public engagement before, during, and after installation. This feedback-focused process awards communities with more opportunities to better collaborate with agencies to design, revise, and install permanent infrastructure in the future.

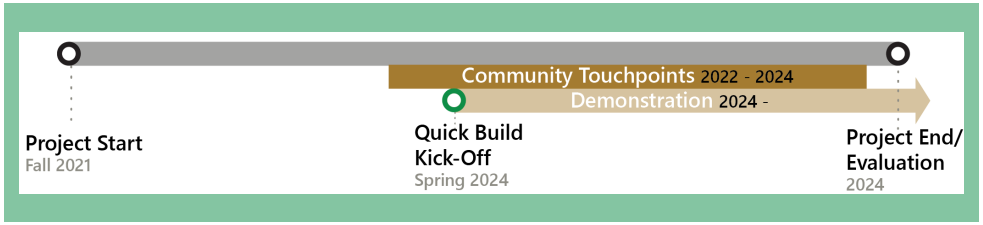
1.2 PROJECT EXECUTIVE SUMMARY

1.2.1 PROJECT LOCATION & ACCOMPLISHMENTS

The City of Glendale's North Brand Boulevard Complete Streets Demonstration Project is piloting traffic safety infrastructure elements along an approximately half-mile section of North Brand Boulevard, between Glenoaks Boulevard and Mountain Street. Prior to the Quick Build, the project corridor was a four-lane road (two in each direction) with a center median running north/south; diagonal on-street parking; and no protected bicycle facilities to connect cyclists to nearby bicycle facilities on Mountain Street and Glenoaks Boulevard. The Quick Build reduces Brand Boulevard's total travel lanes to two lanes (one in each direction) with a center median; features parking protected bike lanes on both sides of the street; restriped high-visibility continental crosswalks and bump-outs at key intersections along the corridor; and reconfigured angled on-street parking to maximize the space dedicated to on-street parking.

1.2.2 PROJECT TIMELINE & OUTREACH SCHEDULE

The project began in Fall 2021 and construction concluded in Spring 2024.



1.2.2 PROJECT GOALS

The North Brand Boulevard Complete Streets Demonstration Project was designed to achieve the following goals:

Re-envision North Brand Boulevard, between Mountain Street and Glenoaks Boulevard, as a complete street.

Improve quality of life for all street users by slowing down vehicular traffic.

Improve mobility options for all roadway users, especially for people walking, biking, or rolling.

Improve public health outcomes by promoting active mobility and reducing the use of automobiles.

Improve access and transportation options for people with disabilities.

Gather feedback from the community on temporary urban design treatments.

1.2.4 PROJECT PARTNERS

The project team worked closely with the following list of stakeholders throughout the project timeline:

- **City of Glendale**
  - Sarkis Oganesyan, Deputy Public Works Director/City Engineer
  - Armen Avazian, Senior Civil Engineer
  - Pastor Casanova, Principal Traffic Engineer

- **KOA**
  - Carlos Velasquez (PM)
  - Ana Canzonieri, PE (Engineering Lead)
  - David Mariscal (Project Coordinator)
  - Raquel Jimenez (Project Coordinator)
  - Sarai Osorio (Project Coordinator)

- **SCAG**
  - Rachel Om (Contract and Funding)

- **Community Advisory Committee (CAC)**
  - Charles A. Moore, (Citizens Business Bank/Chamber of Commerce)
  - Judee Kendall (Chamber of Commerce)
  - Dr. Colby Boysen (Incarnation Parish School)
  - Ruby Vartanian (Rossmoyne Neighborhood Association)
  - Alek Bartrosouf (Walk Bike Glendale)
  - Brigid McNally (Glendale Tenants Union)
  - Randy Stevenson (Greater Downtown Glendale Association)
  - Armen Avazian (City of Glendale)
  - Tad Dombroski (City of Glendale)
  - Pastor Casanova (City of Glendale)
  - Solene Manoukian (City of Glendale)
  - Ismael Carbajal Perez (City of Glendale)

- **Technical Advisory Committee (TAC)**
  - Armen Avazian (Engineering)
  - Tad Dombroski (Parking)
  - Pastor Casanova (Traffic)
  - Fred Zohrehvand (CDD Planning)
  - Sarkis Oganesyan (Engineering)
  - Daniel Hardgrove (Maintenance Services/Forestry)
  - Lieutenant Toby Darby (Police Department)
  - Battalion Chief Jeff Brooks (Fire Department)
  - Koko Panossian (Community Services and Parks)
  - Martha D'Andrea (Transit)

- **HereLA**
  - Community Touchpoints and Urban Design

- **Leslie Scott Consulting**
  - Engagement lead

- **Safe Routes Partnership:**
  - Kori Johnson, Michelle Lieberman – CAC and TAC

- **LA County Bicycle Coalition**
  - Bike Audit lead

Figure 1: North Brand Boulevard Complete Streets Demonstration Project Location Context Map

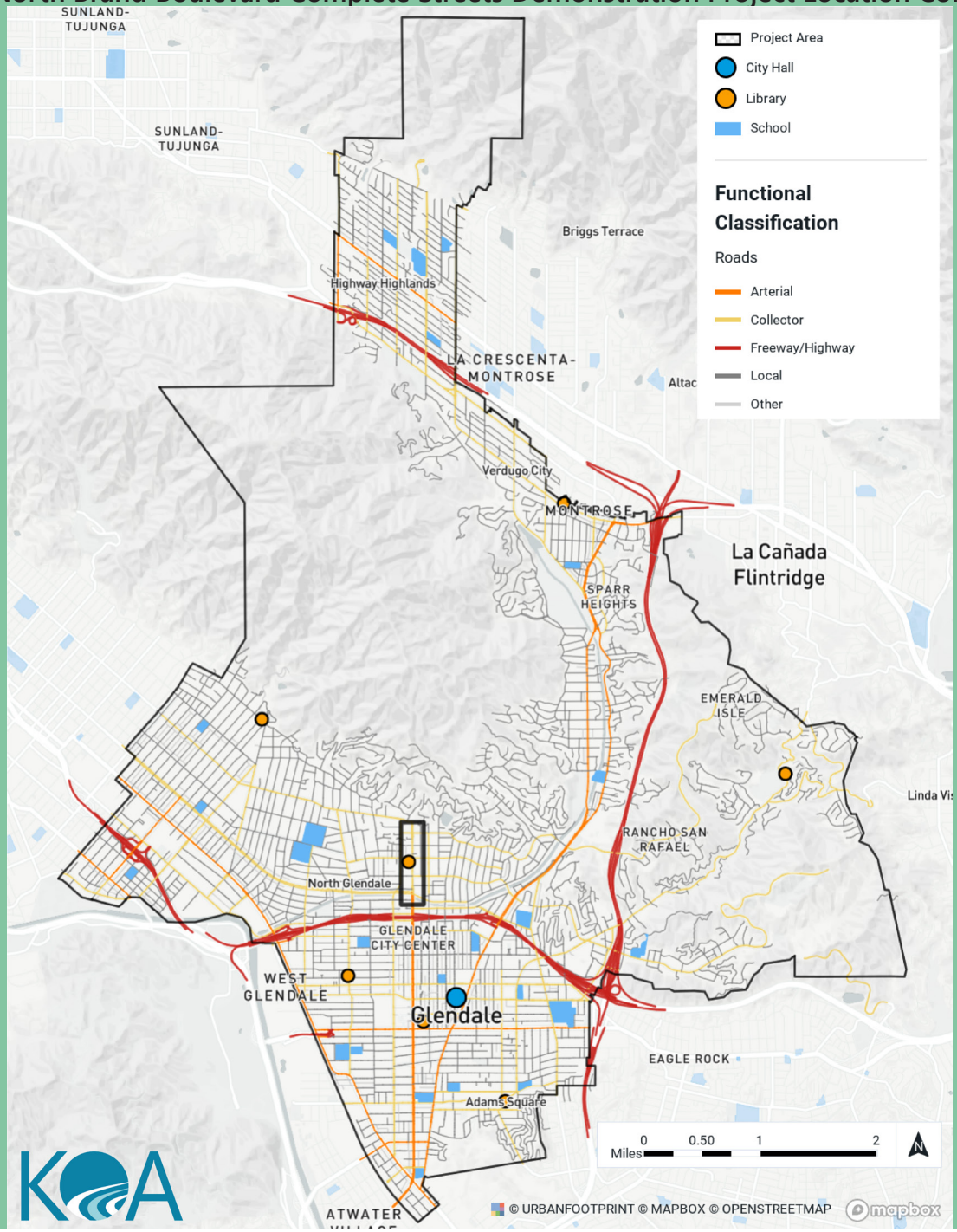


Figure 2a: North Brand Boulevard Complete Streets Demonstration Project Treatment Map

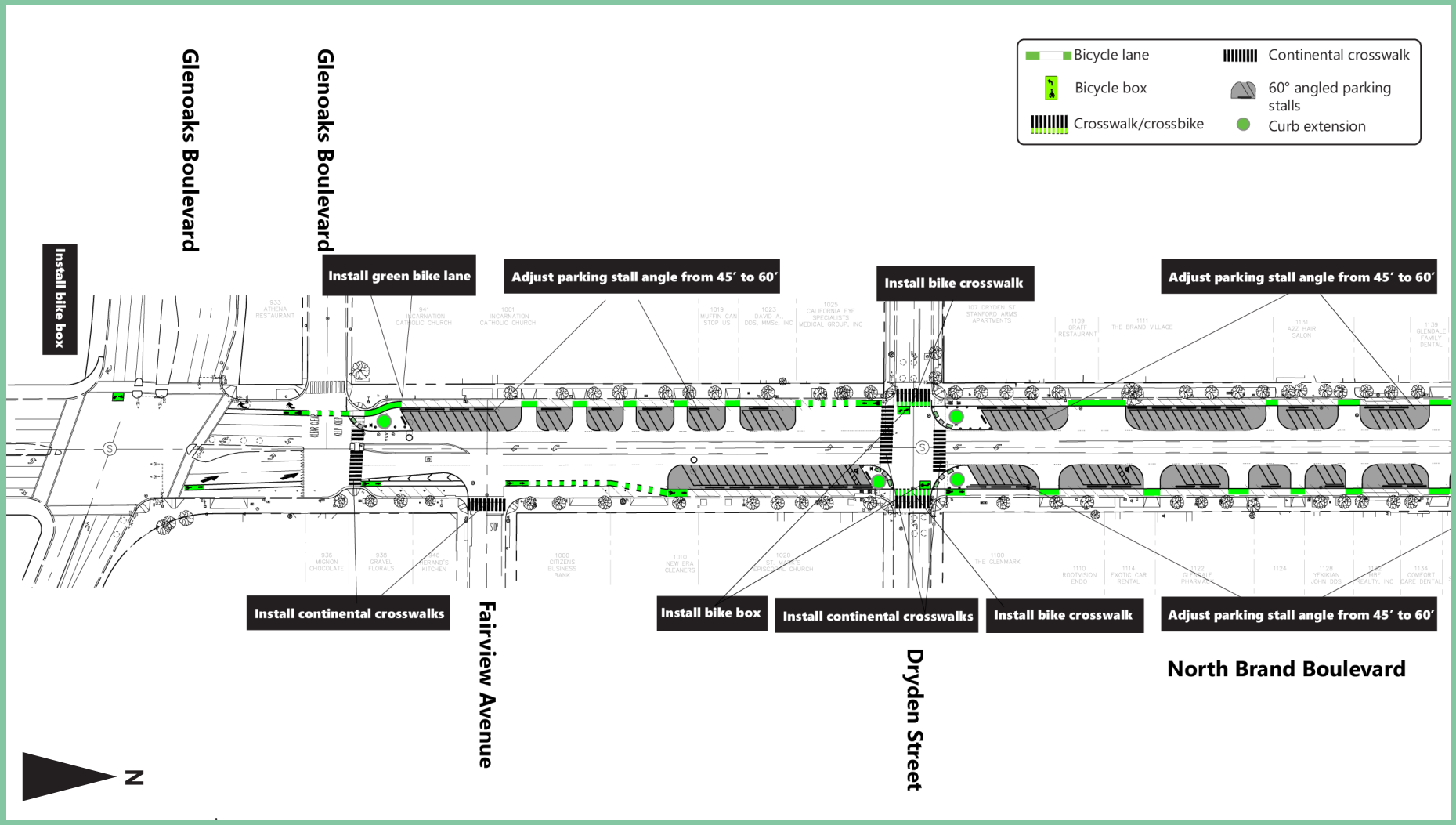
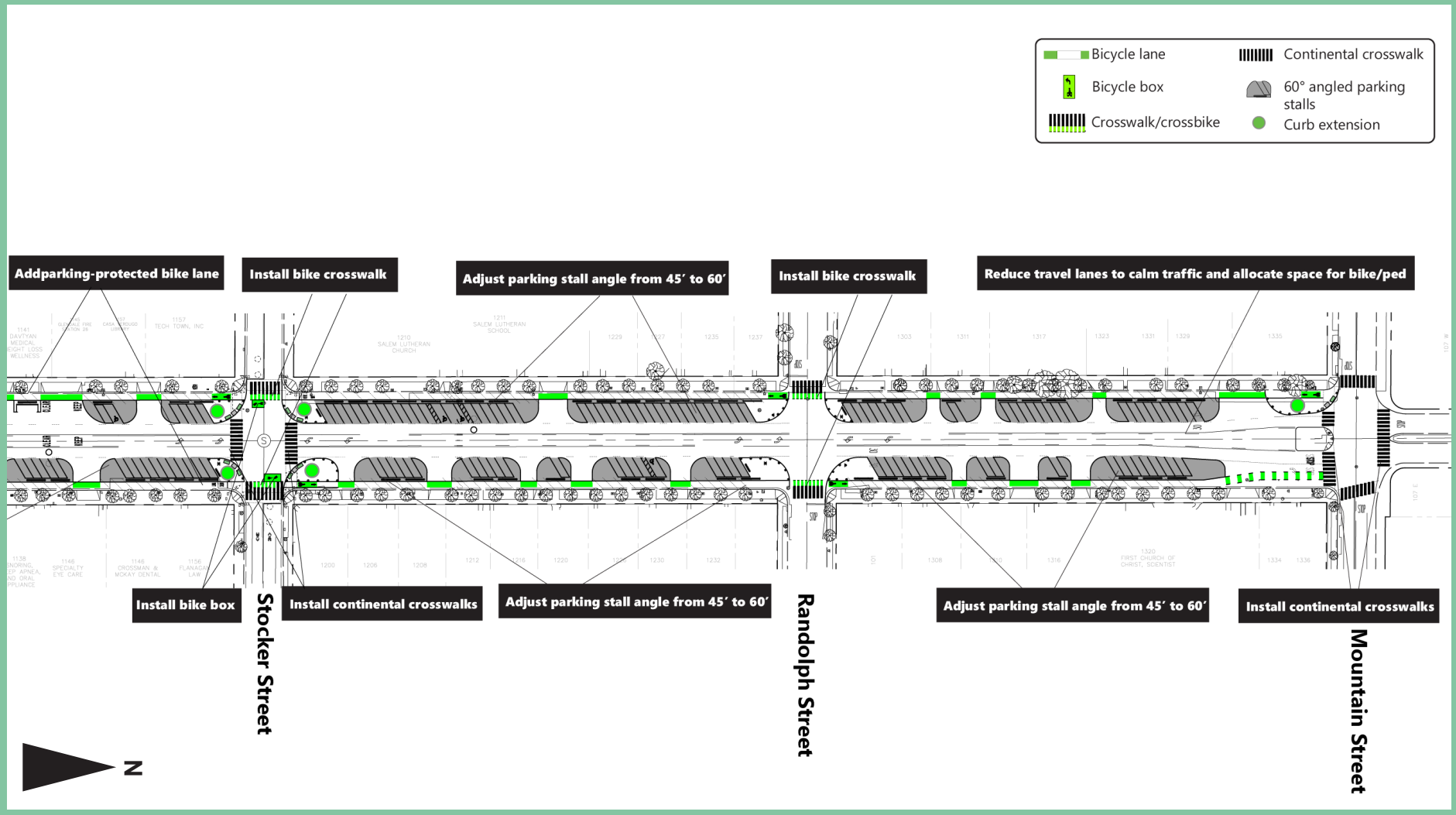


Figure 2b: North Brand Boulevard Complete Streets Demonstration Project Treatment Map



Outreach Schedule

- **March 2022**
  - Touchpoint #1: Community Tags
- **May 2022**
  - Walk Safety Audit
- **July 2022**
  - Bike Safety Audit
- **August 2022**
  - Touchpoint #2: Community Canvassing
- **July 2023**
  - Touchpoint #3: Community Re-Canvassing
- **August 2023**
  - Touchpoint #4: Neighborhood Tabling
- **March 2024**
  - Touchpoint #5: Project Explainer Video
- **May 2024**
  - Touchpoint #6: Post Installation Canvassing
- **November 2024**
  - Touchpoint #7: Online Survey

CHAPTER 2: EXISTING CONDITIONS

The City of Glendale is located 10 miles north of Downtown Los Angeles and is bordered by Altadena, Pasadena, and Eagle Rock to the east, Atwater Village to the south, Burbank and Griffith Park to the west, La Crescenta-Montrose, and the Angeles National Forest to the north. According to the US Census Bureau's 2020 Census, the population is 196,543.

The City of Glendale worked with the Southern California Association of Governments (SCAG) and a project team to develop a quick build to test safety improvements on N. Brand Boulevard. A quick build is a pilot infrastructure project that provides opportunities for a city to test improvements for people walking and biking, engage the local community, collect and evaluate feedback and data, and expedite permanent changes. The quick build is anticipated to last for 6 to 12 months. The project will be on the N. Brand Boulevard corridor, between Mountain Street and Glenoaks Boulevard. It is a 0.6-mile segment with two lanes in each direction along with a center turn lane. There is diagonal, on-street parking. This memorandum explores the existing conditions of the project area.

2.1 METHODOLOGY

Maps were produced to visualize commuting patterns, land use, infrastructure, collisions, and sociodemographic data and are discussed below to summarize existing conditions in the project area. The *UrbanFootprint* data package was utilized to develop maps and analyze data. *UrbanFootprint* relies on data from the US Census Bureau, CalEnviroScreen, and national databases such as the Open Street Maps Network. Collision data was gathered using the University of California Berkeley's Transportation Injury Mapping System (TIMS) to query the State of California's Statewide Integrated Traffic Records System (SWITRS) for 2016-2020. Collision data was inputted into GIS, where it was separated based on what users were involved (i.e., automobilists, bicyclists, pedestrians) and severity (i.e. severe injury, fatality, or visible injury). These collisions were then visualized based on density using heat maps and other symbology.

2.2 EXISTING CONDITIONS

2.2.1 SOCIOECONOMIC DEMOGRAPHICS

Population Density

Population density was mapped using *UrbanFootprint*. Population is calculated based on the dwelling unit counts by type, with each dwelling unit then multiplied by census rates from the ACS 2019 5-Year Estimates to estimate households. Then population is calculated using census-derived rates for household size by dwelling unit type at the tract level.

Median Household Income

Median household income was retrieved from the ACS 2015-2019 5-Year Estimates.

Figure 3 depicts the population density in Glendale, showing the highest densities in Grandview, North Glendale, and Downtown Glendale and the surrounding neighborhoods.

Figure 3: Glendale Population Density

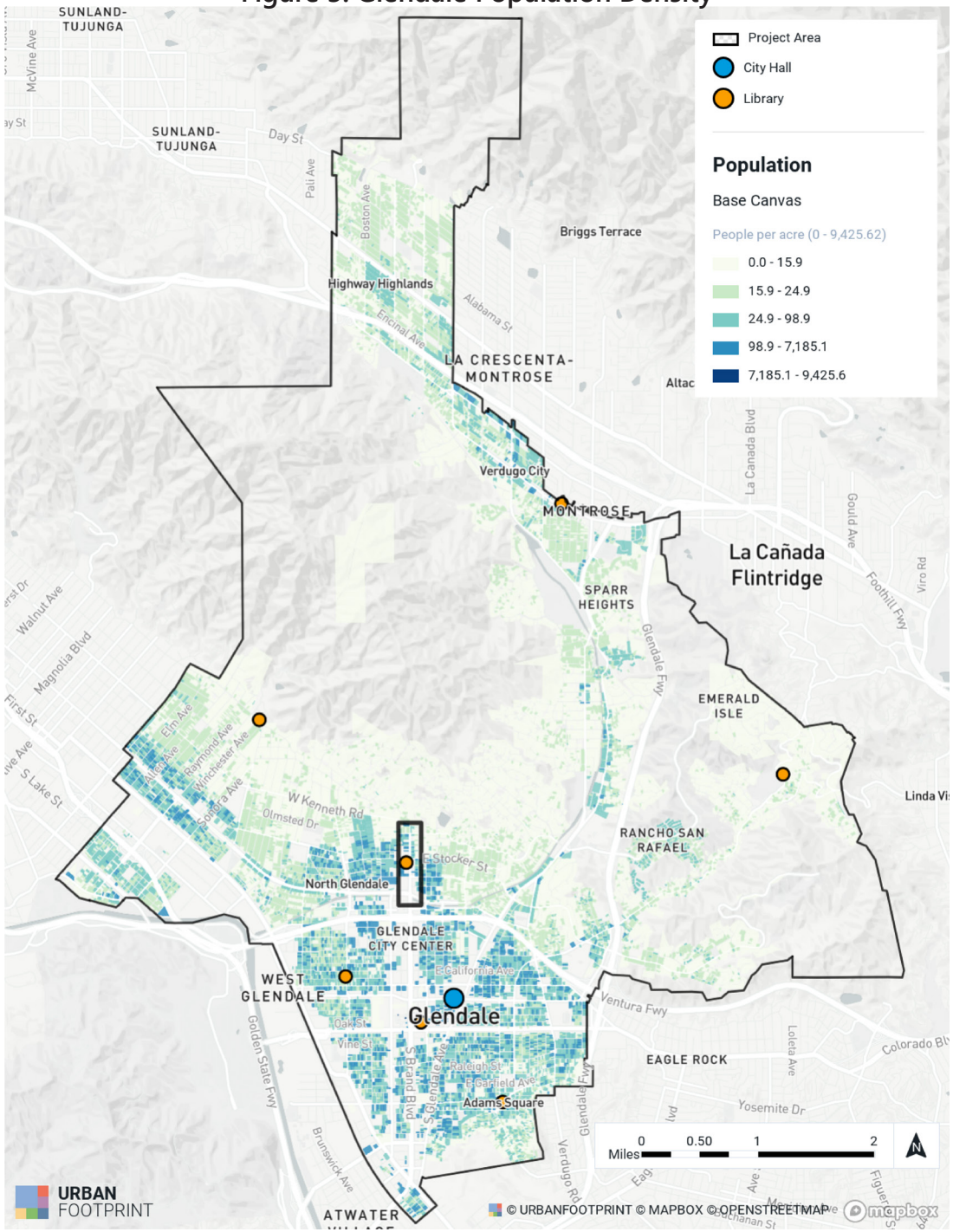
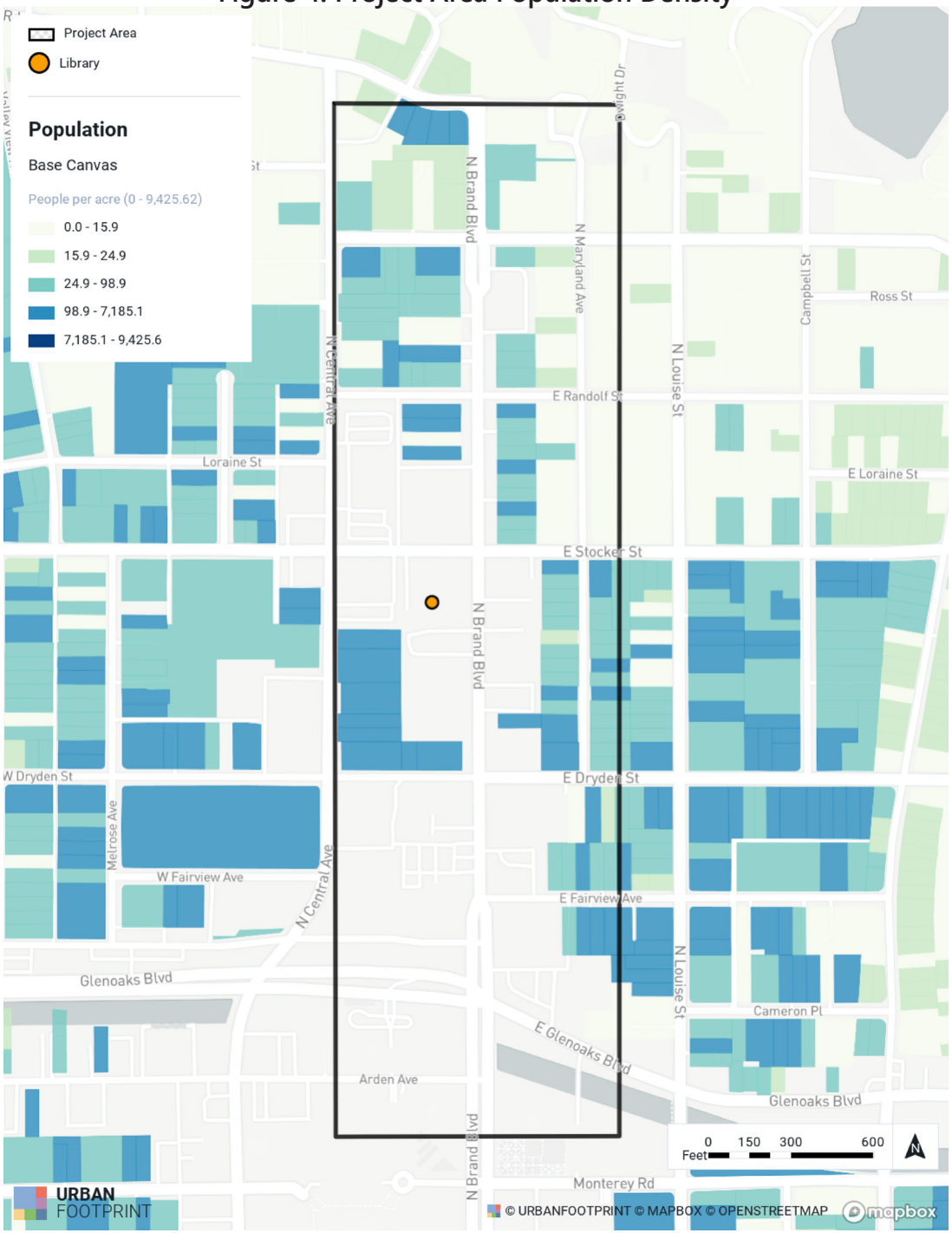


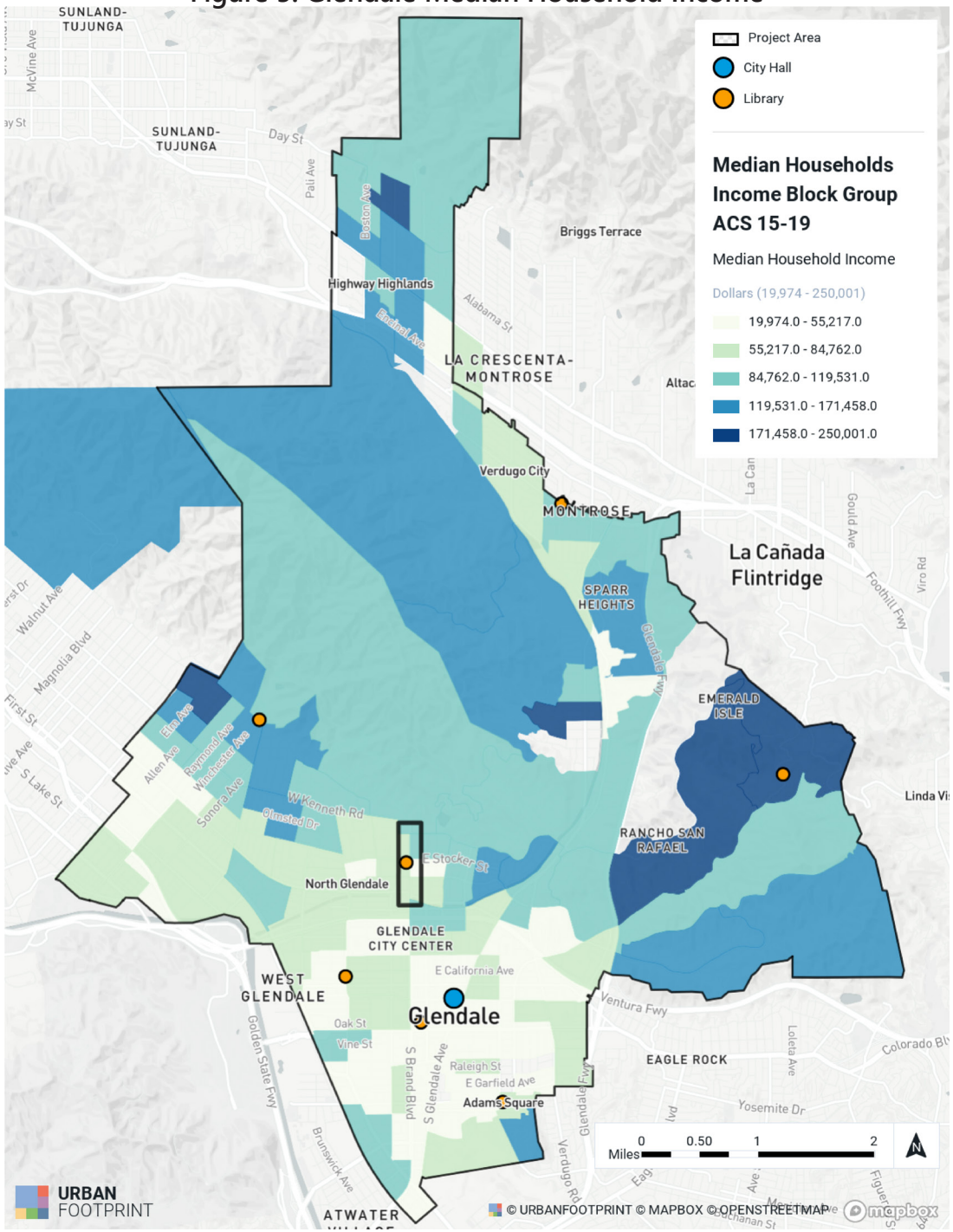
Figure 4 shows that the population density in the project area is varied, with the southern section of the project area have no population density because it is it mostly office, commercial/ retail and civic land uses.

Figure 4: Project Area Population Density



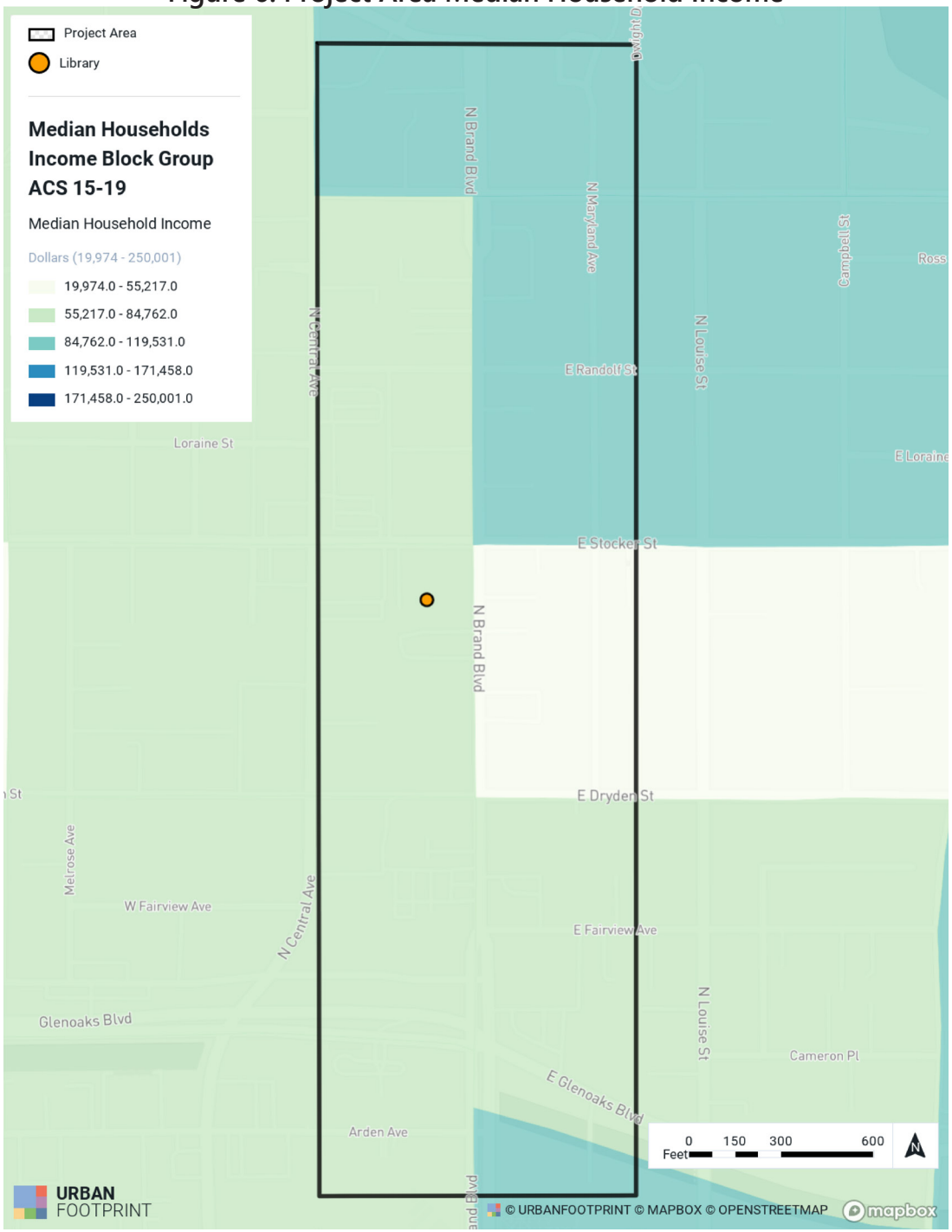
As seen in Figure 5, median household income tends to be greater on the outskirts of the city, especially in the northeastern portions. The central portions of the city have lower incomes but continue to have low percentages of persons below the federal poverty level.

Figure 5: Glendale Median Household Income



As seen in Figure 6, median household income in the project area is in the low to mid-range of the city. Census data shows that block groups in the project area have rates of 2-20 percent of persons below the federal poverty level.

Figure 6: Project Area Median Household Income



2.2.2 AIR QUALITY

Air quality data was retrieved from CalEnviroScreen 4.0 data. The data is communicated in raw quantitative air quality data and in percentiles based on how the census tract compares to other California census tracts. Ozone measures consider the mean of summer months (May through October) of the daily maximum ozone concentration, averaged over three years. Ozone is the primary component of smog, which can cause adverse health effects.

Figure 7 shows the percentile of all California census tracts into which census tracts in Glendale fall for ozone. The northernmost census tracts of Glendale have the highest concentration of ozone, with the highest concentration in the valley containing La Crescenta-Montrose. The lowest concentrations are in the southern portion of Glendale. The project area census tracts fall primarily within the 72nd to 76th percentile of California census tracts, meaning that they have ozone concentrations that are worse than 72-76 percent of all California census tracts.

Figure 7: Percentile of California Census Tracts for Ozone

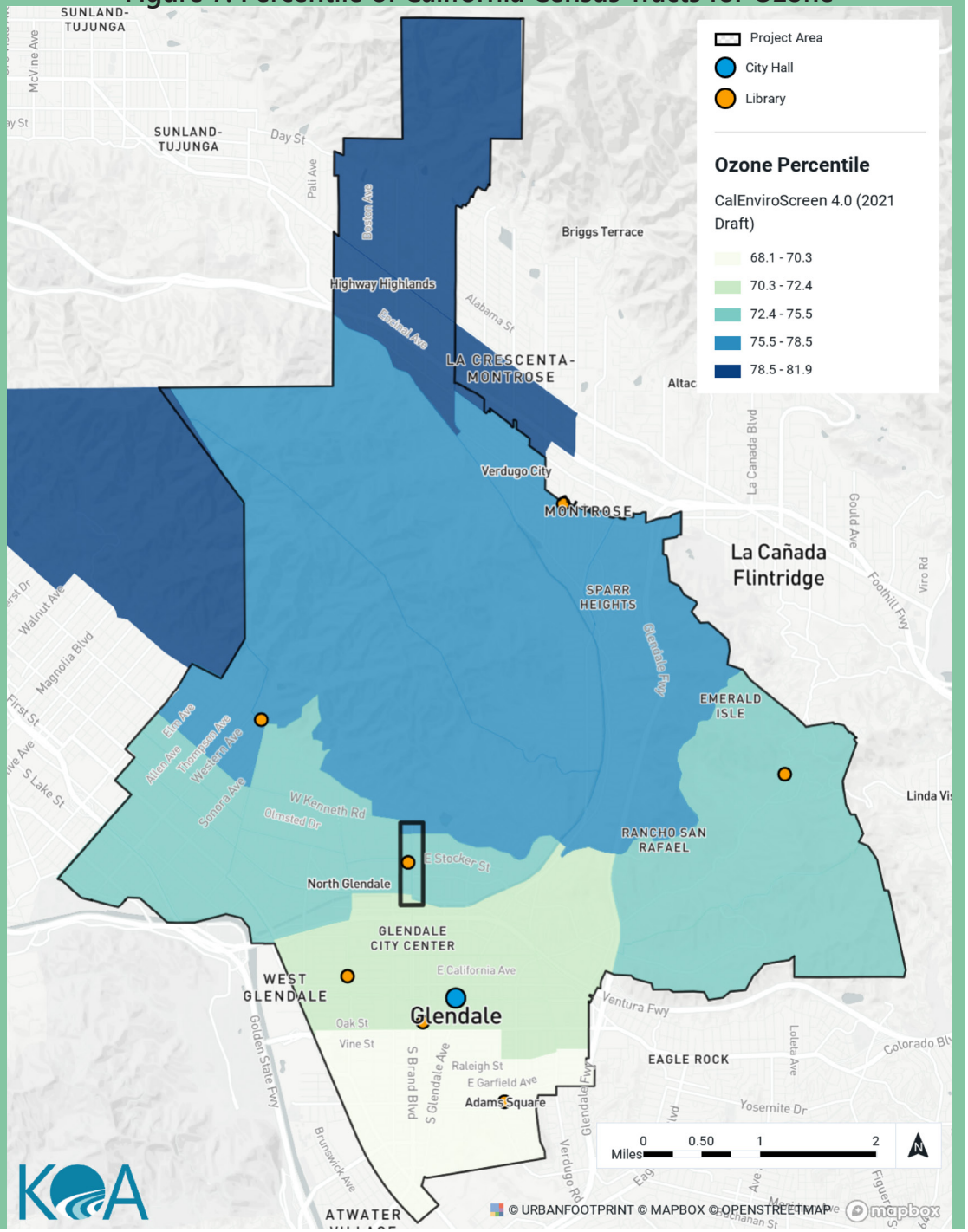
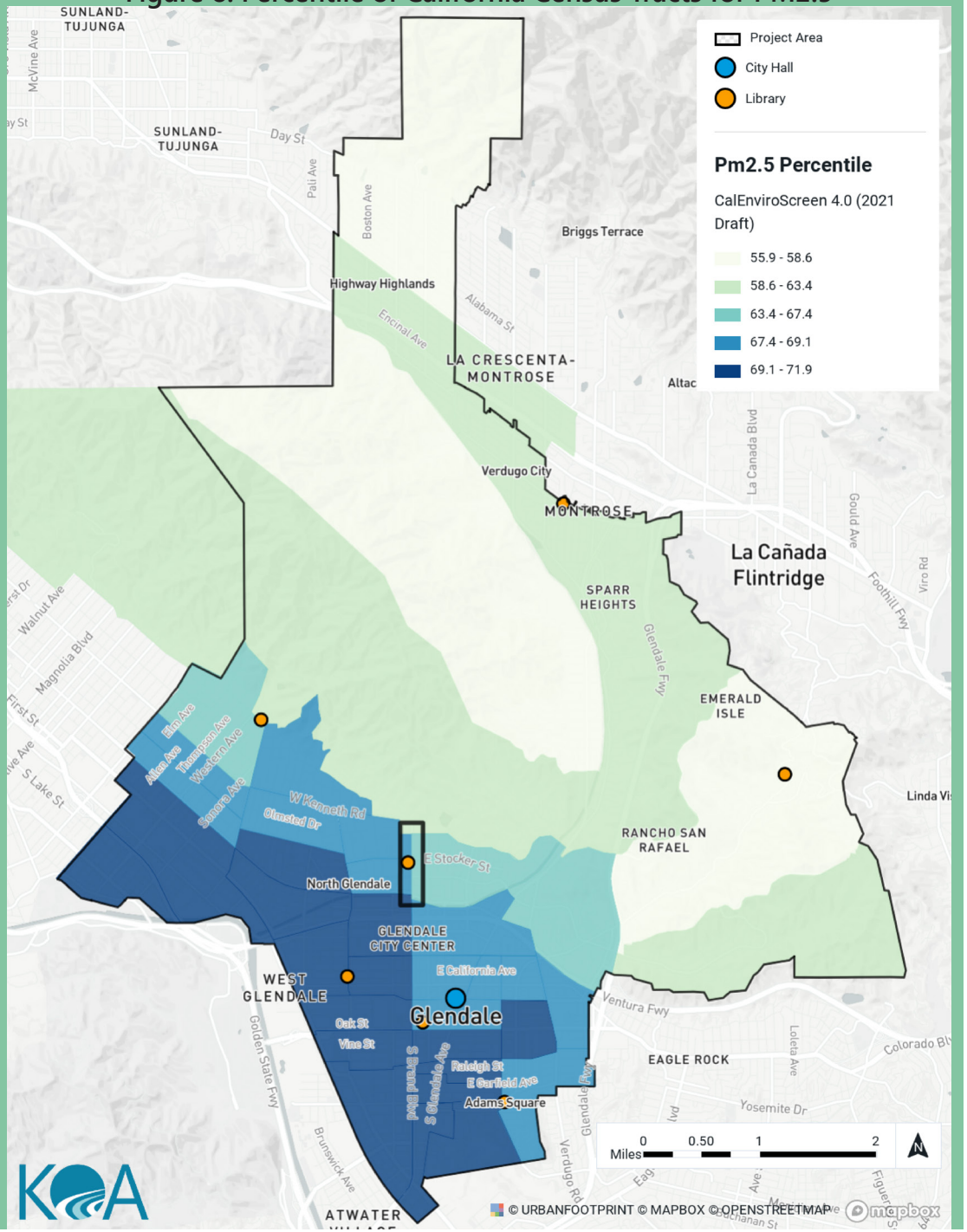


Figure 8 shows the percentile of all California census tracts into which census tracts in Glendale fall for PM 2.5. PM 2.5 is a harmful byproduct of combustion, which can respiratory issues. The southernmost portion of the city has the highest concentration of PM2.5, with lowest concentrations in the northernmost census tracts. The census tracts within the project area primarily range from the 63rd to 69th percentile of California census tracts for PM2.5, meaning that they have higher concentrations of PM2.5 than 63-69 percent of all California census tracts.

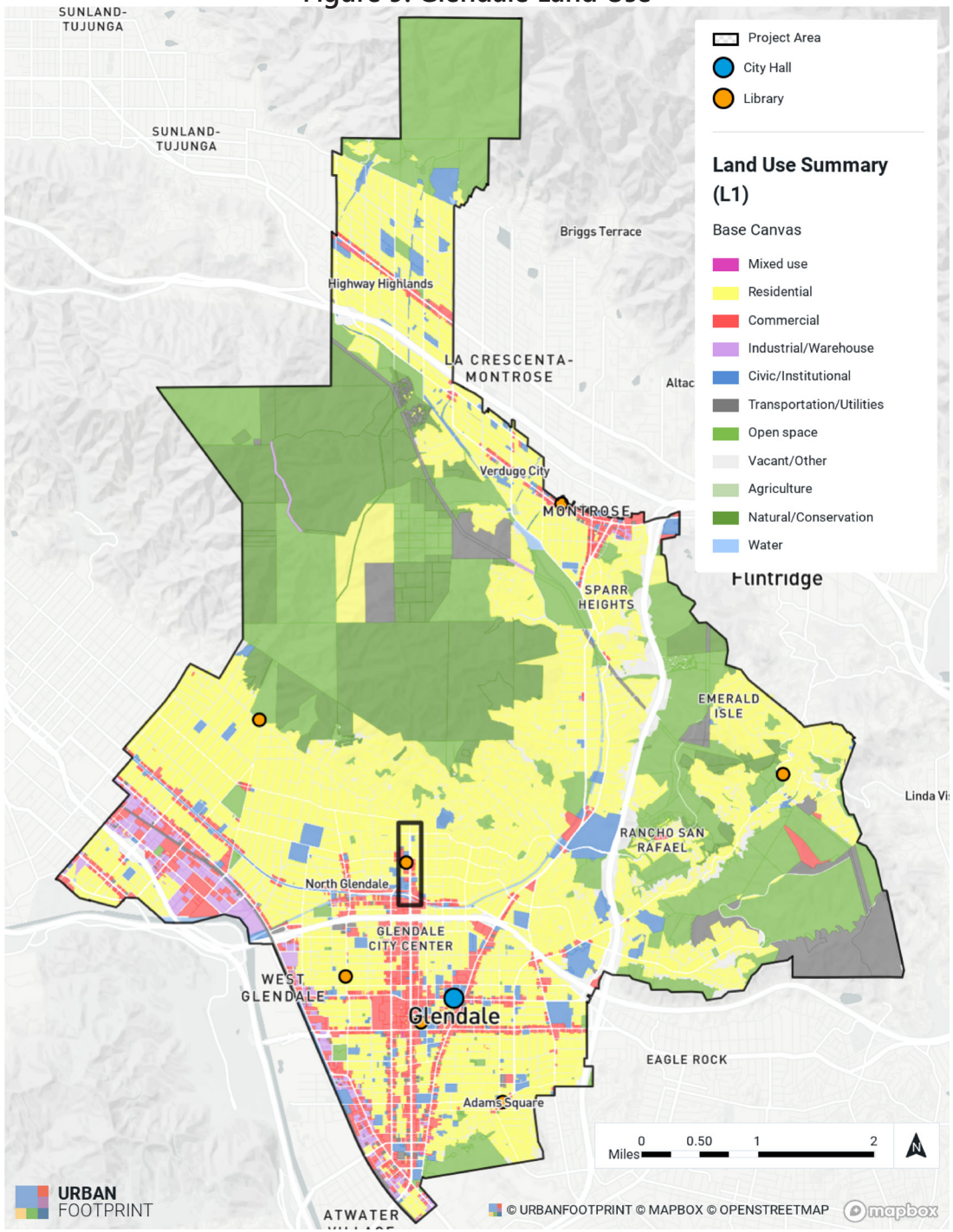
Figure 8: Percentile of California Census Tracts for PM2.5



2.2.3 LAND USE

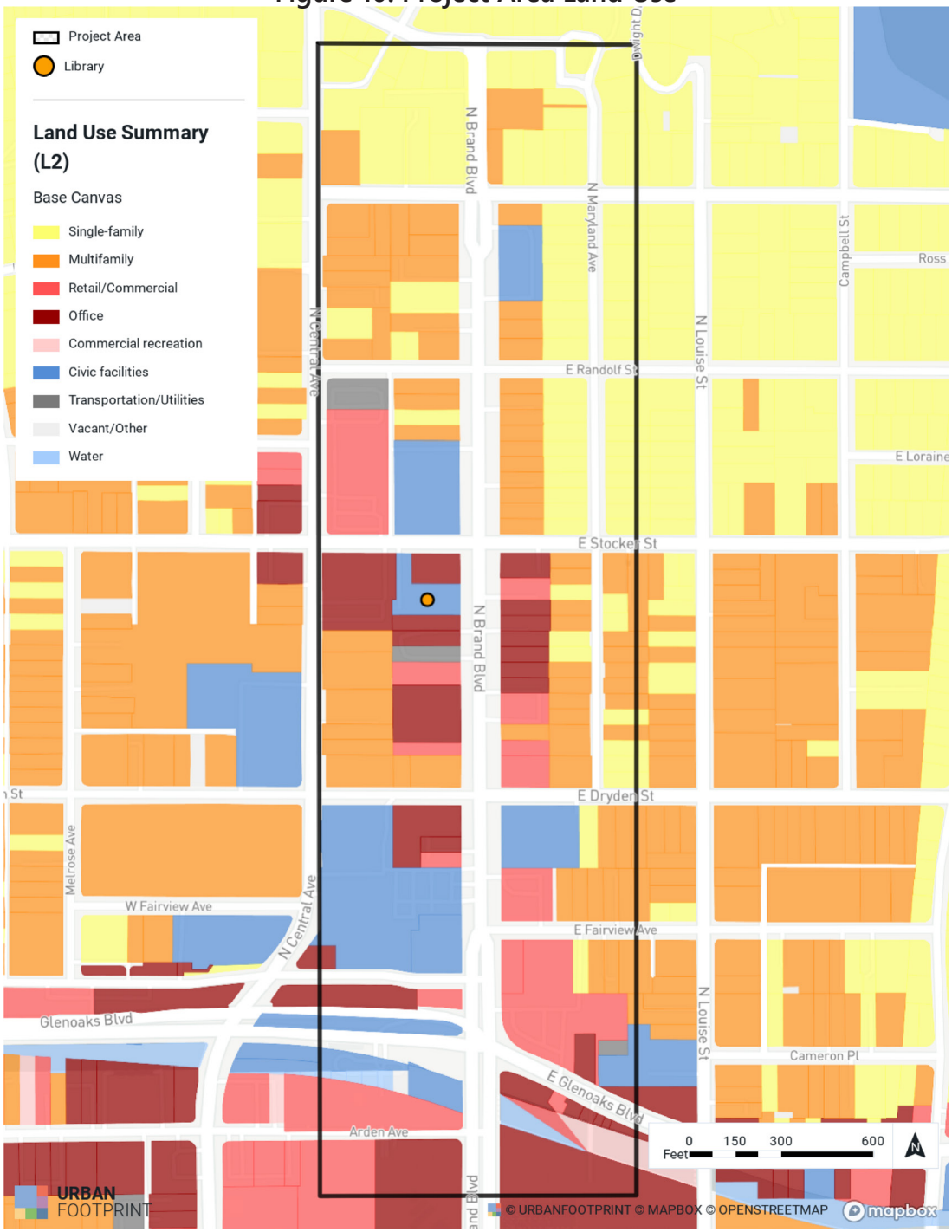
As seen in Figure 9, the two primary land uses in Glendale are residential and open space. The commercial corridors are primarily concentrated in Downtown Glendale and Montrose Park, and with a significant amount of industrial concentrated in and around Grand Central and West Glendale. There is a significant amount of open space in the north, mostly comprised of the Verdugo Mountains Open Space Preserve, as well as in the eastern part of Glendale.

Figure 9: Glendale Land Use



As seen in Figure 10, within the project area, there is a mixture of neighborhood-serving commercial uses and residential. Between Glenoaks Boulevard and Stocker Street, the uses are primarily commercial, comprised of mostly retail and medical buildings. Between Stocker Street and Mountain Street is primarily residential, mostly multifamily. There are also a few civic uses spread throughout the project area, which are primarily churches.

Figure 10: Project Area Land Use

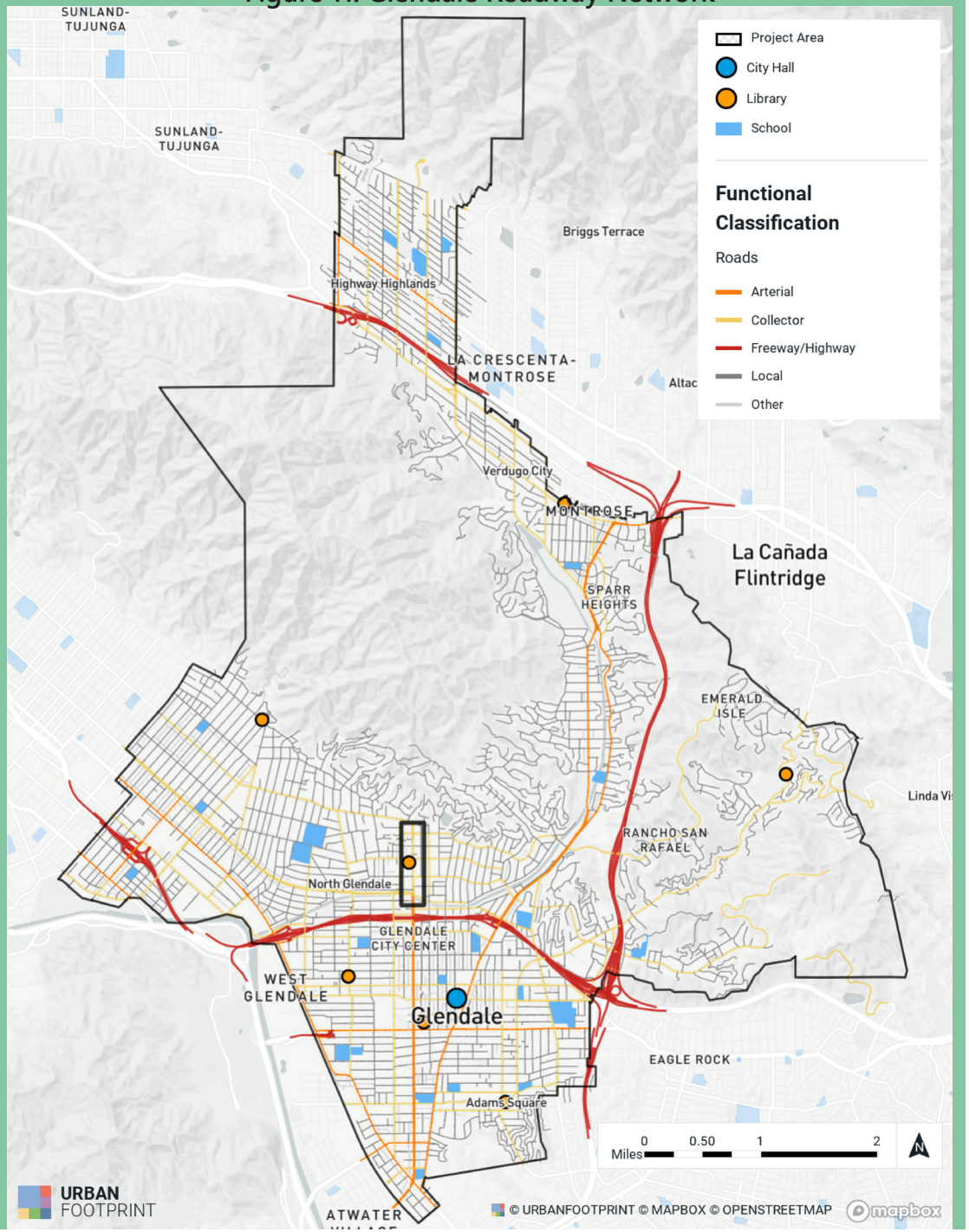


2.2.4 INFRASTRUCTURE

Roadways

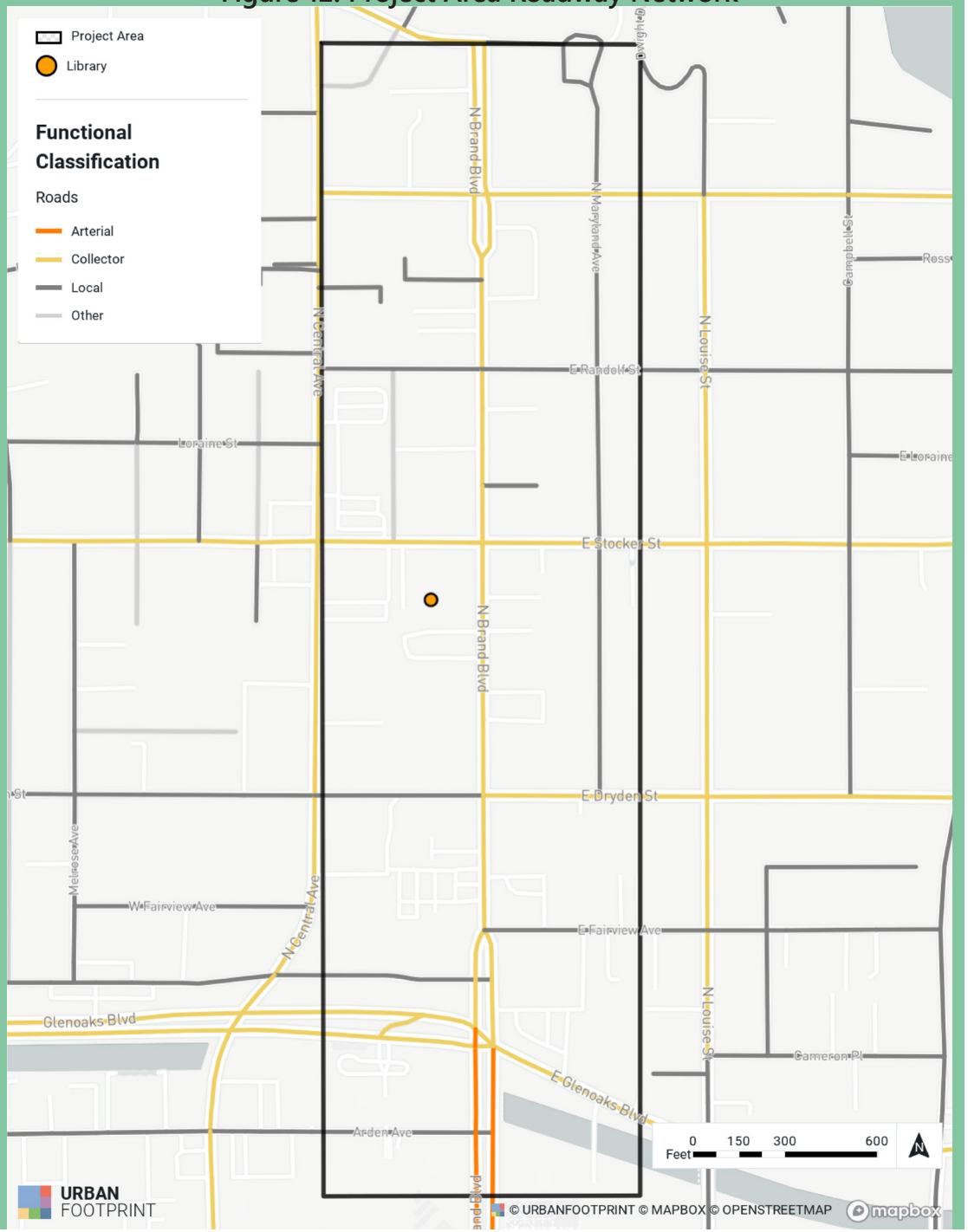
As seen in Figure 11, Glendale has a mix of road types, with I-210 running east/west from the northwest edge of Glendale SR-2 running north/south in the east part of Glendale, and SR-134 running east/west through Downtown Glendale. Surrounding the freeways are mostly a mix of collector and local streets, with some arterials including Foothill Boulevard, North Verdugo Road, Canada Boulevard, Glendale Avenue, Brand Boulevard, and San Fernando Road, and Western Avenue.

Figure 11: Glendale Roadway Network



Looking specifically at the Project Area in Figure 12, North Brand Boulevard is a collector, and becomes an arterial south of Glenoaks Boulevard. Of the streets that run east/west across N. Brand Boulevard, Mountain Street, Stocker Street, Dryden Street east of Brand Boulevard, and Glen Oaks Boulevard are categorized as collectors. The rest of the cross streets are denoted as other and appear to be small residential streets.

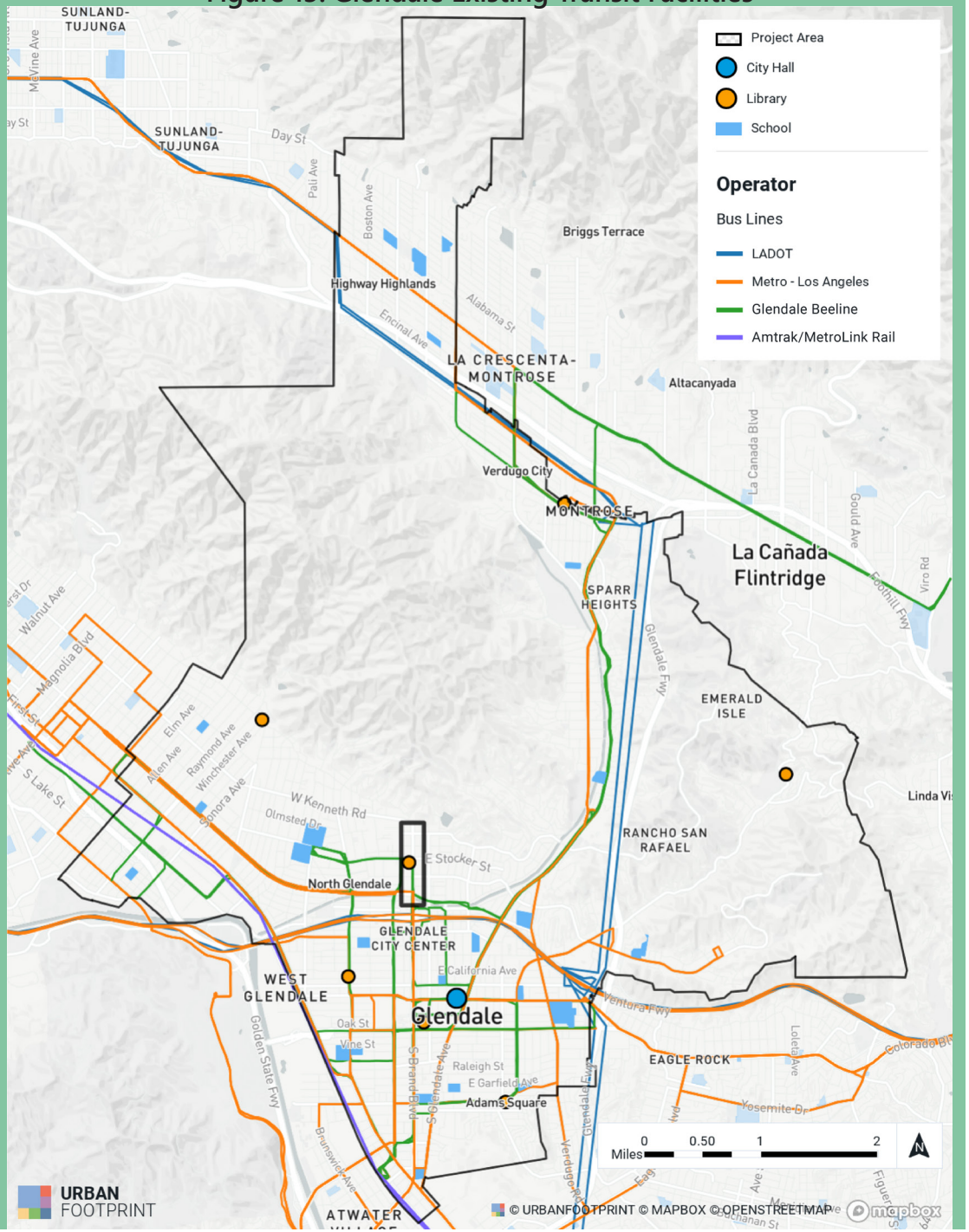
Figure 12: Project Area Roadway Network



Transit and Bike Facilities

As seen in Figure 13, the public transit system in Glendale includes bus lines operated by the Los Angeles County Transportation Authority (Metro), Los Angeles Department of Transportation (LADOT), and the City of Glendale (Beeline). Additionally, rail service is provided at the Glendale Transportation Center by the Southern California Regional Rail Authority's (Metrolink), Ventura County and Antelope Valley Lines, and Amtrak's Pacific Surfliner trains.

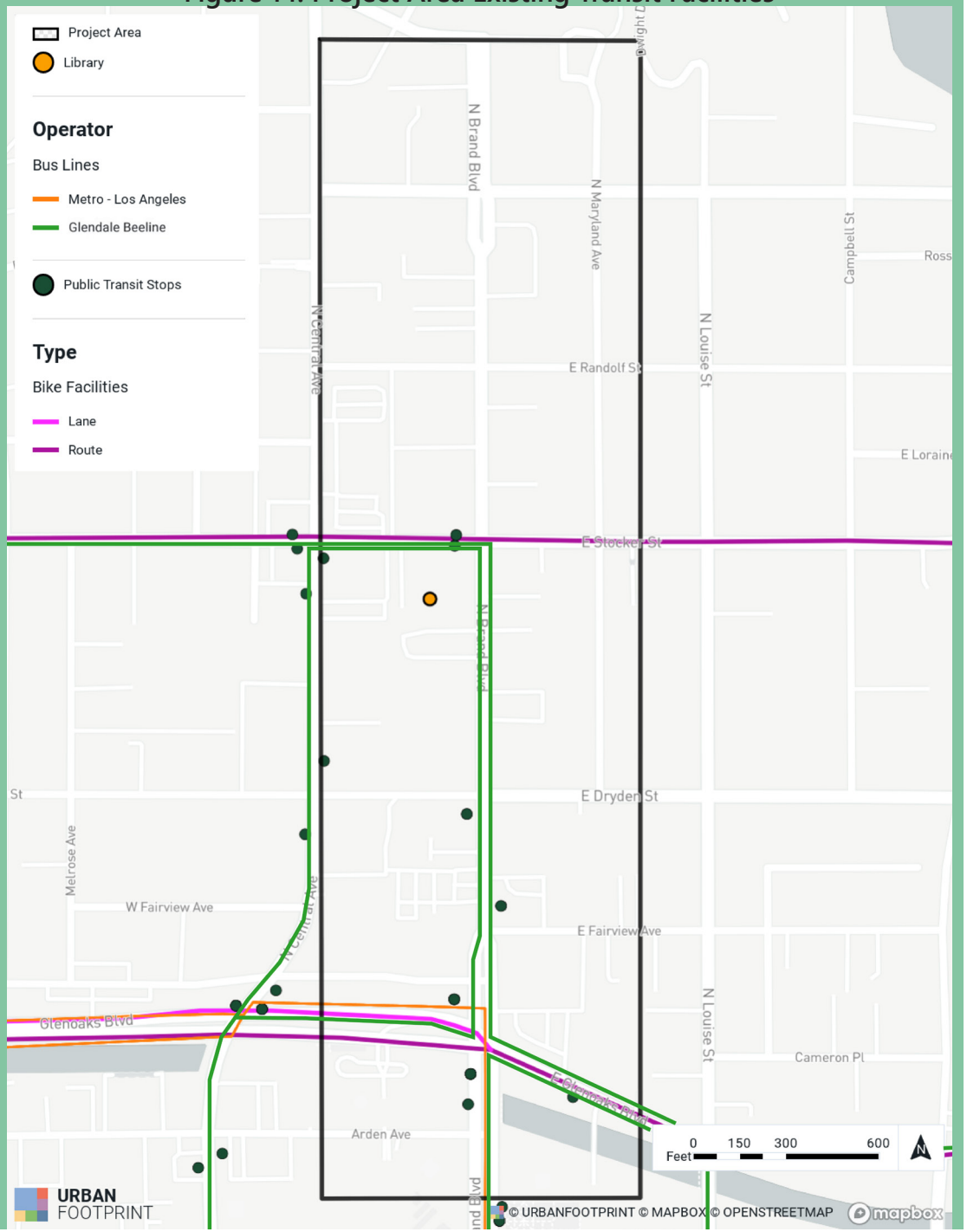
Figure 13: Glendale Existing Transit Facilities



In the project area, seen in Figure 14, the Glendale Beeline Route 1 and Route 7 run along E Stocker Street, N Brand Boulevard, and Glenoaks Boulevard. Metro's 92 bus runs along Glenoaks Boulevard west of N Brand Boulevard, and then on N Brand Boulevard south of Glenoaks Boulevard.

Also seen in Figure 14, the bike facilities in the project area include a bike route on E Stocker Street. On Glenoaks Boulevard west of N Brand Boulevard, there is a bike lane westbound and a bike route eastbound. On Glenoaks Boulevard east of N Brand Boulevard, both westbound and eastbound are marked as bike routes.

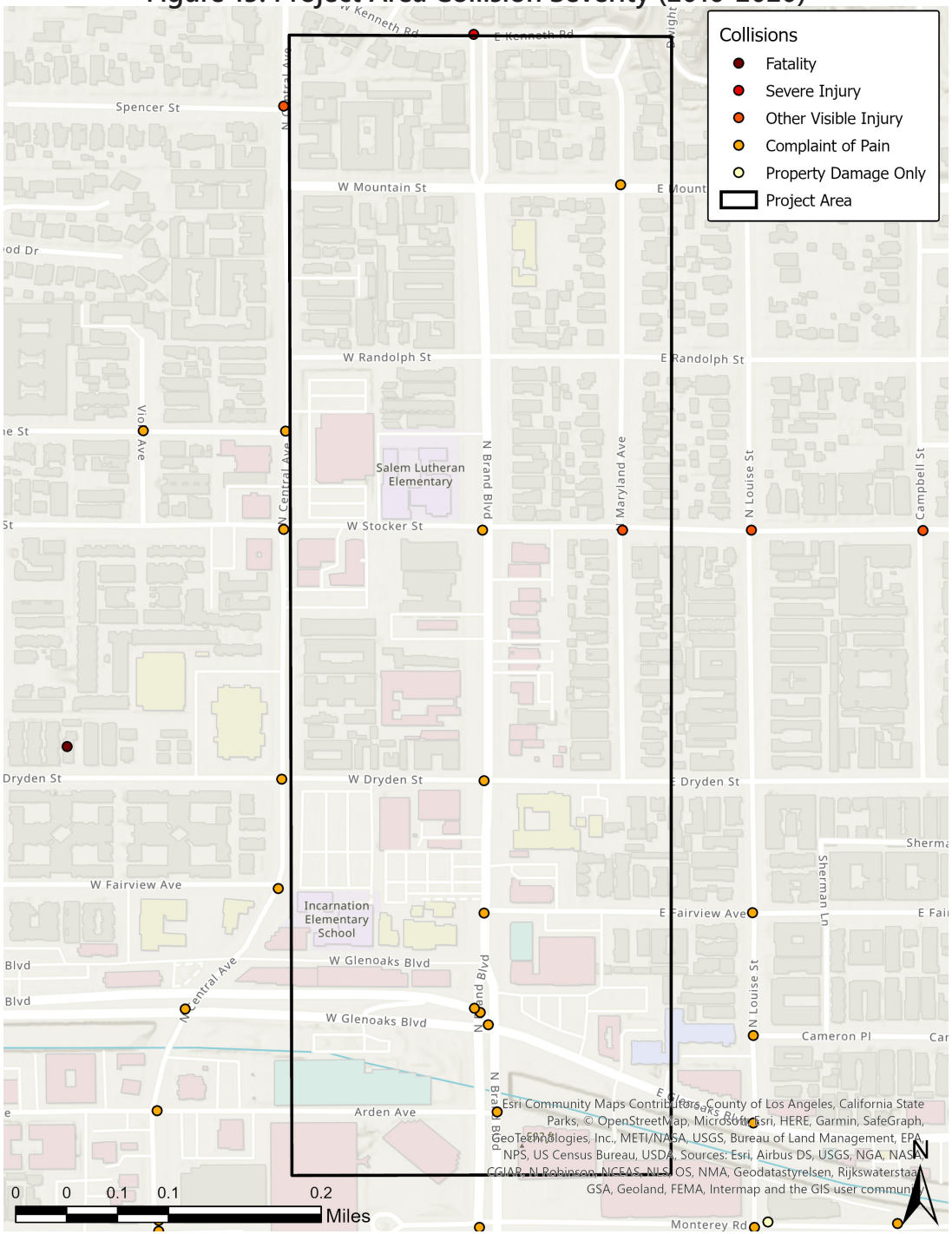
Figure 14: Project Area Existing Transit Facilities



2.2.5 COLLISIONS

Figure 15 shows project area collisions, between 2016 and 2020. There were 47 collisions resulting in severity ranging from complaint of pain to severe injury in the project area. There were no fatalities resulting from a traffic collision in the project area. There were two collisions that resulted in severe injury – one at the intersection of Brand Boulevard and Kenneth Road and one at the intersection of Brand Boulevard and Stocker Street. There are 10 collisions categorized as "other visible injury," and 35 collisions categorized as "complaint of pain." Most of the collisions are along Brand Boulevard, with the greatest density at its intersection with Dryden Street and Glenoaks Boulevard.

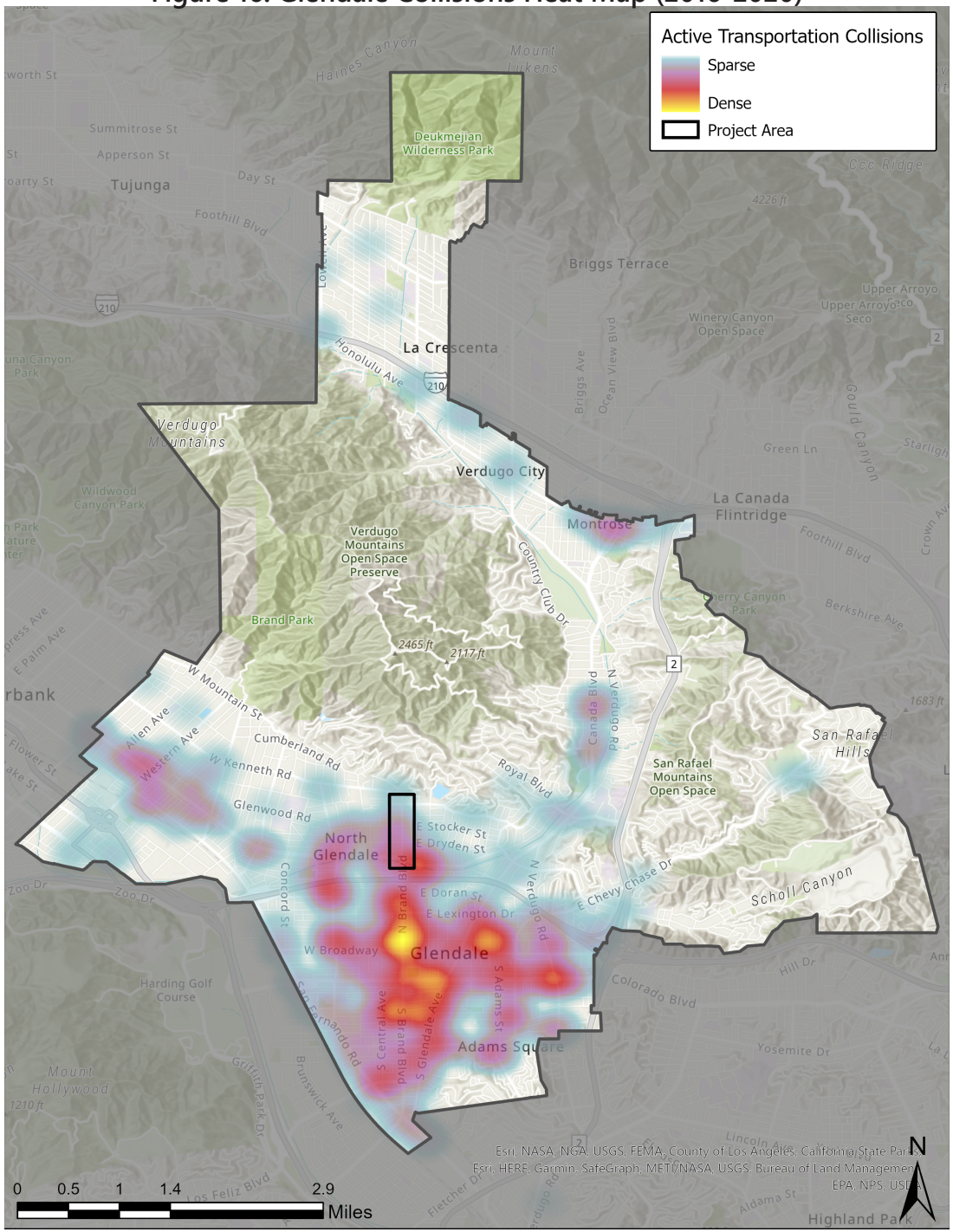
Figure 15: Project Area Collision Severity (2016-2020)



Bicycle and Pedestrian-Related Collisions

As seen in Figure 16, bicycle and pedestrian-related collisions in Glendale were most concentrated at the intersection of N Brand Boulevard and W Wilson Avenue. The Brand Boulevard, E Colorado Street, and Glendale Avenue corridors have the highest density of bicycle and pedestrian-related collisions.

Figure 16: Glendale Collisions Heat Map (2016-2020)



MOBILITY: MODES

Vehicle Access

Vehicle access was mapped using UrbanFootprint, which estimates automobiles per household based on local demographics and development characteristics, with considerations of census data.

Mode Share: Biking and Walking

Mode share was modeled using UrbanFootprint and demonstrates the percentage of trips by walking or biking by residents, workers, and visitors. It includes both internal and external trips. The model UrbanFootprint uses is based on a comprehensive body of research on the relationship between trip generation and built environment characteristics. The model takes into account land use variables, car ownership, demographic data, and transit characteristics to model trip generation, trip distribution, and mode choice to model trips by mode, VMT, and the subsequent transportation impacts like pollution and costs.

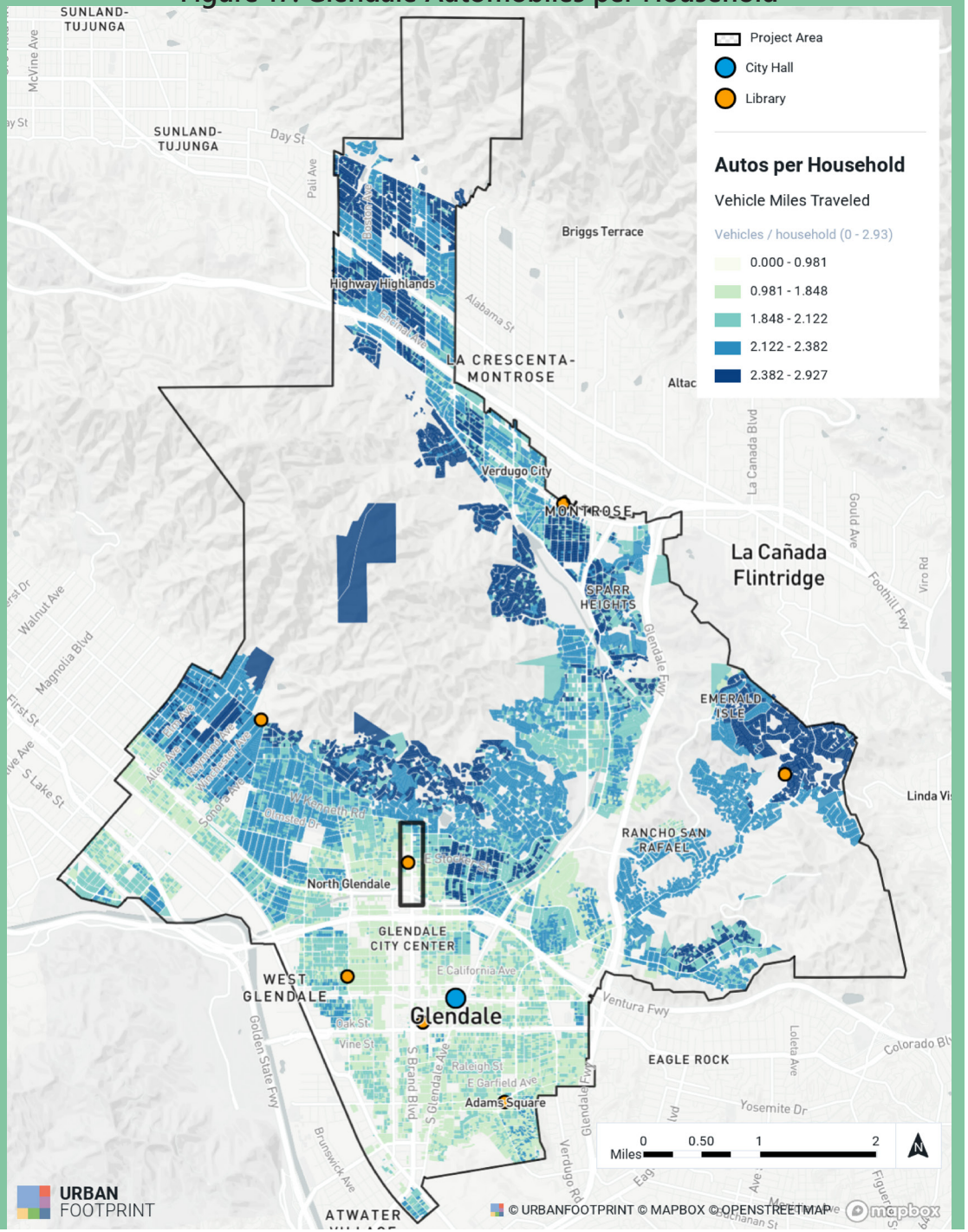
The trip generation calculations include trips based on number of residents along with other land uses like retail, offices, and schools, including the trips of both people who live there and people who travel to the area for jobs, school, entertainment, shopping etc. In this way, the mode share may appear different than mode share calculations that are only based on adult work commutes.

Mode Share: Transit

Similarly to bike and walk mode share, the transit mode share is modeled with *UrbanFootprint* and includes trips of all residents, workers, and visitors in the given parcel or census block that are by public transit. The modeling uses the same methodology as bike and walk mode share, taking into account land use.

Figure 17 depicts that the lowest vehicle access is in the Downtown Glendale area and the surrounding neighborhoods, with vehicle access generally ranging from 0 to 1.8 vehicles per household, with vehicle access rising further from Downtown.

Figure 17: Glendale Automobiles per Household



The project area map in Figure 18 shows that 0.981 to 2.3 vehicles per household, with the households in the northern part of the project area having higher rates of vehicle access.

Figure 18: Project Area Automobiles per Household

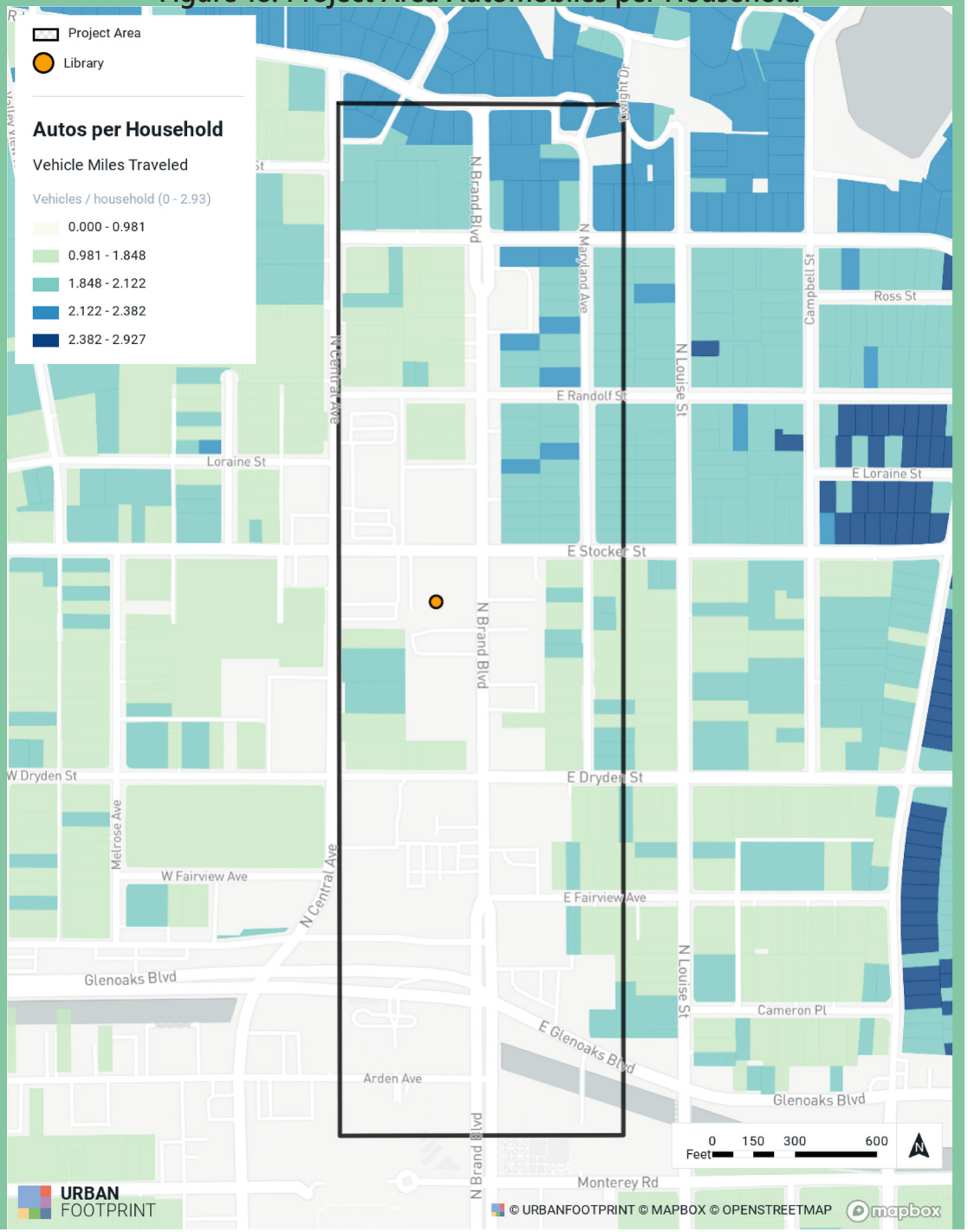
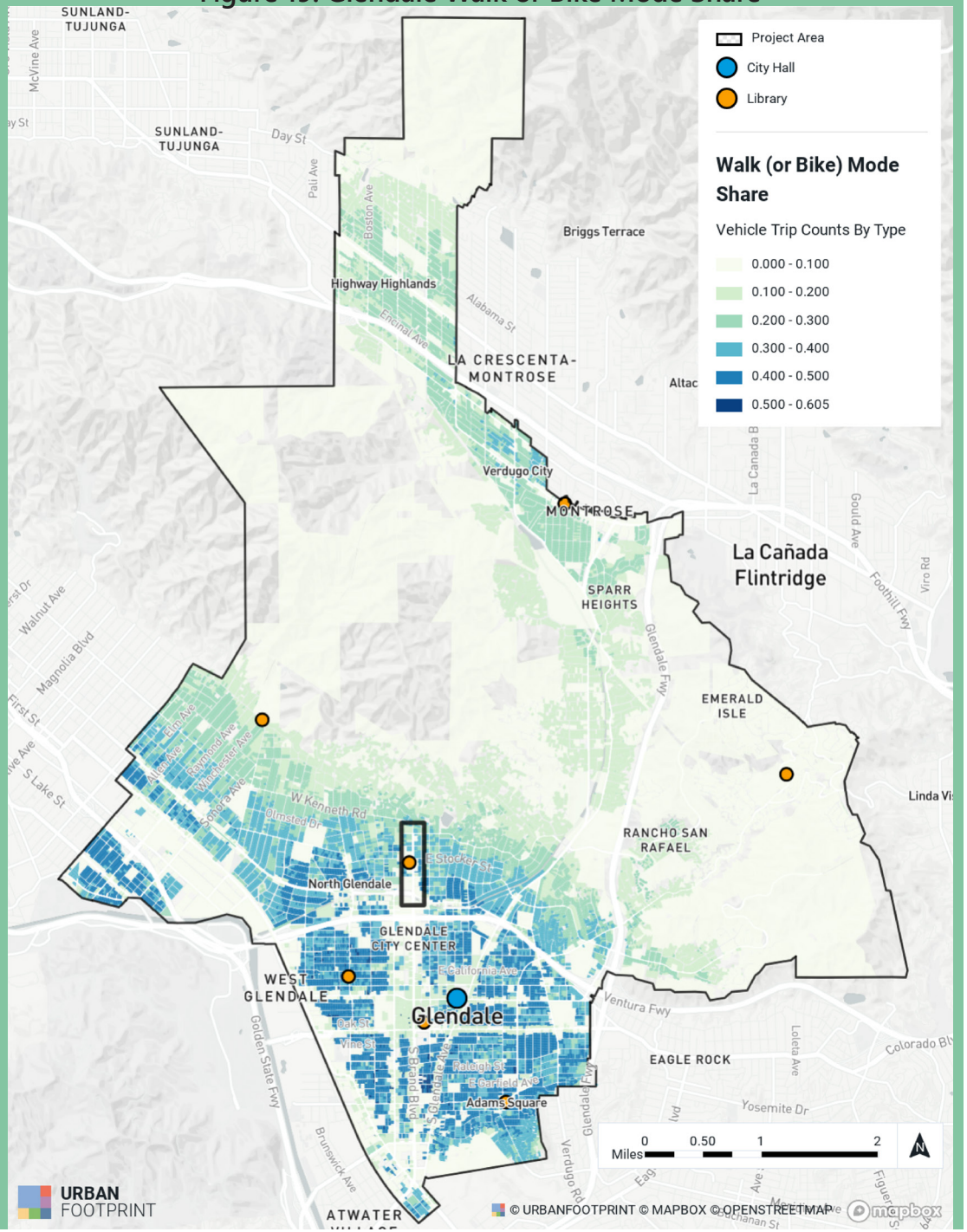


Figure 19 shows that bike and walk mode share is highest in the Downtown Glendale area, with biking and walking making up 30-50 percent of trips in the area.

Figure 19: Glendale Walk or Bike Mode Share



In the project area, shown in Figure 20, the mode share varies with biking and walking making up 0-50 percent of trips, with the lowest percentages in the southern part of the project area.

Figure 20: Project Area Walk or Bike Mode Share

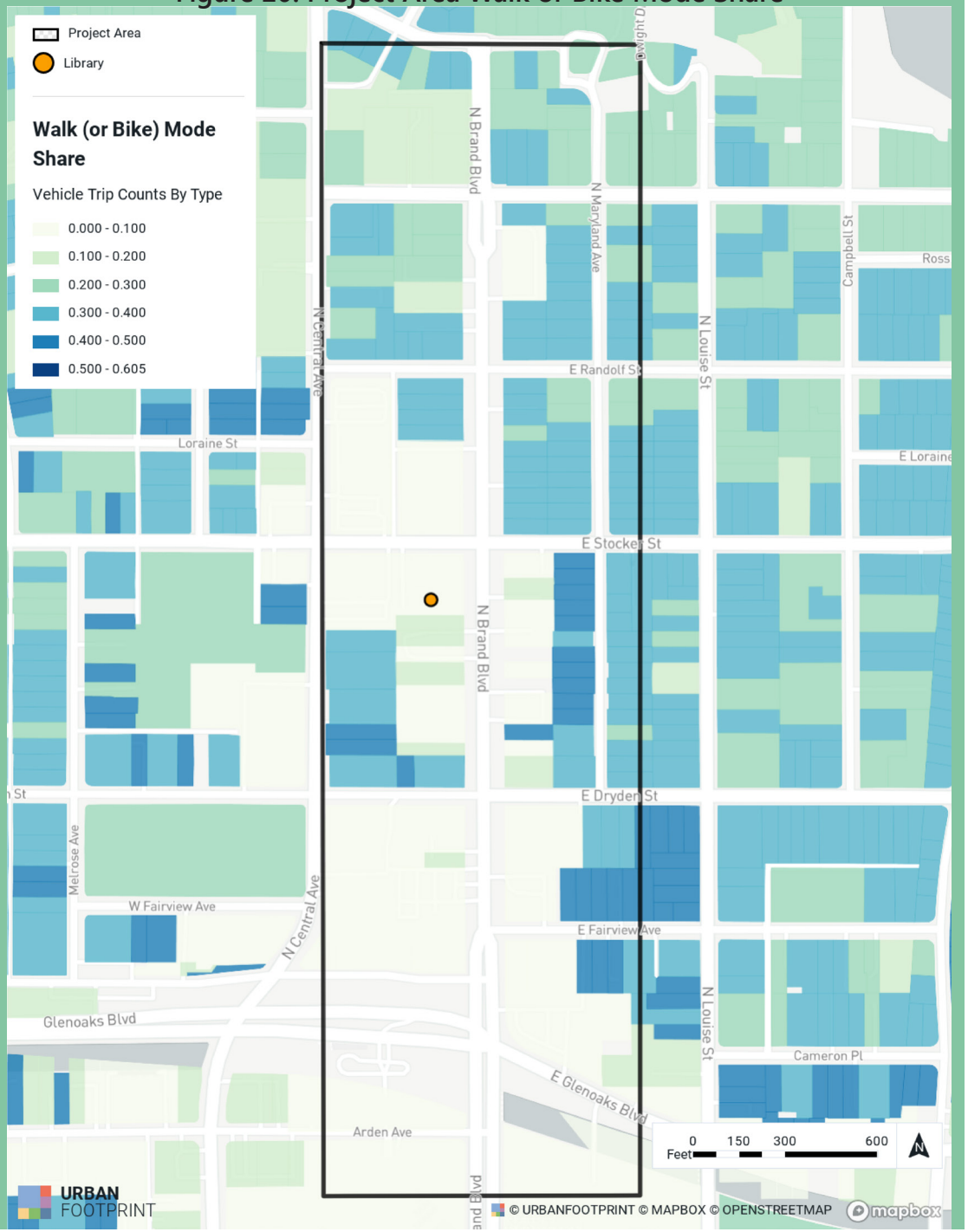


Figure 21 demonstrates that within Glendale, transit mode share is the highest around Downtown, Pacific-Edison, Mariposa and Tropico neighborhoods, with transit mode share ranging from 3-12 percent. Transit mode share makes up 1-3 percent in the southern part of Glendale.

Figure 21: Glendale Transit Mode Share

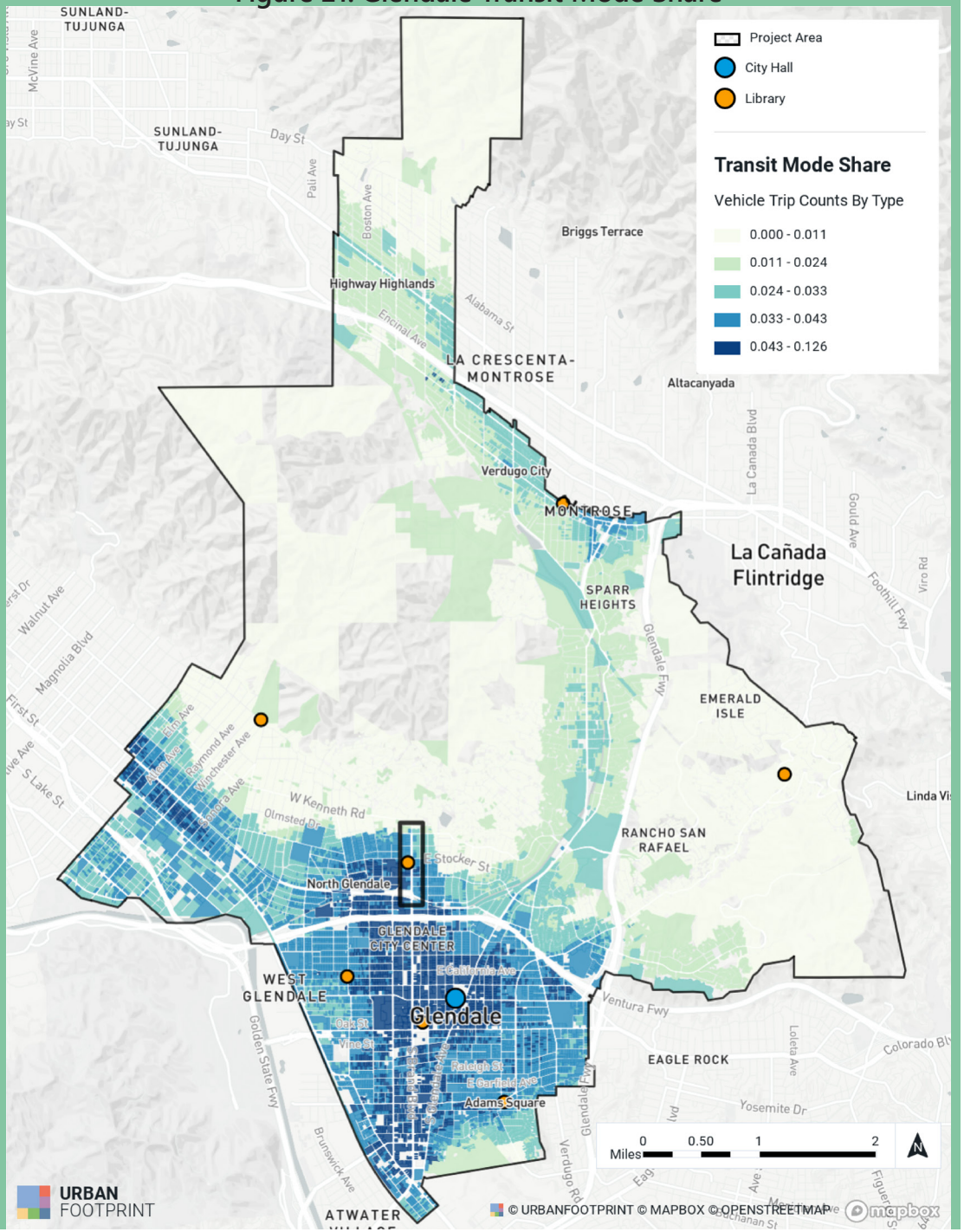
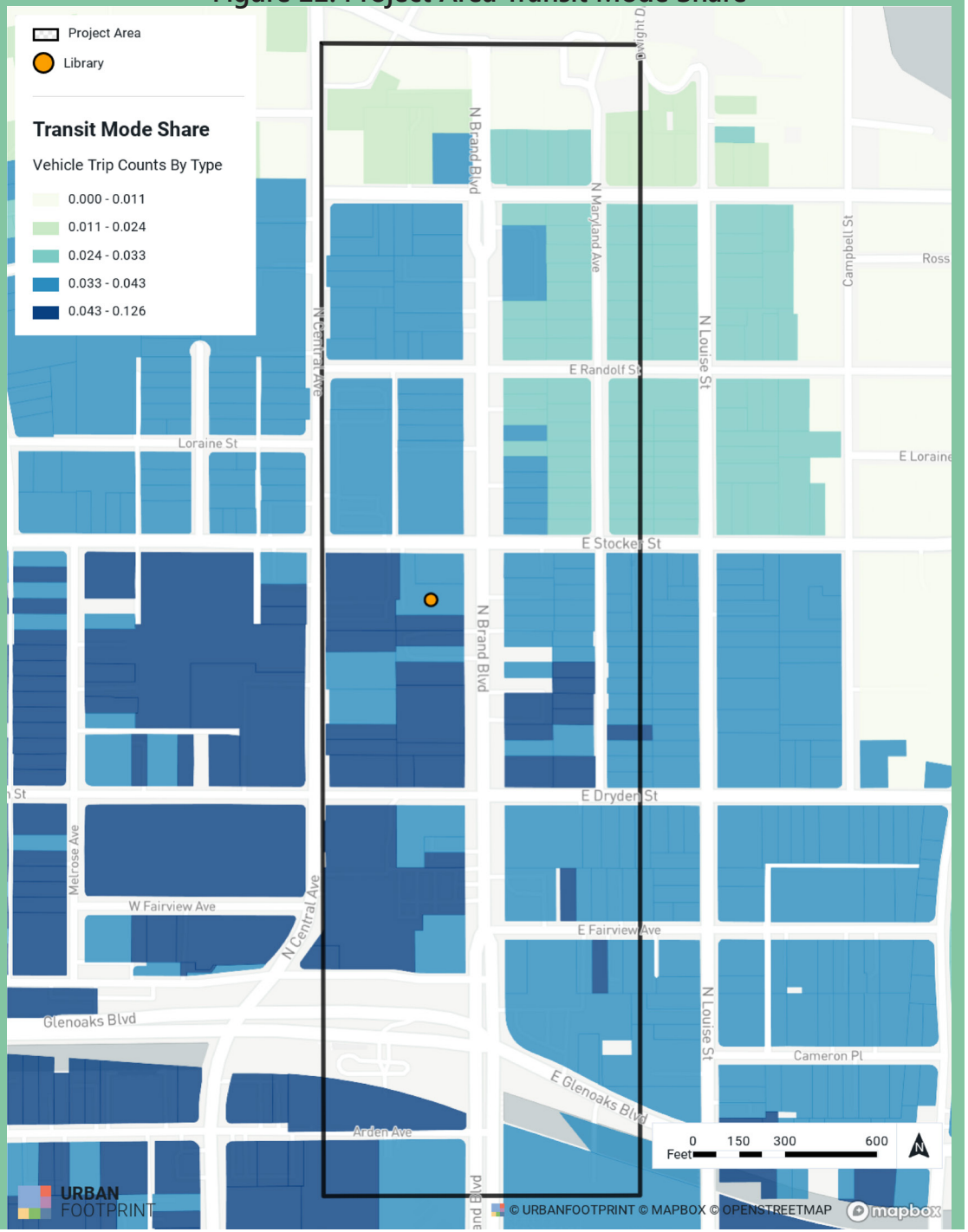


Figure 22 shows that the southern portion of the project area has greater transit mode share, at 3 – 12 percent, than the northern portion of the project area.

Figure 22: Project Area Transit Mode Share

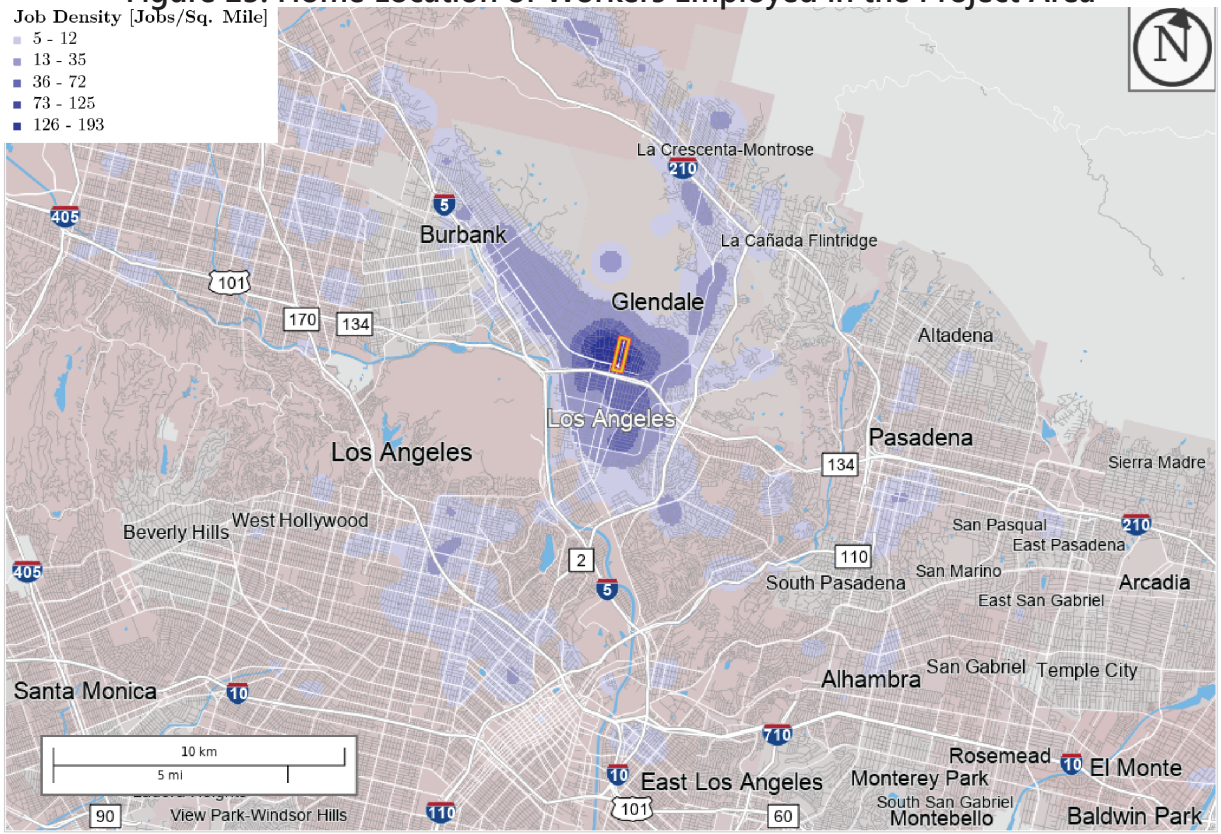


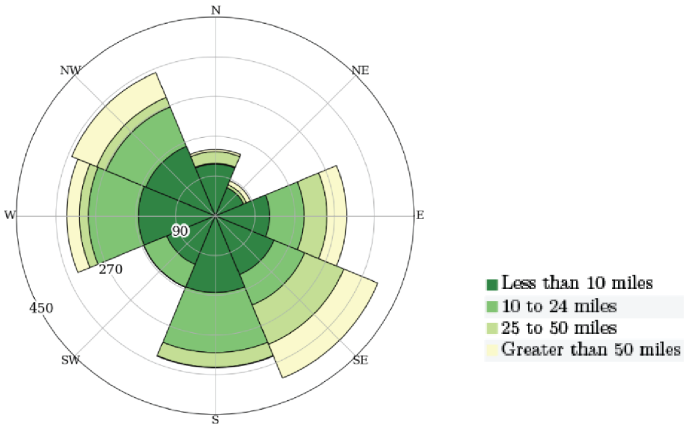
MOBILITY: MODES

Origin and Destination: Work and Home Locations

Using the US Census Bureau's *OnTheMap* tool, the origin and destination pairs of residents and workers in the project area was analyzed. There are approximately 2,137 jobs in the project area and approximately 1,012 employed residents of the project area.

Figure 23: Home Location of Workers Employed in the Project Area





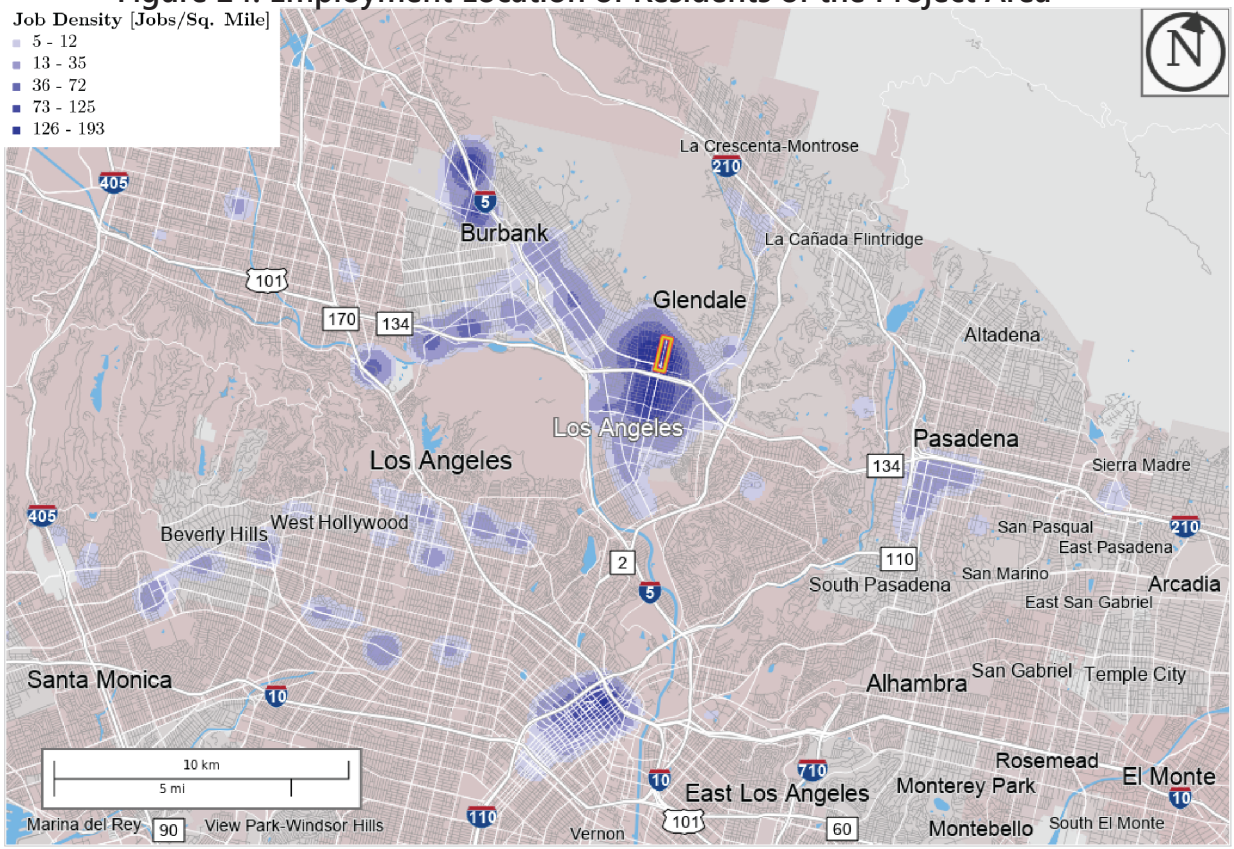
Distance	2019 Count	2019 Share
Total All Jobs	2,137	100.0
Less than 10 miles	1,090	51.0
10 to 24 miles	557	26.1
25 to 50 miles	257	12.0
Greater than 50 miles	233	10.9

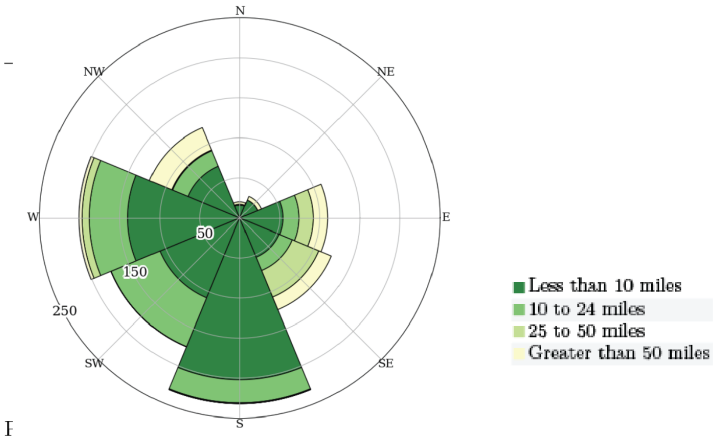
As seen in Figure 23, most of the workers (51%) employed in the project area live within 10 miles of the project area. The majority of these workers live to the south, west, and northwest, coming from the southern portions of Glendale and Burbank primarily. Another 26 percent of the workers employed in the area live 10 to 24 miles away, most of whom live to the south, southwest, and west, primarily in Santa Monica, Sherman Oaks, and Van Nuys. Another 12 percent live 25 to 50 miles away, most of whom live to the southeast in the areas adjacent to Anaheim. Just over 10 percent of workers employed in the area live more than 50 miles away, generally coming from the southeast or northwest, in neighborhoods near Mission Viejo and Oxnard.

Shown in Figure 24, the majority (66%) of residents of the project area are employed in or within 10 miles of the project area. These residents primarily work to the south of the project area, in Downtown Los Angeles. Another 20 percent are employed between 10 to 24 miles away, primarily to the west and southwest, in Beverly Hills, Westwood, Santa Monica, and Warner Center. Another 7 percent are employed between 25 to 50 miles away, primarily to the east and southeast near Costa Mesa and Chino. Only 8 percent are employed more than 50 miles away, primarily to the northwest, mostly in Bakersfield.

As can be seen, employees in the project area commute further, on average, than the residents of the project area.

Figure 24: Employment Location of Residents of the Project Area





Distance	2019 Count	Share
Total All Jobs	1,012	100.0
Less than 10 miles	667	65.9
10 to 24 miles	202	20.0
25 to 50 miles	66	6.5
Greater than 50 miles	77	7.6

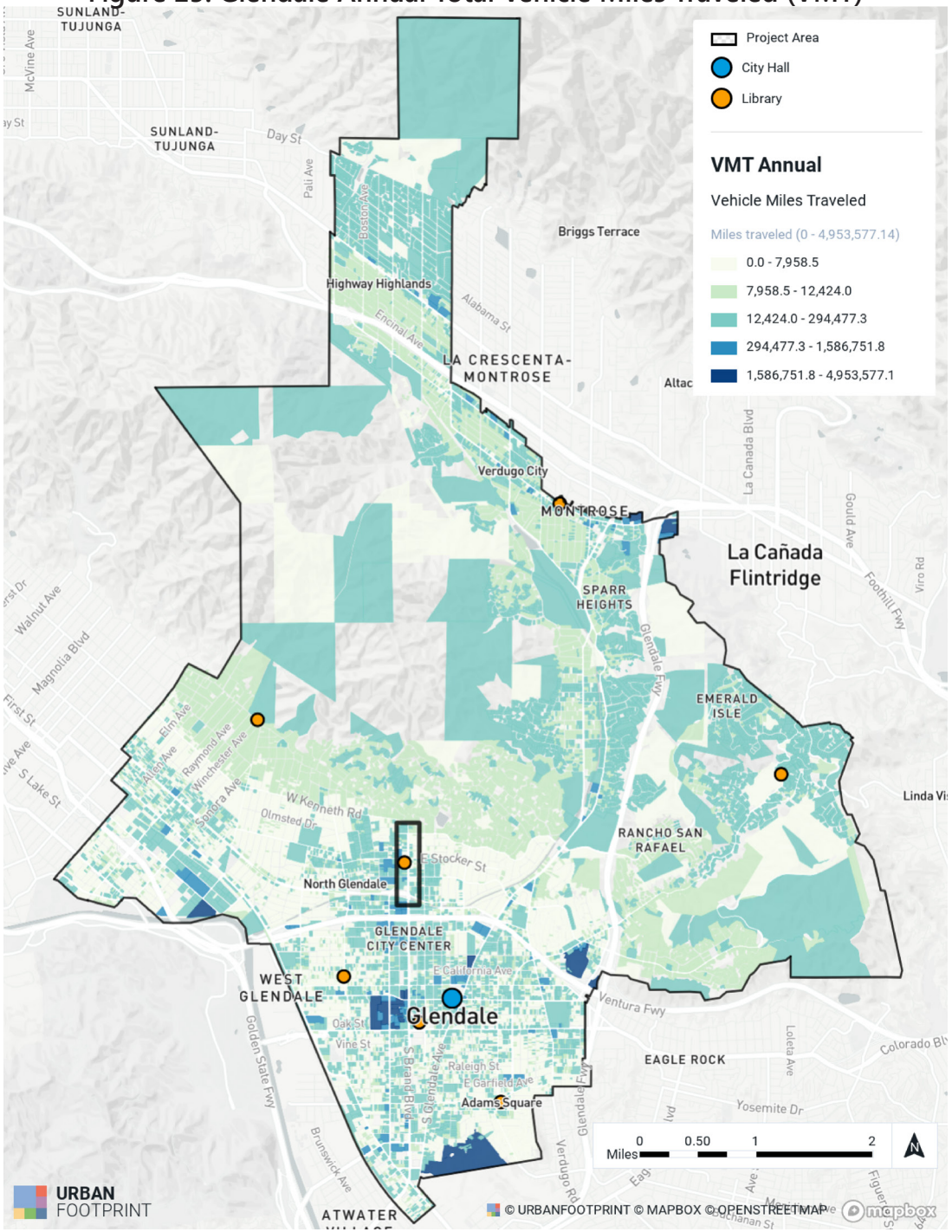
United States Census Bureau

Vehicle Miles Traveled (VMT)

Vehicle miles traveled (VMT) was modeled using UrbanFootprint. The model relies on the relationship between trip generation and built environment characteristics. The VMT mapped in Figure 25 and 26 shows the total annual VMT, which includes trips associated with both residents of the parcel and trips attributed to visitors, like those who work or shop there if there parcel is a business.

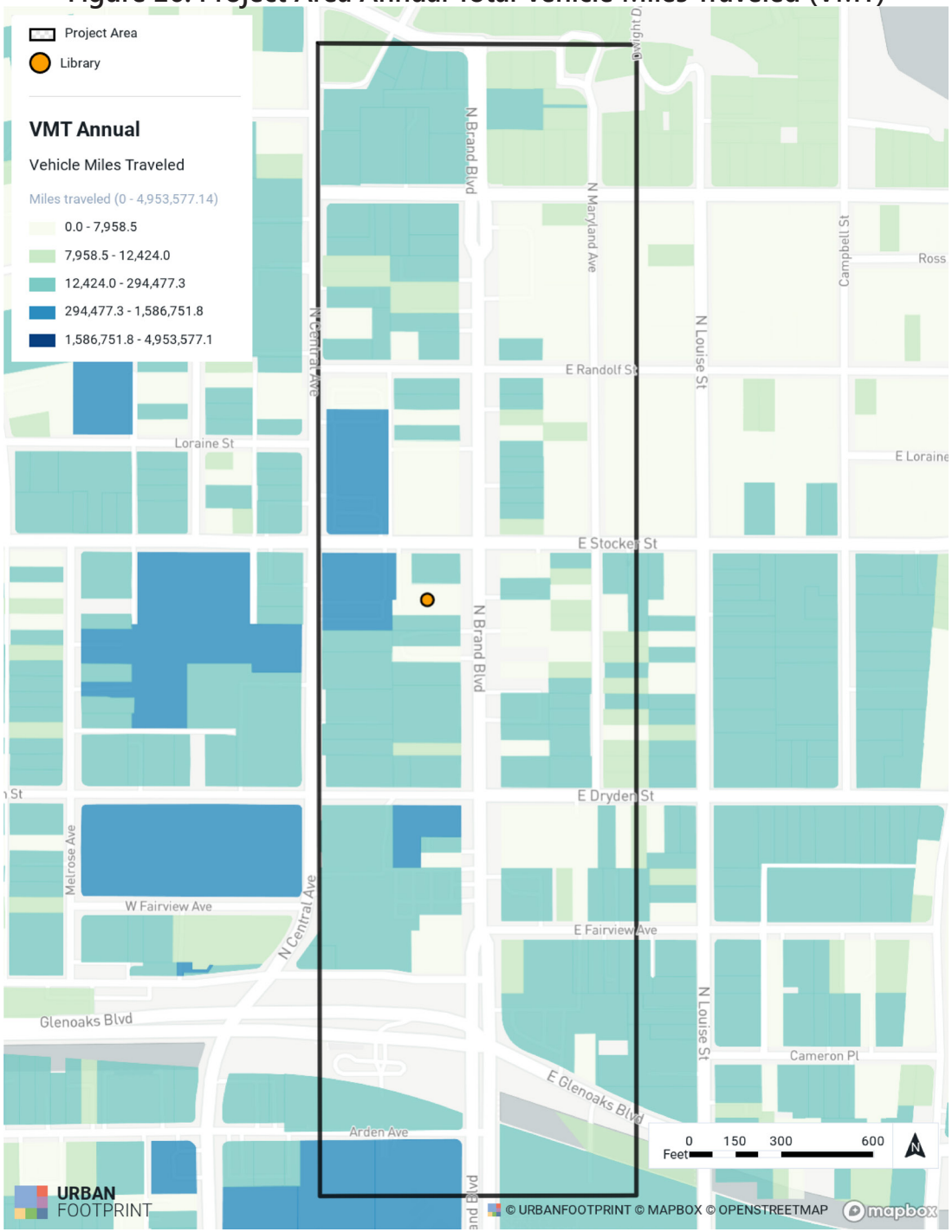
Figure 25 depicts annual VMT in Glendale. Because VMT is calculated for visitors and residents, it is highly connected to land use. For example, the dark blue pockets of highest VMT are concentrated at Glendale Galleria mall, Forrest Lawn Cemetery, and Adventist Health Glendale Hospital, with the lowest VMT areas being mostly lower density residential.

Figure 25: Glendale Annual Total Vehicle Miles Traveled (VMT)



In Figure 26, the project area appears to be in the middle range of VMT when compared to the rest of Glendale. Annual VMT is fairly dispersed throughout the project area, with lower VMTs in the north and east parts of the project area.

Figure 26: Project Area Annual Total Vehicle Miles Traveled (VMT)



2.2.8 MOBILITY: ACCESS

UrbanFootprint includes analysis modules which assess current infrastructure and land use to estimate time to destinations using various transportation modes.

Figure 27 shows time it takes to get to the nearest park using transit by parcel. This estimate uses morning peak hours on a standard weekday. All possible paths are considered in the study region. As can be seen, all parcels in the project area have access to parks in a 20-minute or less transit commute. The greatest access in the northeast and western portions of the project area. Comparing this figure to Figure 29, Walk Access to Parks, we can assume that, in the project area, walking to the nearest park is faster than using transit. This assumption is based on the two figures being visually the same.

Figure 27: Time to Nearest Park Using Transit from Parcels in Project Area

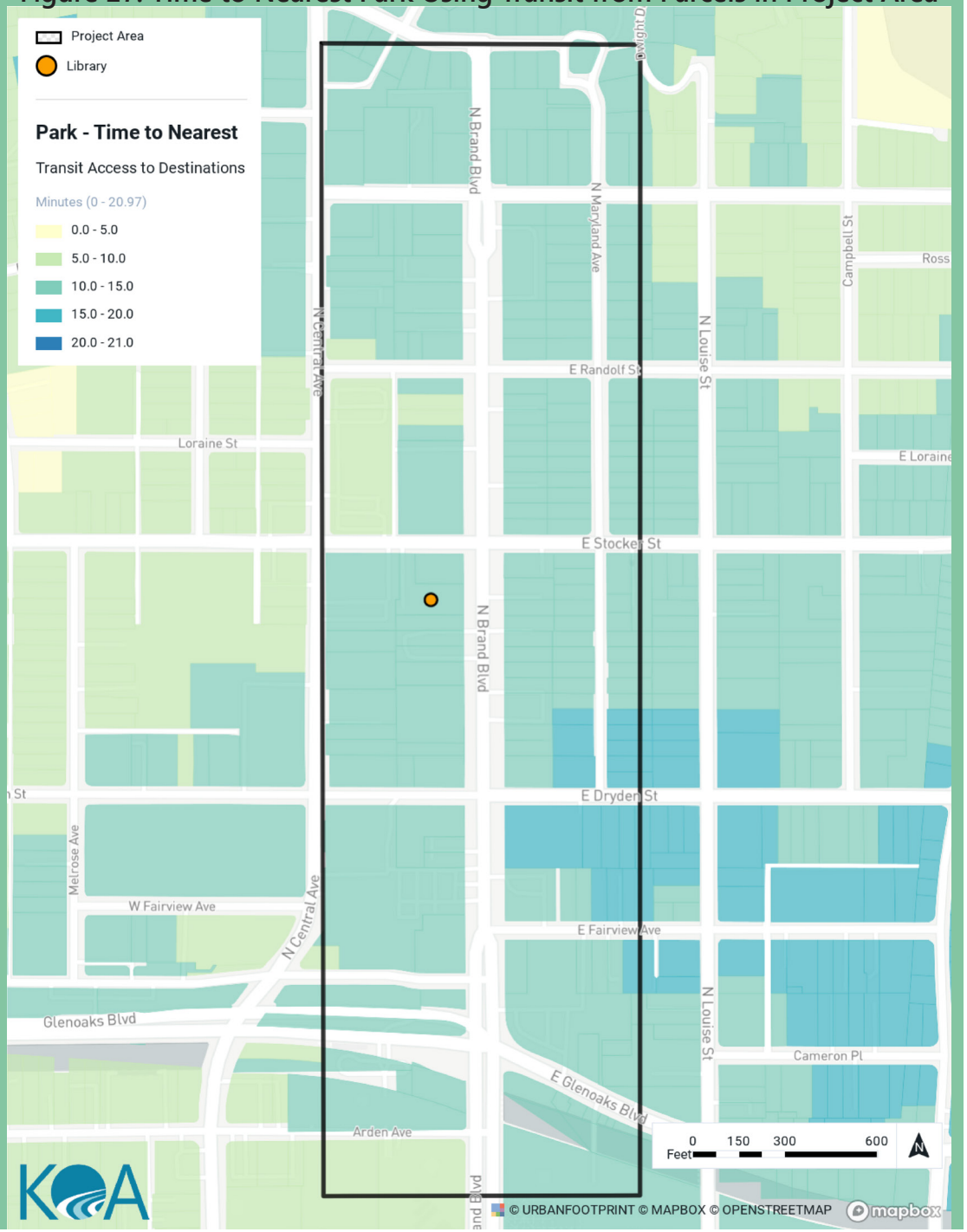


Figure 28 shows the number of jobs within a 30-minute transit commute of the parcels in the project area. The northeastern area adjacent to the project area has the least access, with 10,724 to 26,933 jobs in a 30-minute transit commute. Job access improves in the southern portion of the project area, with the lowest job access in the northern portion of the area.

Figure 28: Number of Jobs in 30 Minutes Using Transit from Parcels in Project Area

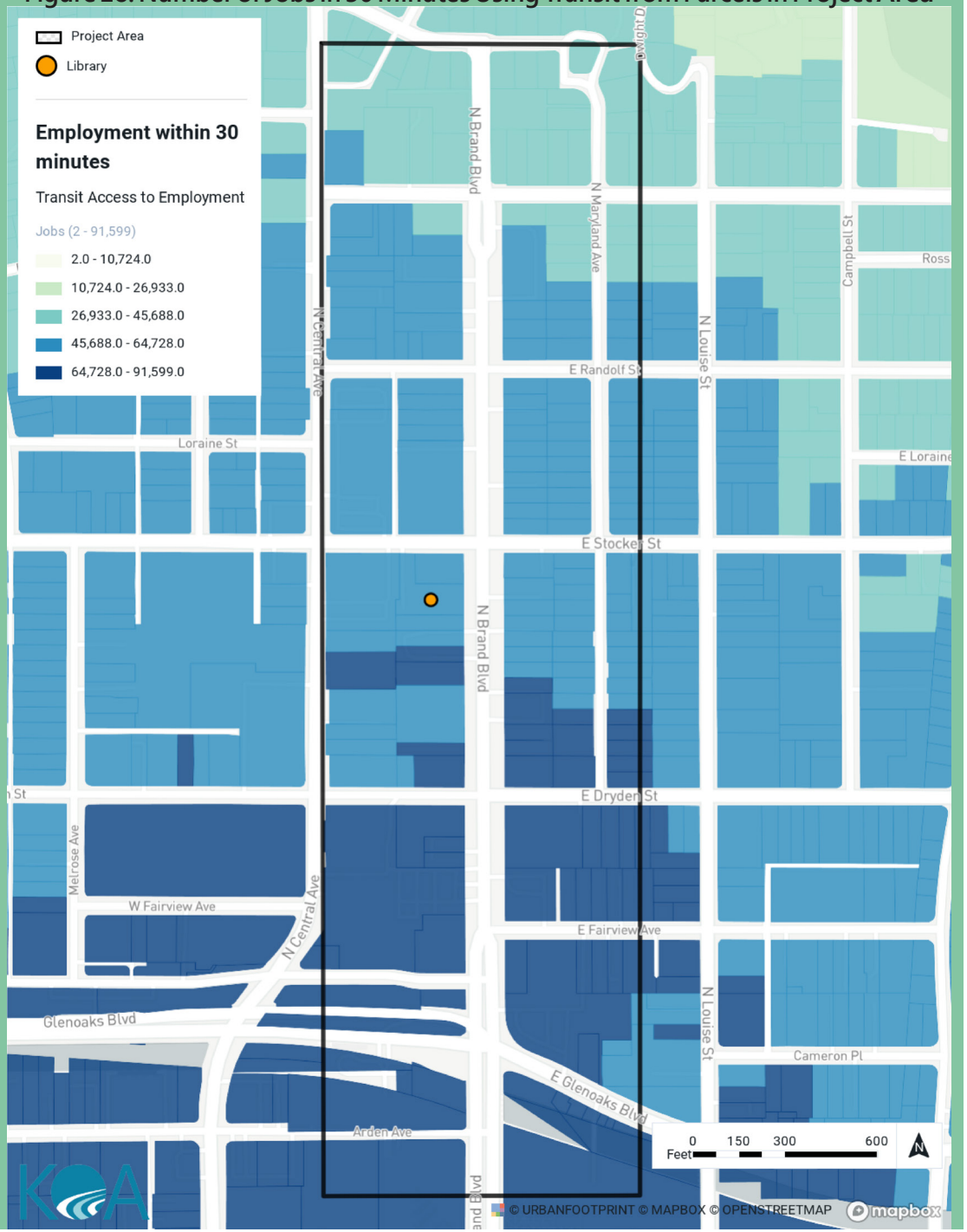


Figure 29 shows time it takes to get to the nearest park walking by parcel. The greatest access is again in the northeastern and western portions of the project area.

Figure 29: Time to Nearest Park by Foot from Parcels in Project Area

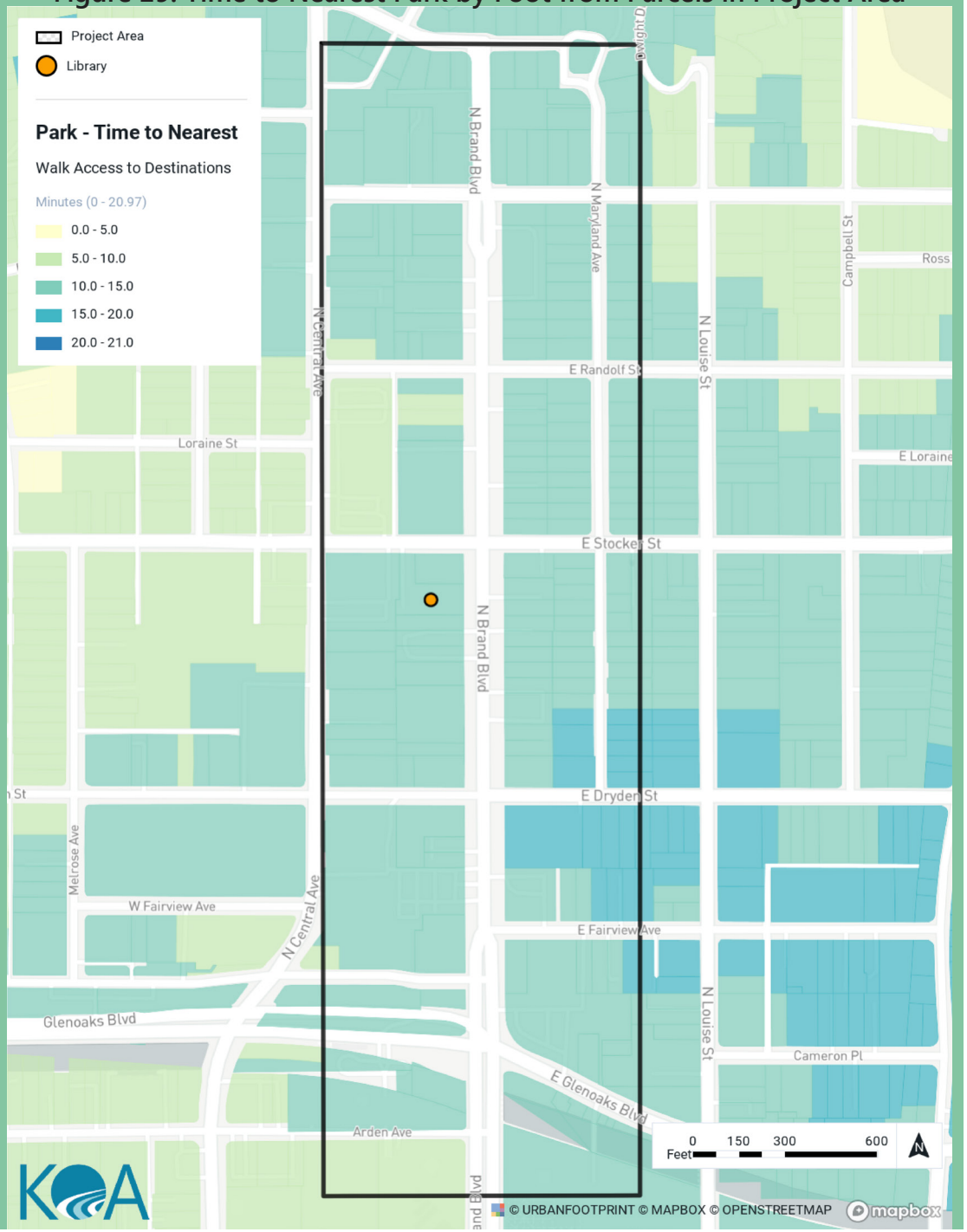
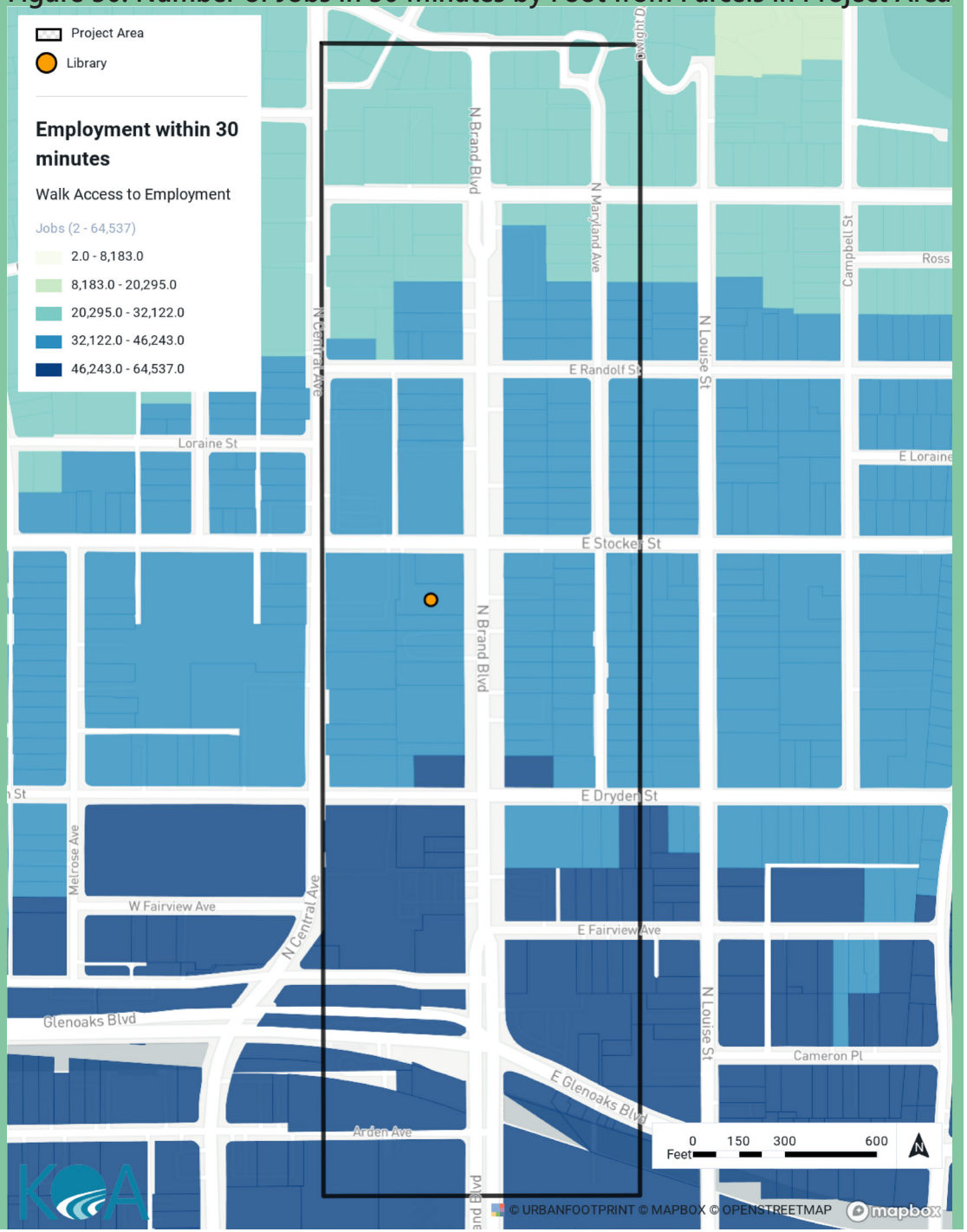


Figure 30 shows the number of jobs within a 30-minute walking commute of the parcels in the project area. Again, job access improves from north to south in the project area, with the lowest job access in the northeastern corner and the greatest access in the southwestern corner.

Figure 30: Number of Jobs in 30 Minutes by Foot from Parcels in Project Area



2.3 TRANSPORTATION REGULATION & POLICY

Assembly Bill 1358, the California Complete Streets Act:
This bill requires all cities and counties to incorporate the needs of all users of city and county owned roads when updating general transportation plans in order to create balanced, multi-modal transportation networks. It defines "all users" as bicyclists, children, persons with disabilities, motorists, movers of commercial goods, pedestrians, users of public transportation, and seniors.

Assembly Bill (AB) 43, California Speed Limit Changes:
Starting in July 30, 2024, this updated legislation allows California municipalities more flexibility to set their speed limits based on local context and prioritize safety.

Connect SoCal 2024:
The 2024-2050 Regional Transportation Plan/Sustainable Communities Strategy is currently in development, and aims to create a collective long-range vision that "balances future mobility and housing needs with economic and environmental and goal."

2.4 CONCLUSION

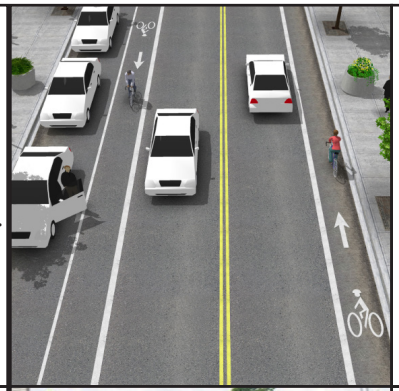
The existing conditions of the project area were considered in project selection and design. Based on current land use, transportation infrastructure, collisions, and sociodemographic factors, this project area would benefit from improved roadway safety and the facilitation of its use by diverse stakeholders.

CHAPTER 3: QUICK BUILD ELEMENT TOOLBOX

The infrastructure toolbox for the North Brand Boulevard Complete Streets Demonstration Project provided a series of Quick Build treatments to reduce traffic speeds and enhance pedestrian safety. Each safety element listed in this section was installed to increase street user comfort for those walking and bicycling, help achieve local connectivity, and raise street safety in the local community.

Curb Extension

- Narrows the street to decrease turning speeds.
- Shorterns crossing distances for pedestrians.
- Increases pedestrian space on sidewalk for furniture and greenery.



Bicycle Lane

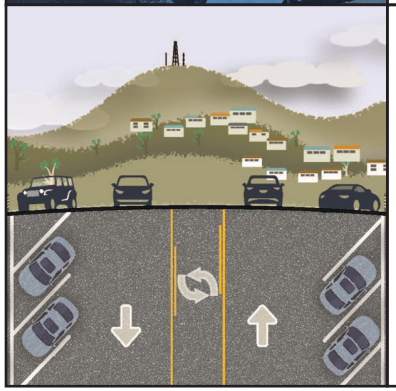
- Increases bicyclist comfort and confidence.
- Visually reminds motorists of bicyclists' right to the street.
- Boosts predictability of bicycle and car positions.

High-Visibility Crosswalk

- Uses pattern to increase visibility of pedestrian space.
- Increases ability of cars to stop for pedestrians due to crosswalk being able to be seen from farther away.

Crosswalk/Crossbike

- Increases visibility of cyclists and pedestrians.
- Delineates separate space for cyclists and pedestrians to reduce conflicts.
- Maintains continuity for bicycle facilities.



Angled Parking

- Enables cars to enter the space more quickly with less maneuvering.
- Reduces delays in travel lanes due to parking.
- Saves space to allow it to be re-allocated to active transportation.

Bicycle Box

- Increases visibility and space for bicyclists and pedestrians.
- Facilitates left-turns for bicyclists.
- Reduces signal delay for cyclists and minimizes hindrance to other modes.

CHAPTER 4: WHAT DID THE COMMUNITY HAVE TO SAY?

4.1 OUTREACH METHODOLOGY

Multiple outreach strategies were deployed over the course of North Brand Boulevard Complete Streets Demonstration Project to facilitate robust community feedback to improve the final project design. The project team coordinated six (6) advisory committee meetings (3 CAC and 3 TAC), seven (7) community touch points, two (2) safety audits, and as well as ongoing engagement.

4.1.1 ADVISORY COMMITTEES

A Community Advisory Committee (CAC) was created to engage residents, businesses, community organizations, and other stakeholders in developing a community-driven Quick Build project. CAC members participated in three (3) meetings corresponding to key milestones throughout the project.

- **Meeting #1:** Goals, Objectives, and Vision
- **Meeting #2:** Site Plan & Outreach Overview
- **Meeting #3:** Finalize Site Plan and Outreach Strategies

The CAC was comprised of ten (10) stakeholders:

- Charles A. Moore, (Citizens Business Bank/Chamber of Commerce)
- Judee Kendall (Chamber of Commerce)
- Dr. Colby Boysen (Incarnation Parish School)
- Ruby Vartanian (Rossmoyne Neighborhood Association)
- Alek Bartrosouf (Walk Bike Glendale)
- Brigid McNally (Glendale Tenants Union)
- Randy Stevenson (Greater Downtown Glendale Association)
- Armen Avazian (City of Glendale)
- Tad Dombroski (City of Glendale)
- Pastor Casanova (City of Glendale)
- Solene Manoukian (City of Glendale)
- Ismael Carbajal Perez (City of Glendale)

A separate Technical Advisory Committee (TAC) was created in collaboration with City Project Managers. TAC members provided guidance regarding the implementation of the demonstration based on site specifications and provided feedback on infrastructure treatments. TAC members participated in three (3) meetings corresponding to key milestones throughout the project.

- **TAC Meeting #1:** Site Visit and Walk Through of Project Area, Identify Challenges and Opportunities of Quick-Build Conceptual Design
- **TAC Meeting #2:** CAC Update, Quick-Build Design 60% PS&E, Implementation Specifications
- **TAC Meeting #3:** CAC Update, Quick-Build Design 90% PS&E, Implementation Specifications

The TAC was comprised of ten (10) members:

- Armen Avazian (Engineering)
- Tad Dombroski (Parking)
- Pastor Casanova (Traffic)
- Fred Zohrehvand (CDD Planning)
- Sarkis Oganesyan (Engineering)
- Daniel Hardgrove (Maintenance Services/Forestry)
- Lieutenant Toby Darby (Police Department)
- Battalion Chief Jeff Brooks (Fire Department)
- Koko Panossian (Community Services and Parks)
- Martha D'Andrea (Transit)

4.1.2 COMMUNITY TOUCHPOINTS

Community touch points provided the most intimate and creative setting for Glendale stakeholders to engage with, understand, and inform the final design. The main goal of the touch points was to create a positive atmosphere to facilitate meaningful and constructive conversations surrounding the Quick Build. Out of the seven touch points that were conducted, three were specifically designed to use arts-based methods to help communicate planning topics and facilitate community feedback for people of all ages.

4.1.3 SAFETY AUDITS

Walk and Bicycle Safety Audits were deployed to collect valuable community feedback to identify what worked well and what did not work well on North Brand Avenue between Glenoaks Boulevard and Mountain Street for cyclists and pedestrians. The goal of the safety audits were to identify which pedestrian and bike treatment elements should be prioritized in the final Quick Build design.

4.2 COMMUNITY OUTREACH OVERVIEW

4.2.1 SAFETY AUDITS

Walk Safety Audit **May 2022**

Project staff met with residents and city staff to identify the barriers and challenges pedestrians and bicyclists encounter while traveling along N. Brand Boulevard. During the audit, project staff documented participants' concerns and discussed elements that the project should implement. Participants' main concerns revolved around high vehicle speeds and a lack of marked crosswalks, insufficient crossing times, and frequent mid-block crossings between Dryden Street and Stocker Street. Participants also noted the lack of marked crosswalks at the intersection of N. Brand Boulevard and Randolph Street.

Support for the project alternatives varied. Some participants did not support reducing travel lanes in each direction, while others fully supported alternatives reducing the number of travel lanes.

Bike Safety Audit **July 2022**

Project staff met with residents and city staff to identify the barriers and challenges bike riders face cycling along N. Brand Boulevard. During the session, project staff documented participants' concerns and discussed elements that the project should implement. Participants shared that high traffic speeds, a lack of designated and protected bike lane infrastructure, and the existing street parking layout make cycling on N. Brand Boulevard dangerous and uncomfortable for most people. Parking protected bike lanes, bike intersection markings, and high-visibility crosswalks were the most popular Quick Build treatments for the audit participants.

4.2.2 COMMUNITY TOUCHPOINTS

Touchpoint #1: Community Tags **March 2022**

Paper "tree tags" containing project information, engaging statistics, educational information, website links & probing questions were installed on four light poles along North Brand Boulevard. People were invited to take a tag, learn about the project, and access the project website and survey via QR code. The installation was in place for one weekend.

Touchpoint #2: Community Canvassing **August 2022**

Using a door-to-door strategy, project staff spoke directly to residents and businesses along the project corridor to inform them of the Quick Build project. Of the residents and businesses surveyed, there was general support for the Quick Build project. Many cited pedestrian safety and high speeds as top concerns. Residents expressed they would like to see pedestrian improvements in the area, especially crosswalk improvements. Factsheets in Armenian, English, and Spanish were left at homes and businesses where no one was available.

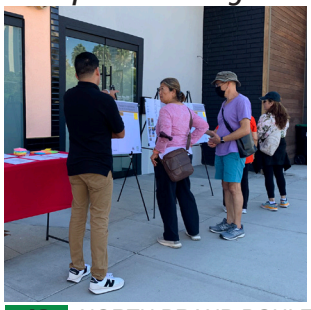
Touchpoint #3: Community Re-Canvassing **July 2023**

Using a door-to-door strategy, project staff spoke directly to residents, businesses, and residents in the project area to inform them of updates to the Quick Build. Project factsheets were distributed to residents fronting the project corridor. Project staff answered stakeholder questions and took note of their concerns.

Stakeholders were most excited about increased safety measures for pedestrians and bicyclists, supporting future bike lanes and crosswalks. Stakeholders also expressed appreciation for the outreach conducted by the City and for the City's efforts to utilize the Quick Build methodology to improve Brand Boulevard. The most cited concerns about the project were the loss of parking and lack of vehicle access, especially during construction.

Stakeholders also expressed existing safety concerns surrounding speeding and lack of traffic control to allow for pedestrian crossings, especially at Randolph and Mountain Streets. Residents expressed that they would like to see bike lane connectivity and bike parking. Many noted nearby locations that could be slated for future improvements.

Touchpoint #4: Neighborhood Tabling **August 2023**

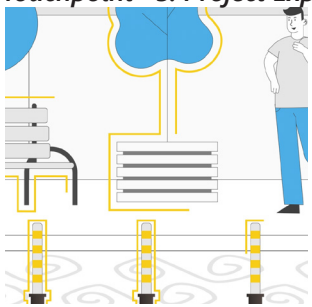


The project team set up an informational table on the sidewalk on the eastern side of N. Brand Boulevard at its intersection with Glenoaks Boulevard. Notice of Installation (NOI) handouts were distributed to passersby and coffee shop patrons to inform residents about the planned project installation schedule. Diagrams of the proposed treatments were displayed at the table.

The most cited safety concern on corridor was speeding. Regarding the project, the most cited concerns were increased traffic due to lane reduction and bicyclists not following traffic controls. Residents were also curious if noise pollution enforcement would accompany the project to help create a more pedestrian-friendly landscape. Stakeholders supported the concept of making N. Brand Boulevard look and feel more residential. Elderly pedestrians that spoke with project team members expressed support for curb extensions to decrease crossing distances and make them feel safer crossing the street. Bicyclists expressed excitement for more bike lane connectivity with existing facilities on Kenneth Road and Glenoaks Boulevard, noting that the parking-protected lane will make them feel much safer.

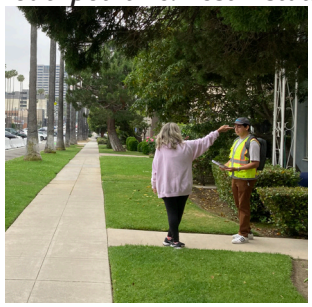
4.2.2 COMMUNITY TOUCHPOINTS

Touchpoint #5: Project Explainer Video **March 2024**



The project team produced a brief educational video. The video provides insight into the Quick Build process, highlights project safety elements, and how community members can stay involved with the North Brand Boulevard Complete Streets Demonstration Project project. The video was posted to the project website.

Touchpoint #6: Post Installation Canvassing **May 2024**

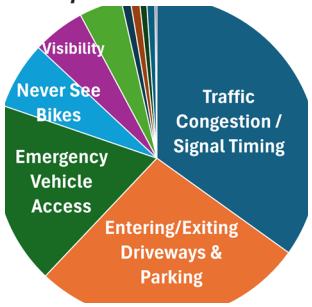


Using a door-to-door strategy, project staff spoke directly to residents and businesses along the project corridor to collect initial community feedback on project elements after installation. The majority of stakeholders expressed opposition to the project citing poor visibility, increased traffic, a spike in road rage, and loss of the character of Brand Boulevard. Some drivers say that reduced visibility increases the likelihood of conflict with active transportation users. Much of the criticism is linked to confusion regarding right-of-way, how the final project will look, as well as funding sources.

Those who do like the project are excited to see facilities provided to increase the safety of active transportation users, reductions to vehicle speeding, and promise for increased beautification of the corridor. Supporters of the project suggest the need for increased education to facilitate understanding of project elements.

Regardless of stance, stakeholders express appreciation that the City is conducting in-person outreach.

Touchpoint #7: Online Survey **November 2024**



An online survey and a project email address was used to gather community feedback during both the installation phase and post-installation. The survey was published in April so as to be open during the project construction and remained open through November. These feedback mechanisms were advertised on handouts distributed throughout the corridor. By the end of November, the City had received 368 unique emails and 1,714 online surveys.

The most commonly cited concerns were recorded with the following results. Traffic congestion and signal timing was the most common concern, followed by entering/exiting driveways/parking spots, emergency vehicle access, lack of bike lane usage, visibility at intersections, parking space width, parking supply, turning radius, cut-through traffic on adjacent streets, access to businesses, and finally illegal parking/delivery vehicle issues.

CHAPTER 5: PROJECT TAKEAWAYS & LESSONS LEARNED

The North Brand Boulevard Complete Streets Demonstration Project presented a unique set of challenges, successes, and insights. Despite covering a long distance and adjusting the angle of on-street parking, this Quick Build was thorough in its stakeholder outreach and effective in exhibiting safety improvements designed to make N. Brand Boulevard a safer and more comfortable place to walk, ride a bike, and access public transit. The City of Glendale intends to continue monitoring the project area after installation, collecting additional stakeholder feedback and traffic count data.

The following project takeaways and lessons learned were summarized based on the project team's observations and experiences throughout the project's development.

Takeaway: ***Quick Build treatments that will subtract on-street parking are less likely to receive stakeholder support, especially in locations with an already limited on-street parking supply.***

Lesson Learned: Providing civic partners with practical parking alternatives allows for more opportunities to introduce more transformative treatments, such as protected bike lanes, while minimizing potential stakeholder opposition.

The North Brand Boulevard Complete Streets Demonstration Project highlighted the importance of providing civic partners with practical project alternatives that are informed by community input. The biggest stakeholder concerns were that the proposed Class II bike lanes would reduce the total on-street parking supply and the reduction of N. Brand Boulevard from four travel lanes to two would increase traffic and an encourage cut-through traffic on adjacent residential streets. The project team spoke directly with key stakeholders including Salem Lutheran School, Glendale Fire Station 26, and Glendale Beeline to develop an alternative that would increase total on-street parking supply, mitigate congestion, and offer access to sensitive land uses such as schools and fire stations. Providing civic partners with practical alternatives that addressed key community concerns was extremely effective in maximizing opportunities to introduce more transformative treatments, such as parking protected bike lanes, while minimizing potential stakeholder opposition.

Takeaway: ***Cities have varying levels of capacity for storing ordered Quick Build elements.***

Lesson Learned: Confirm each city's yard/facility capacity to store and discard all recommended Quick Build elements before final design plans are approved.

The North Brand Boulevard Complete Streets Demonstration Project highlighted the importance of confirming element storage and removal capacity with city leaders. The original design plan called for installing concrete on the perimeter of the proposed curb extensions as barriers between pedestrians and vehicles. However, the city yard did not have the required space or resources to store, transport, or install/remove the concrete planters due to their weight. Project and city staff amended the final design plans to install planters made of lighter materials that made storing, transporting, and installing/removing much easier for city yard staff. Confirming available storage and logistical resources for Quick Build elements with city staff early in the design process directly informs what types of treatment materials are feasible for each city.

Takeaway: ***Door-to-door canvassing strategies were less effective in neighborhoods with multi-residential and dense, multi-story commercial areas compared to those with mostly single-family and light, single-story commercial.***

Lesson Learned: Dedicate time to identify property managers before conducting door-to-door outreach in project areas with dense, mixed-use neighborhoods to ensure all tenants can be informed about project impacts, timelines, and activities.

The North Brand Boulevard Complete Streets Demonstration Project highlighted the importance of developing flexible community outreach approaches. The project corridor contains multiple mixed-use commercial/residential and multi-family residential buildings which were difficult for project staff to speak with tenants and distribute project collateral such as factsheets and notices of installation. Project staff identified the property managers for those structures and coordinated with them to digitally distribute project material to all building tenants. Developing relationships with property management stakeholders played a critical role in ensuring all individuals living and working on the project corridor were informed about the Quick Build project.

CHAPTER 6: ANALYSIS BEFORE & AFTER INSTALLATION

Implementation of the North Brand Boulevard Complete Streets Demonstration Project began in March 2024 with Brand Boulevard undergoing renovations between Glenoaks Boulevard and Mountain Street. Installation of all Quick Build elements was complete by May 10, 2024. The project team collected data before and after project installation to assess community impact. The following analyzes changes in travel metrics before and after installation.

6.1 DATA SOURCES

Turning movement counts, speed surveys, and *Synchro* level of service analysis were collected in project planning stages in 2022. Metrics which utilize these data sources reference 2022 for pre-installation data and 2024 for post-installation data. *StreetLight* data and SWITRS Collision Data were collected after installation via online databases. These reference the most recent available year pre-installation of 2023 and 2024 for post-installation data.

6.1.1 STREETLIGHT DATA

StreetLight was used to collect information on vehicle travel time and vehicle delay. *StreetLight* uses navigation-GPS, and other location-based data from connected vehicles and location applications on an opt-in basis. This data is provided by segment which is defined by the OpenStreetMap and split based on intersections and distance rules. Data was collected for the following five segments on Brand Boulevard:

- Brand Boulevard (Between Mountain Street and Randolph Street)
- Brand Boulevard (Between Randolph Street and Stocker Street)
- Brand Boulevard (Between Stocker Street and Dryden Street)
- Brand Boulevard (Between Dryden Street and Glenoaks Boulevard)

Streetlight was also used to compare changes in traffic volumes of nearby streets and Brand Boulevard, to assess whether cut-through traffic was re-directed to parallel streets. The following streets were analyzed for cut-through traffic:

- Maryland Avenue (Between Mountain Street and Dryden Street)
- Louise Street (Between Mountain Street and Dryden Street)
- Jackson Street (Between Mountain Street and Dryden Street)
- Geneva Street (Between Mountain Street and Dryden Street)

The most recent available *StreetLight* data is for August 2024. Data was collected for May through August of 2023 and May through August of 2024, so as to have a sufficient sample size after installation. *StreetLight* data is provided by day of the week (Monday-Thursday, Friday, Weekend) and time of day (Early AM (12 AM to 6 AM), Peak AM (6 AM to 10 AM), Midday (10 AM to 3 PM), Peak PM (3 PM to 7 PM), Late PM (7 PM to 12 AM)). *StreetLight* data for each of these delineations is provided as an average of the month. For example, *StreetLight* data for the vehicle travel time on Brand Boulevard between Mountain Street and Randolph Street during the Friday Peak PM period in June 2023, is the average vehicle travel time for that segment across all Fridays between 3 PM and 7 PM during June 2023. In this analysis, June 2023 data is compared to June 2024 data to account for monthly fluctuations and trends.

6.1.2 TURNING MOVEMENT COUNTS

Peak Hour Turning movement counts were collected using video based solutions by an engineering consultant firm which specializes in traffic data collection services. Peak hours include Weekday AM Peak Period, which considers the hour between 7:00 AM and 9:00 AM with the greatest volumes; Weekday PM Peak Period, the hour between 4:00 PM and 6:00 PM with the greatest volumes; and Saturday Midday Peak Period, the hour between 11:00 AM and 1:00 PM with the greatest volumes. Before counts were collected on Thursday, March 24, 2022 and on Saturday, March 26, 2022. After counts were collected on Tuesday, October 1, 2024 and Saturday, September 28, 2024. After pedestrian and bicycle counts were taken again on Wednesday November 20, 2024 and Saturday, November 23, 2024. Counts were taken at the following intersections:

- Brand Boulevard and Mountain Street
- Brand Boulevard and Randolph Street
- Brand Boulevard and Stocker Street
- Brand Boulevard and Dryden Street
- Brand Boulevard and Glenoaks Boulevard

Turning movement counts were used to analyze changes in vehicle, pedestrian, and bicycle volumes.

6.1.3 BICYCLE COUNTS

Bicycle counts were collected during the two weeks of October, with 24 hour counts collected everyday between Wednesday, October 2nd, 2024 and Tuesday, October 8th, 2024 after the installation of the Quick Build. This data helps to assess how much the new bicycle faciliites were being utilized.

6.1.4 SPEED SURVEYS

Speed surveys were collected using radar in accordance with the requirements of the California Vehicle Code and the manual for Uniform Traffic Control Devices. An engineering consultant firm which specializes in traffic data collection services provided this data. Before speeds were collected on Thursday, March 24, 2022. After speeds were collected on Wednesday, October 2, 2024. Speeds were recorded for the following segments:

- Brand Boulevard (Between Mountain Street and Randolph Street)
- Brand Boulevard (Between Randolph Street and Stocker Street)
- Brand Boulevard (Between Stocker Street and Dryden Street)
- Brand Boulevard (Between Dryden Street and Fairview Avenue)

For analysis, the 85th percentile speed was referenced from the speed surveys.

6.1.5 SYNCHRO TRAFFIC SOFTWARE

Synchro traffic software was utilized to model roadway conditions before and after project installation. A model was created using roadway configuration, traffic signal timing, and traffic volumes collected before the project installation was used to simulate traffic flow and calculate level of service at project intersections. Another model was created for post-installation coniditions using the new configuration and updated traffic volumes which was used to simulate traffic flow after installation and calculate level of service at project intersections.

6.1.6 STATEWIDE INTEGRATED TRAFFIC RECORDS SYSTEM (SWITRS) - COLLISION DATA

Statewide Integrated Traffic Records System (SWITRS) - Collision Data was collected to analyze all traffic collisions in the project area. SWITRS contains all collisions that were reported to the California Highway Patrol by local and governmental agencies. Data was collected for May 10 through August 31 of 2023 and 2024. These months were selected so the same months could be compared during both years. Graphic Information Systmes software, ArcPro was used to map the data and separate it by location and year for analysis.

6.2 METRICS DEFINITIONS

- **Peak Period Pedestrian Volumes:** Pedestrian volumes are the count of pedestrians moving across each leg of the study intersections. The counts were recorded during the Weekday AM, Weekday PM, and Saturday Midday peak periods. A peak period is the hour with the highest volumes during a selected timeframe. The Weekday AM peak period is the hour between 7 AM and 9 AM with the highest volumes. The Weekday PM peak period is the hour between 4 PM and 6 PM that has the highest volumes. The Saturday Midday peak period is the hour between 11 AM and 1 PM with the highest volumes. The data source is Turning Movement Counts.
- **Bicycle Volumes:** Bicycle volumes are the count of bicycles moving across each leg of the study intersections. Total counts were recorded during Weekday AM (7 AM to 9 AM), Weekday PM (4 PM to 6 PM), and Saturday Midday (11 AM to 1 PM) periods. Total counts were used for bicycle volumes to give a larger sample size. The data source is Turning Movement Counts.
- **Peak Period Vehicle Volumes:** Vehicle volumes are the count of vehicles making each type of turning movement through the study intersections. The counts were recorded during the Weekday AM, Weekday PM, and Saturday Midday peak periods. The data source is Turning Movement Counts.
- **Average Daily Traffic:** Average daily traffic is the number of vehicle trips traversing a specific roadway segment in one day. The data source is speed surveys.
- **Speed:** Speed is a measure of the 85th Percentile speed of automobiles traversing a designated point on the project segment. Measures at four points were measured and averaged. The 85th percentile speed is provided as an average based on day type (weekday or weekend). The counts are provided as an average per day and separated by day type. The data source is speed surveys.
- **Vehicle Travel Time:** Vehicle Travel Time is a measure of the time it takes, on average, for an automobile to traverse a project segment. The travel time for three segments which comprise the project corridor were averaged. The average travel time is provided by day type (Monday – Thursday, Friday, Weekend) and time of day (Early AM between 12 AM to 6 AM, Peak AM between 6 AM to 10 AM, Mid-Day between 10 AM to 3 PM, Peak PM between 3 PM to 7 PM, and Late PM between 7 PM and 12 AM). The data source is *StreetLight*.
- **Vehicle Delay:** Vehicle delay refers to the total number of hours lost to traffic delays experienced by all vehicles traversing the project segment per day. The delay for four segments which comprise the project corridor were averaged. This is analyzed as distributed over average vehicle volumes per day to give an estimate of delay experienced by the average vehicle. The data source is *StreetLight*.
- **Level of Service:** Level of service (LOS) is a measure of the operating conditions of an intersection based on vehicle delay. Data for LOS analysis was retrieved from *Synchro* traffic software.
- **Queuing:** Queuing refers to the line of vehicles waiting to make a specific movement at a study intersection. This analysis considers length of the queuing lane (i.e. turn pocket) and distance to the next upstream intersection to consider the disruption caused by the line of queuing vehicles. Data for queuing analysis was retrieved from *Synchro* traffic software.
- **Collisions:** Collisions consider all reported vehicle collisions on the project segment. Metrics are included for these collisions such as severity and whether or not a bicycle or pedestrian was involved. The data source is the Statewide Integrated Traffic Records System.
- **Level of Traffic Stress:** Level of Traffic Stress (LTS) is a rating given to a road segment indicating the stress it imposes on bicyclists. The rating considers number of lanes, vehicle speeds, and separation of bicycles from vehicles. The analysis considers methodology from Los Angeles Department of Transportation.

6.3 BEFORE AND AFTER ANALYSIS

6.3.1 PEDESTRIAN VOLUMES

Turning Movement Counts were used to analyze changes in pedestrian volumes after installation. For after counts taken in October 2024, there was an increase in pedestrian volumes of 11 percent on average for all analyzed intersections and peak periods. The intersection that experienced the greatest increase was Stocker Street, with an average increase of 24 percent. Across all intersections, the Weekday PM peak period experienced the greatest increase, with an average increase of 20 percent.

The counts taken in October were taken during a historic heat wave so additional counts were collected in November of 2024. For after counts taken in November 2024, there was an increase in pedestrian volumes of 19 percent on average for all analyzed intersections and peak periods. The intersection that experienced the greatest increase was Glenoaks Boulevard, with an average increase of 53 percent. Across all intersections, the Weekday PM peak period experienced the greatest increase, with an average increase of 50 percent.

Table 1: Pedestrian Volumes: Before vs. After Quick Build Installation

Intersection	Peak Period	Pedestrian Volumes Total				
		2022	Oct 2024	Change	Nov 2024	Change
Mountain Street	Weekday AM	38	39	3%	26	-32%
	Weekday PM	22	21	-5%	31	41%
	Saturday Midday	20	25	25%	22	10%
Randolph Street	Weekday AM	41	40	-2%	27	-34%
	Weekday PM	26	27	4%	39	50%
	Saturday Midday	29	36	24%	27	-7%
Stocker Street	Weekday AM	67	94	40%	88	31%
	Weekday PM	68	96	41%	123	81%
	Saturday Midday	78	71	-9%	71	-9%
Dryden Street	Weekday AM	103	90	-13%	86	-17%
	Weekday PM	92	102	11%	109	18%
	Saturday Midday	95	88	-7%	94	-1%
Glenoaks Boulevard	Weekday AM	60	71	18%	101	68%
	Weekday PM	70	105	50%	113	61%
	Saturday Midday	72	72	0%	93	29%
Total		**881**	**977**	**11%**	**1,050**	**19%**

6.3.2 BICYCLE VOLUMES

Turning Movement Counts were used to analyze changes in bicycle volumes after installation. For after counts taken in October 2024, there was a decrease in bicycle volumes of 41 percent on average for all analyzed periods and intersections. Across all intersections, the Saturday midday period experienced the greatest decrease, with an average decrease of 66 percent.

The counts taken in October were taken during a historic heat wave so additional counts were collected in November of 2024. For after counts taken in November 2024, there was a decrease in bicycle volumes of 22 percent on average for all analyzed periods and intersections. Across all intersections, the Weekday midday period experienced the greatest decrease, with an average decrease of 59 percent. Across all intersections, the Weekday PM period experienced the greatest increase, with an average increase of 46 percent.

Table 2: Bicycle Volumes: Before vs. After Quick Build Installation

Intersection	Peak Period	Bicycle Volumes Total				
		2022	Oct 2024	Change	Nov 2024	Change
Mountain Street	Weekday AM	3	9	200%	3	0%
	Weekday PM	8	7	-13%	6	-25%
	Saturday Midday	23	10	-57%	11	-52%
Randolph Street	Weekday AM	2	1	-50%	0	-100%
	Weekday PM	3	2	-33%	5	67%
	Saturday Midday	17	4	-76%	4	-76%
Stocker Street	Weekday AM	6	0	-100%	1	-83%
	Weekday PM	7	7	0%	14	100%
	Saturday Midday	25	10	-60%	20	-20%
Dryden Street	Weekday AM	5	5	0%	2	-60%
	Weekday PM	9	12	33%	14	56%
	Saturday Midday	15	3	-80%	8	-47%
Glenoaks Boulevard	Weekday AM	12	13	8%	6	-50%
	Weekday PM	13	12	-8%	17	31%
	Saturday Midday	49	22	-55%	43	-12%
Total		**197**	**117**	**-41%**	**154**	**-22%**

Table 3 shows bicycle screenline counts collected during seven consecutive days, 24 hours each day (Wednesday-Tuesday) in October 2024. Screenline counts were taken at one cross section in each project segment. They collect where and what type of users crossed that cross-section of the street. These counts were collected under after installation only and are meant to assess how much and the manner in which new bike facilities are being used. In regard to total usage of Glendale Boulevard by bicyclists, there was an average of 262 bicycles a week on a study segment. The segment with the greatest volume of bicyclists was Brand Boulevard between Dryden Street and Glenoaks Boulevard, with a weekly total of 375 bicyclists.

Table 3: Bicycle Volumes During Quick Build Installation

Segment	Side of Brand Boulevard	Sunday	Monday	Tuesday	Wednes-day	Thurs-day	Friday	Saturday	Total
Brand Boulevard (Mountain Street to Randolph Street)	West	17	11	5	20	21	28	41	**143**
	East	23	8	8	3	12	12	25	**91**
	Total	40	19	13	23	33	40	66	**234**
Brand Boulevard (Randolph Street to Stocker Street)	West	13	11	5	7	7	15	26	**84**
	East	24	10	11	4	12	14	25	**100**
	Total	37	21	16	11	19	29	51	**184**
Brand Boulevard (Stocker Street to Dryden Street)	West	16	21	10	11	15	29	32	**134**
	East	34	24	11	7	5	11	29	**121**
	Total	50	45	21	18	20	40	61	**255**
Brand Boulevard (Dryden Street to Glenoaks Boulevard)	West	19	15	12	17	18	23	24	**128**
	East	31	32	25	22	30	28	79	**247**
	Total	50	47	37	39	48	51	103	**375**

An average of 83 percent of bicyclists recorded rode in the bike lane, 8 percent rode in the street, and 9 percent rode on the sidewalk. The observance of the lane was greater on weekends, during which 89 percent of bicyclists used the lane. On the average weekday 68 percent of cyclists used the lane.

Chart 1: Weekday Location of Bicyclists

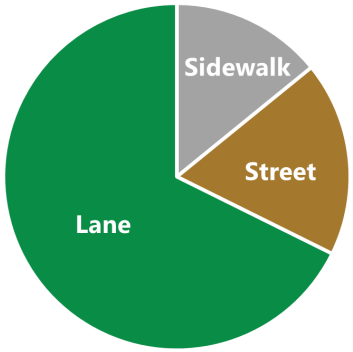
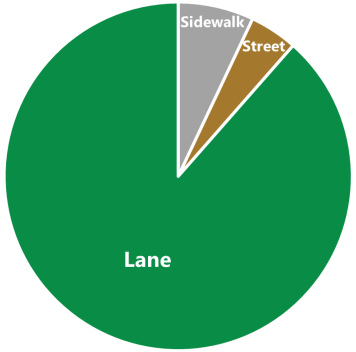


Chart 2: Weekend Location of Bicyclists



Pedestrians were also recorded in the bike lane, with 70 pedestrians on average per segment on the recorded weekday and 68 on the weekend day.

Figure 31: Lane Usage Breakdown by User Type and Location (Thursday)

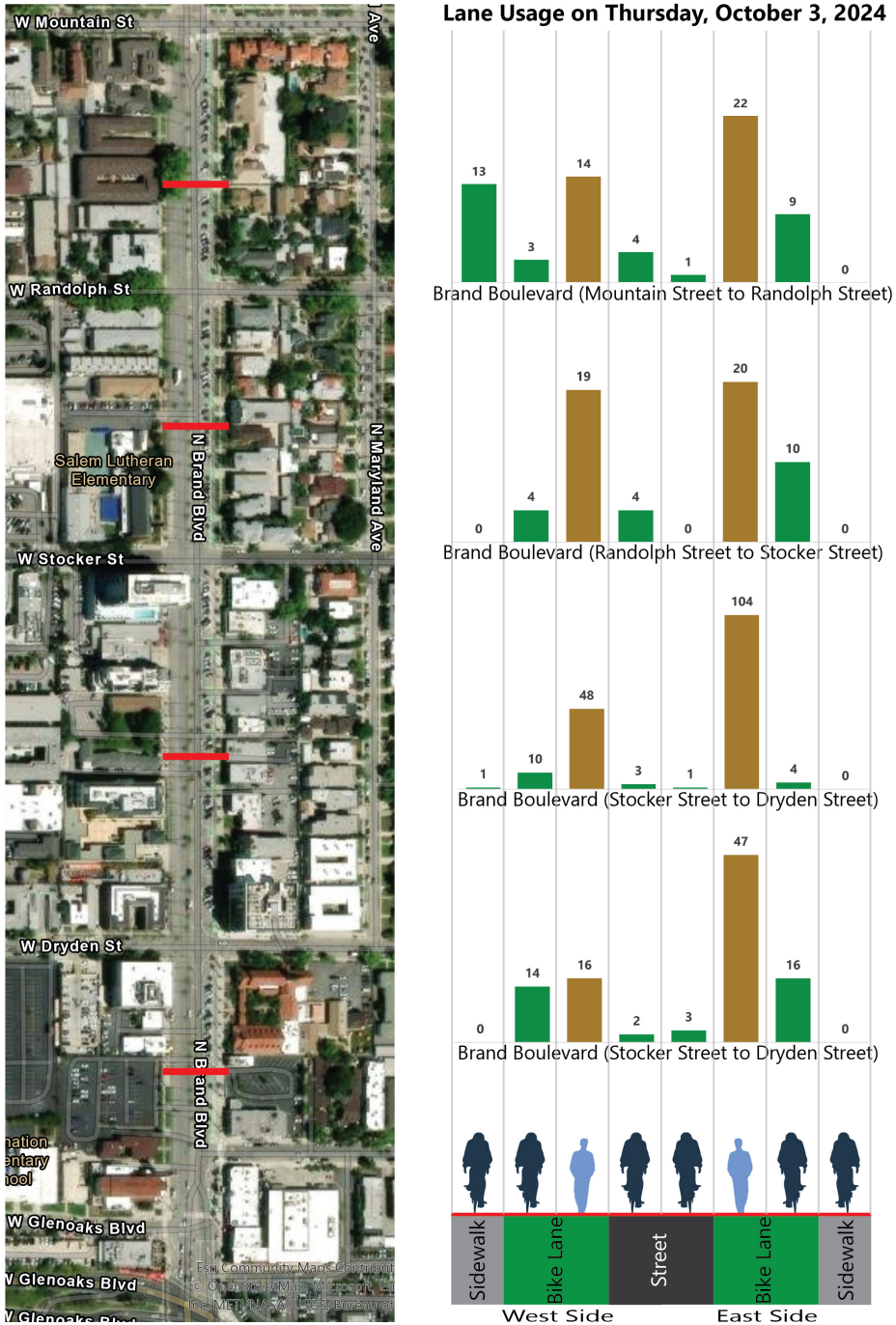
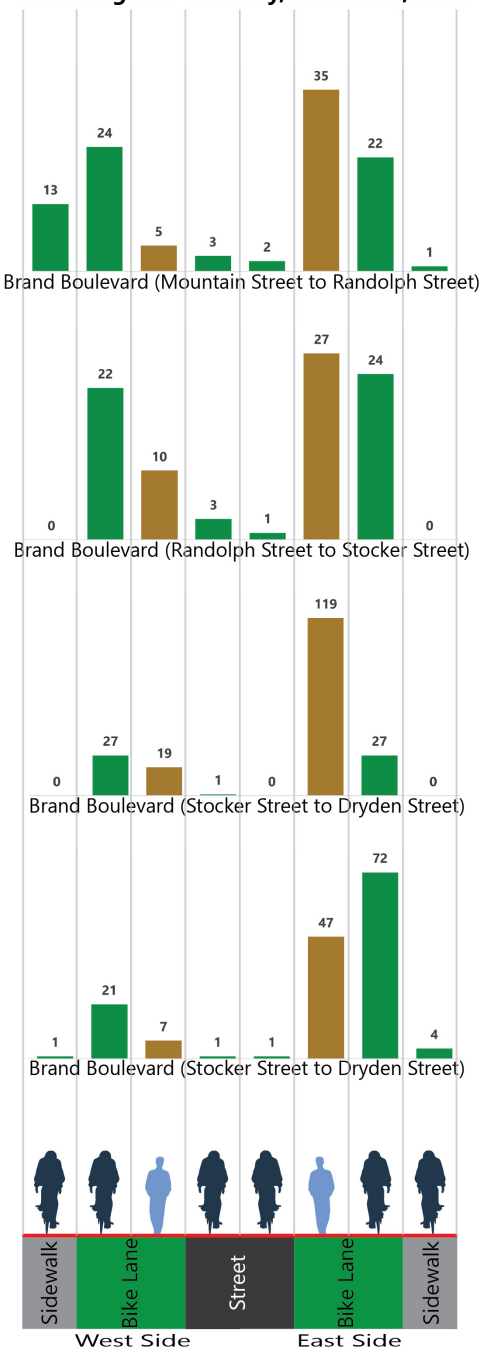


Figure 32: Lane Usage Breakdown by User Type and Location (Saturday)



6.3.3 VEHICLE VOLUMES

Turning Movement Counts (TMC) were used to analyze changes in vehicle volumes after installation at intersections on N. Brand Boulevard. There was a decrease in vehicle volumes of 2 percent on average for all analyzed intersections.

Vehicle Volumes Trends of Decrease:

- Randolph Street experienced the greatest decrease with an average decrease of 8 percent across all legs and time periods, with southbound movements decreasing the most.
- The turning movement with the most consistent and significant decrease was northbound Mountain Street right turn movements.
- Across all intersections, northbound movements experienced the greatest decrease, with an average decrease of 10 percent.
- Across all intersections, the Saturday Midday Peak Period experienced the greatest decrease with an average decrease of 6 percent.

Vehicle Volumes Trends of Increase:

- Both Mountain Street and Glenoaks Boulevard experienced increases on average. Mountain Street experienced the greatest increase, with an average increase of 6 percent, though northbound movements experienced a decrease.
- The turning movement with the most consistent and significant increase was eastbound Mountain Street through movements.
- Across all intersections, eastbound movements experienced the greatest increase, with an average increase of 11 percent.
- Across all intersections, the Weekday AM Peak Period experienced the only increase on average, with an average increase of 5 percent.

Table 4: Vehicle Volumes TMC: Before vs. After Quick Build Installation

Intersection	Peak Period	Northbound			Southbound			Eastbound			Westbound			Total		
		2022	2024	Change	2022	2024	Change	2022	2024	Change	2022	2024	Change	2022	2024	Change
Mountain Street	Weekday AM	152	147	-3%	253	262	4%	131	193	47%	212	254	20%	748	856	14%
	Weekday PM	295	262	-11%	212	217	2%	154	194	26%	210	230	10%	871	903	4%
	Saturday Midday	201	158	-21%	160	167	4%	102	112	10%	150	171	14%	613	608	-1%
Randolph Street	Weekday AM	160	159	-1%	299	282	-6%	60	68	13%	26	28	8%	545	537	-1%
	Weekday PM	327	312	-5%	239	190	-21%	37	36	-3%	29	12	-59%	632	550	-13%
	Saturday Midday	200	186	-7%	218	191	-12%	38	33	-13%	24	30	25%	480	440	-8%
Stocker Street	Weekday AM	326	302	-7%	349	312	-11%	340	391	15%	182	201	10%	1,197	1,206	1%
	Weekday PM	553	496	-10%	266	205	-23%	330	368	12%	152	200	32%	1,301	1,269	-2%
	Saturday Midday	391	321	-18%	238	230	-3%	297	275	-7%	126	130	3%	1,052	956	-9%
Dryden Street	Weekday AM	529	473	-11%	572	495	-13%	164	247	51%	165	214	30%	1,430	1,429	0%
	Weekday PM	749	657	-12%	510	489	-4%	237	254	7%	158	180	14%	1,654	1,580	-4%
	Saturday Midday	549	462	-16%	447	404	-10%	199	213	7%	133	133	0%	1,328	1,212	-9%
Glenoaks Boulevard	Weekday AM	613	533	-13%	676	587	-13%	577	806	40%	627	798	27%	2,493	2,724	9%
	Weekday PM	831	766	-8%	647	579	-11%	1,024	1,078	5%	703	796	13%	3,205	3,219	0%
	Saturday Midday	577	568	-2%	584	488	-16%	742	708	-5%	540	638	18%	2,443	2,402	-2%
Total of All Peak Periods for All Study Intersections														**19,992**	**19,891**	**-2%**

Average daily traffic (ADT) was also used to analyze changes in vehicle volumes after installation on study segments on N. Brand Boulevard. There was a decrease in vehicle volumes of 7 percent on average for weekday counts and a 9 percent decrease on average for weekend counts.

The segment with the greatest ADT in both 2022 and 2024 was Brand Boulevard between Dryden Street and Glenoaks Boulevard. The weekday volumes on this segment decreased from 17,136 in 2022 to 15,501 in 2024, a decrease of 10 percent. The weekend volumes on this segment decreased from 14,585 in 2022 to 12,828 in 2024, a decrease of 12 percent.

The smallest change occurred on Brand Boulevard between Stocker Street and Dryden Street. The weekday volumes increased from 12,208 to 12,411, an increase of 2%. The weekend volumes decreased from 10,659 in 2022 to 9,923 in 2024, a decrease of 7 percent.

Table 5: Vehicle Volumes ADT: Before vs. After Quick Build Installation

Intersection	Weekday			Weekend		
	2022	2024	Change	2022	2024	Change
Brand Boulevard (Mountain Street to Randolph Street)	5,937	5,459	-8%	5,345	4,905	-8%
Brand Boulevard (Randolph Street to Stocker Street)	6,986	6,167	-12%	6,138	5,515	-10%
Brand Boulevard (Stocker Street to Dryden Street)	12,208	12,411	2%	10,659	9,923	-7%
Brand Boulevard (Dryden Street to Glenoaks Boulevard)	17,136	15,501	-10%	14,585	12,828	-12%

6.3.3.B VEHICLE VOLUMES ON ADJACENT STREETS

To assess whether the project diverted cut-through traffic to adjacent streets, vehicle volumes in the form of average daily traffic (ADT) of four additional corridors were analyzed:

- Maryland Avenue (Between Stocker Street and Dryden Street)
- Louise Street (Between Stocker Street and Dryden Street)
- Jackson Street (Between Stocker Street and Dryden Street)
- Geneva Street (Between Stocker Street and Dryden Street)

Four months in 2023 (May – August) were compared to the same four months in 2024. All analyzed corridors experienced an increase in ADT, with the exception of Maryland Avenue.

Notably, the significance of the increase is associated with the corridor's proximity to Brand Boulevard. Louise Street is the closest corridor that traverses the CA 134 Freeway east of Brand Boulevard; Jackson Street is the next closest; and Geneva is the furthest of the analyzed corridors. Whether the corridor traverses the freeway is included to note whether motorists who may have used Brand Boulevard to travel south of the CA 134 Freeway, may have used the cut-through corridor to do so.

Table 6: Change in Vehicle Volumes on Corridors Adjacent to Brand Boulevard After Installation

Corridor	2023	2024	Change in ADT
Maryland Avenue	191	171	**-11%**
Louise Street	912	1273	**40%**
Jackson Street	662	755	**14%**
Geneva Street	964	1041	**8%**

6.3.4 SPEED

Speed surveys were used to analyze changes in vehicle speeds after installation. There was a decrease in 85th percentile speed of 8 percent on average for all analyzed segments, directions, and days of the week. The 85th percentile speed in 2022 was 33.5 MPH on average and the 85th percentile speed in 2024 was 30.6 MPH on average.

The segment that experienced the most significant decrease in 85th percentile speed was Brand Boulevard between Stocker Street and Dryden Street, with a 17 percent decrease on average. The only segment that experienced an increase in 85th percentile speed was northbound Brand Boulevard between Mountain Street and Randolph Street. All other segments had a decrease in 85th percentile speeds.

Table 7: 85th Percentile Speed: Before vs. After Quick Build Installation

Segment	Northbound			Southbound		
	2022	2024	Change	2022	2024	Change
Brand Boulevard (Mountain Street to Randolph Street)	29	31	7%	30	29	-3%
Brand Boulevard (Randolph Street to Stocker Street)	37	32	-14%	36	33	-8%
Brand Boulevard (Stocker Street to Dryden Street)	35	30	-14%	37	30	-19%
Brand Boulevard (Dryden Street to Fairview Avenue)	34	31	-9%	30	29	-3%

The speed limit on this section of Brand Boulevard is 30 MPH. In 2022, 31.8 percent of all vehicles traveling on the four analyzed segments were traveling more than 30MPH. In 2024, 17.5 percent of all vehicles traveling on the four analyzed segments were traveling more than 30 MPH. Table 8 shows the percentage of vehicles speeding by segment.

Table 8: Percent of Vehicles Traveling over the Speed Limit of 30 MPH

Day of the Week	Percent of Total Vehicles	
	2022	2024
Brand Boulevard (Mountain Street to Randolph Street)	41%	13%
Brand Boulevard (Randolph Street to Stocker Street)	22%	27%
Brand Boulevard (Stocker Street to Dryden Street)	13%	17%
Brand Boulevard (Dryden Street to Fairview Avenue)	51%	13%

6.3.5 VEHICLE TRAVEL TIME

StreetLight was used to analyze changes in vehicle travel time after installation. The following study segments were observed:

- Brand Boulevard (Between Mountain Street and Randolph Street)
- Brand Boulevard (Between Randolph Street and Stocker Street)
- Brand Boulevard (Between Stocker Street and Dryden Street)
- Brand Boulevard (Between Dryden Street and Glenoaks Boulevard)

StreetLight data is provided by segments as delineated by the OpenStreetMap which breaks the roadway down into many short segments of differing lengths. This, along with the fact it uses navigation-GPS on an opt-in basis, makes it difficult to estimate total project travel time using *StreetLight*. In order to compare before and after data, therefore, each segment as defined by *StreetLight* was compared to itself in 2023 versus itself in 2024. This was done for each specified day type and time of day category to provide the percent change in travel time.

After installation there was a 17 percent increase in vehicle travel time on study segments. The average vehicle travel time increased most significantly during the Friday midday period, which increased 22 percent.

Table 9: Average Vehicle Travel Time by Day of the Week: Before vs After Quick Build Installation

Day of the Week	Change in Travel Time
Monday-Thursday	18%
Friday	18%
Weekend	14%
All Days	17%

Table 10: Average Vehicle Travel Time by Time of Day: Before vs After Quick Build Installation

Time of Day	Change
Early AM (12am-6am)	8%
Peak AM (6am-10am)	14%
Midday (10am-3pm)	20%
Peak PM (3pm-7pm)	21%
Late PM (7pm-12am)	12%

6.3.6 VEHICLE DELAY

StreetLight was used to analyze changes in vehicle delay after project installation. Vehicle delay refers to the total number of hours lost to traffic delays in the analysis area. It is distributed over all vehicle trips in the project area. The average vehicle delay on the study segments in 2023 was 3.1 hours, while it was 4.8 hours in 2024, an increase of 54.8 percent.

In order to conceptualize how this affects the average motorist, we can distribute the delay across the total number of vehicles in the project segments. Dividing the delay by the total vehicle trips, we find that the average vehicle experienced 1.39 seconds of delay in 2023 and 2.16 of delay in 2024, increasing 55.4 percent. On average, a vehicle traveling on the segment in 2024 experiences a delay of 0.77 seconds more than it would have in 2023.

Table 11: Vehicle Delay by Time of Day: Before vs After Quick Build Installation

Day and Time of Day		Vehicle Delay (Total Hours)			Delay / Vehicle Trip (Average Seconds)		
		2023	2024	Change	2023	2024	Change
Monday-Thursday	All Day	3.25	5.22	60%	1.45	2.30	58%
	Early AM (12am-6am)	0.02	0.03	32%	0.35	0.43	23%
	Peak AM (6am-10am)	0.58	0.90	55%	1.50	2.27	51%
	Midday (10am-3pm)	1.14	1.90	66%	1.67	2.82	69%
	Peak PM (3pm-7pm)	1.04	1.76	69%	1.59	2.69	70%
	Late PM (7pm-12am)	0.51	0.78	52%	1.13	1.61	42%
Friday	All Day	3.57	5.46	53%	1.45	2.31	59%
	Early AM (12am-6am)	0.03	0.03	27%	0.40	0.48	19%
	Peak AM (6am-10am)	0.57	0.87	52%	1.46	2.22	52%
	Midday (10am-3pm)	1.20	1.98	65%	1.64	2.78	70%
	Peak PM (3pm-7pm)	1.11	1.76	59%	1.54	2.67	74%
	Late PM (7pm-12am)	0.70	0.95	36%	1.26	1.77	40%
Weekend	All Day	2.44	3.56	46%	1.17	1.72	47%
	Early AM (12am-6am)	0.04	0.05	26%	0.41	0.48	19%
	Peak AM (6am-10am)	0.21	0.29	42%	1.02	1.38	36%
	Midday (10am-3pm)	0.95	1.49	57%	1.35	2.12	57%
	Peak PM (3pm-7pm)	0.70	1.02	46%	1.22	1.85	52%
	Late PM (7pm-12am)	0.57	0.78	36%	1.15	1.60	39%

6.3.7 LEVEL OF SERVICE

Level of service (LOS) is a measure of the operating conditions of an intersection based on vehicle delay. An LOS of A represents the best operating conditions, indicating free flow, while an LOS of F is represents the worst conditions, indicating breakdown of flow. LOS was analyzed for four intersections along the project corridor.

In 2022 under before installation conditions, all study intersections operated at an LOS of A or B. In 2024, after project installation, all study intersections continue to operate at an LOS of A or B. In all peak periods at all intersections, the LOS either remains the same or improves from LOS A to LOS B. Some intersections do experience an increase in delay. However, the impact is acceptable according to the Glendale Impact Transportation Analysis Guidelines.

Table 12: Level of Service by Intersection: Before vs After Quick Build Installation

Intersection	Peak Period	Pre-Installation Conditions (2022)		Project Conditions (2024)		Change in Delay	Significant Impact?
		Delay (sec)	LOS	Delay (sec)	LOS		
Mountain Street	Weekday AM	10.1	B	12.1	B	2.0	No
	Weekday PM	11.8	B	12.9	B	1.1	No
	Saturday Midday	9.4	A	9.4	A	0.0	No
Stocker Street	Weekday AM	12.4	B	14.1	B	1.7	No
	Weekday PM	12.0	B	15.7	B	3.7	No
	Saturday Midday	10.5	B	14.1	B	3.6	No
Dryden Street	Weekday AM	12.8	B	14.9	B	2.1	No
	Weekday PM	14.1	B	16.7	B	2.6	No
	Saturday Midday	12.7	B	14.1	B	1.4	No
Glenoaks Boulevard	Weekday AM	12.4	B	10.8	B	-1.6	No
	Weekday PM	13.4	B	11.9	B	-1.5	No
	Saturday Midday	12.1	B	10.2	B	-1.9	No

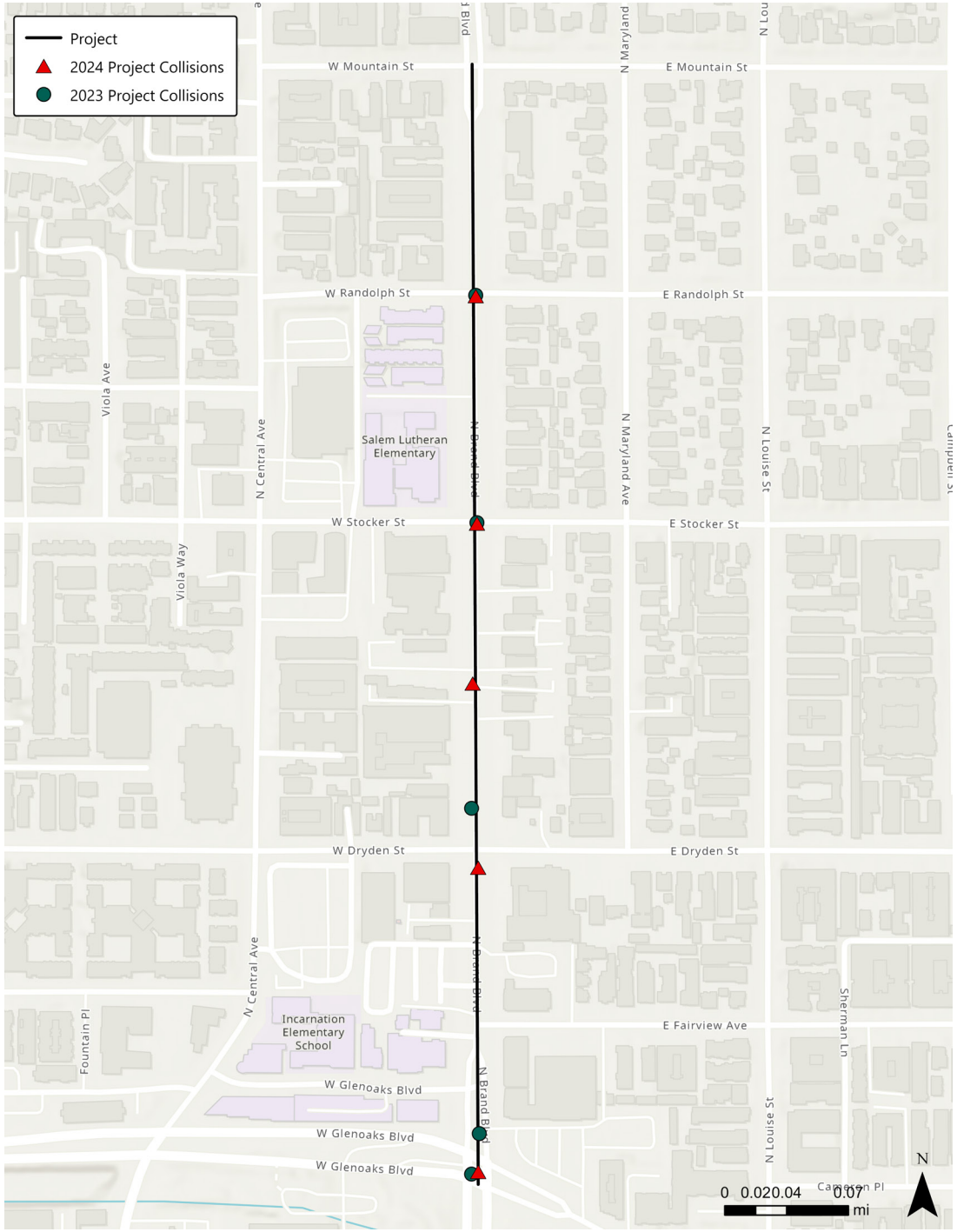
6.3.9 COLLISIONS

SWITRS data was used to analyze changes in collisions after project installation. May 10 through August 31 of 2023 were compared with May 10 through August 31 of 2024, to allow for direct comparison by month.

Five collisions occurred along the project segment in 2023, while six occurred in 2024. Of the collisions in 2023, none resulted in a fatality or severe injury (KSI). All resulted in minor or visible injury (2), complaint of pain (1), or property damage only (2). One of the collisions involved a pedestrian which resulted in minor or visible injury and was the result of unsafe starting or backing. None involved a cyclist.

Of the collisions in 2024, none resulted in KSI. Four resulted in property damage only and two resulted in complaint of pain or minor or visible injury. None of the collisions involved a pedestrian. Two collisions involved a cyclist, one resulted in minor or visible injury, the other resulted in complaint of pain. The latter was the result of improper turning by a motorist. The former had a primary collision factor of violation by cyclist.

Figure 33: Map of Project Area Collisions March - August 2023 vs March - August 2024



6.3.10 LEVEL OF TRAFFIC STRESS

Level of Traffic Stress (LTS) is a rating given to a road segment indicating the stress it imposes on bicyclists. LTS is rated 1 to 4 with 1 being the least stressful and 4 being the most. Before installation, bicycles traveled on the same lane as vehicle traffic. As such, we reference the Mixed Traffic LTS criteria, as shown in Table 13. The project segment has 4-5 lanes and a speed limit of 30 MPH. As such, before installation the LTS was 4.

After installation, bicyclists were provided with a bike facility that is physically separated from traffic by a parking lane. As such, we reference the Protected Bike Lane LTS criteria, as shown in Table 14. Considering the post-installation conditions of one through lane in each direction with a center turn lane and speed limit of 30 MPH, the LTS is 1.

Table 13: Level of Traffic Stress for Mixed Traffic

Speed	Street Width		
	2-3 Lanes	4-5 Lanes	6+ Lanes
Up to 25 MPH	1 or 2*	3	4
30 MPH	2 or 3*	4	4
35 MPH or More	4	4	4

* Use lower value for streets without marked centerline and with ADT ≤3000; use higher value otherwise.

Table 14: Level of Traffic Stress for Protected Bicycle Lanes

Speed	Street Width		
	2-3 Lanes	4-5 Lanes	6+ Lanes
Up to 25 MPH	1	1	1
30 MPH	1	1	1
35 MPH	1	1	2
40 MPH	1	2	2
45 MPH	2	3	3
50+ MPH	3	3	4

There is a short northbound section in which the bicycle lane is not parking-protected, on the east side of Brand Boulevard between Glenoaks Boulevard and just north of E Fairview Avenue. In this section, we can reference Table 15 for unprotected bicycle lane LTS.

Table 15: Level of Traffic Stress for Bicycle Lanes

Metrics	LTS ≥ 1	LTS ≥ 2	LTS ≥ 3	LTS ≥ 4
Through Lanes Per Direction	1	2, with raised median	More than 2, or 2 without median	N/A
Bike Lane Width	6 ft or more	5.5 ft or less	N/A	N/A
Speed Limit or Prevailing Speed	30 MPH or less	N/A	35 MPH	45 or more
Bike Lane Blockage	Rare	N/A	Frequent	N/A

In this section the project still has two northbound through lanes adjacent to the bicycle lane and one southbound through lane, as well as a center turn lanes. There is no raised median. The bike lane is 5 feet wide in this section. The speed limit is 30 MPH. As such, in this segment the LTS is 3.

In the northbound segment between Glenoaks Boulevard and just north of E Fairview Avenue, the LTS is improved from 4 before installation to 3 after installation. For the rest of the project, the LTS is improved from 4 to 1.

[1] LTS Criteria Tables. Northeastern University. https://peterfurth.sites.northeastern.edu/level-of-traffic-stress/

6.4 SUMMARY OF CHANGES AFTER INSTALLATION

- Pedestrian volumes increased by 11 percent on average between 2022 and October 2024. Pedestrian volumes increased 19 percent on average between 2022 and November 2024.

- The volume of bicycles decreased an average of 41 percent between 2022 and October 2024. The volume of bicycles decreased an average of 22 percent between 2022 and November 2024. For counts recorded after the project, an average of 262 bicyclists were present on each project segment per week. On average, 83 percent of bicyclists used the bike lane.

- The volume of vehicles at intersections decreased by 2 percent between 2022 and 2024. The average daily traffic on project segments decreased 7 percent on weekdays and 9 percent on weekends between 2022 and 2024. Further, vehicle volumes on the corridors that traverse CA-134 Freeway directly to the east of Brand Boulevard increased.

- 85th percentile speed decreased by 8 percent on average, with the greatest decrease occurring on Brand Boulevard between Stocker Street and Dryden Street. Speeding above the 30 MPH speed limit was reduced from 31.8 percent of all traffic to 17.5 percent of all traffic.

- Vehicle travel time increased by an average of 17 percent. The greatest increase was a 22 percent increase on average for the Friday PM Peak period.

- Vehicle delay increased by an average of 1.7 hours, from 3.1 hours to 4.8 hours, total for all vehicle trips. This delay is shared across all trips. Controlling for vehicle trips, the average vehicle experienced an increase in delay of 0.77 seconds per trip in 2024 versus 2023.

- Level of service at project intersections all stayed the same at an LOS of A or B or improved from an LOS of B to an LOS of A. Any increases in delay were not significant.

- Collisions on the project segment increased from five in 2023 to six during same months of 2024. There were no KSI collisions on the project segment in either year's analyzed months. This analysis includes only a small set of date, from May 10 to August 31 of both years. A more robust analysis after a longer time frame has passed would better inform these conclusions.

- Level of traffic stress was 4 (most stressful) on the project segment before installation. After installation, the LTS was reduced to 1 (least stressful) on the majority of the project corridor, which has protected bike lanes, and 3 on the short northbound segment between Glenoaks Boulevard and just north of E Fairview Avenue.

CHAPTER 7: TWO-WAY CYCLE TRACK ALTERNATIVE

7.1 BACKGROUND

The City of Glendale is considering making an alternative configuration which will add a two-way cycle track on the east side of Brand Boulevard rather than having bicyclists travel on either side of the road. The two-way cycle track alternative will include customized bicycle signalization at the signalized intersections of Stocker Street and Dryden Street. To improve safety and eliminate conflicts with vehicles, southbound left-turn restrictions will be implemented at unsignalized intersections (Fairview Avenue and Randolph Street). These combined treatments along with geometric enhancements at existing curb extensions will ideally improve vehicle flow while ensuring improved bicycle mobility through the corridor.

7.2 CURRENT PROJECT VS PROJECT ALTERNATIVE ANALYSIS

7.2.1 LEVEL OF SERVICE

Under current project conditions, all study intersections operate at an LOS of A or B. Under the two-way cycle track alternative, the intersection of Stocker Street is expected to operate an an LOS of C during the Weekday AM Peak period, with a change in delay of 7.2 seconds, and the Weekday PM Peak period, with a change in delay of 5.4 seconds. The intersection of Glenoaks Boulevard is also expected to operate at an LOS of C during the Weekday PM Peak period, with a change in delay of 10.5 seconds. However, based on the Glendale Impact Transportation Analysis Guidelines which consider existing LOS and change in delay, all of these impacts are classified as acceptable. Other intersections remain at an LOS of A or B.

Table 16: Level of Service by Intersection: Current Quick Build Installation vs Two-Way Cycle Track Alternative

Intersection	Peak Period	Project Conditions (2024)		Two-Way Cycle Track Alternative (2024)		Change in Delay	Significant Impact?
		Delay (sec)	LOS	Delay (sec)	LOS		
Mountain Street	Weekday AM	12.1	B	12.1	B	0.0	No
	Weekday PM	12.9	B	12.9	B	0.0	No
	Saturday Midday	9.4	A	9.4	A	0.0	No
Stocker Street	Weekday AM	14.1	B	21.3	C	7.2	No
	Weekday PM	15.7	B	21.1	C	5.4	No
	Saturday Midday	14.1	B	18.0	B	3.9	No
Dryden Street	Weekday AM	14.9	B	13.8	B	-1.1	No
	Weekday PM	16.7	B	15.8	B	-0.9	No
	Saturday Midday	14.1	B	13.0	B	-1.1	No
Glenoaks Boulevard	Weekday AM	10.8	B	18.2	B	7.4	No
	Weekday PM	11.9	B	22.4	C	10.5	No
	Saturday Midday	10.2	B	19.5	B	9.3	No

CHAPTER 8: WHAT COMES NEXT

The City of Glendale will collect stakeholder feedback and traffic data on the North Brand Boulevard Complete Streets Demonstration Project over a six-month period after installation. Public feedback and follow-up traffic data analyses will ultimately inform how the City of Glendale will proceed with the project. City staff will continue to monitor stakeholder comments, observe traffic behaviors, and host follow-up community touchpoints to determine whether to permanently install, modify, or remove project elements.

8.1 FUNDING SOURCES

The City of Glendale can seek a variety of funding opportunities for the planning, designing, and construction of both permanently installing Quick Build elements and/or pursue more transformative treatments outside the scope of the Quick Build program. This section provides an overview of the federal, state, and local funding sources for active transportation and pedestrian safety infrastructure projects.

8.1.1 ELIGIBLE ACTIVITY TYPES

The following is a list of Eligible Activity Types which dictates which of the following funding sources are relevant based on project type.

- **Planning:** These activities are the initial project stages, which typically involve research, feasibility studies, design development, and other preparatory work.
- **Demonstration:** These activities are temporary improvements by testing proposed project and strategy approaches to determine future benefits and future scope. i.e) Feasibility studies, MUTCD engineering studies, behavioral or operational activity pilot programs, new technology pilot programs.
- **Implementation / Construction:** These activities involve the implementation of construction activities outlined in approved project plans supporting the actual building, renovation, or installation of infrastructure, facilities, or systems as outlined in the project's design and development phase.
- **Engineering / Design:** These activities typically focus on activities related to the conceptualization, planning, and preliminary design phases of engineering projects.
- **Evaluation:** These activities focus on assessing the effectiveness, impact, and outcomes of programs, projects, or interventions.
- **Capital Investment:** These activities include activities such as infrastructure development, equipment acquisition, facility construction or renovation, and other capital expenditures related to designated projects.
- **Education:** These activities include educational program, school-based program, and community outreach.
- **Enforcement:** These activities involve efforts related to enforcing laws, regulations, or policies aimed at promoting public safety and order.
- Engagement: These activities involve efforts designed to involve communities, stakeholders, or target audiences in particular projects, programs, or plans.
- **Infrastructure:** These activities include the environmental, design, right-of-way, and construction phases of a capital (facilities) project.
- **Non-Infrastructure:** These activities include education and encouragement. i.e) Development and implementation encouragement days, such as bike-to-work, bike-to-school, walk-to-work, and walk-to-school days.
- **Combined:** These activities include both infrastructure and non-infrastructure projects.

Grant/ Program	Source	Agency	Description	Eligible Activity Type
Safe Streets and Roads for All (SS4A)	Federal	USDOT	The Bipartisan Infrastructure Law (BIL) established the Safe Streets and Roads for All (SS4A) discretionary grant program with $5 billion in appropriated funds over 5 years, 2022-2026. The SS4A program funds regional, local, and Tribal initiatives through grants to prevent roadway deaths and serious injuries. Over $3 billion is still available for future funding rounds. The SS4A program supports the U.S. Department of Transportation's National Roadway Safety Strategy and our goal of zero roadway deaths using a Safe System Approach. Combining the FY22 and FY23 awards, SS4A has provided $1.7 billion in federal funding to over 1,000 communities in all 50 states and Puerto Rico. SS4A funding awarded to-date will improve roadway safety planning for about 70 percent of the nation's population.	Planning and Demonstration Implementation
Rebuilding American Infrastructure with Sustainability & Equity (RAISE) Discretionary Grant Program, formerly BUILD	Federal	USDOT	The Rebuilding American Infrastructure with Sustainability and Equity, or RAISE Discretionary Grant program, provides a unique opportunity for the DOT to invest in road, rail, transit and port projects that promise to achieve national objectives. Previously known as the Better Utilizing Investments to Leverage Development (BUILD) and Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grants, Congress has dedicated nearly $14.3 billion for fifteen rounds of National Infrastructure Investments to fund projects that have a significant local or regional impact.	Planning Construction
Surface Transportation Block Grant Program	Federal	FHWA	The FAST Act converted the Surface Transportation Program into the Surface Transportation Block Grant Program in 2015. The program continues to provide funding for state and local transportation projects to preserve and improve the conditions and performance on any Federal-aid highway, bridge, and tunnel project on any public road, pedestrian and bicycle infrastructure element, transit capital, or intercity bus terminal.	Planning Construction
Congestion Relief Program	Federal	FHWA	The BIL establishes the Congestion Relief Program to provide discretionary grants to eligible entities to advance innovative, integrated, and multimodal solutions to congestion relief in the most congested metropolitan areas of the United States with an urbanized area population greater than 1,000,000. The goals of the program are to reduce highway congestion, reduce economic and environmental costs associated with that congestion, including transportation emissions, and optimize existing highway capacity and usage of highway and transit systems through: (1) improving intermodal integration with highways, highway operations, and highway performance; (2) reducing or shifting highway users to off- peak travel times or to nonhighway travel modes during peak travel times; and (3) pricing of, or based on, as applicable, parking; use of roadways, including in designated geographic zones; or congestion.	Planning Design Implementation /Construction
Urbanized Area Formula Grants - Section 5307 (S.5307)	Federal	FTA	The Urbanized Area Formula Funding program offers financial support for transit capital, operating assistance projects, and transportation-related planning projects in urbanized areas. Urbanized areas are defined as incorporated areas with a population of 50,000 or more. Eligible activities include: planning, engineering, design and evaluation of transit projects and other technical transportation-related studies; capital investments in bus and bus-related activities such as replacement, overhaul and rebuilding of buses, crime prevention and security equipment and construction of maintenance and passenger facilities; and capital investments in new and existing fixed guide way systems including rolling stock, overhaul and rebuilding of vehicles, track, signals, communications, and computer hardware and software. In addition, associated transit improvements and certain expenses associated with mobility management programs are eligible under the program. All preventive maintenance and some Americans with Disabilities Act complementary paratransit service costs are considered capital costs.	Planning Engineering Design and Evaluation Capital Investments

Enhanced Mobility of Seniors & Individuals with Disabilities - Section 5310	Federal	FTA	This program aims to improve mobility for seniors and individuals with disabilities by removing barriers to transportation service and expanding transportation mobility options. This program supports transportation services planned, designed, and carried out to meet the special transportation needs of seniors and individuals with disabilities to areas currently unable to. The program provides formula funding to states for the purpose of assisting private nonprofit groups in meeting the demand. Eligible projects include both "traditional" capital investment and "nontraditional" investment beyond the Americans with Disabilities Act (ADA) complementary paratransit services. Eligible projects include: • Buses and vans • Wheelchair lifts, ramps, and securement devices • Transit-related information technology systems, including scheduling/routing/one-call systems • Mobility management programs • Acquisition of transportation services under a contract, lease, or other arrangement	Capital Investment Construction
Section 5304 (Planning Funds)	Federal	FTA	These funds intend to support the development of multimodal transportation planning. Cities can apply for projects that focus and support one or more of the following: economic vitality in metropolitan areas, motorized and non-motorized safety and security, improved accessibility and mobility for people and freight, environmental sustainability, transportation connectivity, efficient system management and operation, and preservation of existing transportation system.	Planning
OTS Grants	State	California Office of Traffic Safety (OTS)	The Office of Traffic Safety Grants seeks to reduce traffic deaths, injuries, and economic losses. The grants have ten areas of concentration; of these, projects identified in this Plan qualify for: • Pedestrian and Bicycle Safety • Police Traffic Services • Public Relations, Advertising, and Marketing Program • Roadway Safety and Traffic Records	Education Enforcement
Active Transportation Program (ATP)	State	Caltrans	The ATP consolidates existing federal and state transportation programs, including the Transportation Alternatives Program (TAP), Bicycle Transportation Account (BTA), and State Safe Routes to School (SRTS), into a single program with a focus to make California a national leader in active transportation. The ATP is administered by the Division of Local Assistance, Office of State Programs. The purpose of ATP is to encourage increased use of active modes of transportation by achieving the following goals: • Increase the proportion of trips accomplished by biking and walking • Increase safety and mobility for non-motorized users • Advance the active transportation efforts of regional agencies to achieve Greenhouse Gas (GHG) reduction goals, pursuant to SB 375 (of 2008) and SB 341 (of 2009) • Enhance public health • Ensure that disadvantaged communities fully share in the benefits of the program • Provide a broad spectrum of projects to benefit many types of active transportation users	Infrastructure Projects Non-Infrastructure Projects Combined Projects Planning
Community-Based Transportation Planning Grant (CBTP) Program	State	Caltrans	The Community-Based Transportation Planning grant program aims to engage the community in transportation and land use projects. Projects support concepts such as livable and sustainable communities with a transportation or mobility focus. They should also promote community identity and quality of life, as well as, provide transportation and land use benefits to communities.	Planning

Active Transportation and Safety (AT&S)	Region-al /Local	SCAG	Applicants can apply for any of the three project types below within the AT&S program area. More details about each project type, program area goals, and the SCP overall can be found in the Sustainable Communities Program AT&S Guidelines. **Community or Area Wide Plans** • Active Transportation Focused Plans (maximum award per project: $500,000) Community-wide Bicycle or Pedestrian Master Plans Community-wide Active Transportation Master Plans First-Last Mile Plans (active transportation improvements only) • Transportation Safety Focused Plans (maximum award per project: $250,000) Local Road Safety Plans Complete Streets Safety Assessments Safe Routes Programs **Quick Build Projects** • Active transportation infrastructure (protected bike lane, bulb-outs, curb extensions) • Multimodal infrastructure integrations (dedicated bus pilot lanes and transit integration with active transportation infrastructure) • Public Pedestrian Plazas **Network Visioning & Implementation** • Technical analysis • Public engagement • Education and advertising • Development of a Community-wide Active Transportation Plan • Phase 1 Quick Build project implementation • Evaluation Applicants who wish to apply for this program are strongly encouraged to attend an Application Workshop and/or reach out to SCAG staff for more information.	Planning Implementation Education Engagement Evaluation
Surface Transportation Block Grant (STBG) program/ Congestion Mitigation and Air Quality (CMAQ) Improvement Program	Region-al/ Local	SCAG	The Surface Transportation Block Grant (STBG) program is a federal funding source that may be used for projects to preserve and improve the conditions and performance of highways, bridges, and public roads pedestrian and bicycle infrastructure; and transit capital projects. The Conges-tion Mitigation and Air Quality (CMAQ) Improvement Program is a federal funding source for transportation projects and programs to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide or particulate matter (nonattainment areas) and for former nonattainment areas that are now in compliance (maintenance areas). Approximately *$130 million in STBG apportionments and *$57 million in CMAQ apportion-ments for federal fiscal year (FFY) 2023 through FFY 2026 is available for the SCAG region.	Planning Construction
Mobile Source Air Pollution Reduction Review Committee	Region-al/Local	SCAQMD	The MSRC is the Mobile Source Air Pollution Reduction Review Committee, established under state law (AB 2766) whose sole mission is to fund projects that reduce air pollution from motor vehicles within the South Coast Air District in Southern California. The South Coast Air District is a geographic region defined in state regulations to include all of Orange County and portions of Los Angeles, Riverside and San Bernardino counties. The category of projects the MSRC ultimately funds make up the Work Program. These projects consist of: transportation control measures, transportation demand management programs, clean fuel and clean vehicle programs, research and monitoring programs, projects that comply with the federal Clean Air Act and the California Clean Air Act, or projects that result in direct and tangible reductions in vehicular air pollution. Each year the MSRC reviews and evaluates past Work Programs. After a thorough review involving public input and discussion, the MSRC develops categories and funding targets for these select categories.	Various