

B

Attachment B

**Systemwide
Opportunity and Gap
Analysis**

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1.0 Executive Summary

Purpose of this Study

Metro received a 2018 Transit and Intercity Rail Capital Program (TIRCP) grant award of \$1.08B from Caltrans for new transit capital improvements and development of regional rail network integration. Metro received \$7M of TIRCP funding for “Network Integration” to implement features of the *2018 California State Rail Plan*, aiming to create a seamless and safe travel experience across rail and public transit in California.

Metro is working to prepare a Los Angeles County Rail Network Integration Study (Study) for integrating Metro’s existing and planned transit corridors with SCRRA/Metrolink’s programs and the anticipated California High Speed Rail (CAHSR) project investments.

The Study will:

- Establish **baseline understanding** of needs and priorities for network integration
- Identify policy recommendations, infrastructure improvements and operational enhancements **for targeted rail station locations with potential high intermodal transfers**
- Explore opportunities for new express transit services leveraging HOV/Express Lanes (e.g., FlyAway).

The study will focus on three study areas: Metrolink Van Nuys, Burbank (Burbank Airport North, Burbank Airport South, and Downtown Burbank), and Norwalk (C Line terminus and Metrolink Norwalk/Santa Fe Springs Station). In a previous study, Metro screened multiple potential areas. These three were selected by Metro because they are anticipated to be high-transfer and high-activity locations. The study areas are highlighted in **Figure 1.1** below.

Figure 1.1 - Three Study Areas for the Los Angeles County Rail Network Integration Study



Source: LA Metro, 2021

Purpose of this Document

This document summarizes the findings of Task 2 – Systemwide Opportunity and Gap Analysis. This task identifies locations where potential opportunities and gaps/constraints exist on the current and foreseeable regional rail and express-lane network in the three study areas based upon examination of previous and existing studies, along with interviews with key jurisdictional stakeholders.

Figure 1.2 - Existing and Future Transit Service in the Los Angeles County Region by Mode and Frequency



Source: CR Associates, DB Engineering, 2022

Note: An enlarged version of **Figure 1.2** can be found on pages 22 and 23, **Figures 4.2 and 4.3**.

Methodology

Previous and existing studies and reports were reviewed to inform the development of cost/benefit criteria and provide information on planned projects in the study areas and related regional policies. Transportation demand analysis data was gathered from a variety of Metro and statewide modeling sources, in addition to data from Metrolink/SCRRA, CAHSR Authority, SCAG, local jurisdictions, municipal operators, Los Angeles World Airports, Hollywood Burbank Airport, OCTA and LOSSAN. This report primarily examines existing (2017) conditions, while future reports will examine scenarios for 2047. The existing and planned rail and BRT routes in Los Angeles County are shown in **Figure 1.2**. The study team met with multiple transit operators and jurisdictional officials between September 2021 and April 2022, as further summarized in Section 3 of this document.

Key Findings

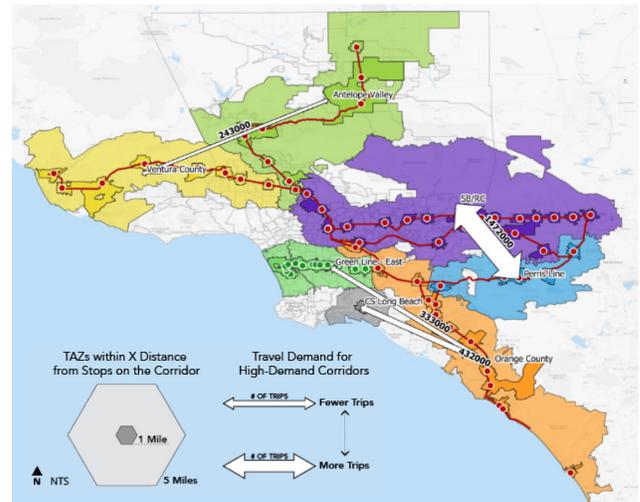
Key findings of this report were informed by analyses of the major inter- and intra-regional rail corridors, connectivity to study area rail stations, and the potential market for improved or new regional express bus services. Each station area was assessed for customer amenities and information, flow, accessibility, and potential gaps in first/last mile connectivity. Policy conditions were identified from available regional documents, such as Metro’s *Long Range Transportation Plan (LRTP), 2020*, SCAG *Connect SoCal Regional Transportation Plan (RTP) 2020*, Metro’s *Transfers Design Guide, 2018*, Metro’s *Understanding How Women Travel Report, 2019*, and the Metro *Equity Platform framework, 2018*. The catalogue of documents examined can be found in **Section 2**, and reference documents (including local, regional and statewide studies) are listed in **Appendix A**.

Rail-Corridors

Identified market gaps between rail corridors and potential gap closure measures include:

- Santa Clarita market to Ventura market – potential gap closure of connectivity could be addressed by improving frequency of Amtrak service stops in downtown Burbank.
- Orange County to C Line (Green) market areas, especially in eastern portions of the C Line (Green), could be improved by enhancing transit connectivity between Norwalk/Santa Fe Springs and the C Line (Green) Norwalk terminus station. Connectivity to eastern Long Beach has also been identified as market gap.

Figure 1.3 - Demand between Los Angeles County Corridors



Source: CR Associates, Cambridge Systematics, 2022

Note: An enlarged version of **Figure 1.3** can be found on page 25, **Figure 4.4**.

Station Assessments – Station Conditions and First/Last Mile

Each station was assessed for potential gaps in existing and planned connectivity. In general, every station was identified as needing enhancement in terms of signage consistency on the platforms, wayfinding to the station for pedestrians, bicycles, and automobiles, first/last mile connectivity, and transfers between adjacent services, such as bus, pedestrian, and bike infrastructure. Specific details of findings can be found in the main document.

Table 1.1 shows the specific study areas, station areas, and existing and future stations.

Table 1.1 - Study Areas, Station Areas & Existing/Future Stations

Study Areas	Van Nuys			Burbank			Norwalk			
Station Area	Van Nuys			Burbank Airport North	Burbank Airport South	Downtown Burbank	Norwalk C Line Terminus	Norwalk/SFS Metrolink		
Stations	Van Nuys Metrolink Station	Metro ESFV LRT Station*	Metro Sepulveda Station*	Burbank Airport - North Station	Burbank HSR*	Burbank Airport - South Station	Burbank - Downtown Station	Metro C Line Station	Norwalk/SFS Metrolink	Norwalk HSR*

*Future Station

Highlights of issues and findings specific to each station area which will be explored further in Task 3 include:

Van Nuys Study Area

- ADA accessibility to Van Nuys Boulevard from the Van Nuys Metrolink station
- Pedestrian and bicycle connections to future ESFV LRT at Van Nuys Boulevard/Keswick Street intersection
- Bicycle connectivity to G (Orange) Line BRT potentially via Kester Avenue
- Multimodal connectivity with future Sepulveda Transit Corridor project

Burbank Study Area

Burbank Airport - North Station

- Connectivity to neighborhoods north of the station (to be improved in Metro’s Brighton to Roxford Double Track Project)
- Pedestrian crossings of N. San Fernando Boulevard to the south
- Long term shuttle connectivity to Burbank Airport – South station and RITC
- Bike connectivity to downtown Burbank via N. San Fernando Boulevard

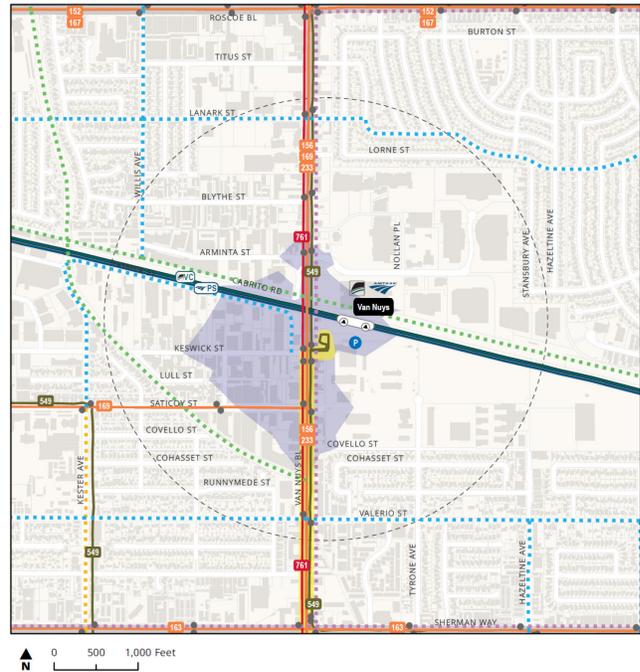
Burbank Airport - South Station

- Signage consistency between Amtrak/Metrolink/Burbank Airport
- Maintenance agreements
- Parking circulation
- Wayfinding to the Burbank Airport
- Pedestrian crossings south of Vanowen Street
- Long term shuttle connectivity to future CAHSR station, new Burbank Airport terminal and Burbank Airport - North station

Burbank – Downtown Station

- Enhanced Vertical pedestrian access to Olive Avenue including future potential NoHo to Pasadena BRT stop
- Vertical access to Magnolia Boulevard constructed by the developers of First Street Village, a mixed residential-commercial project in Downtown Burbank at First Street between Magnolia Boulevard and the alley southeast of Palm Avenue including 275 apartments and 18,876 square-feet of retail and commercial space

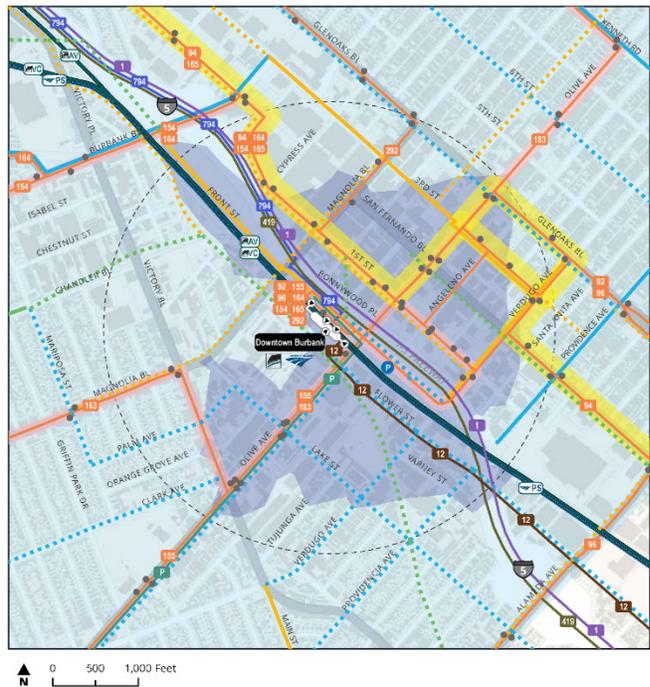
Figure 1.4 - Van Nuys Station Existing Conditions



Source: CR Associates, 2022

Note: An enlarged version of **Figure 1.4** can be found on page 29, **Figure 5.2**.

Figure 1.5 - Burbank Downtown Station Existing Conditions



Source: CR Associates, 2022

Note: An enlarged version of **Figure 1.5** can be found on page 74, **Figure 5.22**.

- the project was approved by City Council in 2017 and is currently under construction
- Pedestrian connectivity to downtown Burbank via Olive Avenue
- Potential for Amtrak to make more frequent stops

Norwalk Station Area

Connectivity between the Norwalk C Line (Green) Station and the Norwalk/Santa Fe Springs Metrolink Station, including:

- Improved bus connectivity (frequency and travel time) with potential bus lane improvements and traffic signal modifications on Imperial Highway and Firestone Boulevard routing alternatives
- C-Line (Green) extension options: at-grade, grade separated (above and below)
- Bicycle connectivity via Foster Avenue and potentially San Antonio Drive to Civic Center Drive, or similar routing

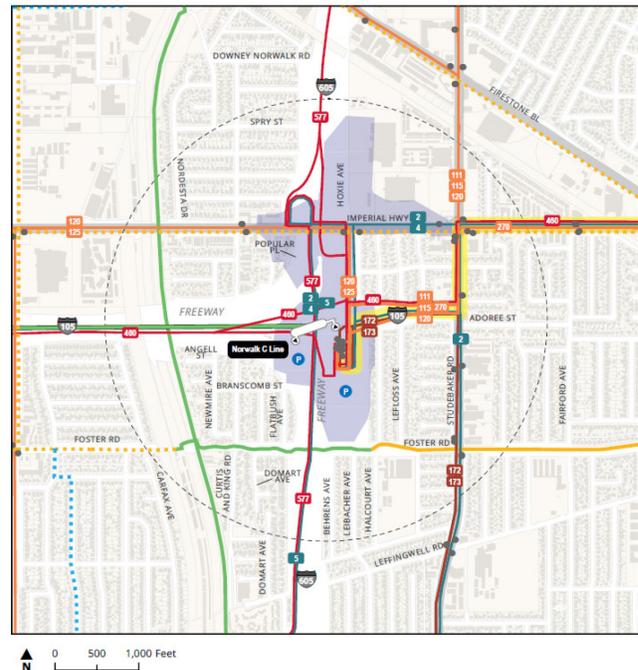
Norwalk C Line (Green) Station

- Lack of direct pedestrian and bicycle access to neighborhood due to Metro locked gates
- Conflicts between parking lot auto circulation and bicycle and pedestrian movements
- Lack of adequate wayfinding signage

Norwalk/Santa Fe Springs Metrolink Station

- Lack of direct pedestrian & bicycle access to communities to the south via Zimmerman Park and via Civic Center Drive
- Confusing parking signage and circulation
- Directional signage for Metrolink trains requires updating
- Potential Amtrak stops at station for increased frequency in LOSSAN corridor
- Access and connectivity to future CAHSR station
- Gaps in transit connectivity (frequency) from Eastern Long Beach near CalState Long Beach (CSULB) based on demand

Figure 1.6 - Norwalk C Line Terminus Existing Conditions



Source: CR Associates, 2022

Note: An enlarged version of **Figure 1.6** can be found on page 91, **Figure 5.2.9**.

Potential Express Bus on Express Lane Markets

Service gaps in existing or planned express lane corridors between community areas were identified via review of regional origin/destination patterns and comparison with existing and planned express bus or rail services.

The primary markets identified as potentially being underserved relative to modeled travel demands as the basis for further review in Task 3 include:

- The Long Beach travel market along:
 - I-605 corridor to El Monte
 - I-405 corridor to Los Angeles International Airport

Express bus service will work in tandem with the regional bus network – the future of which is guided by *Metro's NextGen Bus Plan*, outlined in Section 2, Policy document review.

Summary

The Task 2 document includes the detailed analysis which served as the basis for the above findings, The subsequent Task 3 will examine the potential benefits/costs along with the refinement of improvements for further analysis in Task 4.

2.0 Policy Document Review

This section includes a discussion of policy guidance on connectivity, conditions, and service.

Policy Guidance on Connectivity, Conditions, and Service

The following summarizes the key statewide and regional plans and policies relevant to rail network integration throughout the Southern California region. Major planned and programmed connectivity improvements to and from station areas throughout the region are identified as well.

Summary of State Policy Implications

Key statewide plans relevant to rail network integration include the 2020 California Integrated Travel Project (Cal-ITP), the California 2018 State Rail Plan (currently being updated for 2022 State Rail Plan update), the California Transportation Plan 2050 (CTP), the 2021 Climate Action Plan for Transportation Investments (CAPTI), and the 2020 California High-Speed Rail (HSR) Business Plan. An overview of each is provided in the following section, and key findings as they relate to the LACRNI study area are summarized as follows:

- **Increasing transit ridership:** Increasing ridership is a core goal of almost every statewide transportation plan and policy in order to encourage a shift away from single-occupancy vehicles, reduce congestion and vehicle miles traveled, reduce greenhouse gas emissions, and increase equity.
- **Investing in capital and operational improvements:** Caltrans' Transit and Intercity Rail Capital Program (TIRCP) provides grants from the Greenhouse Gas Emission Reduction Fund (GGRF) to fund transformative capital improvements that will increase ridership, integrate rail service across the state's various providers, and improve transit safety. TIRCP funds this Los Angeles County Rail Network Integration study. Multiple other statewide and federal discretionary grant programs exist (including the California Low-Carbon Transit Operations Program (LCTOP), and federal Rebuilding American Infrastructure with Sustainability and Equity (RAISE) discretionary grant program) to fund transit capital and operational projects as well.
- **Prioritizing multi-modal solutions:** Statewide plans and policies are increasingly recognizing that there needs to be a shift away from driving alone, which can be supported by investing in multi-modal solutions. To achieve this shift, the *Climate Action Plan for Transportation Infrastructure (CAPTI)* outlines guidelines (including building towards an integrated statewide rail and transit network) to leverage \$5 billion in annual discretionary transportation infrastructure funding. Multiple recommendations from *California Transportation Plan 2050 (CTP)* are also focused on integration across rail, transit, shared mobility, and other multi-modal solutions.
- **Expanding real-time commuting information:** The Cal-ITP explicitly states the importance of collecting and sharing accurate travel time information with users to improve transit reliability, customer experience, and increase ridership. The program's goals are aligned with CTP's recommendations for improving transit, which include modernizing transit systems through intelligent transportation system (ITS) elements like signal priority, automatic passenger counters, and real-time information systems.
- **Creating seamless transfers:** Simplifying transfers between services can reduce transit travel time, cost, and make the experience more enjoyable. Improving transfers and reducing wait times is a priority identified in almost every statewide plan reviewed, and priority strategies include fare integration (a focus of Cal-ITP), data sharing and integration, and improving coordination at the state, regional, and transit agency level.

- **Advancing Equity:** Major infrastructure improvements also raise new opportunities to connect communities that have been historically marginalized. State policy documents cite a need to focus more on outcomes and integrate equity into the planning of improvements. *CTP* states a goal to eliminate transportation burdens for low-income communities, communities of color, people with disabilities, and other disadvantaged groups. Moreover, *CAPTI* recognizes the importance of prioritizing job access and quality in the transportation sector as a key pathway to achieve social equity during the transition to a carbon-neutral economy.

Key State Policy Documents

2014 Transit and Intercity Rail Capital Program (TIRCP): Caltrans

The TIRCP was created by SB 862 to fund transformative capital improvements that will modernize California's rail, bus, and ferry transit systems to reduce emissions of greenhouse gases, vehicle miles traveled, and congestion. One of its four primary objectives includes the integration of rail service of the state's various rail operations, including integration with the high-speed rail system.

2020 California Integrated Travel Project (Cal-ITP): Caltrans

The Cal-ITP was established to help California deliver on statewide goals of increasing transit ridership, reaching environmental targets, lowering transportation-related costs for public transit agencies and commuters, improving the customer experience, and promoting equity. Three initiatives that the plan identified to meet its objectives include (1) ensuring access to reliable and accurate transit information, (2) reducing friction in payments, and (3) creating a statewide eligibility verification program.

2018 CA State Rail Plan (CSRP): Caltrans

The CSRP is a strategic plan with operating and capital investment strategies that foster a coordinated, statewide rail system. The plan comprises of a vision of high-speed, intercity, and regional train services connecting at hubs to enable smooth transfers between trains, express buses, local transit, and even ferry boats. There is an ongoing effort to update the 2022 version of the *State Rail Plan*.

2021 California Transportation Plan (CTP) 2050: Caltrans

The *CTP 2050* is the State's federally required long-range transportation plan, which identifies a multimodal strategy for meeting state greenhouse gas (GHG) reduction targets. It cites improvements to transit and rail infrastructure as one of a small set of priority strategies to meet these state goals. The plan also identifies strategies to increase transit mode-share and discusses integrating the planned highspeed rail corridor with other regional transit systems.

2021 Climate Action Plan for Transportation Infrastructure (CAPTI): CalSTA

As a response to Governor Newsom's Executive Orders signed in 2019 and 2020 that call for reducing GHG emissions statewide, *CAPTI* outlines strategies and actions that will advance more sustainable, equitable, and healthy modes of transportation such as walking, biking, transit, and rail. *CAPTI* serves as an implementation roadmap for discretionary transportation funds. Some of *CAPTI*'s key strategies include strengthening transportation-land use connections, forging stronger partnerships, and supporting regional innovation to advance sustainable mobility.

2020 California High-Speed Rail (HSR) Business Plan: California High Speed Rail Authority

The *CAHSR Business Plan* argues the case to support high-speed rail infrastructure and emphasizes Covid-19 recovery. Citing statewide initiatives such as *CTP 2050* and *CAPTI*, the plan discusses how HSR can mitigate the impacts of climate change, create a greener transportation network, and act as a network

connecting major cities with the cooperation of local agencies. In Southern California, some relevant projects include investments in and around the three station areas of Norwalk and Burbank. The City of Burbank and the CAHSR Authority, in coordination with Metro, are currently working together to develop a station area plan.

Summary of Regional Policy Implications

Key regional plans relevant to rail network integration include the *Connect SoCal* (SCAG 2020), Metro's *2020 Long Range Transportation Plan (LRTP)*, Metro's *Vision 2028*, Metro's *NextGen Bus Plan*, and Metrolink's *Strategic Business Plan*. An overview of these and several other key documents are provided in the following section. Additional references can be found in **Appendix A**. Key findings as they relate to the LACRNI study area are summarized as follows:

- **Increasing Transit Access and Ridership:** Regional policy, like statewide policy, emphasizes the importance of connecting more people to transit to spur mode shift and reduce congestion and GHG emissions. The *NextGen Bus Plan* seeks to double the number of frequent Metro bus lines and ensures that there is a ¼ mile or less walk for 99% of current riders. These bus routes will serve as important connections to major rail stations, including the three LACRNI stations. Metro's *LRTP* describes the construction or improvement of 22 transit corridors and the addition of 106 miles of fixed guideway transit, expanding the Metro Rail network to over 200 stations covering nearly 240 miles.
- **Improving Customer Experience:** Regional policy documents reveal a dedication to improving the quality of the commute and customer experience. The documents discuss strategies to integrate and improve transit services. *Metro's Vision 2028*, together with *Metro's 2022 Customer Experience Plan*, strives to deliver outstanding trip experiences for all users of the transportation system as one of its primary goals. *Metro's LRTP* develops strategies such as launching a Mobility as a Service (Maas) Platform, improving wayfinding, and sharing real-time data to minimize pain points, maximize smooth, uneventful experiences, and improve reliability. One of *NextGen's* five goals includes creating a more comfortable and safer waiting environment.
- **Enhancing First/Last Mile Access:** Regional policy recognizes the need for a more comprehensive focus on transfers and first/last mile connections. Metro has developed the *Transfers Design Guide*, *First/Last Mile Strategic Plan*, and *First/Last Mile Guidelines* to help streamline improvements that enhance access to and from and between transit stations. Through one of its four priority areas, Complete Streets, *Metro's LRTP* reemphasized the agency's dedication towards building out active transportation networks and allowing transit users to seamlessly transfer from one mode to another, especially around major rail stations.
- **Advancing Equity:** *Metro's Equity Platform*, adopted in 2018, aims to eliminate disparities and expand access to opportunities for all by incorporating equity into all facets of Metro decision-making.

Key Regional Policy Documents

[2020 SCAG Connect SoCal – Regional Transportation Plan: Southern California Association of Governments \(SCAG\)](#)

SCAG's *Regional Transportation Plan/Sustainable Communities Strategy* lays out a 25-year plan for the six-county region. The Plan recognizes the importance of coordination among the different agencies within the MPO's region to improve multi-modal connections and transit services across the region.

2020 Long Range Transportation Plan: LA Metro

Metro's *LRTP* ("Our Next LA"), outlines an aspirational vision for the future transportation system using four priority areas: Better Transit, Less Congestion, Complete Streets, and Access to Opportunity. The *LRTP* also describes major transit projects, including a new light rail system that connects to the Van Nuys Metrolink Station.

Vision 2028: LA Metro

Vision 2028 was developed by Metro in 2018. The goals and metrics identified in *Vision 2028* were considered in the development of Metro's *LRTP* priority areas. These goals include: 1. Provide high-quality mobility options that enable people to spend less time traveling; 2. Deliver outstanding trip experiences for all users of the transportation system; 3. Enhance communities and lives through mobility and access to opportunity; 4. Transform LA County through regional collaboration and national leadership; and 5. Provide responsive, accountable, and trustworthy governance within the Metro organization.

NextGen Bus Plan (2020): LA Metro

Metro's *NextGen Bus Study* identified changes to bus routes, stop spacing and locations, and service frequency to improve access, boost ridership, and improve customer experience. A major focus of *NextGen* includes creating seamless transfers and allowing for easier transfers not only between buses but also within the regional rail network. Separate service plans for bus feeder interface and first-last mile connections are still needed to plan transit corridor projects.

2022 Customer Experience Plan: LA Metro

Metro's *2022 Customer Experience Plan* identified and examined five "pain points" most in need of improvement (not in priority order): Cleanliness, Public Safety, Bus Stop Shade and Seating, Customer Information, and Time Competitiveness and Connectivity. The Plan lists definitive actions that are funded and will be implemented with the proposed FY23 budget. The plan was informed by surveys of riders to understand how to improve the existing experience and non-riders to understand improvements that are needed to attract them to ride Metro.

Transfers Design Guide (2018): LA Metro

Metro's *2018 Transfers Design Guide* provides guidance for transfers to increase legibility, efficiency, and comfort for riders and includes a framework for multi-jurisdictional coordination and local and regional growth. The Guide provides a user-friendly Design Checklist and Design Toolbox that can be used to assess and develop improvements for a range of transit conditions.

First/Last Mile Guidelines (2021): LA Metro

In 2021, Metro adopted the *First/Last Mile (FLM) Guidelines*, which describes the process by which Metro and local jurisdictions partner on the planning, design, construction, maintenance, and funding of FLM improvements for new rail transit and BRT corridor projects. The plan identifies how the FLM planning and design process is integrated in the transit corridor project planning and design process. The *FLM Guidelines* address the Board's direction (*Motions 14.1 and 14.2 (2016)*), to facilitate and implement FLM networks around transit stations and stops countywide. *Motion 14.1* calls for Metro to: "Incorporate Countywide First-Last Mile Priority Network project delivery into the planning, design, and construction of all MTA transit projects. These Countywide First-Last Mile Priority Network elements shall not be value engineered out of any project."

Strategic Business Plan (2021): Metrolink

Metrolink's 2021 Strategic Business Plan emphasizes that the agency's focus is to move people, not trains. Metrolink's strategic direction is informed by a thorough quantitative analysis of markets, a multilayered stakeholder engagement, followed by the development of scenarios to explore the impact of programmed Member Agency subsidies on service forecasts.

Key Projects and Initiatives

- **California High-Speed Rail:** The future high-speed rail (HSR) connecting the Bay Area to Los Angeles will include a station in Norwalk/Santa Fe Springs (as part of the Burbank to Anaheim section) that will connect with existing Metrolink and bus services, future light rail (C Line extension to Norwalk), and potentially a LOSSAN station. An HSR station is also planned at the Hollywood Burbank Airport near a new terminal, but not adjacent to either of the existing regional rail stations.
- **C Line (Green) Extension to Torrance:** Metro seeks to connect to more of the South Bay with rail transit by extending the C Line (Green) from Redondo Beach Station to the new Torrance Transit Center. This will directly connect the Norwalk Metro C Line Terminus to Torrance.
- **East San Fernando Valley light Rail Transit Project:** Metro plans to add 11 new rail stations between the G Line (Orange) Van Nuys BRT Station and planned Van Nuys/San Fernando station. A maintenance and storage facility is planned adjacent to the Van Nuys Metrolink Station. A northern extension to the Sylmar/San Fernando Metrolink Station is being studied as part of *the ESFV Shared ROW Study*. This will improve transit access for the San Fernando Valley and increase the quality of service along Van Nuys Boulevard.
- **LINK US:** A partnership of transit agencies is transforming Los Angeles' Union Station to allow trains to run through the station (greatly improving the current "nose-in, reverse-out" operation). This will help improve the speed, reliability, capacity, and frequency of trains throughout the region. In addition, the project also consists of a more connected and transit-oriented station area.
- **Fare Integration:** Metro has developed the Transit Access Pass (TAP) to allow transit users to use one fare payment method for their entire trip. This improves the customer experience and eliminates obstacles to using other transit services throughout the Los Angeles region. Although not all transit providers use the TAP card yet, Metro continues to encourage more seamless transfers.
- **Active Transportation:** Metro's *First/Last Mile Strategic Plan* outlines an infrastructure improvement strategy designed to facilitate easy, safe, and efficient access to Metro's transit system, keeping in mind that ninety-one percent of transit riders walk, bike or roll to transit stations and stops (*First/Last Mile Strategic Plan, 2014*). The City of Burbank, Metro and the High-Speed Rail Authority have been working on a station area plan that includes train boarding platforms, a station building, pedestrian improvements, bicycle parking, a transit center for buses and shuttles, pick-up/drop-off facilities for private automobiles and transportation network companies, and parking areas.
- **Metro's NextGen Bus Redesign:** Metro's *NextGen Bus Plan*, which is currently being implemented, will result in changes to transit route location and coverage, changes to route frequencies (in particular, increasing peak-hour and midday frequencies), consolidating bus stops, and eliminating redundancies within the Metro bus system and across other municipal systems. These changes will be important to consider when examining first/last mile access to the station areas in this RNI study.

3.0 Stakeholder Feedback

The RNI Team met with agency and jurisdictional stakeholders as part of the information-gathering phase of the study. The stakeholders engaged, the dates of the meetings, and the applicable study areas from September 2021 through April 2022 are noted in the **Table 3.1** below.

Table 3.1 - Stakeholder Meetings and Relevant Study Areas

Agency	Date	Burbank	Norwalk	Van Nuys
CAHSR	September 22, 2021 October 26, 2021	■	■	
SCRRA/Metrolink	September 28, 2021 March 15, 2022 (Airport Connectivity study) March 22, 2022 April 12, 2022 April 18, 2022	■	■	
CALSTA, CALTRANS, CAL-ITP	September 30, 2021 (Cal-STA & Caltrans) February 16, 2022 (Cal-STA & Caltrans) April 21, 2022 (Cal-ITP and Caltrans D7)	■	■	■
SCAG	November 1, 2021 January 6, 2022	■	■	■
LAWA	November 9, 2021		■	
Long Beach Transit	November 17, 2021		■	
LADOT	November 18, 2021			■
City of Burbank	November 23, 2021	■		
City of Norwalk	November 29, 2021 January 6, 2022 April 12, 2022		■	
City of Santa Fe Springs	November 29, 2021		■	
Hollywood Burbank Airport	February 15, 2022	■		

Los Angeles Department of Transportation (LADOT)

LADOT is implementing a network integration study and updating their service and operations. For LADOT's network integration study, their in-house team will be looking to align schedules, fare integration, customer experience with other agencies, and with a focus on priority populations. The study will produce a service analysis and recommendation for improvements and a schedule of implementation. LADOT is also updating their DASH service but not their express services based on the agency's *Transit Service Analysis Plan (TSA)*

to include planned changes to routes to make sure that changes align with *NextGen* and other agencies' plans.

SCRRA/Metrolink

The Southern California Regional Rail Authority (SCRRA)/Metrolink expressed a goal is to have 30-minute headways on all lines. This goal will be partially achieved by 2028 but is constrained by Burlington Northern Santa Fe (BNSF) operations south of LA Union Station. SCRRA is working on their *Fleet Management Plan Update* and initiatives that include real time feed, reduction of digital payments, leveraging low-income discount database, fare policy implementation, and scheduled integration analysis. SCRRA noted that the LAX Flyaway bus service from Union Station is a virtual station in the Metrolink system and that they would like to see consideration of expansion of the service to the Alameda Corridor, Harbor Subdivision, and Inglewood (e.g., SoFi Stadium area). SCRRA is interested working with the RNI study on connectivity, including NoHo to Pasadena BRT in Burbank, Flyaway connections, fare integration, and first/last mile connectivity improvements.

CalSTA & Caltrans

CalSTA and Caltrans are looking at partnerships in the study area corridors for service enhancements particularly because there is significant ongoing and long-term investment that will impact Amtrak, Metrolink, and Metro, which should work together. There are fourteen ongoing, upcoming, or completed integration studies in the Los Angeles region, including LADOT, Long Beach Transit, LOSSAN, and Metrolink. CalSTA is interested in exploring opportunities for first/last mile improvements and new express transit services, such as Flyaway bus services, to leverage HOV/Express Lanes. They noted that Cal-ITP, in partnership with local agencies, are working to integrate fare payment and that there are many tools that are currently being developed regarding equity, and low-income focused services. They also noted that Las Vegas HSR is currently working with Caltrans on alignment options, one of which could run to Union Station, which may shift the ridership model and travel market analysis. Upcoming grant opportunities for consideration of priority projects resulting from the RNI may include Active Transportation and Clean Vehicles for express bus services.

SCAG

SCAG discussed several studies that may affect rail network integration. These studies include a regional dedicated transit lane study that will be a guidebook for jurisdictions, a mobility as a service (MAAS) study that includes fare payment integration and recommendations, and the *Regional Early Action Program* (REAP) program which will examine stations. SCAG's study of a C Line (Green) extension to Norwalk/Santa Fe Springs is on hold.

Los Angeles World Airports (LAWA)

LAWA is planning for improved regional access including Flyaway bus services, fixed rail transit, and Microtransit. LAX has over 40,000 badged employees, of whom about 22,000-25,000 employees are regularly commuting. LAX serves domestic and international travelers. Events such as the Super Bowl and Olympics increase travel to and from the airport. LAWA is working at its campus and with regional operators to develop cost-effective transportation solutions to reduce vehicle-miles-traveled (VMT), maximize occupancy, reduce environmental effects, and manage congestion. LAWA recently expanded their transportation management organization (TMO) to include all employers at the LAX campus to advocate for and support better access. Information from the initial TMO survey has a planned release for the second half of 2022.

LAWA's access to regional transit is facilitated by two projects: the Automated People Mover, within the LAX campus, and Metro's Airport Metro Connector Transit Station (AMC), which will provide riders a quick and

easy transfer between LAX and Metro's light rail network. These projects are currently under construction with anticipated openings in 2023 and 2024, respectively.

Prior to the Covid-19 pandemic, there were four Flyaway express bus service lines between LAX and Hollywood, Long Beach, Van Nuys Airport, and Los Angeles Union Station. During the pandemic, ridership decreased, and service was paused for the Hollywood and Long Beach Lines. Ridership is still down 35% from pre-pandemic levels. Looking forward, LAWA is seeking a new integrated team to deliver expanded, scheduled on-demand service, with potential reservation service, over the next five years. The Flyaway service to Union Station is Metrolink is seamless and integrated with Metrolink fares. Flyaway service has been cashless for a number of years and is integrated with TAP and EZ Pass, the regional transit pass. LAWA has recently started the first pilot program with Cal-ITP, which includes a partnership with Mastercard for people to tap credit cards. To serve an electrified bus fleet, Flyaway buses require electric vehicle (EV) infrastructure. Following CARB rules, LAWA must have 33% of EV fleet by 2027 and 66% of EV fleet by 2031; The City of Los Angeles guidelines are for electrification by 2030. LAWA is interested in conversations surrounding shared costs and infrastructure with Munis and Metro.

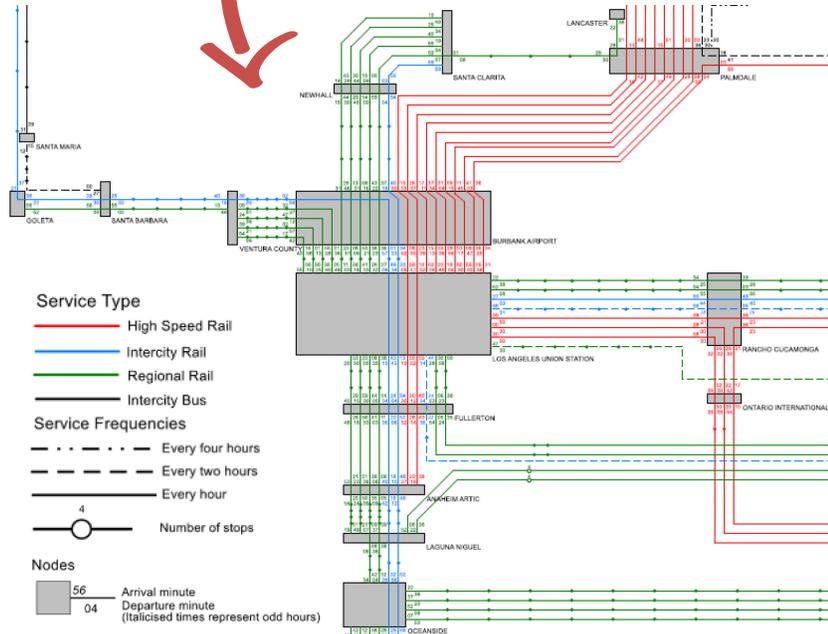
4.0 Existing and Future Conditions

Los Angeles County Rail Network Existing and Future Conditions

Figure 4.1 - Anticipated Regional Route Services Informs the Regional Operations Model



The rail lines and frequencies in **Table 4.1** and **Figure 4.2** have been incorporated into a rail network operations Viriata model to examine connectivity, frequency, and operational scenarios. Model runs will be examined in Task 3. Current and future Metro rail infrastructure and operations have been coded into a digital infrastructure model that also includes current and future mainline rail infrastructure and operations developed for Caltrans, the California High-Speed Rail Authority, LOSSAN, and Metrolink, amongst other regional passenger and freight operators. A line diagram of the model is shown in **Figure 4.1**. This rail network operations model provides train run times, schedules, and infrastructure analysis such to analyze and plan for service frequency, timed connections for seamless transfers, infrastructure constraints, and equipment efficiency. This holistic model, developed with specific engineering inputs and track charts supplied by Metro, provides a holistic operational view of passenger service across LA County and the Southern California region.



Source: CR Associates, DB Engineering

Figure 4.2 - Existing (2017) Transit Service in Los Angeles County by Mode and Frequency



Source: CR Associates, DB Engineering

Figure 4.3 - Anticipated (~2047) Transit Service in Los Angeles County by Mode and Frequency



Source: CR Associates, DB Engineering

This rail network operations model is being used to develop specific operational analysis for Van Nuys, Burbank, and Norwalk Santa Fe Springs. In Tasks 3 and 4, the model will generate specific tradeoffs analyses, network service operations, equipment requirements, and (if necessary) identification of additional infrastructure improvements required to deliver service concepts identified by Metro or its stakeholders. Planning parameters, including service frequency, are carried from other analysis, and documented in **Table 4.1**. Includes rail alignments and BRT from Measure M through 2047 and *California State Rail Plan* through 2047, which are consistent with the *RTP* to provide the baseline conditions.

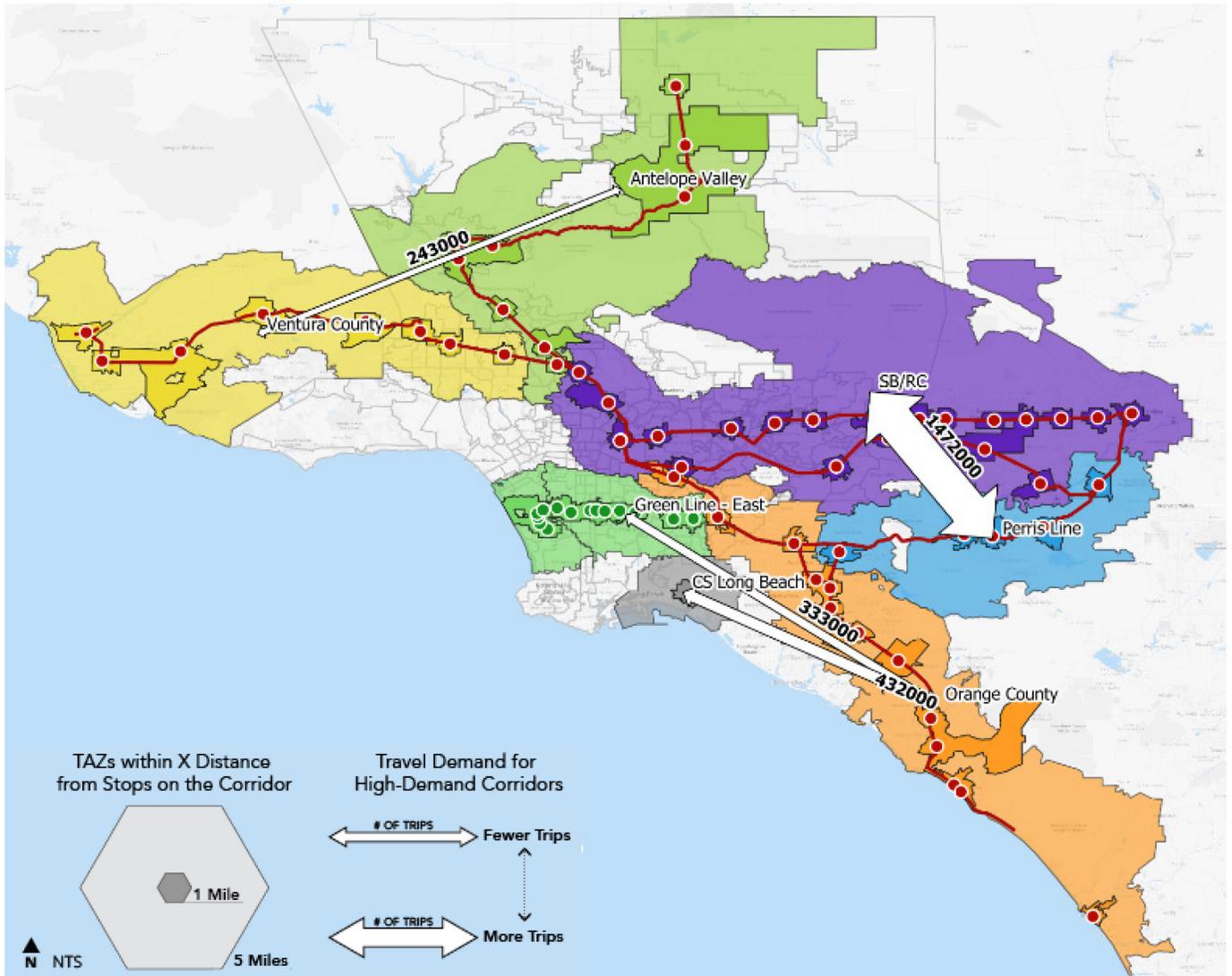
Table 4.1 - Existing (2017) and Anticipated (~2047) Transit Service in Los Angeles County

Agency	Line	Service Type	Origin	Destination	Current Frequency (2017)	Future Frequency (~2047)
LA Metro	E Line	Light Rail	Santa Monica	Downtown LA (Atlantic to Whittier 2047)	Every 12 minutes	Every 5 minutes
LA Metro	B Line	Heavy Rail	North Hollywood	Downtown LA	Every 10 minutes	Every 10 minutes
LA Metro	L Line	Light Rail	Azusa	Downtown LA	Every 8 minutes	Every 5 minutes
LA Metro	A Line	Light Rail	Long Beach	Downtown LA (Claremont/ Montclair 2047)	Every 12 minutes	Every 5 minutes
LA Metro	C Line	Light Rail	Norwalk	Redondo	Every 8 minutes	Every 5 minutes
LA Metro	D Line	Heavy Rail	Westwood	Downtown LA	Every 10 minutes	Every 10 minutes
LA Metro	Sepulveda Line / East San Fernando Valley Line	Heavy Rail	Sylmar	LAX	N/A	Every 10 minutes
LA Metro	Crenshaw Line	Light Rail	Hollywood	Central Torrance	N/A	Every 5 minutes
LA Metro	L Line Ext.	Light Rail	Whittier	Downtown LA	N/A	Every 5 minutes
LA Metro	West Santa Ana Branch Line	Light Rail	Artesia	Downtown LA	N/A	Every 5 minutes
Metrolink	San Bernardino Line	Regional	Downtown LA	San Bernardino	Half Hourly	Half Hourly
Metrolink	Riverside Line	Regional	Downtown LA	Riverside	Every 40 minutes	Half Hourly
Metrolink	Perris Valley Line	Regional	Downtown LA	Perris	Every 40 minutes	Half Hourly
Metrolink	Orange County Line	Regional	Downtown LA	Oceanside	Hourly	Half Hourly
Metrolink	Antelope Valley Line	Regional	Downtown LA	Lancaster	Hourly	Every 15 to 30 minutes
Metrolink	Ventura County Line	Regional	Downtown LA	East Ventura	Hourly	Every 15 minutes
HSR	CA High-Speed Rail	High Speed	Anaheim	San Francisco	N/A	Every 15 minutes
LOSSAN	Pacific Surfliner	Intercity	Los Angeles	Goleta	Bi-hourly	Hourly
LOSSAN	Pacific Surfliner	Intercity	Los Angeles	San Diego	Bi-Hourly	Half-Hourly

Travel Demand

Travel demand for the between the corridors, to/from the station areas and analysis of express bus corridors are described in **Appendix C**. High-level findings include:

Figure 4.4 - Travel Demand by Corridor



Source: CR Associates, Cambridge Systematics, 2022

- Strong overall demand exists between the shared portions of the Antelope Valley Line (AVL) and Ventura County Lines (VCL) study corridors (1-mile buffers around stations in each corridor), served by existing service. Added frequency of stops at downtown Burbank can improve this connectivity.
- Demand between the non-shared portions of AVL and VCL is high (over 20,000 trips per day in the 1-mile buffers).
- Existing transit share in this travel market is only 2%. Improved connectivity between these two corridors may increase transit ridership and mode share, pending further analysis in Task 3.

- Strong travel markets exist for the San Bernardino County (SBC) line corridor, including with Riverside County (RC), Orange County (OC), and Perris Valley (PV) lines. Further analysis of this travel market indicates that this demand is outside of Los Angeles County.
- The natural point of connection between the SBC line to the OC line for connectivity with the LACRNI study area would be the LA Union Station where existing service is available.
- Like the SBC line corridor, the RC line displays strong demand patterns with OC and PV lines. The parallel geometries of the RC and SBC lines serve similar markets. Due to their proximity and split market share, there is no demand for rail transfer services between RC and SBC lines.
- Movements between the OC line and the Metro C (Green) Line are strong but currently with very low transit market share – this is a great opportunity for rail connection between the lines since the terminus of the Metro C (Green) Line is about two miles away from the Norwalk/Santa Fe Springs station on the OC line. This travel market is recommended to be further examined in Task 3.
- The movement between OC Corridor and Cal State Long Beach/East Long Beach study area (1-mile buffer surrounding Long Beach State) is strong. A review of this travel market may be warranted in Task 3, pending further consultation with Metro and stakeholder’s feedback.
- The future connection between the Metro C (Green) Line and Orange County could be served by projects currently being studied or implemented by OCTA and Metro.
- Baseline analysis of the Aviation/LAX Station on the Metro C (Green) Line revealed that while the station draws a considerable number of trips on an average day, specific travel markets that have particularly high demand levels in the C Line Corridor are yet to be identified.

Identified travel market gaps between rail corridors and potential gap closure measures include:

- Santa Clarita to Ventura travel market – potential gap closure of connectivity could be addressed by improving frequency of Amtrak service stops in downtown Burbank
- Orange County to the Metro C Line (Green) travel market areas, especially in eastern portions of the C Line (Green), could be improved by enhancing transit connectivity between Norwalk/Santa Fe Springs and the C Line (Green) Norwalk terminus station. Connectivity to east Long Beach/Cal State Long Beach areas has also been identified as travel market gap.

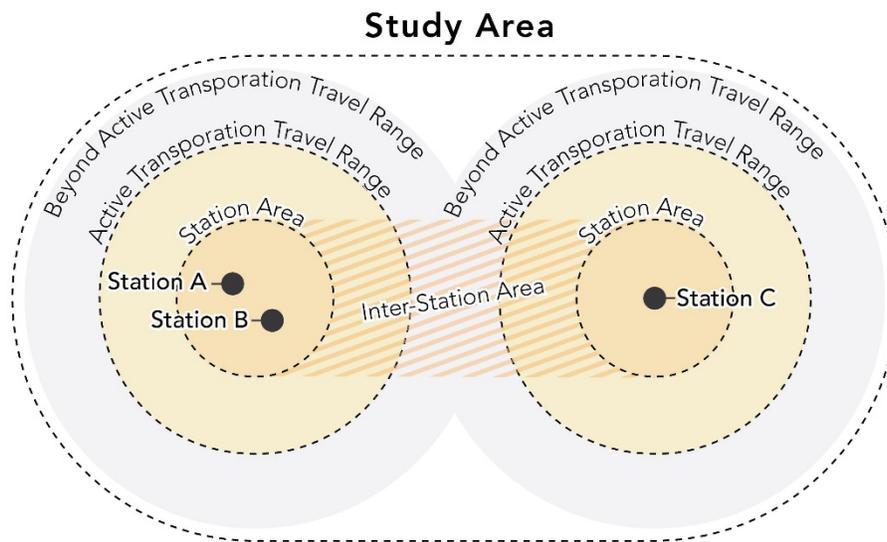
A breakdown of the SB/RC Line to Perris Valley Line corridor found the highest demand to be outside of Los Angeles County.

5.0 Connectivity of Stations, Station Areas and Study Areas

Each study area in this report includes three or more existing and/or future rail stations (station areas). This section is organized to describe each study area and provide details for the station areas within each study area.

Figure 5.1 illustrates a conceptual study area that has two Station Areas. Each Station Area has one or more stations. Additional areas will receive focused examination in Task 3 including the active transportation travel range (one-quarter mile for walking and one-half mile for cycling) and beyond the active transportation range particularly at freeway exits and the inter-station area.

Figure 5.1 - Study Area Framework



Source: CR Associates, 2022

Table 5.1 shows the specific study areas, station areas, and existing and future stations.

Table 5.1 - Study and Station Area Framework with Existing and Future Stations

Study Areas	Van Nuys			Burbank			Norwalk			
Station Area	Van Nuys			Burbank Airport North	Burbank Airport South	Downtown Burbank	Norwalk C Line Terminus	Norwalk/SFS Metrolink		
Stations	Van Nuys Metrolink Station	Metro ESFV LRT Station*	Metro Sepulveda Station*	Burbank Airport - North Station	Burbank HSR*	Burbank Airport - South Station	Burbank - Downtown Station	Metro C Line Station	Norwalk/SFS Metrolink	Norwalk HSR*

*Future Station

Van Nuys

Van Nuys Study Area & Station Area

The Study Area is an axis of commercial and industrial uses, flanked by single-family residential homes. The current station includes the Van Nuys Metrolink/Amtrak station; the future area will include the East San Fernando Valley Light Rail Transit and the Sepulveda Corridor Terminus. The study area suffers from high rates of collisions; Van Nuys Boulevard is part of LADOT’s 2018 High Injury Network.

The plans listed in (Table 5.2) inform the land use and transportation priorities and policies within the study area:

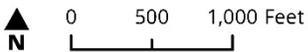
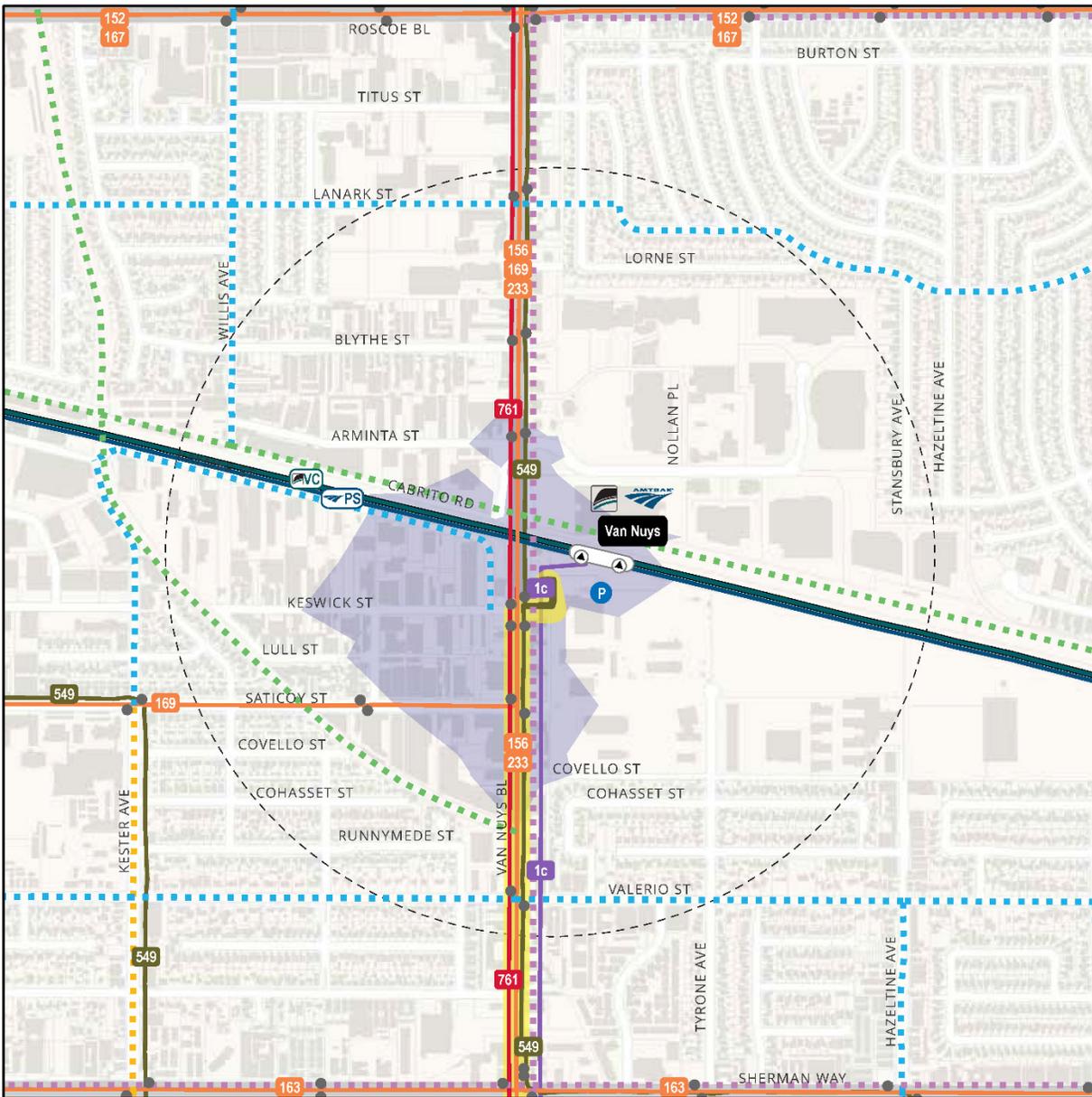
Table 5.2 - Local Planning Documents, Van Nuys Study Area

Local Planning Documents	Jurisdiction	Year	Location
<i>East San Fernando Valley LRT First/Last Mile Plan</i>	LA Metro	2020	ESFV LRT Corridor
<i>Mobility Plan 2035 (General Plan Circulation Element)</i>	City of Los Angeles, Department of City Planning	2016	City-wide
<i>LADOT Strategic Plan Update 2021-2023</i>	City of Los Angeles, LADOT	2020	City-wide
<i>LADOT Transit Service Analysis</i>	City of Los Angeles, LADOT	2015	City-wide

Van Nuys Station Area Connectivity

The Van Nuys station area is connected to the surrounding area and the region by a transit, walking, and automobiles, as seen in the map below (Figure 5.2). Existing services include Metrolink Ventura County Line, Amtrak Pacific Surfliner, Metro Rapid and local, and LADOT DASH. The station is the future site of the East San Fernando Valley Light Rail Van Nuys/Metrolink/Amtrak Station and a potential terminus station of the Sepulveda Line Transit corridor. The DASH Panorama City/Van Nuys Line is one of LADOT’s top two performing routes and has high ridership connectivity to G (Orange Line) BRT Line, two miles to the south of the Van Nuys station. The *East San Fernando Valley (ESFV) LRT First/Last Mile Plan (2020)* and the *City of Los Angeles Mobility Plan 2035 (2016)* outline potential pedestrian and bicycle projects for the Van Nuys Study Area, these shown in the maps below.

Figure 5.2 - Map: Van Station Area Existing Conditions and Planned Bike Routes



Source: CR Associates, 2022

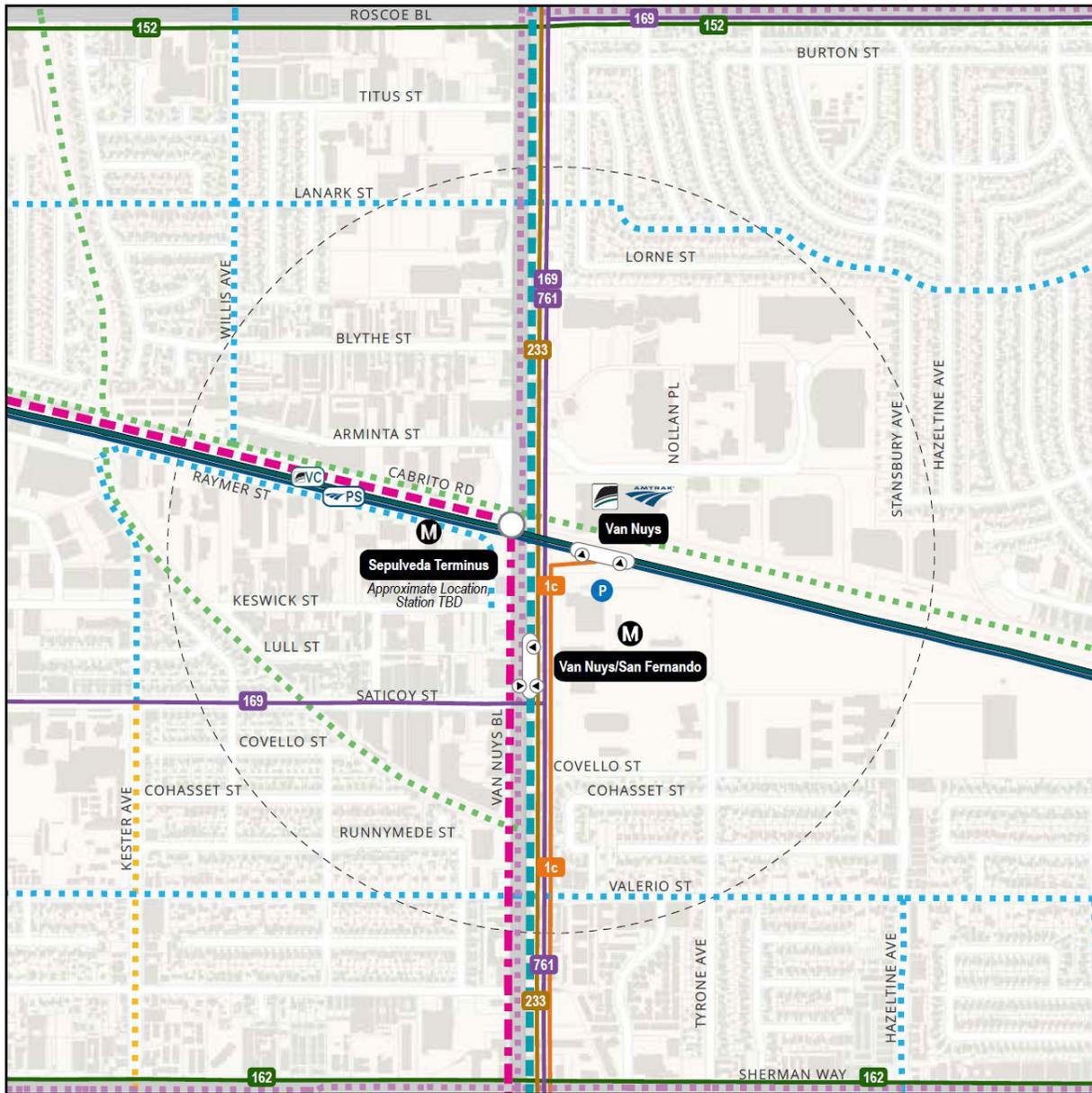
Planned Bike Facilities

- Class I - Bike Path
- Class II - Bike Lane
- Class III - Bike Route
- Class IV - Protected Bikeway

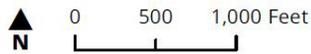
- Metrolink Parking
- Amtrak Lines
- Amtrak Thruway Bus Routes
- Metrolink Lines
- Metro Bus Routes
- Metro Rapid Bus Routes
- Burbank Bus Routes
- DASH Bus Routes
- Study Area Rail Station
- Entrances
- Bus Stops

- Half-Mile Walkshed (ADA Accessible Only)
- Half-Mile Buffer
- Buses Connecting to Orange Line

Figure 5.3 - Map: Van Station Area Future Planned Conditions



Source: CR Associates, 2022



- Study Area Rail Station
- Entrances
- Half-Mile Buffer

- Planned Bike Facilities**
- Class I - Bike Path
 - Class II - Bike Lane
 - Class III - Bike Route
 - Class IV - Protected Bikeway

- Existing Transit**
- Amtrak Lines
 - Amtrak Thruway Bus Routes
 - Metrolink Lines
 - Metrolink Parking

- Planned Transit**
- Metro Sepulveda Line & Station Location (Alignment Options)
 - Metro East San Fernando Valley Light Rail
 - Metro Tier 2: NextGen Bus Routes
 - Metro Tier 3: NextGen Bus Routes
 - Metro Tier 4: NextGen Bus Routes

Table 5.3 - Existing and Future Transit Connections

Connectivity	Existing	Future
Metrolink	Ventura County Line	No anticipated change
Park-and-Ride	350 spaces	No anticipated change
Inter-City Rail/Bus	Amtrak Pacific Surfliner, Amtrak Coast Starlight (interstate), Amtrak Thruway Route 1	No anticipated change
Transport Connection to Hollywood Burbank Airport (BUR)	Metro Bus Route 169 (to RITC)	No anticipated change
Transport Connection to Los Angeles International Airport (LAX)	None	Sepulveda Transit Corridor Phase 2
Metro System (Rail and Bus Rapid Transit)	Metro G Line	Sepulveda Transit Corridor Phase 1 East San Fernando Valley Light Rail Transit Project
Metro Bus (Local)	169, 233	No anticipated change
Metro Bus (Rapid)	761	East San Fernando Transit Corridor service is being planned to replace Line 761
Metro or Municipal Shuttles	None	Possible change in service
Municipal Bus	DASH Panorama City/Van Nuys	No anticipated change
Private Shuttles	None	Unknown
FLM Projects - Metro defined	See pathway network maps below	East San Fernando Valley Light Rail Transit First/Last Mile Plan: Pedestrian/streetlights; Bus stop improvements; Street trees; Accessible Sidewalk; Bike-friendly streets; Off-street bike paths
FLM Projects - Local defined	LADOT: Roscoe Blvd Safety Improvement Project	No anticipated change
Strategic Project Lists - S RTP	None	No anticipated change

Sources: Metrolink, 2022; Metro, 2022; LADOT, 2021

Table 5.4 outlines the fare payment options, transfers accepted, and media accepted for the primary transit providers at the station area.

Table 5.4 - Fare Payment, Van Nuys

Fares and Transfers	Fare Payment Options	Transfers Accepted	Media
Amtrak	App, buy online/print at home, Station Agent at the Station, Quik-Trak kiosk at the station, Phone, Travel Agent,	TBD	Electronic, paper ticket
Metro	TAP Card – reload online, phone, vendor kiosks, platform kiosks; Cash is accepted on buses that do not have all-door boarding; GoPass/UPass for students; LIFE program for low-income fares	EZ Transit Pass, TAP unlimited transfers within 2 hours in one direction	TAP, EZ Transit Pass, Cash
Metrolink	App, platform kiosks, ticket outlets, pass by mail, and buy online/print at home	EZ Transit Pass, connecting buses and rail (some require additional fare), local dial-a-ride (requires additional fare), Megabus	App, Paper ticket
LADOT Transit: DASH	Cash on board, TAP, DASH to Class Program, UPass, EZ Transit Pass, Metrolink Ticket/Pass	Free with Commuter Express 31-Day pass (not regular ticket), EZ Transit Pass, to interagency services (fee), from interagency services not permitted	TAP, EZ Transit Pass, Cash

Sources: Amtrak, 2022; Metro, 2021; Metrolink, 2022; LADOT, 2021

Van Nuys Station Area Stakeholder Feedback

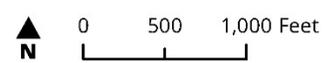
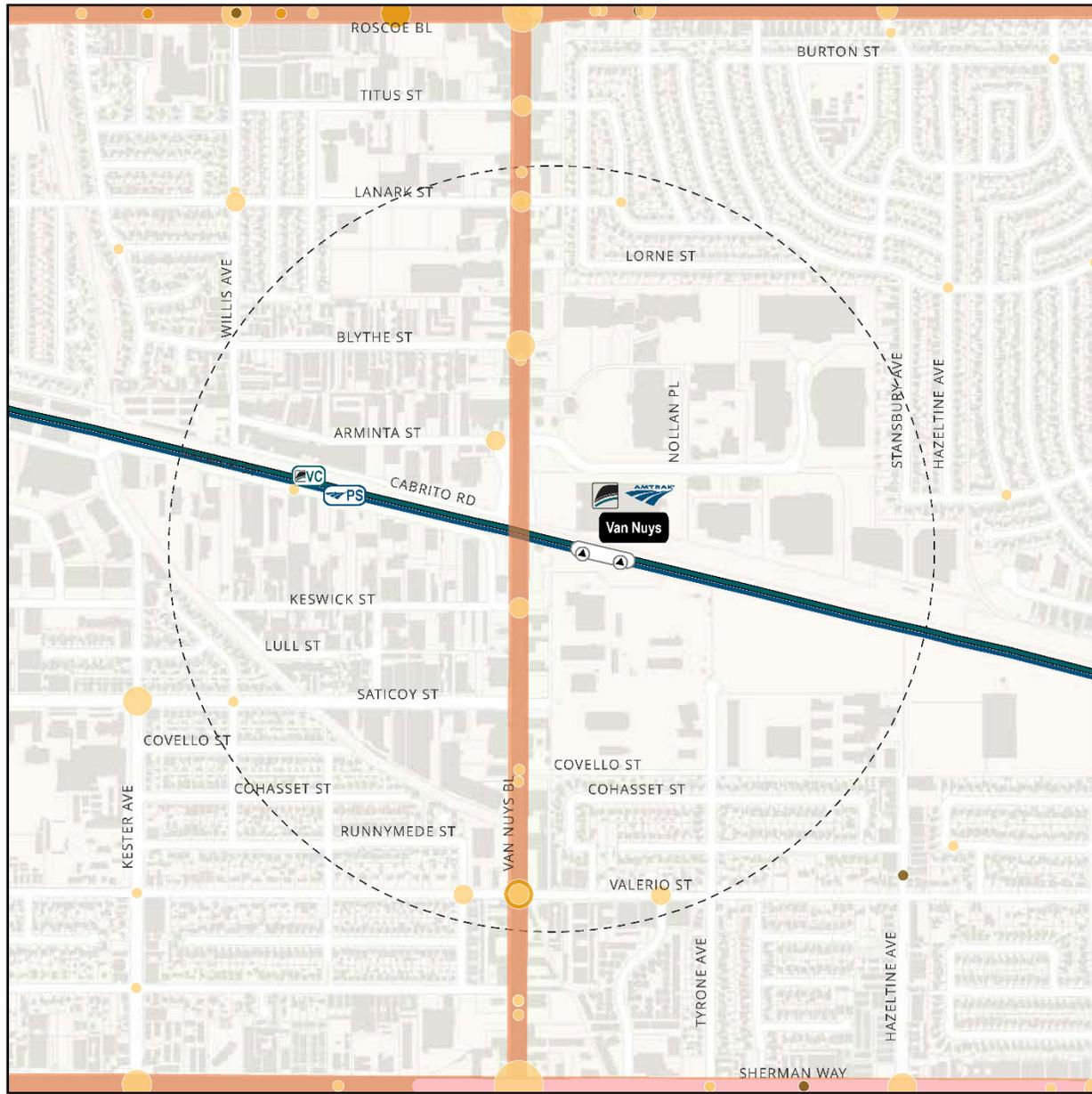
LADOT

The DASH Panorama City/Van Nuys Line is one of LADOT’s top two performing routes. This route has high ridership connectivity to G Line (Orange) BRT. LADOT has plans to improve the Panorama City/Van Nuys line to integrate with design concepts for the ESFV LRT; the agency does not anticipate major changes to stop locations and no changes to the route. LADOT has not yet identified first/last mile improvements or incorporated the first/last mile improvements outlined in Metro’s *East San Fernando Valley Light Rail Transit First/Last Mile Plan* for this study area.

Van Nuys Station Area Safety

The Van Nuys Study Area has numerous collisions involving pedestrians, bicycles, and automobiles. Van Nuys Boulevard, and the nearby roads, Roscoe Boulevard and Sherman Ways, are part of LADOT's High Injury Network for all modes. Pedestrian and bicycle collisions are concentrated along Van Nuys Boulevard, particularly at intersections – there are multiple severe collisions at the intersections along Lanark and Valerio Streets. There was one fatal bicycle collision adjacent to the station on Van Nuys Boulevard at Keswick Street. Multiple pedestrian collisions and severe bicycle collisions occurred at the intersection of Saticoy Street and Kester Avenue. There are additional locations, notably at intersections, where multiple pedestrian and bicycle collisions occurred. Automobile collisions are evenly distributed throughout the major corridors in the study area.

Figure 5.4 - Pedestrian Collisions, Van Nuys



Source: SWITRS 2015-2019; CR Associates, 2022

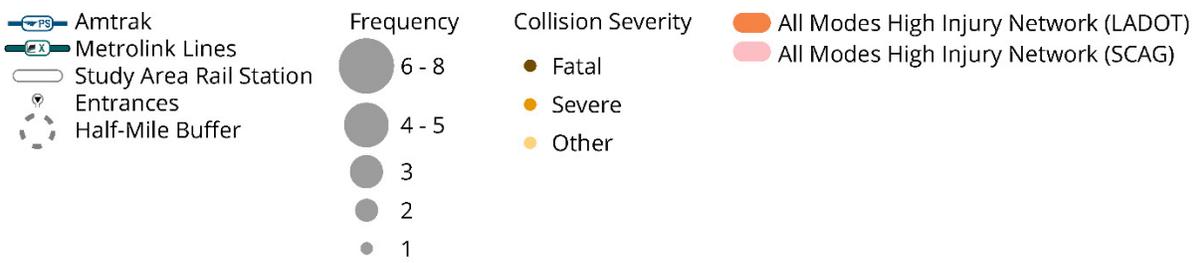
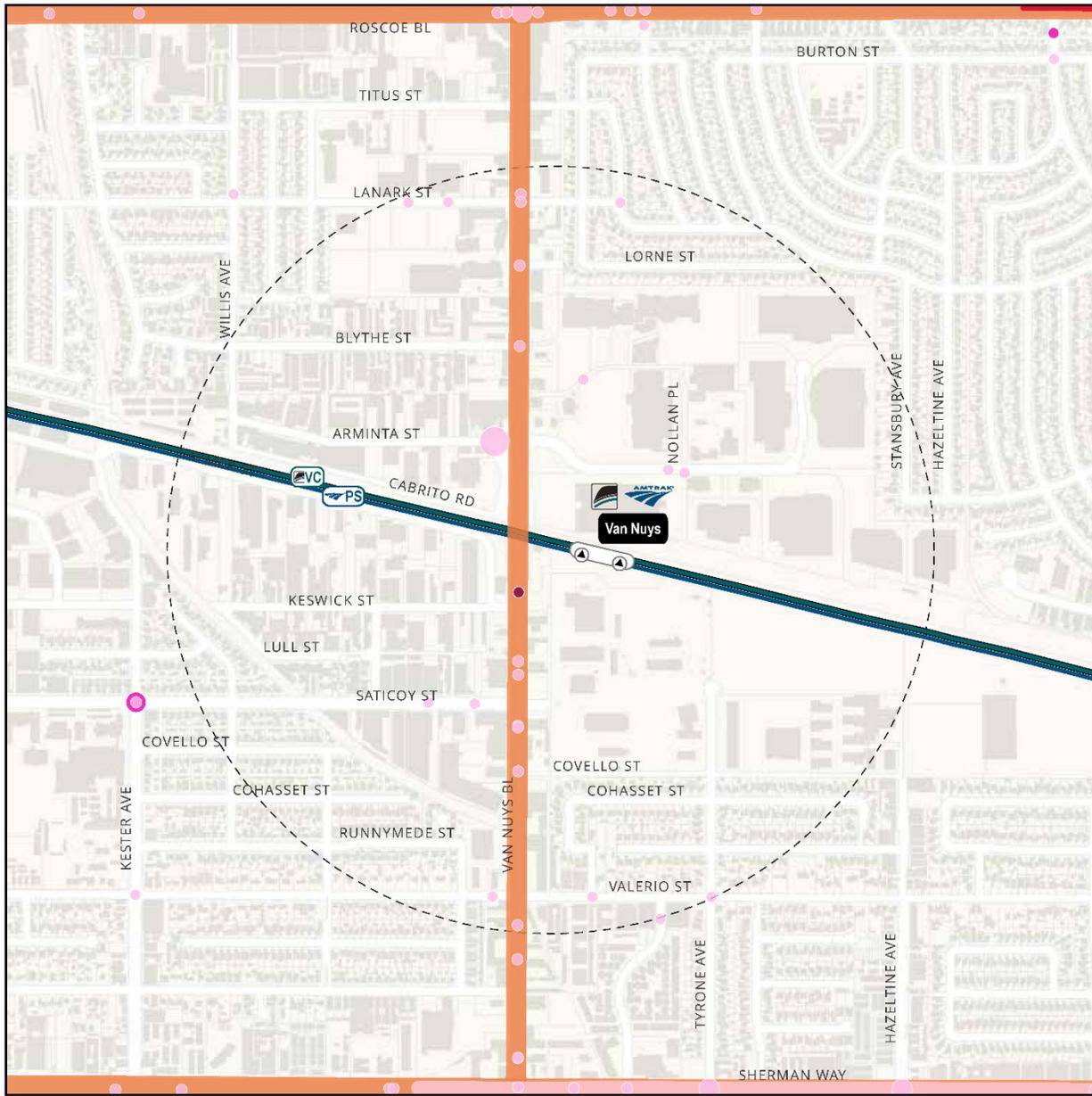
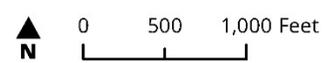


Figure 5.5 - Bicycle Collisions, Van Nuys

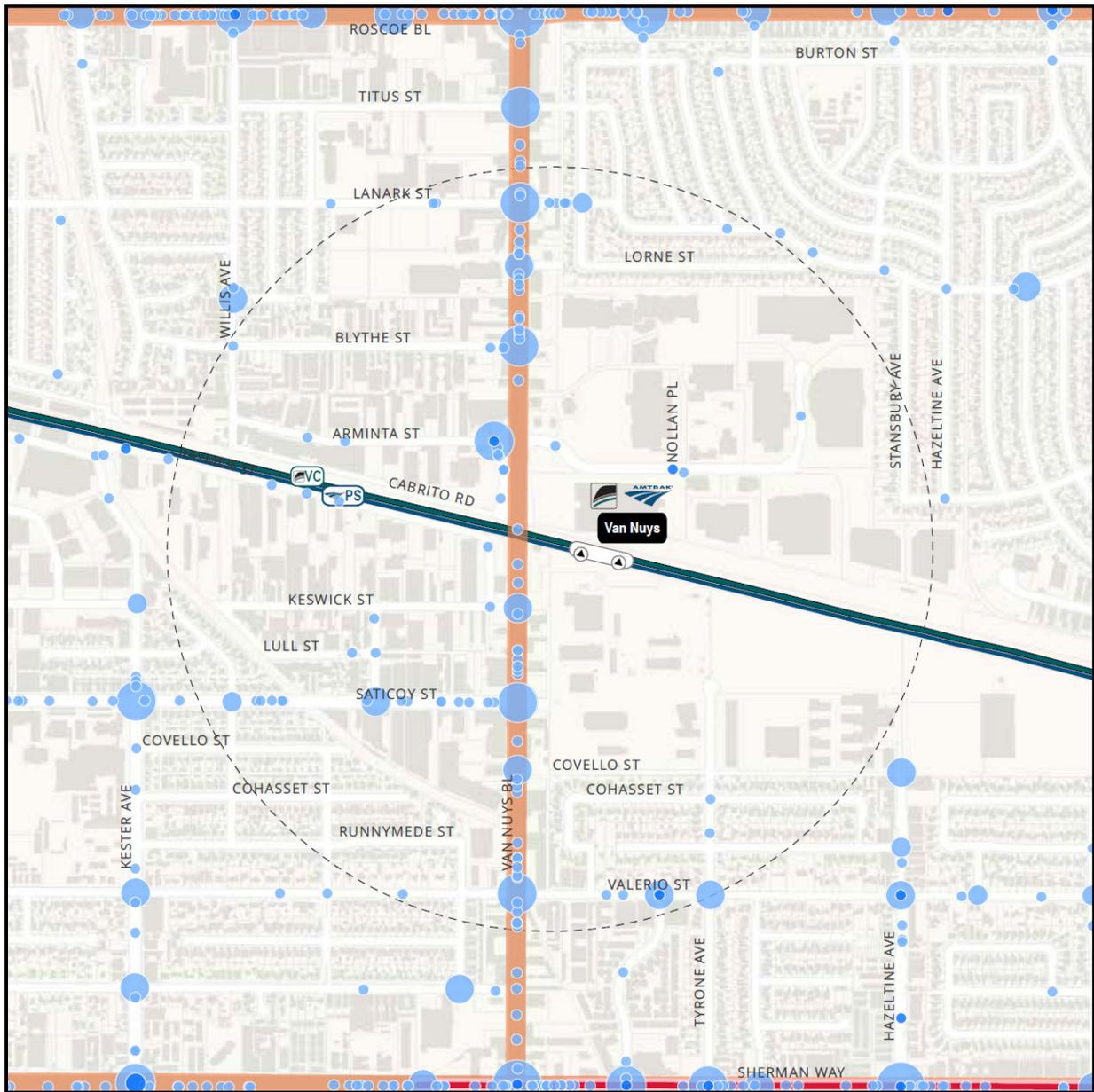


Source: SWITRS 2015-2019; CR Associates, 2022

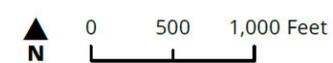


- Amtrak
 - Metrolink Lines
 - Study Area Rail Station
 - Entrances
 - Half-Mile Buffer
- | | | |
|------------------|---------------------------|---------------------------------------|
| Frequency | Collision Severity | Injury Network |
| 5 | Fatal | All Modes High Injury Network (LADOT) |
| 4 | Severe | All Modes High Injury Network (SCAG) |
| 3 | Other | Bicycle High Injury Network (SCAG) |
| 2 | | |
| 1 | | |

Figure 5.6 - Automobile Collisions, Van Nuys



Source: SWITRS 2015-2019; CR Associates, 2022

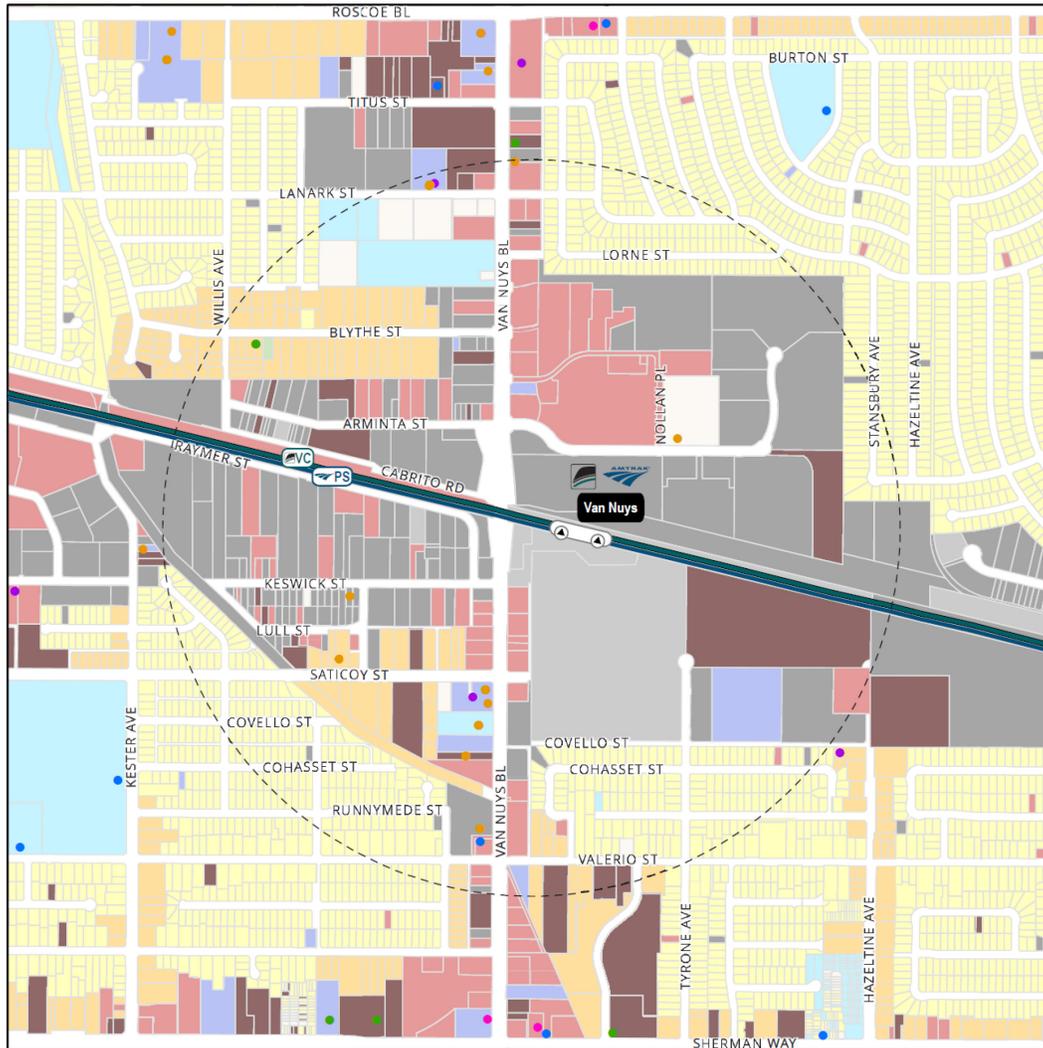


Amtrak	Frequency	Collision Severity	All Modes High Injury Network (LADOT)
Metrolink Lines	26 - 56	Fatal	All Modes High Injury Network (SCAG)
Study Area Rail Station Entrances	11 - 25	Severe	Automobile High Injury Network (SCAG)
Half-Mile Buffer	3 - 10	Other	
	2		
	1		

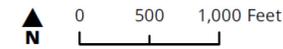
Van Nuys Station Area Land Use

The Van Nuys Study Area includes a concentration of industrial and commercial uses along the Metrolink Ventura Line/LOSSAN corridor and Van Nuys Boulevard. Van Nuys Boulevard is a major commercial corridor for this region of Los Angeles providing services and employment. Beyond these two corridors are predominantly single-family housing.

Figure 5.7 - Map: Van Station Area Existing Land Use



Source: SCAG, 2016; CR Associates, 2022



- Amtrak
- Metrolink Lines
- Study Area Rail Station
- Entrances
- Half-Mile Buffer

Land Uses

- Single-Family Residential
- Multi-Family Residential
- Commercial
- Office
- Facilities
- Education
- Industrial
- Transportation & Utilities
- Mixed-Use
- Open Space
- Vacant/Unknown

Key Destinations

- Arts, Community, & Recreation
- Education
- Financial Institutions & Shopping Centers
- Health & Social Services
- Municipal Services

Van Nuys Station Area Field Assessment

Transit operators at Van Nuys Station include Metrolink, Amtrak, Metro Bus, and LADOT DASH bus service.

Table 5.5 - Van Nuys Field Assessment

Category	Improvement Type	Feature Present
Customer Information	Static Directional Signage	Y
	Digital Information Kiosk	Y
	Customer Service Kiosk	Y
	Real-Time Arrival Information	Y
	Transit Schedule	Y
	Station Area Map	N
	Sidewalk Stop Pole	Y
	Public Announcement Speakers	Y
	High Quality of Audio/Intelligibility of Speakers?	Y
	Visual Wayfinding to Other Transit Service	N
	Audio Wayfinding to Other Transit Service	N
	Tactile Wayfinding to Other Transit Service	N
Notes on Customer Information Amenities	<ul style="list-style-type: none"> Wayfinding signs showing “To Trains” are small There are digital signs in the platform area, but were blank during time of fieldwork There is a passenger information telephone on the platform Audio speakers were available on the Metrolink platform Bus stop for northbound 169 and 233 has no amenities, just sidewalk pole (near side of intersection) Bus stop for northbound 761 has benches, trash, and trees for shade (far side of intersection) 	
Station Accessibility	Bi-Directional Access Ramps	Y
	Bike Center/Hub	N
	Bike Lockers	Y
	Bike Racks	N
	Bike Share (within service area)	Y
	Car Share	Y
	Continental Crosswalk	Y
	Curb Bulb-Out	N
	Leading Pedestrian Interval	N
	High-Quality Sidewalk Connections (continuous stretch of well-paved sidewalk 10 ft wide)	N
	Median Refuge	N
	Parking Facilities	Y
	Scramble Crosswalk	N
	Shared Dockless Micromobility Parking	N
	Pick-Up/Drop-Off Zone	Y
	Tactile Warning Features (textured pavers at curb cuts)	Y
Tactile Warning Features as Barriers? (do textured pavers create mobility barriers for people in wheelchairs, using canes, crutches, etc.)	N	
Vertical Circulation - Elevators (for multi-level facilities) (at least 2 elevators for each vertical circulation core)	N	

Category	Improvement Type	Feature Present
	Vertical Circulation – Escalators (for multi-level facilities) (at least 2 bi-directional escalators for each vertical circulation core)	N
	Do Station Amenities Encourage Sleeping?	Y
Notes on Station Accessibility	<ul style="list-style-type: none"> • There are large open benches on the rail platform, and more without seat dividers in the pedestrian underpass to the rail platform. • There are tactile features on the northeast corner of Van Nuys/Keswick, but not the other corners of the intersection. There is also no curb cut on the NW corner of the intersection • The Keswick intersection crosswalk does not provide a walk signal during green cycle unless the pedestrian crossing button is pressed 	
Notes on Station Connections to Surrounding Land Use	<ul style="list-style-type: none"> • The Amtrak station plaza is the only access point to the rail platform 	
Station Boarding Area	Bus Stop Amenities (do adjacent bus stops host a full complement of amenities such as shelter, trash, seating)	Y
	Lean Bar	N
	Level Boarding	N
	Lighting	Y
	Does Lighting Extend Equally Throughout Platform Area and Transfer Area (incl. parking lots, adjacent paths, etc.)?	Y
	Public Art	N
	Restrooms	N
	Seating (at least 10 seats at light rail stations)	Y
	Seating (at least 3 seats per bay at bus facilities)	N
	Security Kiosk	Y
	Shade Structures (approx. 50% coverage of platform at outdoor rail or BRT stations)	Y
	Shade Structures (approx. 6 linear feet per bus bay at bus facilities)	N
	Sound Barrier	N
	High Levels of Ambient Noise (car traffic, etc.)	N
	Ticketing Machine (light rail stations at least 2)	Y
	Trash and/or Recycling Receptacles (at least 2 receptacles for light rail stations)	Y
Trash and/or Recycling Receptacles (at least 1 per 3 bays/2 per bus facility)	Y	
Trees Providing Shade	Y	
Wi-Fi	N	
Notes on Station Boarding Area	<ul style="list-style-type: none"> • There are shade structures on the platform, but do not cover 50% of the platform • Bus 761 and DASH bus stops have trash cans, but the 169/233 stop does not • There are trees in the parking lot, bus plaza, and adjacent to Line 761 stop 	

Category	Improvement Type	Feature Present
<p>Operational Flow or Constraints for Trains, BRT, or Buses</p>	<ul style="list-style-type: none"> • Metro & DASH buses stop at distinct locations. DASH is in the station plaza. • ESVF LRT is planned to stop at Keswick, resulting in some distance from LRT station to a potential future Sepulveda station if Sepulveda station is aerial along Amtrak tracks • Sepulveda project’s aerial option would likely stop on the west side of Van Nuys Blvd, resulting in a pedestrian connection needed for riders to cross Van Nuys Blvd to connect to the Amtrak/Metrolink station 	
<p>General Notes on Wayfinding to/from Station from Other Transit Services (distance, perception, directness, clarity)</p>	<ul style="list-style-type: none"> • There is no wayfinding signage from the rail platform towards the nearby buses, and no station area map • The signage pointing toward trains is generally small • A Sepulveda project connection would most likely connect to the Amtrak station plaza, rather than directly to the Amtrak/Metrolink rail platform. A direct pedestrian connection from the Sepulveda project station (e.g., an aerial station) would have to cross existing tracks, the Amtrak/Metrolink platform, Van Nuys Blvd, and would require a new ticketing point for Amtrak/Metrolink • Future ADA ramps at planned stations face constraints. Widening the bridge from a Sepulveda project aerial station west of Van Nuys Blvd to the Amtrak station plaza may be the most feasible connection method, pending the Sepulveda project’s environmental analysis. 	

Source: CR Associates and STV Incorporated, 2021

PHOTOS OF VAN NUYS STATION:

Rail bridge over Van Nuys Boulevard which may need to be widened to accommodate a walk connection between certain Sepulveda project train alternatives on the west of the roadway, and the existing station plaza on the east side of the roadway:



At the corner of the tracks and the east side of Van Nuys Boulevard, there is space to develop an ADA-compliant access ramp:



Photo of small signage to station at staircase from Van Nuys Boulevard underpass:



Stairs leading up from Van Nuys Boulevard are narrow and may not support future ridership numbers (also pictured above):

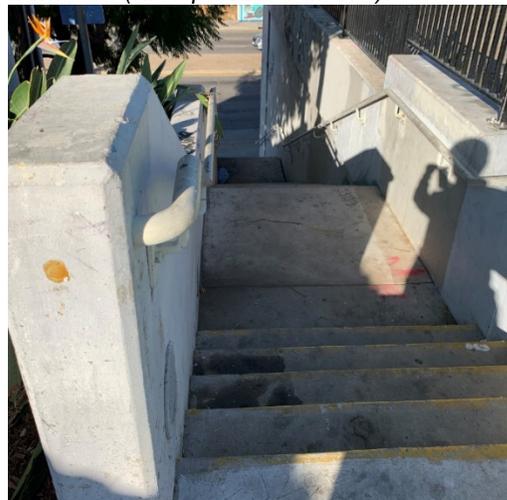
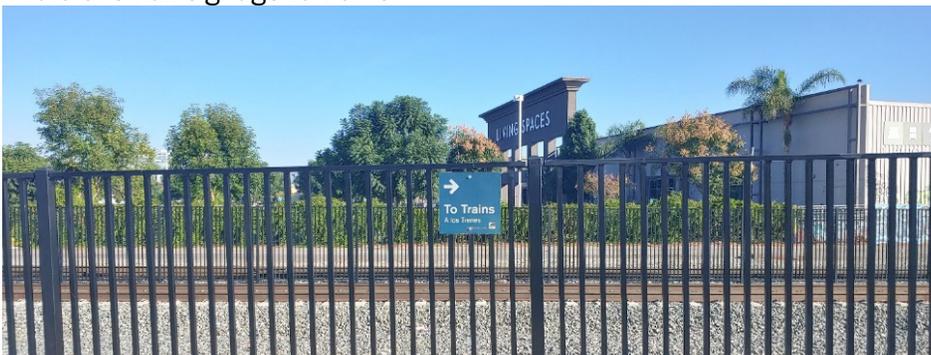


Photo of small signage to trains:



Burbank

Burbank Study Area

The Burbank Study Area runs through the center of the City of Burbank and includes three station areas: Burbank Airport - North, Burbank Airport - South, and Burbank - Downtown. The City of Burbank is a major employment center within the County of Los Angeles attracting people from across the county and beyond. These station areas, connected by the I-5 Freeway and the Antelope Valley Metrolink corridor and LOSSAN/Ventura County line corridor, are the primary concentrations of commercial, industrial, and educational uses in the City of Burbank outside of the Media District in the southwest of the city. The following plans inform the land use and transportation priorities and policies within the study area:

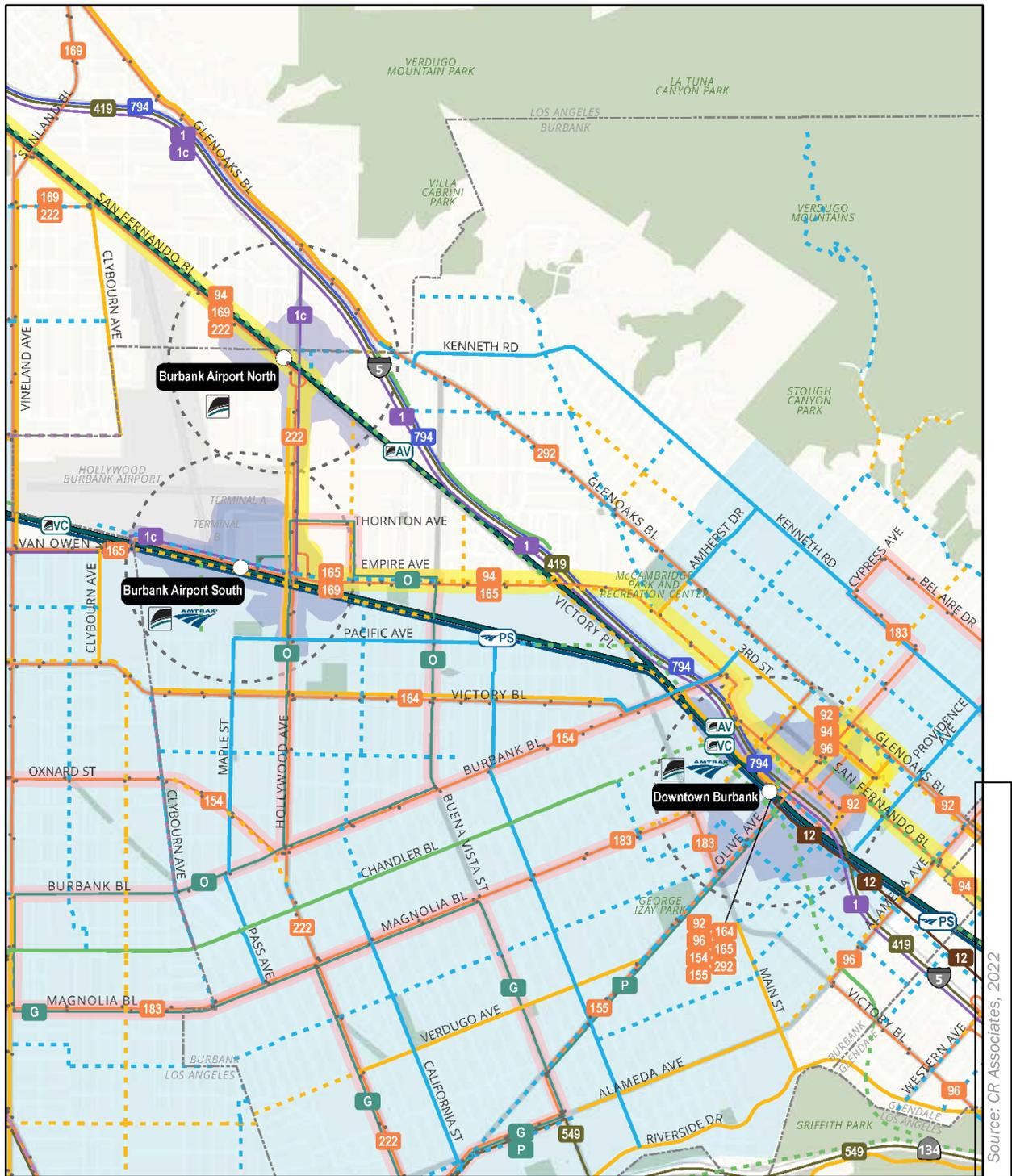
Table 5.6 - Local Planning Documents, Burbank Study Area

Local Planning Documents	Year	Location
<i>Burbank 2035 General Plan</i>	2013	City-wide
<i>Golden State Specific Plan</i>	2022*	Burbank Airport
<i>Downtown Burbank Specific Plan</i>	2022*	Downtown Burbank
<i>Burbank Center Plan</i>	1997	Downtown Burbank <i>Note: will be superseded by the Downtown Specific Plan, 2022</i>
<i>North San Fernando Boulevard Master Plan</i>	2012	North of Downtown Burbank, east of I-5
<i>Complete Our Streets, Complete Streets Plan</i>	2020	City-wide
<i>Bicycle Master Plan</i>	2009	City-wide

*Not yet adopted

The Burbank Study Area is locally and regionally connected to transit, as seen in the map below. Existing services include Metro Local Bus, Metro Rapid Bus, BurbankBus, Metrolink Antelope Valley and Ventura County Lines, Amtrak Pacific Surfliner, and Metro’s new Metro Micro Microtransit service. Bike infrastructure connects residential neighborhoods to the Downtown Burbank Station and within a quarter-mile of the two Burbank Airport Station Areas. The future CAHSR will connect the City of Burbank to the mega-regions of the state, and the North Hollywood to Pasadena BRT line will connect downtown Burbank to Pasadena. The specific lines serving each station are outlined in the Station Area sections below.

Figure 5.8 - Map: Burbank Study Area Existing Conditions and Planned Bike Routes



▲ 0 0.25 0.5 Miles
N

- Class I - Bike Path
- Class II - Bike Lane
- Class III - Bike Route
- Class IV - Protected Bikeway
- ▬▬▬ Planned Bikeway

- PS Amtrak Lines
- # Amtrak Thruway Bus Routes
- M Metrolink Lines
- # Metro Bus Routes
- # Burbank Bus Routes
- # DASH Bus Routes
- # Glendale Beeline Bus Routes
- # Santa Clarita Transit Bus Routes

- Metro Micro Zone
- Half-Mile Walkshed
- Half-Mile Buffer
- Buses Connecting to North Hollywood Station
- Buses Connecting to All Three Study Area Stations
- Study Area Rail Stations
- Bus Stops

Source: CR Associates, 2022

The bus routes that connect to one or more stations are identified in the table below:

Table 5.7 - Burbank Study Area Bus Routes

Route	Note(s)
Connects to Two (2) Station Areas	
94	<i>Burbank Airport North to Downtown Burbank, Near Burbank South Airport</i>
165	<i>Burbank Airport South to Downtown Burbank</i>
Metro Micro	<i>Burbank Airport South and Downtown Burbank</i>
Connects to One (1) Station Area	
92	<i>Downtown Burbank</i>
96	<i>Downtown Burbank</i>
154	<i>Downtown Burbank</i>
155	<i>Downtown Burbank</i>
164	<i>Downtown Burbank</i>
169	<i>Burbank Airport North, Near Burbank Airport South</i>
183	<i>Downtown Burbank</i>
222	<i>Burbank Airport North, Near Burbank Airport South</i>
292	<i>Downtown Burbank</i>
Noho/Airport "Orange" BurbankBus Line	<i>Near Burbank Airport South</i>
"Pink Route" BurbankBus Line	<i>Downtown Burbank</i>
Glendale Beeline - 12	<i>Downtown Burbank</i>
Santa Clarita Transit – 794	<i>Downtown Burbank</i>

Sources: Metro, 2022; BurbankBus, 2022; Glendale Beeline, 2022; Santa Clarita Transit, 2022

The Complete Our Streets Plan (2020) identifies priority streets by mode. Magnolia Boulevard, Vanowen Street, and San Fernando Road, adjacent to the Burbank Station Areas, are transit priority streets, as shown in **Figure 5.9** below.

Figure 5.9 - City of Burbank's Transit Priority Streets

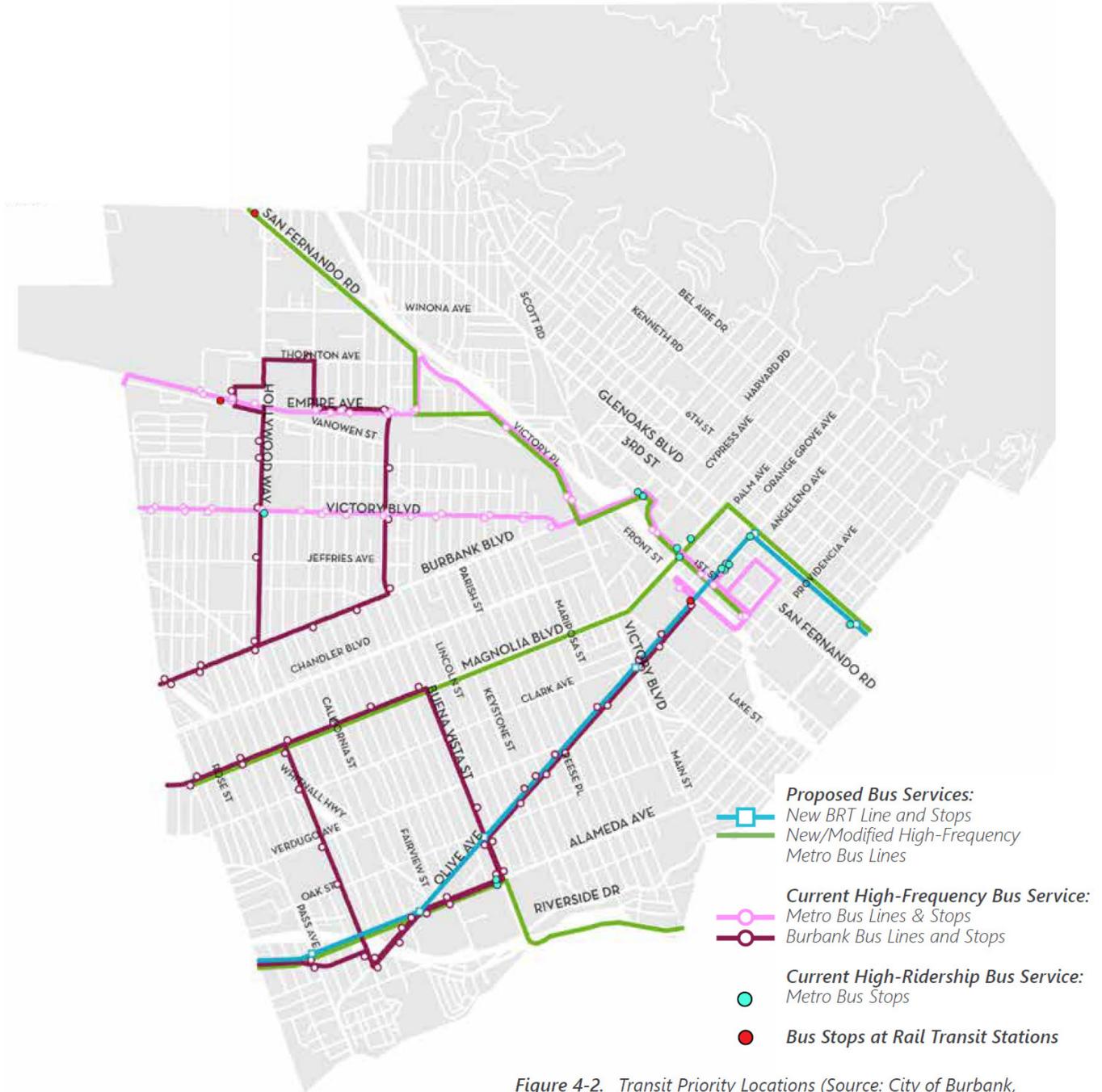


Figure 4-2. Transit Priority Locations (Source: City of Burbank, Adapted Source: 2020 DRAFT Metro Next Gen Bus Plan)

Source: Citywide Complete Our Streets Plan, 2020

Stakeholder Feedback

The RNI team met with stakeholders who serve the Burbank Study Area.

LADOT

LADOT has no planned connections to Burbank Airport or Downtown Burbank.

City of Burbank

The City Council is supportive of Metrolink's efforts to improve service and the *Antelope Valley Line Study* to double track the existing line, bringing 15-minute bi-directional service to Burbank. The Council is supportive of the NoHo to Pasadena BRT line but has expressed concerns about connectivity between the line and the existing Metrolink Station. The *2020 Complete Our Streets Plan* set transportation priorities for bridges that cross the freeway near Downtown: Burbank Boulevard is for vehicles; Magnolia Boulevard is for bikes; Olive Avenue is for transit, notably the North Hollywood to Pasadena BRT Transit Corridor, which will have stops along Olive Avenue. Olive Avenue Bridge was noted for future improvement and potential aerial connection between Metrolink and BRT, however the age of the bridge complicates improvements.

The City is in the first phases of implementing its *2020 Complete Our Streets Plan*. There are three projects downtown including two bike projects on First Street and Front Street and one pedestrian project, which includes the closure of the frontage road westbound of First Street and Olive Avenue to support pedestrian travel to the Metrolink station. Vehicles will be removed from Bonnywood Place between 1st and I-5 to ease pedestrian crossing at Olive and First. Another related improvement is construction of elevators on the Magnolia bridge to connect to the downtown Burbank station as part of the new adjacent development and the future construction of an underpass of the railroad tracks west of Hollywood Way on the south side of the Burbank North station as part of Metro's Brighton to Roxford Double Track Project. Other projects are on hold due to lack of funding, notably the pedestrian bridge at the Burbank Airport South station.

There are four major existing and future transportation projects at the Hollywood Burbank Airport: the planned airport terminal in the northeast quadrant of the property, Burbank Airport Metrolink-North, Burbank Airport Metrolink-South, and the future CAHSR station. The City recommends considering a phased implementation of connections between these, initially a bus and later a people mover. There is an existing shuttle between the Burbank Airport North and the terminal. There is also an existing bus connection between Metro North Hollywood station and Burbank Airport, and between the Media District/Universal and the downtown Burbank along Olive Avenue.

The City intends to complete a state of good repair study at the Burbank Airport South Metrolink station to improve parking and access.

The City has three ongoing planning projects that support intensified land use and transportation access for the City. These include the *Golden State Specific Plan*, which is funded by Metro and CAHSR, to strategically increase land use intensity for housing and commercial/office uses around the Hollywood Burbank Airport. The plan is in its final stages, with City Council adoption scheduled for summer 2022. The "*Burbank Center Specific Plan*" or "*Downtown TOD Specific Plan Update*" will identify additional housing opportunities to meet Regional Housing Needs Allocation (RHNA) targets and examine how to connect Downtown Burbank to the Downtown Burbank Metrolink station south of the I-5 freeway. Additionally, as part of the *Media District Specific Plan*, which will be completed by SCAG, the City is examining ways to plan transit-oriented development and housing near the future BRT. The City noted that the SCAG 2016 model does not take these three specific plans into account, so the 2017 regional travel model will have lower housing and employment numbers than is anticipated will be permitted in the future.

BurbankBus is currently working on an abbreviated short range transportation plan (SRTP). BurbankBus completed a comprehensive operational analysis in 2017, which identified markets and how to reformat

routes to meet minimum service standards: all day, frequent, and point to point. The agency is currently working on a transportation electrification study along with Glendale and Pasadena, with CalStart, to transition transit fleets to electric before CARB mandates are initiated. Cost estimates are high, and Burbank may consolidate infrastructure with Glendale. Burbank Water and Power has also completed a transportation electrification plan with goal of increasing public access to EV chargers by installing 500 charging stations for the public in the next five years.

CAHSR

California High-Speed Rail (CAHSR) is planning for a future station south of the existing Burbank Airport North Station near the planned new airport terminal. The station is part of the Palmdale to Burbank and Burbank to Los Angeles section of the CAHSR Program. The final EIR was adopted for the Burbank to Los Angeles section earlier in 2022. The station is anticipated to be underground with a modeling horizon year of 2040.

CAHSR representatives are interested in how the HSR station will connect to the airport terminal, the Regional Intermodal Transportation Center (RITC), and the two existing Metrolink stations, such as a people mover, bus shuttle, or micro transit.

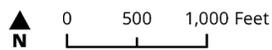
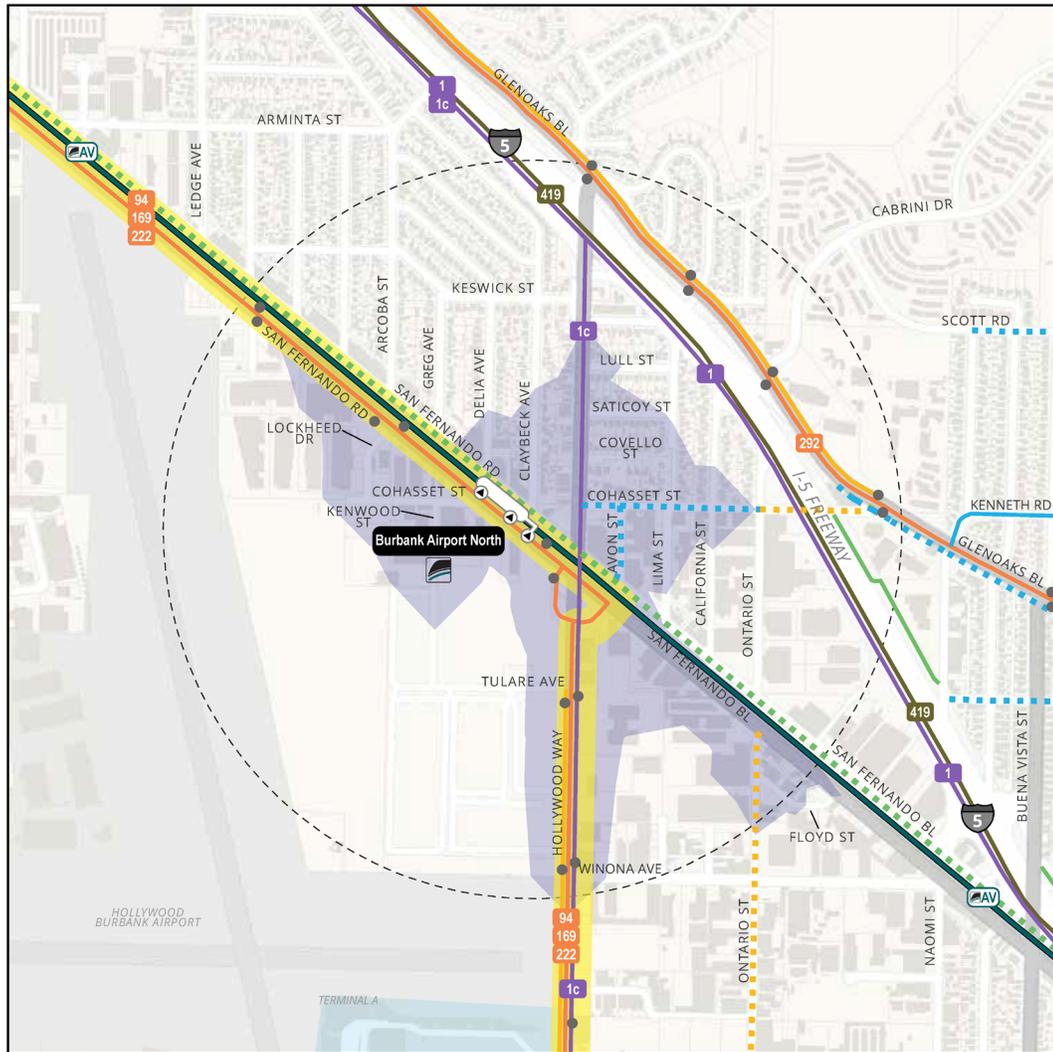
SCRRA/Metrolink

SCRRA is leading an upcoming study on Burbank Airport connectivity. First/last mile considerations are to be examined in addition to a safe and comfortable passenger experience.

Burbank Airport - North Station Area

Burbank Airport North connects to the existing Burbank Hollywood Airport Terminal. The area is served by the existing Metrolink Antelope Valley Line and will be withing walking transfer distance of the future CAHSR station.

Figure 5.10 - Map: Burbank Airport North Station Area Existing Conditions and Planned Bike Routes



Source: CR Associates, 2022

Existing Bike Facilities

- Class I - Bike Path
- Class II - Bike Lane
- Class III - Bike Route

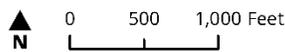
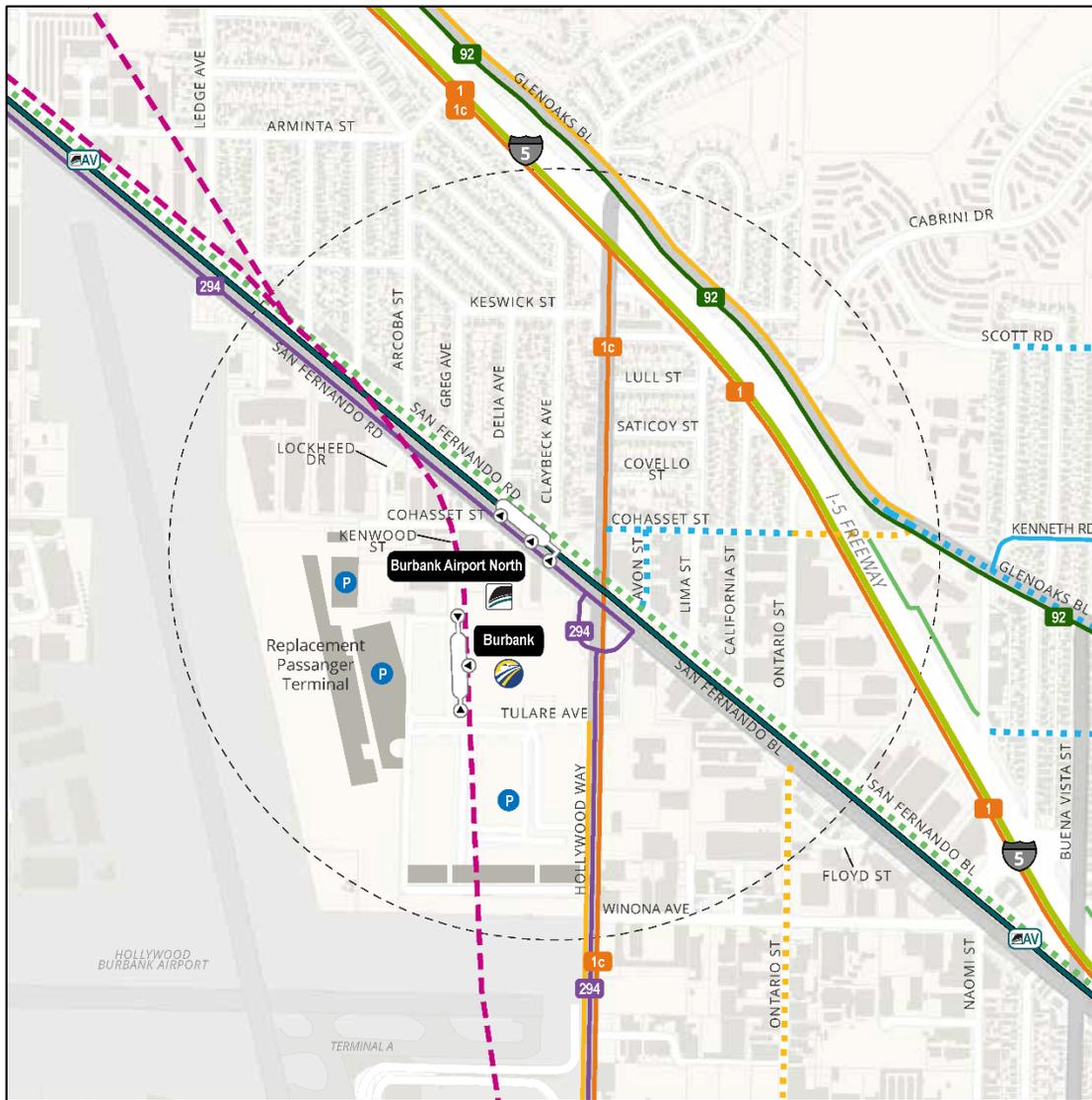
Planned Bike Facilities

- - - Class I - Bike Path
- - - Class II - Bike Lane
- - - Class III - Bike Route

- Metrolink Lines
- Amtrak Thruway Bus Routes
- Metro Bus Routes
- DASH Bus Routes
- Study Area Rail Station
- Entrances
- Bus Stops
- Buses Connecting to All Three Study Area Stations

- Metro Micro Zone
- Half-Mile Walkshed
- Half-Mile Buffer

Figure 5.11 - Map: Burbank Airport North Station Area Future Conditions and Planned Bike Routes



Source: CR Associates, 2022

- Study Area Rail Station
- Entrances
- Half-Mile Buffer
- Parking

- Existing Bike Facilities**
- Class I - Bike Path
 - Class II - Bike Lane
 - Class III - Bike Route

- Planned Bike Facilities**
- Class I - Bike Path
 - Class II - Bike Lane
 - Class III - Bike Route

- Existing Transit**
- Metrolink Lines
 - Amtrak Thruway Bus Routes

- Planned Transit**
- CA High Speed Rail Alignment Alternatives
 - Metro Tier 3: NextGen Bus Routes
 - Metro Tier 4: NextGen Bus Routes

- Planned ExpressLanes**
- Metro Tier 2: ExpressLanes Mid-Term (2027-2032)

Burbank Airport North Connectivity

The station area is connected to the surrounding area and the region by transit, walk, and auto. The existing Burbank Airport North Metrolink Station is served by a Metro Rapid bus line and local Metro bus services. There are no current bike lanes directly serving the existing station. The existing and future connections are displayed in the table below.

Table 5.8 - Existing and Future Transit Connections, Burbank Airport North

Connectivity	Existing	Future
Metrolink	Antelope Valley Line (AVL)	Metrolink AVL is planning future 30-minute bi-directional service, based on SCORE program
Park-and-Ride	No Parking	CAHSR: 2029: 1,640 spaces, 2040: additional 1,570 spaces
Inter-City Rail/Bus	None	California High-Speed Rail EIS/EIR design (station area TBD)
Transport Connection to Hollywood Burbank Airport (BUR)	On-demand shuttle, must summon service	Terminal will be walking distance, though there will also be a shuttle with continuous service Metro bus line 294
Transport Connection to Los Angeles International Airport (LAX)	No services directly from station	To be determined, LAWA is undergoing updates to their Flyaway program
Metro System (Rail and Bus Rapid Transit)	None	None
Metro Bus (Local)	169, 222, 294	294 and TBD
Metro Bus (Rapid)	None	None
Metro or Municipal Shuttles	None	None
Municipal Bus	None	None
Private Shuttles	None	Unknown
FLM Projects - Metro defined	None	None
FLM Projects - Local defined	None	<i>Bike Master Plan (2009):</i> Victory Pl, Class I <i>City of Los Angeles Mobility Plan 2035 (2016):</i> San Fernando Road Path
Strategic Project Lists - SRTP	None	Regional Transit Connection to Burbank Airport; Rapid transit corridor from Century City to San Gabriel Valley via Hollywood and Union Station; Metro B (Red) Line Extension: NoHo to Hollywood Burbank Airport; Metro rail corridor between Hollywood Burbank Airport, Glendale, and Downtown Los Angeles

Sources: Metro, 2022; Hollywood Burbank Airport, 2021; BurbankBus, 2022; Metrolink, 2022-22; CAHSR, 2022

The table below outlines the purchase options, transfers accepted, and media accepted for the primary transit providers at the Burbank Airport - North Station Area.

Table 5.9 - Fare Payment Options, Burbank Airport North

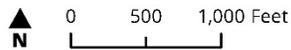
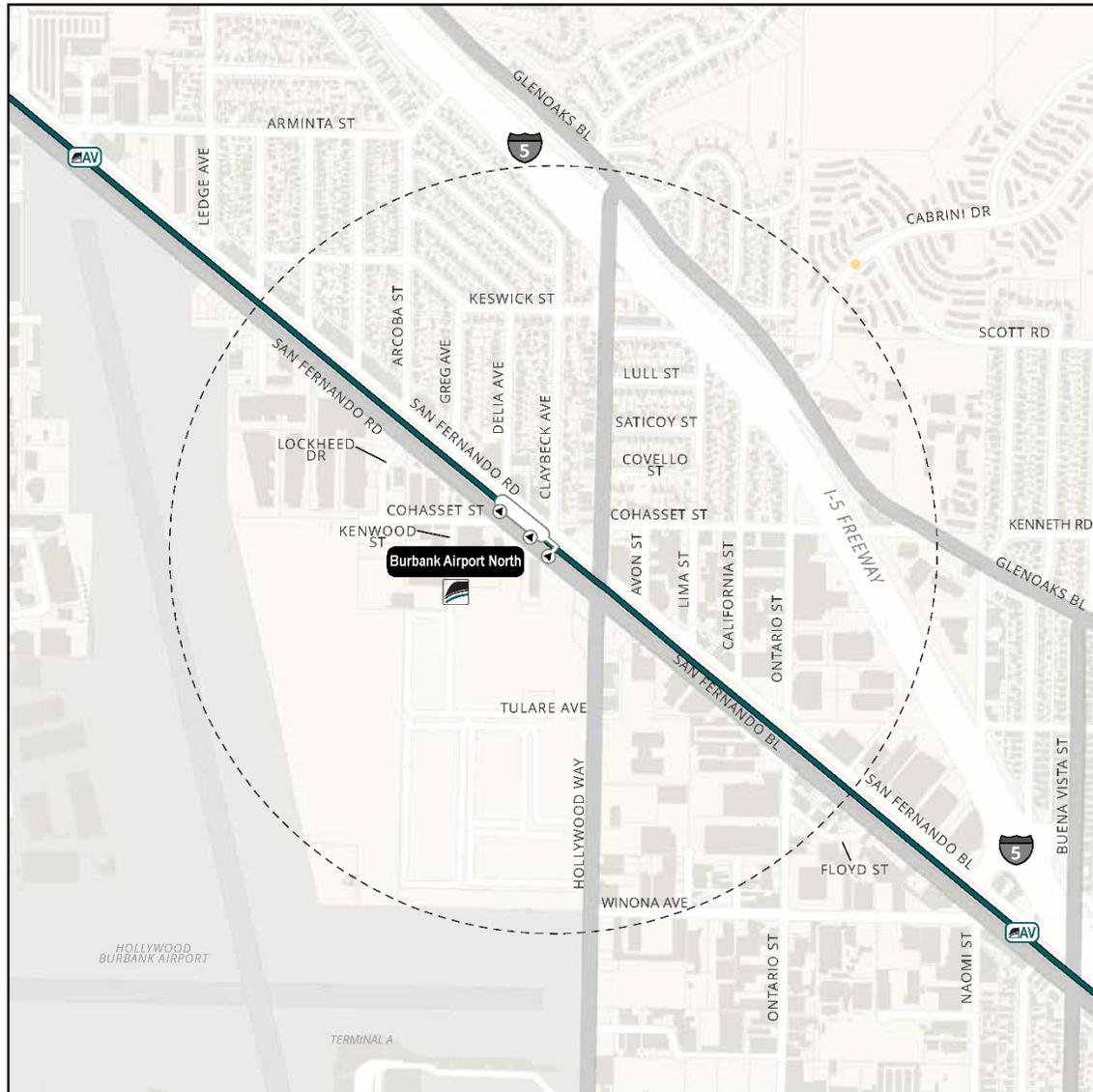
Fares and Transfers	Fare Payment Options	Transfers Accepted	Media
Metrolink	App, platform kiosks, ticket outlets, pass by mail, and buy online/print at home	EZ Transit Pass, connecting buses and rail (some require additional fare), local dial-a-ride (requires additional fare), Megabus	App, Paper ticket
Metro	TAP Card – reload online, phone, vendor kiosks, platform kiosks; Cash is accepted on buses that do not have all-door boarding; GoPass/UPass for students	EZ Transit Pass, TAP unlimited transfers within 2 hours in one direction	TAP, Cash

Sources: Metro, 2022; Metrolink, 2022

Burbank Airport North Safety

The collisions in the Burbank Airport North Station Area from 2015 to 2019 primarily involve automobiles. There was one bicycle-involved collision at the intersection of San Fernando Road and Arcoba Street, northwest of the Metrolink Station.

Figure 5.12 - Pedestrian Collisions, Burbank Airport North



Source: SWITRS 2015-2019; CR Associates, 2022

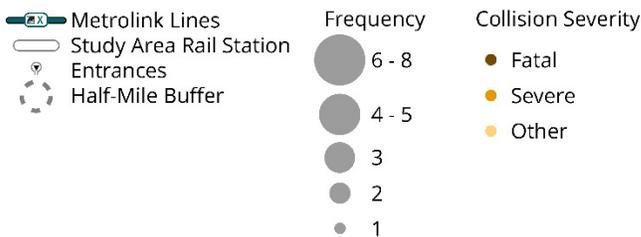
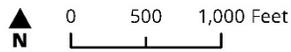
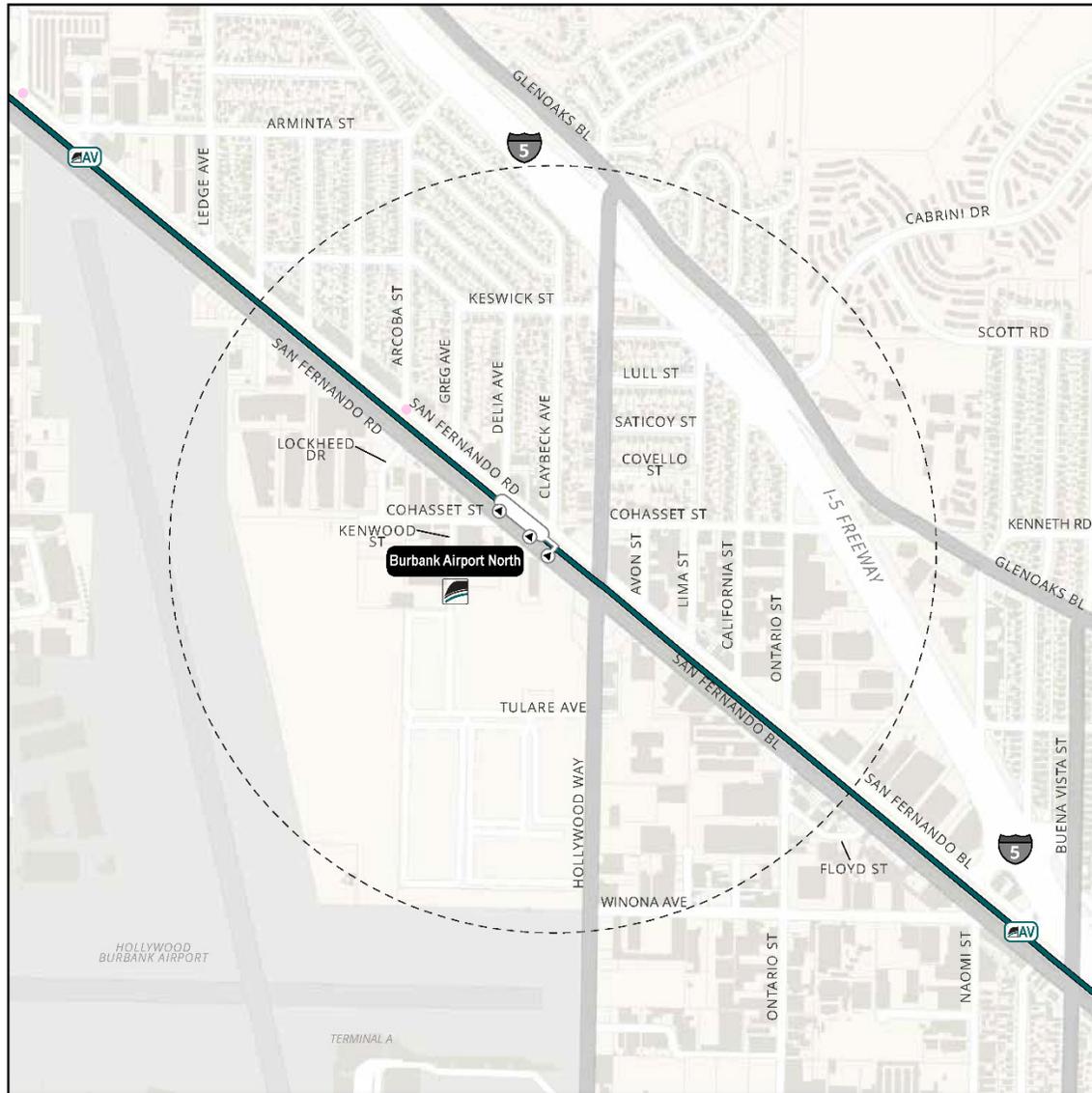


Figure 5.13 - Bicycle Collisions, Burbank Airport North



Source: SWITRS 2015-2019; CR Associates, 2022

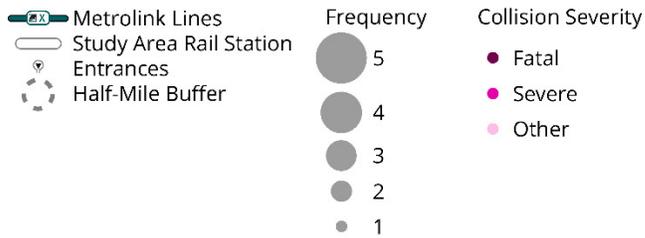
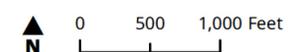
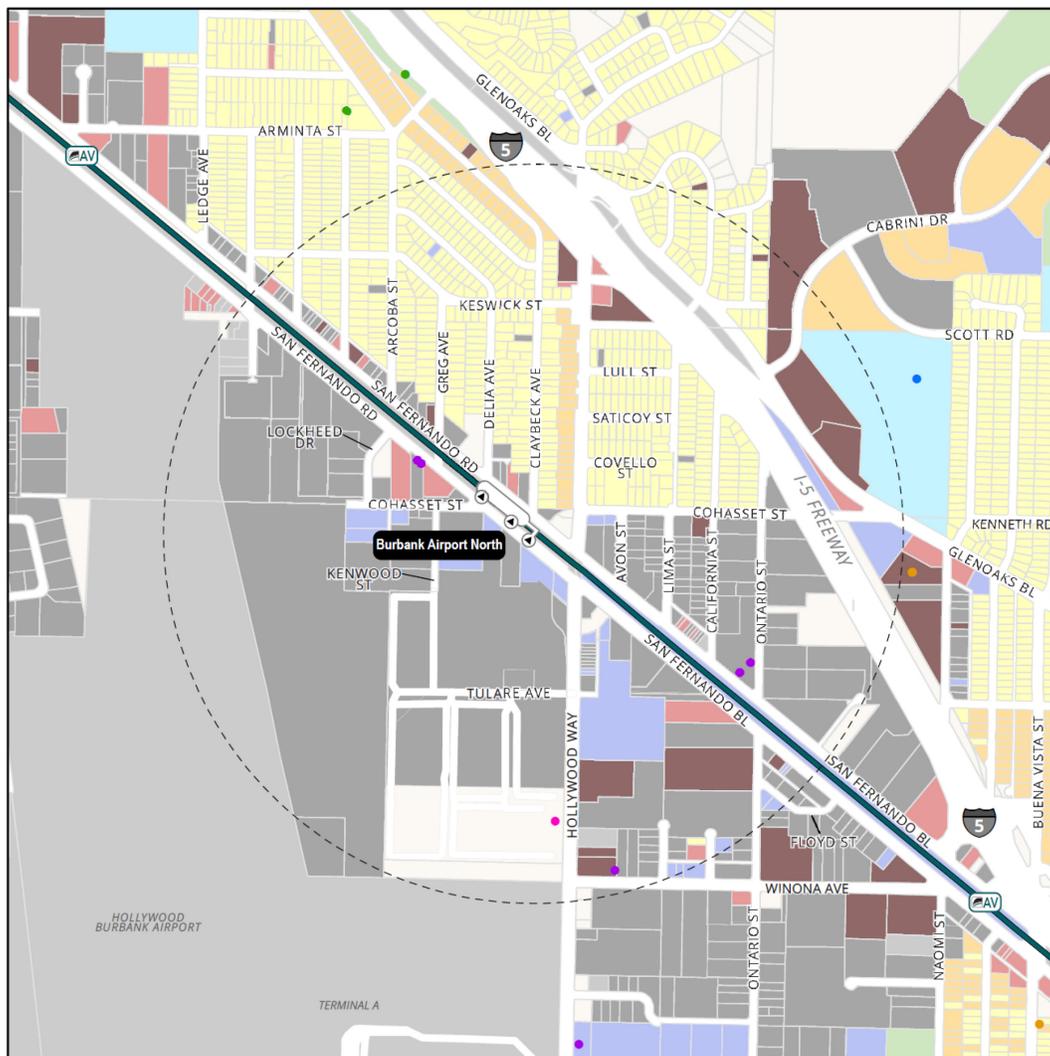


Figure 5.15 - Map: Burbank Airport South Existing Land Use



Source: SCAG, 2016; CR Associates, 2022

- | | | |
|---|--|---|
| <ul style="list-style-type: none"> Metrolink Lines Study Area Rail Station Entrances Half-Mile Buffer | <p>Land Uses</p> <ul style="list-style-type: none"> Single-Family Residential Multi-Family Residential Commercial Office Facilities Education Industrial Transportation & Utilities Mixed-Use Open Space Vacant/Unknown | <p>Key Destinations</p> <ul style="list-style-type: none"> Arts, Community, & Recreation Education Financial Institutions & Shopping Centers Health & Social Services Municipal Services |
|---|--|---|

Burbank Airport North Station Field Assessment

Transit operators at Burbank Airport – North Station include Metrolink Antelope Valley Line, Metro Bus, and Burbank Airport Shuttle service.

Table 5.10 - Burbank Airport North Station Field Assessment

Category	Improvement Type	Feature Present
Customer Information	Static Directional Signage	Y
	Digital Information Kiosk	Y
	Customer Service Kiosk	Y
	Real-Time Arrival Information	Y
	Transit Schedule	Y
	Station Area Map	Y
	Sidewalk Stop Pole	Y
	Public Announcement Speakers	Y
	High Quality of Audio/Intelligibility of Speakers?	N/A
	Visual Wayfinding to Other Transit Service	Y
	Audio Wayfinding to Other Transit Service	Y
	Tactile Wayfinding to Other Transit Service	Y
Notes on Customer Information Amenities	<ul style="list-style-type: none"> • There are static signs from the rail platform to buses, but not from bus stops to the rail platform. However, bus and rail are close enough that it is visually clear where the rail platform is from the nearby bus stops. • The rail platform has a passenger information telephone • No announcements were observed during fieldwork 	
Station Accessibility	Bi-Directional Access Ramps	Y
	Bike Center/Hub	Y
	Bike Lockers	Y
	Bike Racks	Y
	Bike Share (within service area)	Y
	Car Share	Y
	Continental Crosswalk	Y
	Curb Bulb-Out	Y
	Leading Pedestrian Interval	Y
	High-Quality Sidewalk Connections (continuous stretch of well-paved sidewalk 10 ft wide)	Y
	Median Refuge	Y
	Parking Facilities	Y
	Scramble Crosswalk	Y
	Shared Dockless Micromobility Parking	Y
	Pick-Up/Drop-Off Zone	Y
	Tactile Warning Features (textured pavers at curb cuts)	Y
	Tactile Warning Features as Barriers? (do textured pavers create mobility barriers for people in wheelchairs, using canes, crutches, etc.)	Y
Vertical Circulation - Elevators (for multi-level facilities) (at least 2 elevators for each vertical circulation core)	N/A	
Vertical Circulation - Escalators (for multi-level facilities) (at least 2 bi-directional escalators for each vertical circulation core)	N/A	
Do Station Amenities Encourage Sleeping?	Y	
Notes on Station Accessibility	<ul style="list-style-type: none"> • This station is newly constructed, so there are lots of tactile pavers on the sidewalks at curb cuts 	

Category	Improvement Type	Feature Present																																						
<p>Notes on Station Connections to Surrounding Land Use</p>	<ul style="list-style-type: none"> • There is only one crosswalk-protected access point, at Hollywood Way. The north end of the station at Cohasset Street could benefit from a crosswalk, but also the entire east side of the tracks has no station access. • Plans for double track platform will improve access to communities to the north. 																																							
<p>Station Boarding Area</p>	<table border="1"> <tr> <td data-bbox="542 531 1312 598">Bus Stop Amenities (do adjacent bus stops host a full complement of amenities such as shelter, trash, seating)</td> <td data-bbox="1312 531 1487 598">Y</td> </tr> <tr> <td data-bbox="542 598 1312 636">Lean Bar</td> <td data-bbox="1312 598 1487 636">N</td> </tr> <tr> <td data-bbox="542 636 1312 674">Level Boarding</td> <td data-bbox="1312 636 1487 674">N</td> </tr> <tr> <td data-bbox="542 674 1312 711">Lighting</td> <td data-bbox="1312 674 1487 711">Y</td> </tr> <tr> <td data-bbox="542 711 1312 779">Does Lighting Extend Equally Throughout Platform Area and Transfer Area (incl. parking lots, adjacent paths, etc.)?</td> <td data-bbox="1312 711 1487 779">Y</td> </tr> <tr> <td data-bbox="542 779 1312 816">Public Art</td> <td data-bbox="1312 779 1487 816">N</td> </tr> <tr> <td data-bbox="542 816 1312 854">Restrooms</td> <td data-bbox="1312 816 1487 854">N</td> </tr> <tr> <td data-bbox="542 854 1312 892">Seating (at least 10 seats at light rail stations)</td> <td data-bbox="1312 854 1487 892">Y</td> </tr> <tr> <td data-bbox="542 892 1312 930">Seating (at least 3 seats per bay at bus facilities)</td> <td data-bbox="1312 892 1487 930">Y</td> </tr> <tr> <td data-bbox="542 930 1312 968">Security Kiosk</td> <td data-bbox="1312 930 1487 968">N</td> </tr> <tr> <td data-bbox="542 968 1312 1035">Shade Structures (approx. 50% coverage of platform at outdoor rail or BRT stations)</td> <td data-bbox="1312 968 1487 1035">Y</td> </tr> <tr> <td data-bbox="542 1035 1312 1102">Shade Structures (approx. 6 linear feet per bus bay at bus facilities)</td> <td data-bbox="1312 1035 1487 1102">Y</td> </tr> <tr> <td data-bbox="542 1102 1312 1140">Sound Barrier</td> <td data-bbox="1312 1102 1487 1140">N</td> </tr> <tr> <td data-bbox="542 1140 1312 1178">High Levels of Ambient Noise (car traffic, etc.)</td> <td data-bbox="1312 1140 1487 1178">Y</td> </tr> <tr> <td data-bbox="542 1178 1312 1215">Ticketing Machine (light rail stations at least 2)</td> <td data-bbox="1312 1178 1487 1215">Y</td> </tr> <tr> <td data-bbox="542 1215 1312 1283">Trash and/or Recycling Receptacles (at least 2 receptacles for light rail stations)</td> <td data-bbox="1312 1215 1487 1283">Y</td> </tr> <tr> <td data-bbox="542 1283 1312 1350">Trash and/or Recycling Receptacles (at least 1 per 3 bays/2 per bus facility)</td> <td data-bbox="1312 1283 1487 1350">Y</td> </tr> <tr> <td data-bbox="542 1350 1312 1388">Trees Providing Shade</td> <td data-bbox="1312 1350 1487 1388">Y</td> </tr> <tr> <td data-bbox="542 1388 1312 1451">Wi-Fi</td> <td data-bbox="1312 1388 1487 1451">N</td> </tr> </table>	Bus Stop Amenities (do adjacent bus stops host a full complement of amenities such as shelter, trash, seating)	Y	Lean Bar	N	Level Boarding	N	Lighting	Y	Does Lighting Extend Equally Throughout Platform Area and Transfer Area (incl. parking lots, adjacent paths, etc.)?	Y	Public Art	N	Restrooms	N	Seating (at least 10 seats at light rail stations)	Y	Seating (at least 3 seats per bay at bus facilities)	Y	Security Kiosk	N	Shade Structures (approx. 50% coverage of platform at outdoor rail or BRT stations)	Y	Shade Structures (approx. 6 linear feet per bus bay at bus facilities)	Y	Sound Barrier	N	High Levels of Ambient Noise (car traffic, etc.)	Y	Ticketing Machine (light rail stations at least 2)	Y	Trash and/or Recycling Receptacles (at least 2 receptacles for light rail stations)	Y	Trash and/or Recycling Receptacles (at least 1 per 3 bays/2 per bus facility)	Y	Trees Providing Shade	Y	Wi-Fi	N	
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Trees Providing Shade	Y																																							
Wi-Fi	N																																							
<p>Notes on Station Boarding Area</p>	<ul style="list-style-type: none"> • The southbound Metro bus stop has a shelter, but the northbound bus stop does not 																																							
<p>Operational Flow or Constraints for Trains, BRT, or Buses</p>	<ul style="list-style-type: none"> • There is one track for trains • Northbound buses benefit from an easy transfer adjacent to the platform • The airport shuttle serves the station directly, but must be requested by passengers 																																							

Category	Improvement Type	Feature Present
<p>General Notes on Wayfinding to/from Station from Other Transit Services (distance, perception, directness, clarity)</p>	<ul style="list-style-type: none"> • Wayfinding to and from connecting bus transit is generally clear due to direct adjacency of bus stops, as well as signage at the station platform • Platform station access is open at north and south ends of platform, but pedestrian infrastructure to support access is only available at south end of platform 	

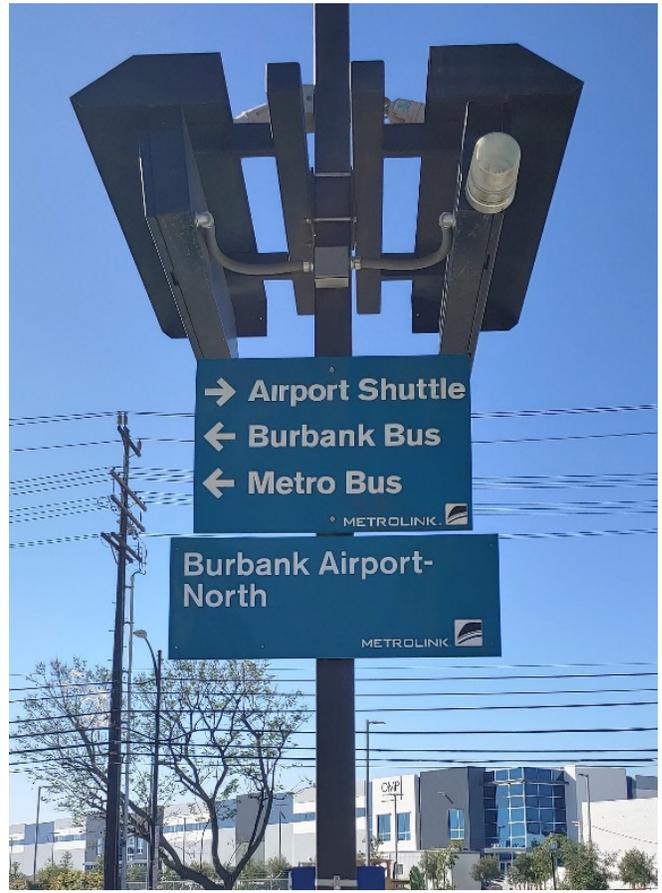
Source: CR Associates and STV Incorporated, 2021

PHOTOS OF BURBANK AIRPORT STATION - NORTH:

Photo of southbound Metro bus stop with full amenities:



Photo of signage for bus connections:



North end of station which has unrestricted access to the sidewalk but no access to cross San Fernando Boulevard:



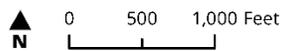
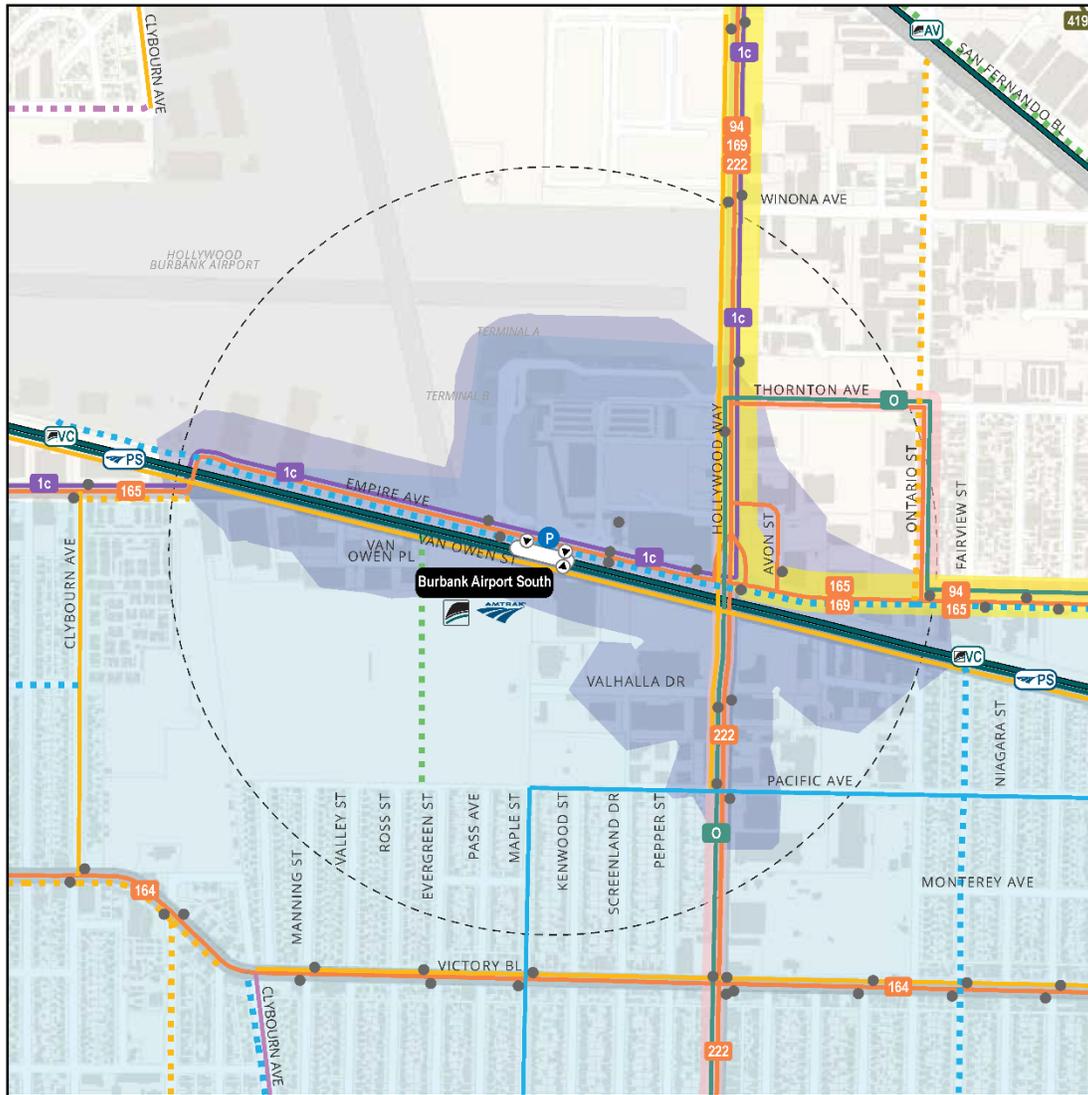
Photo of Hollywood Way access point to the station from south of San Fernando Boulevard. Access terminates south of this the photo location



Burbank Airport South Station Area

Burbank Airport - South connects to the Burbank Hollywood Airport Terminal, the newly approved mixed-use development on the Fry's site, offices, and Pierce Brothers Valhalla Memorial Park. The area is served by the existing Metrolink Ventura County (VCL) Line and Amtrak's Pacific Surfliner (APS) as seen in the map below.

Figure 5.16 - Map: Burbank Airport South Station Area Existing Conditions and Planned Bike Routes



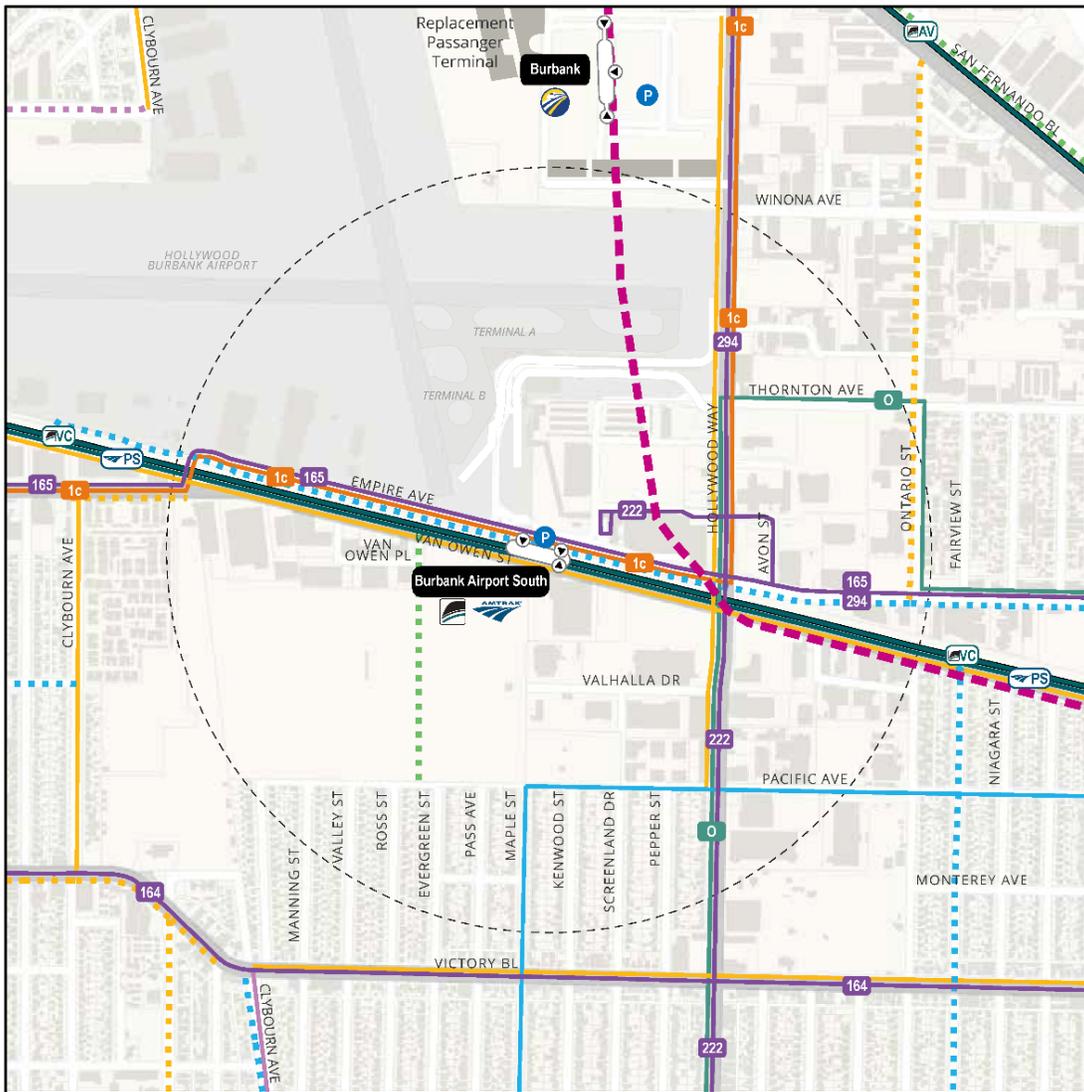
Source: CR Associates, 2022

- Existing Bike Facilities**
- Class I - Bike Path
- Class II - Bike Lane
- Class III - Bike Route
- Class IV - Protected Bikeway
- Planned Bike Facilities**
- Class I - Bike Path
- Class II - Bike Lane
- Class III - Bike Route
- Class IV - Protected Bikeway

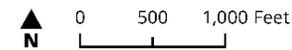
- Metrolink Parking
- Amtrak Lines
- Amtrak Thruway Bus Routes
- Metrolink Lines
- Metro Bus Routes
- Burbank Bus Routes
- DASH Bus Routes
- Study Area Rail Station
- Entrances
- Bus Stops

- Buses Connecting to North Hollywood Station
- Buses Connecting to All Three Study Area Stations
- Metro Micro Zone
- Half-Mile Walkshed
- Half-Mile Buffer

Figure 5.17 - Map: Burbank Airport South Station Area Future Planned Conditions



Source: CR Associates, 2022



- Study Area Rail Station
- Entrances
- Half-Mile Buffer
- Parking

- Existing Bike Facilities**
- Class I - Bike Path
 - Class II - Bike Lane
 - Class III - Bike Route
 - Class IV - Protected Bikeway

- Planned Bike Facilities**
- Class I - Bike Path
 - Class II - Bike Lane
 - Class III - Bike Route
 - Class IV - Protected Bikeway

- Existing Transit**
- Amtrak Lines
 - Amtrak Thruway Bus Routes
 - Metrolink Lines
 - Burbank Bus Routes

- Planned Transit**
- CA High Speed Rail Alignment Alternatives
 - Metro Tier 3: NextGen Bus Routes
 - Metro Tier 4: NextGen Bus Routes

Burbank Airport South Station Area Connectivity

The station area is connected to the surrounding area and the region by a transit, bike, walk and auto. The existing Metrolink and Amtrak Station is served by a several Metro local bus routes. The station is flanked by Empire Avenue to the North and Vanowen Street to the south. Vanowen Street has bike lanes in both directions, parallel to the rail line serving the existing station. The long blocks and limited sidewalks (south side of Vanowen Street and north side of Empire Avenue) provide few opportunities to reach the station on foot. This is complicated by the limited opportunities to cross the tracks – in the 1.3 miles between North Buena Vista Street and Clybourn Avenue, the only crossing location is at the station itself and requires crossing the tracks at-grade. The existing and future connections are defined in the table below.

Table 5.11 - Existing and Future Transit Connections, Burbank Airport South Station Area

Connectivity	Existing	Future
Metrolink	Ventura County Line	Metrolink VCL is planning future 30-minute bi-directional service, based on SCORE program
Metrolink Park-and-Ride	40 Spaces	No anticipated change
Inter-City Rail/Bus	Amtrak Pacific Surfliner Amtrak Thruway Route 1 Amtrak Coast Starlight	No anticipated change
Transport Connection to Hollywood Burbank Airport (BUR)	Regional Intermodal Transit Center (RITC) short walking distance to terminal via elevated walkway	Shuttle with continuous service Metro bus route 165
Transport Connection to Los Angeles International Airport (LAX)	No services directly from station	To be determined, LAWA is undergoing updates to their Flyaway program
Metro System (Rail and Bus Rapid Transit)	None	Metro Red Line connection/extension options
Metro Bus (Local)	165, 169 stop at Burbank Airport South Station Adjacent routes that do not serve this station: <i>Route 222 drops off at Airport parking lot (but not at Metrolink Station)</i> <i>Route 294 is adjacent to Burbank Airport South, but drops off at Burbank Airport North station</i>	165 will continue to stop at Burbank Airport South Station Adjacent routes that do not serve this station: <i>Route 222 drops off at Airport parking lot (but not at Metrolink Station)</i> <i>Route 294 is adjacent to Burbank Airport South, but drops off at Burbank Airport North station</i>
Metro Bus (Rapid)	None	No anticipated change
Metro or Municipal Shuttles	Within Metro Microtransit North Hollywood/Burbank service zone	Dependent on the continuation of Metro Micro
Municipal Bus	BurbankBus NoHo to Airport (Orange)	No anticipated change
Private Shuttles	None	Unknown
FLM Projects - Metro defined	None	<i>First/Last Mile Plan (2014): Bike path through Valhalla Memorial Park between Pacific Avenue and Vanowen Street</i>
FLM Projects - Local defined	Vanowen Street Bike Lanes	Bike Master Plan (2009): Victory Place, Class I
Strategic Project Lists - S RTP	None	Mobility Hubs Project; Build-out of First/Last Mile connections to all rail

		and BRT stations enhanced by expanded and coordinated pedestrian, bicycle, and transit information and amenities
--	--	--

Sources: Metro, 2022; Hollywood Burbank Airport, 2021; BurbankBus, 2022; Metrolink, 2022

The table below outlines the purchase options, transfers accepted, and media accepted for the primary transit providers at the Burbank Airport South Station Area.

Table 5.12 - Fare Payment Options, Burbank Airport South Station Area

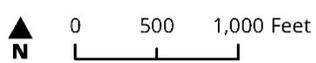
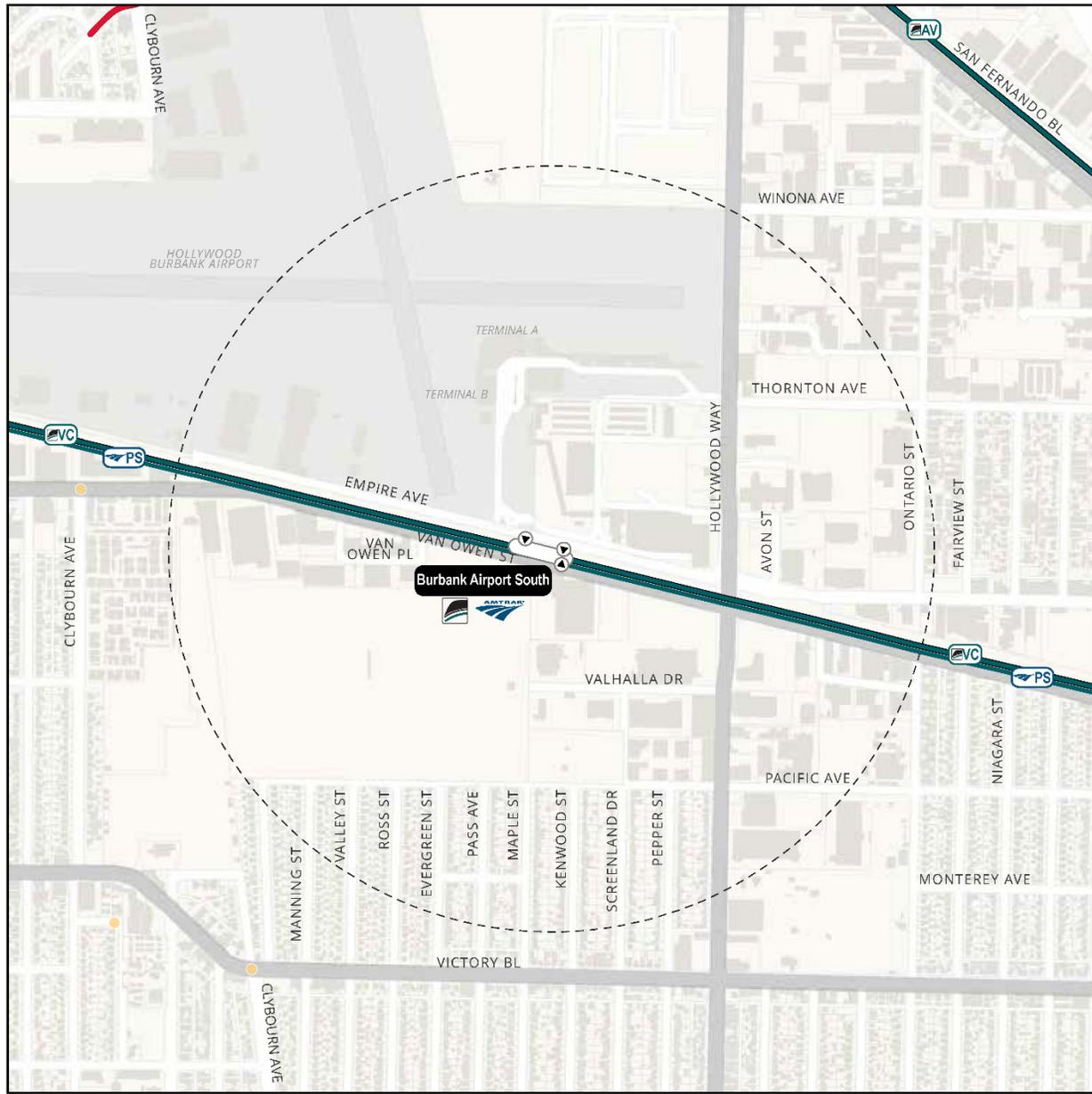
Fares and Transfers	Fare Payment Options	Transfers Accepted	Media
Metro	TAP Card – reload online, phone, vendor kiosks, platform kiosks; Cash is accepted on buses that do not have all-door boarding; GoPass/UPass for students	EZ Transit Pass, TAP unlimited transfers within 2 hours in one direction	TAP, Cash
Metrolink	App, platform kiosks, ticket outlets, pass by mail, and buy online/print at home	EZ Transit Pass, Connecting buses and rail (some require additional fare), local dial-a-ride (requires additional fare), Megabus	App, Paper ticket
Amtrak	App, buy online/print at home, Station Agent at the Station, Quik-Trak kiosk at the station, Phone, Travel Agent,	TBD	Electronic, paper ticket
BurbankBus	TAP Card, Cash, Senior Activity Card, Metrolink Ticket or Pass, Children under five are free Do not accept Metro 1-day, 7-day, or monthly passes	TAP within 2.5 hours (regular: \$1.00; student: \$0.50; senior/disabled: \$0.25)	TAP, Cash

Sources: Metro, 2022; Metrolink, 2022; BurbankBus, 2022; Amtrak, 2022

Burbank Airport South Station Area Safety

There are few collisions in the Burbank Airport South Station Area from 2015 to 2019 in comparison to the other two Burbank Study Areas. There are no bicycle or pedestrian-involved collisions within a half-mile of the station. Collisions by mode are shown in **Figures 5.18 - 5.20**.

Figure 5.18 - Pedestrian Collisions, Burbank Airport South



Source: SWITRS 2015-2019; CR Associates, 2022

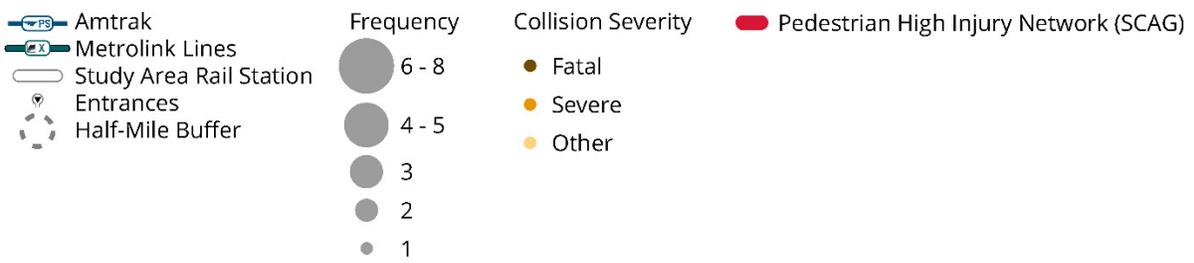


Figure 5.19 - Bicycle Collisions, Burbank Airport South



Source: SWITRS 2015-2019; CR Associates, 2022

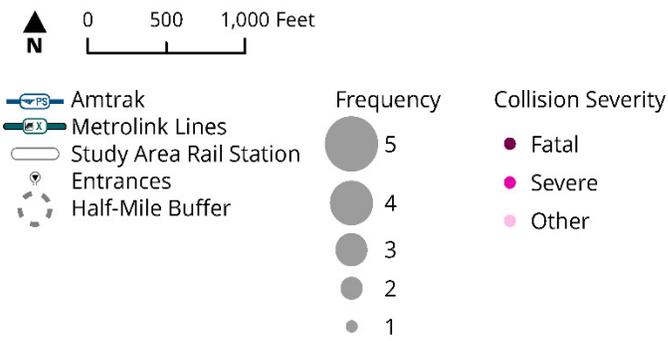
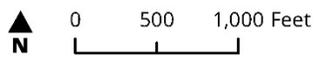
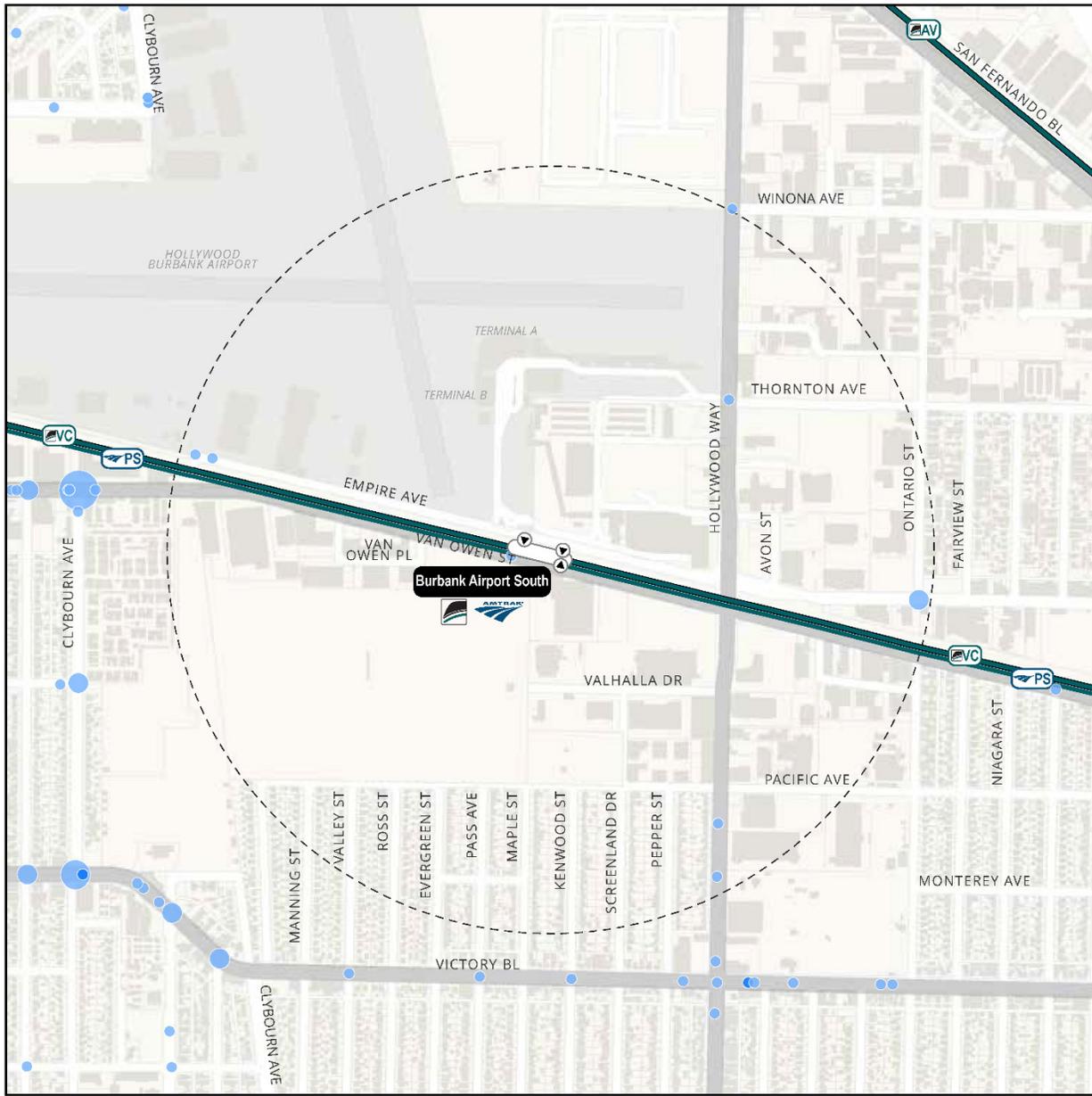
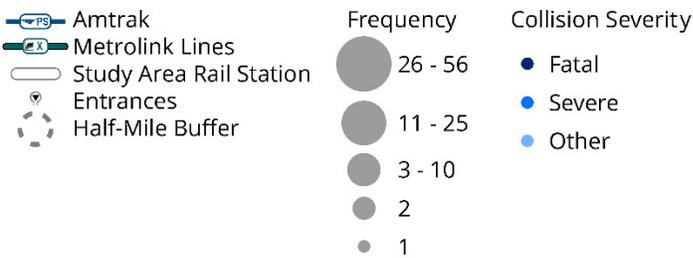


Figure 5.20 - Automobile Collisions, Burbank Airport South



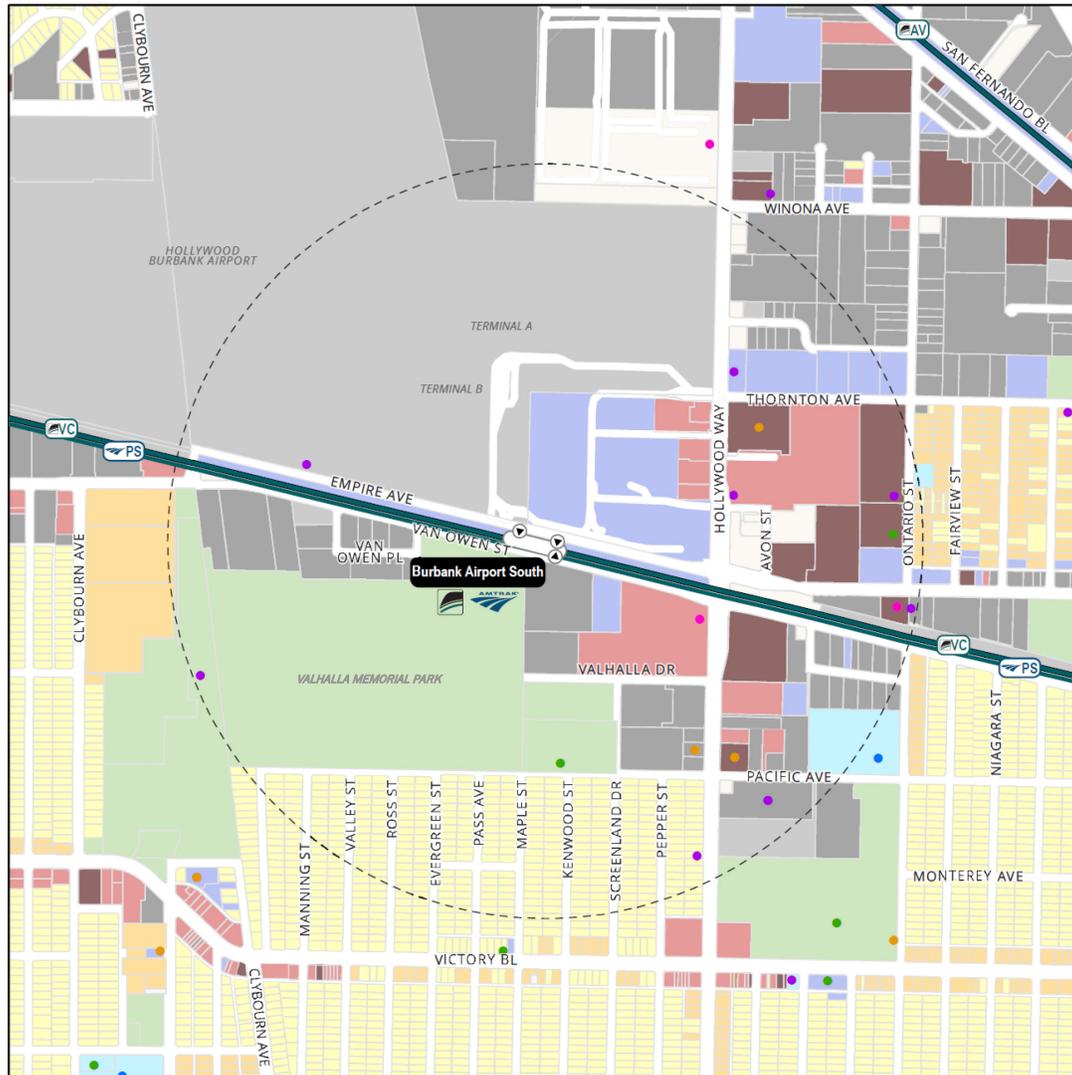
Source: SWITRS 2015-2019; CR Associates, 2022



Burbank Airport South Station Area Land Use

The Burbank Airport South Station Area is predominantly industrial and transportation, educational, and urban centers concentrated within a half-mile of the station. Key destinations include Valhalla Memorial Park, and Hollywood Burbank Airport.

Figure 5.21 - Map: Burbank Airport South Existing Land Use



0 500 1,000 Feet

Source: SCAG, 2016; CR Associates, 2022

- Amtrak
- Metrolink Lines
- Study Area Rail Station Entrances
- Half-Mile Buffer

- Land Uses**
- Single-Family Residential
 - Multi-Family Residential
 - Commercial
 - Office
 - Facilities
 - Education
 - Industrial
 - Transportation & Utilities
 - Mixed-Use
 - Open Space
 - Vacant/Unknown

- Key Destinations**
- Arts, Community, & Recreation
 - Education
 - Financial Institutions & Shopping Centers
 - Health & Social Services
 - Municipal Services

Burbank Airport South Station Area Field Assessment

Transit operators at Burbank Airport South, include Metrolink, Amtrak, Amtrak Bus, Metro Bus, and BurbankBus service.

Table 5.13 - Burbank Airport South Station Area Field Assessment

Category	Improvement Type	Feature Present
Customer Information	Static Directional Signage	Y
	Digital Information Kiosk	N
	Customer Service Kiosk	N
	Real-Time Arrival Information	Y
	Transit Schedule	Y
	Station Area Map	N
	Sidewalk Stop Pole	Y
	Public Announcement Speakers	Y
	High Quality of Audio/Intelligibility of Speakers?	Y
	Visual Wayfinding to Other Transit Service	Y
	Audio Wayfinding to Other Transit Service	N
	Tactile Wayfinding to Other Transit Service	N
Notes on Customer Information Amenities	<ul style="list-style-type: none"> • Audio announcements for real-time arrival were inaccurate 	
Station Accessibility	Bi-Directional Access Ramps	N
	Bike Center/Hub	N
	Bike Lockers	N
	Bike Racks	N
	Bike Share (within service area)	Y
	Car Share	Y
	Continental Crosswalk	Y
	Curb Bulb-Out	N
	Leading Pedestrian Interval	N/A
	High-Quality Sidewalk Connections (continuous stretch of well-paved sidewalk 10 ft wide)	N
	Median Refuge	N
	Parking Facilities	Y
	Scramble Crosswalk	N
	Shared Dockless Micromobility Parking	N
	Pick-Up/Drop-Off Zone	Y
	Tactile Warning Features (textured pavers at curb cuts)	Y
	Tactile Warning Features as Barriers? (do textured pavers create mobility barriers for people in wheelchairs, using canes, crutches, etc.)	N
	Vertical Circulation - Elevators (for multi-level facilities) (at least 2 elevators for each vertical circulation core)	N
Vertical Circulation - Escalators (for multi-level facilities) (at least 2 bi-directional escalators for each vertical circulation core)	N	
Do Station Amenities Encourage Sleeping?	N	

Category	Improvement Type	Feature Present
<p>Notes on Station Accessibility</p>	<ul style="list-style-type: none"> • There are ADA ramps present, but they are too narrow for bi-directional simultaneous use • The sidewalk around the station is well-paved, but not 10 ft wide • Signage indicates Bob Hope Airport Station, which is inaccurate • At-grade track crossings • North-south crosswalks are distantly spaced. Aside from the crossing at the station, the closest crossing on Vanowen Street (to the south of the station) is over one-half mile away and the closest on Empire Avenue (to the north of the station and adjacent to the Airport) is over one-quarter mile away. This results in pedestrians traversing the Metrolink tracks to travel between neighborhoods to the south and the airport. 	
<p>Notes on Station Connections to Surrounding Land Use</p>	<ul style="list-style-type: none"> • There are multiple access points to the station platform, though the access prioritizes connections between the platform and the Burbank Airport Regional Intermodal Transportation Center 	
<p>Station Boarding Area</p>	<p>Bus Stop Amenities (do adjacent bus stops host a full complement of amenities such as shelter, trash, seating)</p>	<p>Y</p>
	<p>Lean Bar</p>	<p>N</p>
	<p>Level Boarding</p>	<p>N</p>
	<p>Lighting</p>	<p>Y</p>
	<p>Does Lighting Extend Equally Throughout Platform Area and Transfer Area (incl. parking lots, adjacent paths, etc.)?</p>	<p>N</p>
	<p>Public Art</p>	<p>N</p>
	<p>Restrooms</p>	<p>N</p>
	<p>Seating (at least 10 seats at light rail stations)</p>	<p>Y</p>
	<p>Seating (at least 3 seats per bay at bus facilities)</p>	<p>Y</p>
	<p>Security Kiosk</p>	<p>N</p>
	<p>Shade Structures (approx. 50% coverage of platform at outdoor rail or BRT stations)</p>	<p>Y</p>
	<p>Shade Structures (approx. 6 linear feet per bus bay at bus facilities)</p>	<p>Y</p>
	<p>Sound Barrier</p>	<p>N</p>
	<p>High Levels of Ambient Noise (car traffic, etc.)</p>	<p>Y</p>
	<p>Ticketing Machine (light rail stations at least 2)</p>	<p>Y</p>
	<p>Trash and/or Recycling Receptacles (at least 2 receptacles for light rail stations)</p>	<p>Y</p>
<p>Trash and/or Recycling Receptacles (at least 1 per 3 bays/2 per bus facility)</p>	<p>Y</p>	
<p>Trees Providing Shade</p>	<p>N</p>	
<p>Wi-Fi</p>	<p>N</p>	
<p>Notes on Station Boarding Area</p>	<ul style="list-style-type: none"> • There are ten shade structures on the platform, but they do not cover 50% of the platform area 	
<p>Operational Flow or Constraints for Trains, BRT, or Buses</p>	<ul style="list-style-type: none"> • Buses serve stops on Empire Ave directly, as well as stops in the pull-in area west of the rail platform. 	

Category	Improvement Type	Feature Present
	<ul style="list-style-type: none"> Buses also serve the RITC, across the street from the rail platform 	
General Notes on Wayfinding to/from Station from Other Transit Services (distance, perception, directness, clarity)	<ul style="list-style-type: none"> There are many signs available pointing riders from the rail platform to RITC and the buses serving it, but wayfinding is still difficult for riders. For example, patrons expect a connection from the east end of the platform to cross Empire Ave at the RITC pedestrian crossing, as opposed to the access provided in the middle of the platform currently 	

Source: CR Associates and STV Incorporated, 2021

PHOTOS OF BURBANK AIRPORT SOUTH AIRPORT STATION:

Photo of alternative style transit connection wayfinding sign. Notably, the sign indicating “Bob Hope Airport” is inaccurate:



Photo of RITC bus plaza in use:

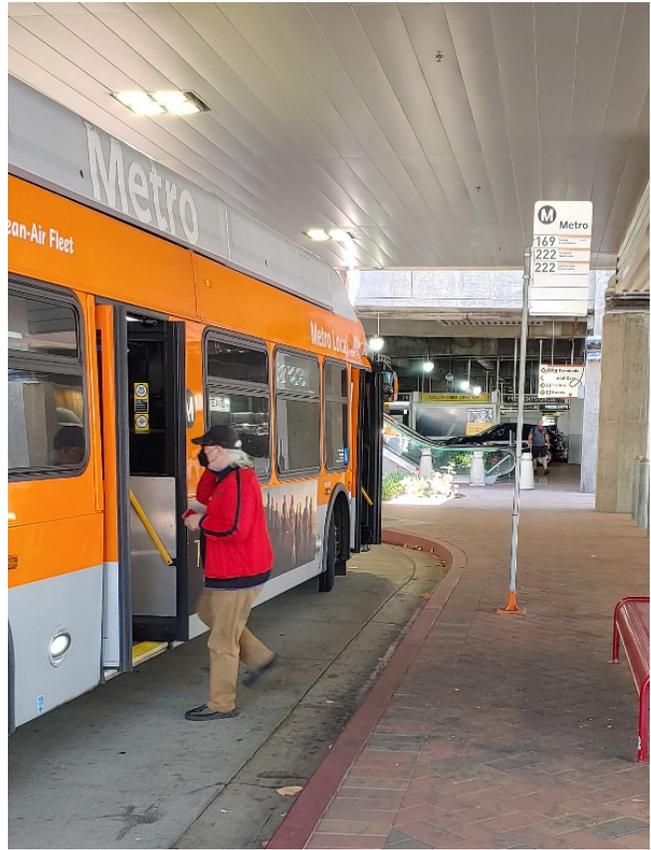


Photo of signage to train platform from RITC bus plaza:



Photo of narrow bi-directional ramps:



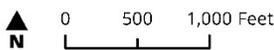
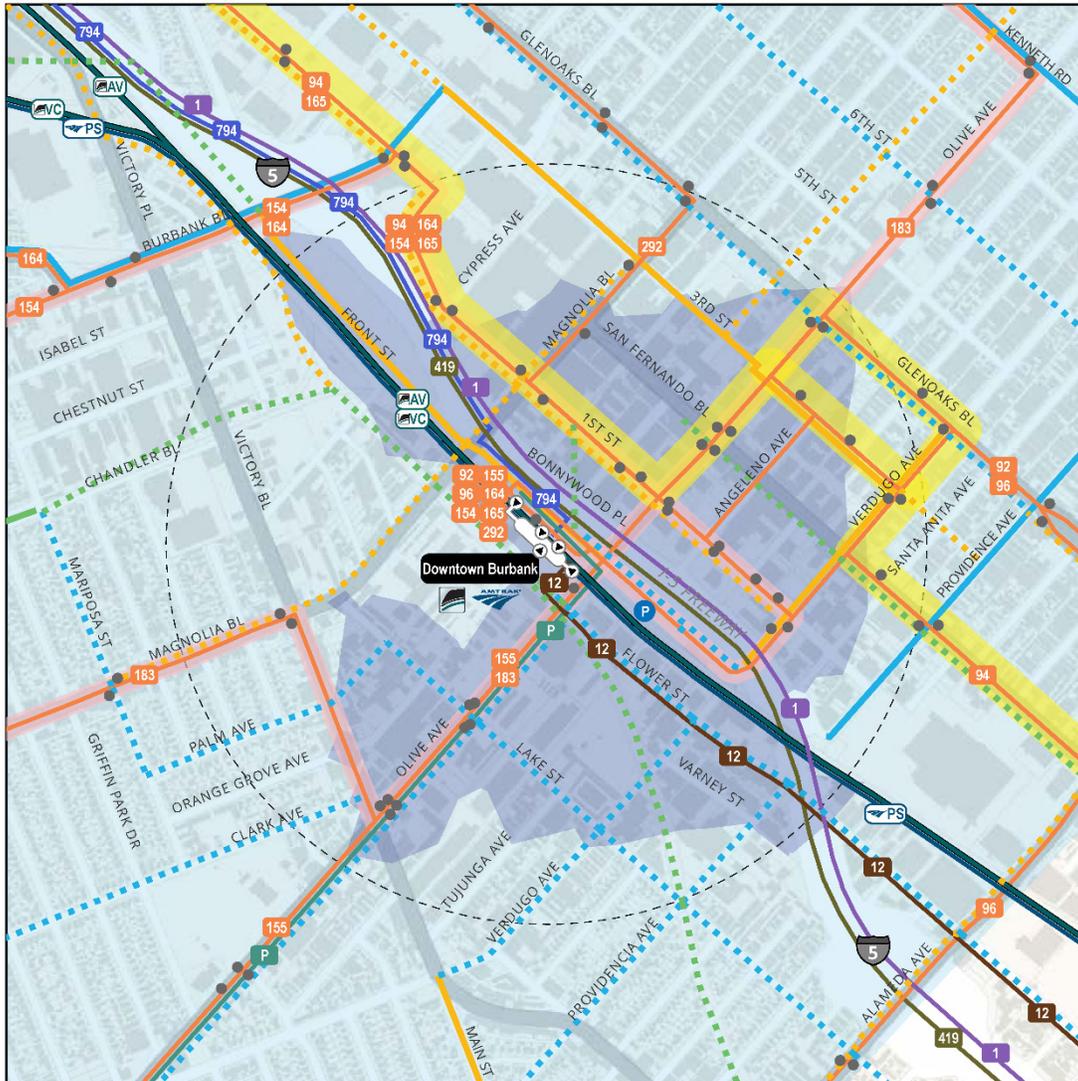
Photo of transit connection wayfinding sign:



Burbank Downtown Station Area

Burbank Downtown Station is an employment and commuter center within the City. It is also a location with a high number of collisions and barriers to access, including the I-5 Freeway.

Figure 5.22 - Map: Burbank Downtown Station Area Existing Conditions and Planned Bike Routes



Source: CR Associates, 2022

Existing Bike Facilities

- Class I - Bike Path
- Class II - Bike Lane
- Class III - Bike Route

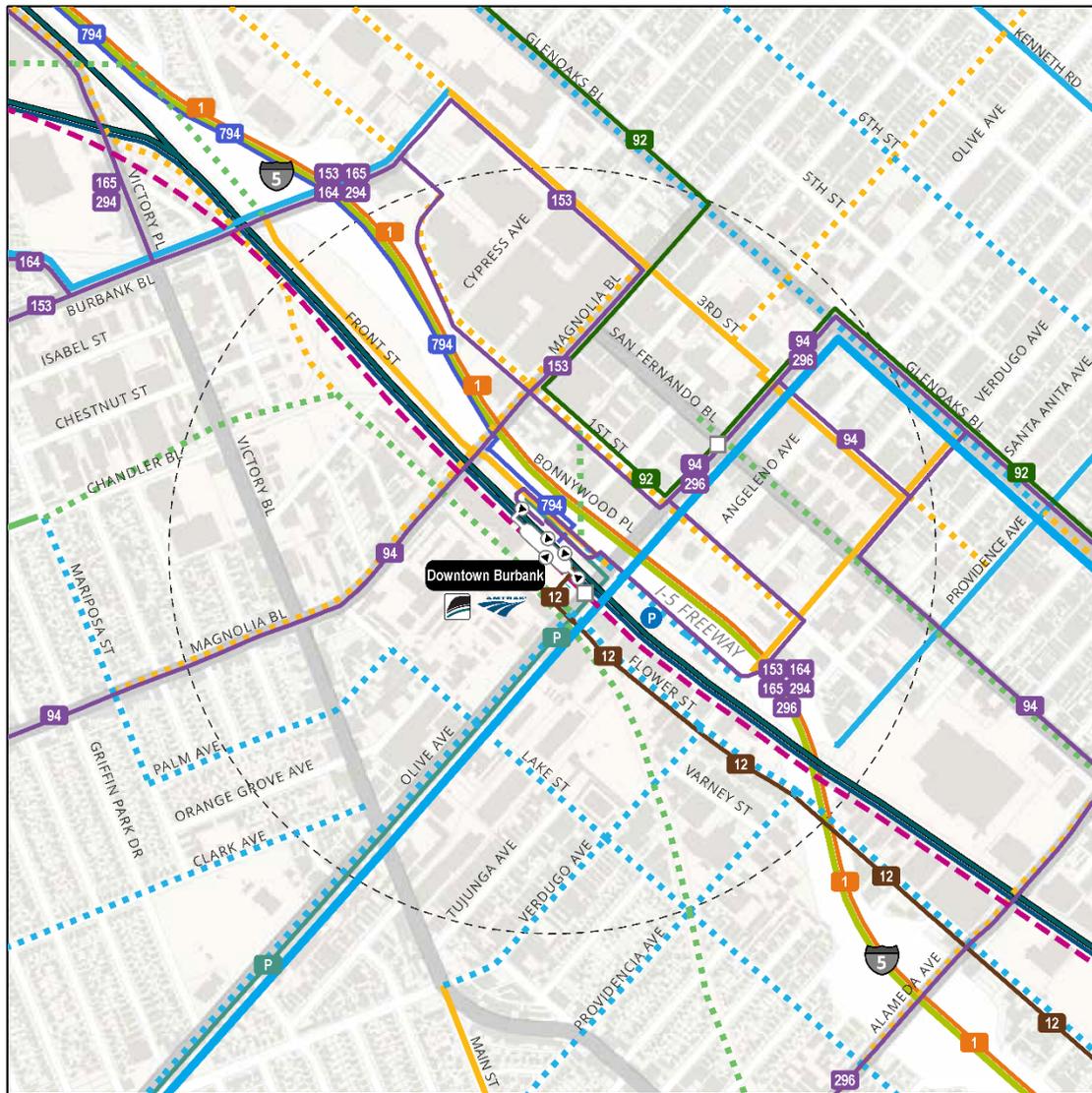
Planned Bike Facilities

- - - Class I - Bike Path
- - - Class II - Bike Lane
- - - Class III - Bike Route

- P Metrolink Parking
- Amtrak Lines
- Amtrak Thruway Bus Routes
- Metrolink Lines
- Metro Bus Routes
- Burbank Bus Routes
- DASH Bus Routes
- Glendale Beeeline Bus Routes
- Santa Clarita Transit Bus Routes
- Study Area Rail Station
- Entrances
- Bus Stops

- Buses Connecting to North Hollywood Station
- Buses Connecting to All Three Study Area Stations
- Metro Micro Zone
- Half-Mile Walkshed
- Half-Mile Buffer

Figure 5.23 - Map: Burbank Downtown Station Area Future Planned Conditions



Source: CR Associates, 2022

- | | | | |
|---|--|---|---|
| <ul style="list-style-type: none"> Study Area Rail Station Entrances Half-Mile Buffer | <p>Existing Bike Facilities</p> <ul style="list-style-type: none"> Class I - Bike Path Class II - Bike Lane Class III - Bike Route <p>Planned Bike Facilities</p> <ul style="list-style-type: none"> Class I - Bike Path Class II - Bike Lane Class III - Bike Route | <p>Existing Transit</p> <ul style="list-style-type: none"> Amtrak Lines Amtrak Thruway Bus Routes Metrolink Lines Burbank Bus Routes Glendale Beeline Bus Routes Santa Clarita Transit Bus Routes Metrolink Parking <p>Planned Transit</p> <ul style="list-style-type: none"> CA High Speed Rail Alignment Alternatives NoHo-Pasadena BRT NoHo-Pasadena BRT Study Area Stations Metro Tier 3: NextGen Bus Routes Metro Tier 4: NextGen Bus Routes | <p>Planned ExpressLanes</p> <ul style="list-style-type: none"> Metro Tier 2: ExpressLanes Mid-Term (2027-2032) |
|---|--|---|---|

Burbank Downtown Station Area Connectivity

The station area is connected to the surrounding area and the region by a transit, walk, bike, and auto. There are ongoing projects to improve access to the area including the North Hollywood to Pasadena BRT line and an elevator at Magnolia Boulevard. The existing and future connections are displayed in the table below.

Table 5.14 - Existing and Future Transit Connections, Burbank Downtown Station Area

Connectivity	Existing	Future
Metrolink	Ventura County Line Antelope Valley Line	There are plans for 15-minute combined bi-directional service (both lines) at this station, based on SCORE
Park-and-Ride	458 spaces	No anticipated change
Inter-City Rail/Bus	Two Amtrak Pacific Surfliner "codeshare" round trips currently stop at the Downtown Burbank Station	Increase to hourly service
Transport Connection to Hollywood Burbank Airport (BUR)	Metro Bus Route 165 (to RITC)	None
Transport Connection to Los Angeles International Airport (LAX)	None directly from station	To be determined, LAWA is undergoing updates to their Flyaway program
Metro System (Rail and Bus Rapid Transit)	None	North Hollywood to Pasadena Transit Corridor
Metro Bus (Local)	12, 92, 96, 154, 155, 164, 165, 294	153, 164, 165, 294, 296
Metro Bus (Rapid)	None	No anticipated change
Metro or Municipal Shuttles	Within Metro Microtransit North Hollywood/Burbank service zone	Dependent on the continuation of Metro Micro
Municipal Bus	BurbankBus – Pink Route Glendale Beeline – Route 12 Santa Clarita Transit – Route 794	No anticipated change
Private Shuttles	None	Unknown
FLM Projects - Metro defined	None	<i>First/Last Mile Plan (2014):</i> Olive Avenue, Bike Route
FLM Projects - Local defined	In development: <ul style="list-style-type: none"> ▪ First street from San Fernando to Verdugo, fully protected bike lane ▪ Front street from First street to Burbank Blvd in concert with new development ▪ Closure of frontage road westbound on First and Olive to support pedestrian travel to the Metrolink station. Vehicles will be removed from Bonnywood Place between 1st and I-5 to ease pedestrian crossing at Olive/1st. (See page 158 of the plan). 	<i>Bike Master Plan (2009):</i> Chandler Blvd, Class I & 3 <i>Complete Our Streets (2020):</i> Front Street Protected Bikeway; Downtown, Magnolia Bridge Rehabilitation Project

Connectivity	Existing	Future
	<ul style="list-style-type: none"> ▪ Bridge access at Magnolia Street – Elevators are in construction 	
<p>Strategic Project Lists - S RTP</p>	<p>None</p>	<p>Downtown Burbank Magnolia Bridge Rehab Project; Downtown Burbank Olive Avenue Bridge BRT Station; Downtown Burbank Metrolink Pedestrian Underpass Project; Downtown Burbank Protected Bikeways; Regional Transit Connection to Burbank Airport; San Fernando Railroad Bicycle Path Implementation Project</p>

Sources: Metro, 2022; BurbankBus, 2022; Metrolink, 2022; Amtrak, 2022; Glendale Beeline, 2022; Santa Clarita Transit, 2022

The table below outlines the fare payment options, transfers accepted, and media accepted for the primary transit providers in Downtown Burbank.

Table 5.15 - Fare Payment Options, Burbank Downtown Station Area

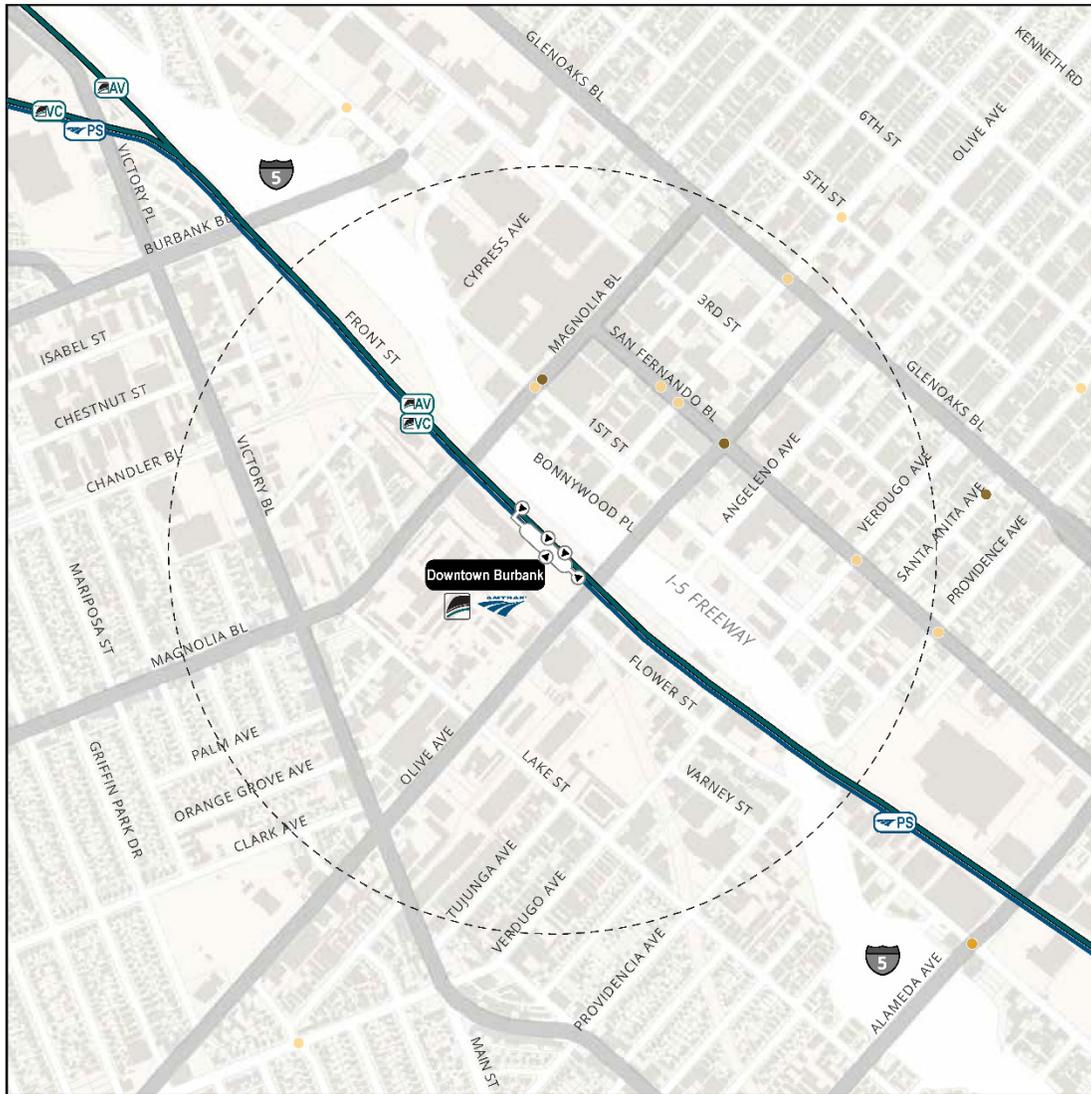
Fares and Transfers	Fare Payment Options	Transfers Accepted	Media
Metro	TAP Card – reload online, phone, vendor kiosks, platform kiosks; Cash is accepted on buses that do not have all-door boarding; GoPass/UPass for students	EZ Transit Pass, TAP unlimited transfers within 2 hours in one direction	TAP, Cash
Metrolink	App, platform kiosks, ticket outlets, pass by mail, and buy online/print at home	EZ Transit Pass, connecting buses and rail (some require additional fare), local dial-a-ride (requires additional fare), Megabus	App, Paper ticket
Amtrak	App, buy online/print at home, Station Agent at the Station, Quik-Trak kiosk at the station, Phone, Travel Agent,	TBD	Electronic, paper ticket
BurbankBus	TAP Card, Cash, Senior Activity Card, Metrolink Ticket or Pass, Children under five are free Do not accept Metro 1-day, 7-day, or monthly passes	TAP within 2.5 hours (regular: \$1.00; student: \$0.50; senior/disabled: \$0.25)	TAP, Cash
Santa Clarita Transit	TAP Card – online, mail, vendor Cash Token Transit App	EZ Transit Pass/TAP transfer discount on Santa Clarita Transit ride, free transfer to/from Metrolink, Commuter and Local Passes Available (Commuter can be used on Local)	TAP, Cash, Token Transit App
Glendale Beeline	Cash, Beeline multi-trip passes, TAP	Beeline-Beeline Transfer fee, Interagency transfer fee, EZ Transit, free transfer to/from Amtrak or Metrolink	TAP, Cash, Pass

Sources: Metro, 2022; BurbankBus, 2022; Metrolink, 2022; Amtrak, 2022; Glendale Beeline, 2022; Santa Clarita Transit, 2022

Burbank Downtown Station Area Safety

Collisions near Downtown Burbank (2015-2019) are concentrated north of the I-5 Freeway with some bicycle and automobile collisions south of the Freeway. Flower Street, which parallels the Metrolink and Amtrak lines, is part of SCAG’s Bicycle High Injury Network. Three collisions resulted in the death of pedestrians – two of which were at major intersections along the access route to the Metrolink and Amtrak Station on Magnolia Boulevard and Olive Avenue.

Figure 5.24 - Pedestrian Collisions, Burbank Downtown Station Area



Source: Source: SWITRS 2015-2019, CR Associates, 2022

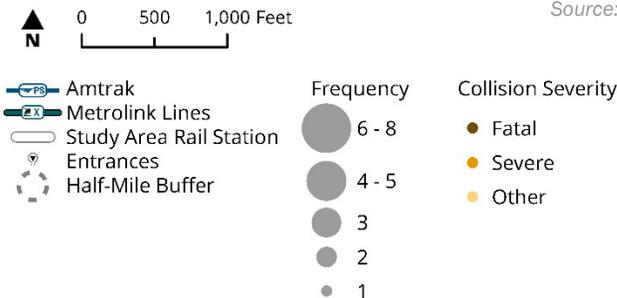
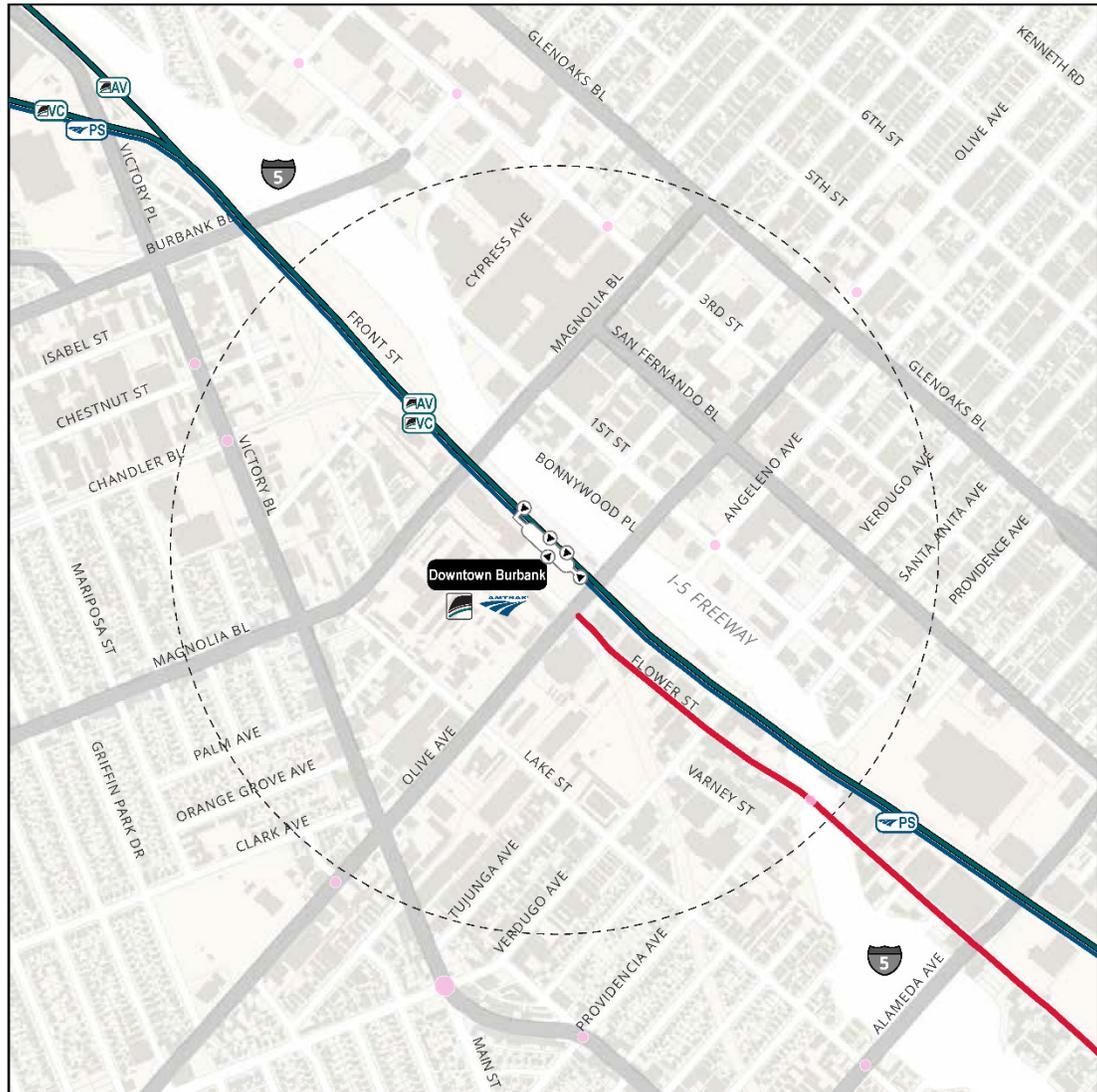


Figure 5.25 - Bicycle Collisions, Burbank Downtown Station Area

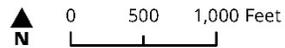
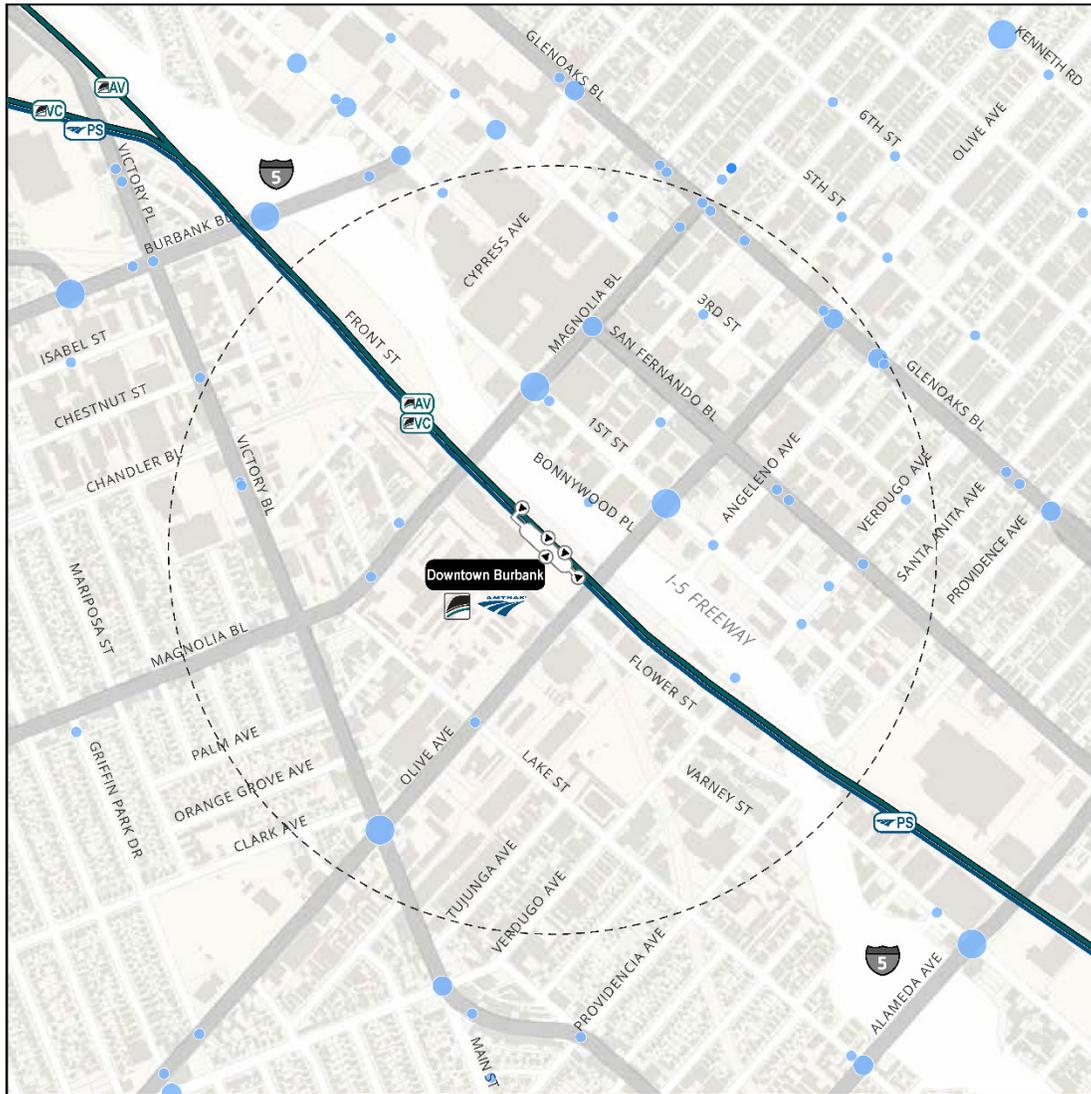


▲ 0 500 1,000 Feet
N

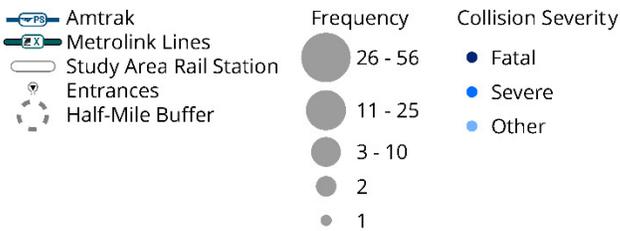
Source: Source: SWITRS 2015-2019, CR Associates, 2022

Amtrak	Frequency	Collision Severity	Bicycle High Injury Network (SCAG)
Metrolink Lines			
Study Area Rail Station	5	Fatal	
Entrances	4	Severe	
Half-Mile Buffer	3	Other	
	2		
	1		

Figure 5.26 - Automobile Collisions, Burbank Downtown Station Area



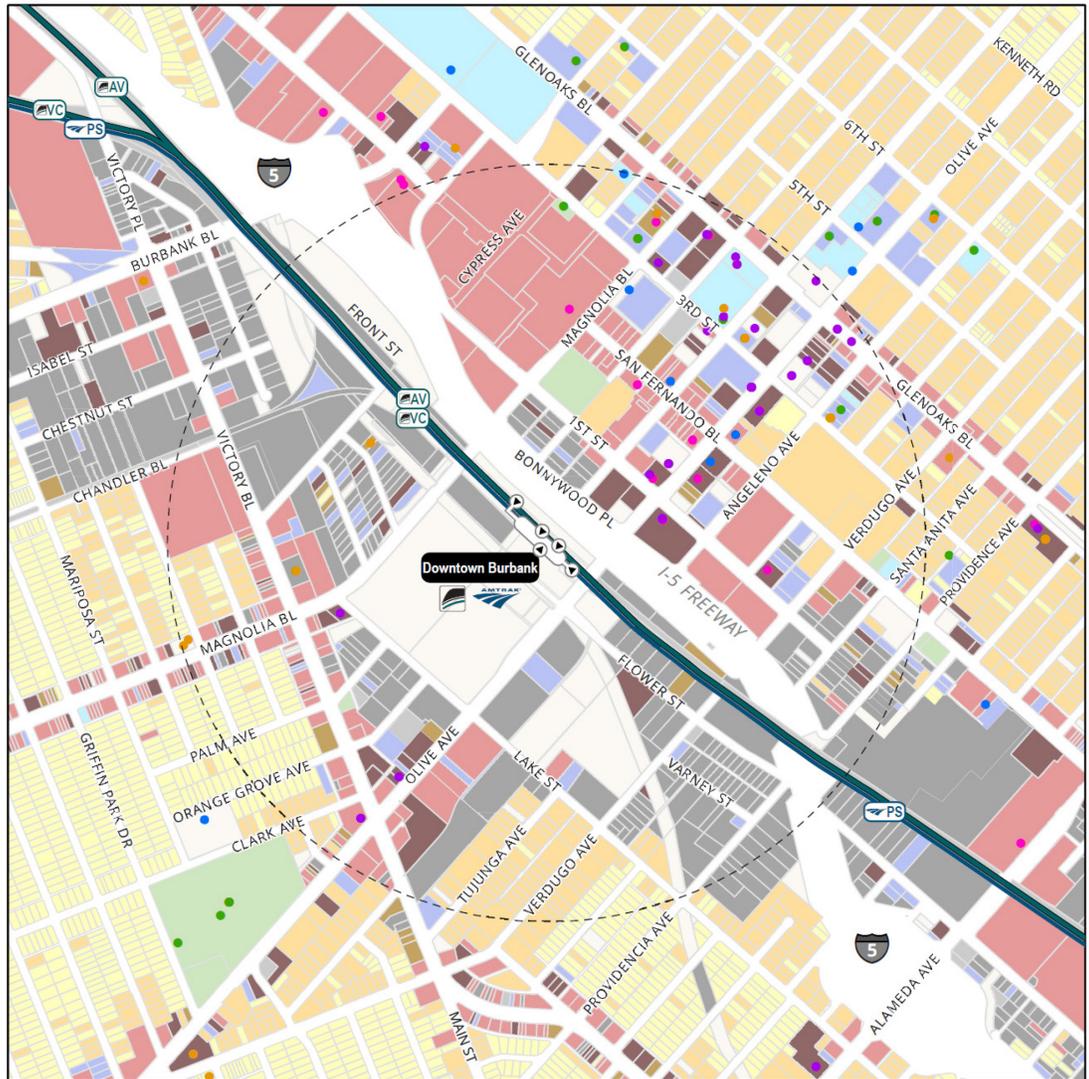
Source: SWITRS 2015-2019, CR Associates, 2022



Burbank Downtown Station Area Land Use

The Downtown Burbank Station Area is a conglomeration of high employment uses with commercial, industrial, educational, and urban centers concentrated within a half-mile of the station as shown in the Figure 5.27 below.

Figure 5.27 - Map: Burbank Downtown Existing Land Use



Source: SCAG, 2016; CR Associates, 2022



- Amtrak
- Metrolink Lines
- Study Area Rail Station Entrances
- Half-Mile Buffer

- Land Uses**
- Single-Family Residential
 - Multi-Family Residential
 - Commercial
 - Office
 - Facilities
 - Education
 - Industrial
 - Transportation & Utilities
 - Mixed-Use
 - Open Space
 - Vacant/Unknown

- Key Destinations**
- Arts, Community, & Recreation
 - Education
 - Financial Institutions & Shopping Centers
 - Health & Social Service
 - Municipal Services

Burbank Downtown Station Area Field Assessment

Each station platform, boarding area, and plaza was examined to identify existing conditions related to amenities, wayfinding, accessibility, and operations. This fieldwork helps identify gaps and set the foundation to develop recommendations in subsequent project tasks. The results from fieldwork at the station is shown in the table below, along with a summary of the gaps identified at each station.

Transit operators at Burbank Downtown Metrolink Station include Metrolink, Metro Bus, BurbankBus, Glendale Beeline, Santa Clarita Bus, and MegaBus service.

Table 5.16 - Burbank Downtown Station Area Field Assessment

Category	Improvement Type	Feature Present
Customer Information	Static Directional Signage	Y
	Digital Information Kiosk	N
	Customer Service Kiosk	N
	Real-Time Arrival Information	N
	Transit Schedule	Y
	Station Area Map	N
	Sidewalk Stop Pole	Y
	Public Announcement Speakers	Y
	High Quality of Audio/Intelligibility of Speakers?	Y
	Visual Wayfinding to Other Transit Service	Y
	Audio Wayfinding to Other Transit Service	N
	Tactile Wayfinding to Other Transit Service	N
Notes on Customer Information Amenities	<ul style="list-style-type: none"> • There is one digital sign in the bus plaza with real-time arrival info. It represents multiple bus bays but is not visible from most of the bus plaza. More signs should be added around the bus plaza. • Nearby bus stops in downtown Burbank, such as at Olive/San Fernando, have full amenities including shelters and real-time arrival info signage with audio announcements, • Other nearby bus stops in downtown Burbank, such as at Olive/First, have shelters, seating, and trash, but no real-time arrival signs or announcements, 	
Station Accessibility	Bi-Directional Access Ramps	N
	Bike Center/Hub	Y
	Bike Lockers	N
	Bike Racks	Y
	Bike Share (within service area)	Y
	Car Share	Y
	Continental Crosswalk	N/A
	Curb Bulb-Out	N
	Leading Pedestrian Interval	N/A
	High-Quality Sidewalk Connections (continuous stretch of well-paved sidewalk 10 ft wide)	Y
	Median Refuge	N
	Parking Facilities	Y
	Scramble Crosswalk	N
	Shared Dockless Micromobility Parking	N
	Pick-Up/Drop-Off Zone	Y
Tactile Warning Features (textured pavers at curb cuts)	Y	

Category	Improvement Type	Feature Present
	Tactile Warning Features as Barriers? (do textured pavers create mobility barriers for people in wheelchairs, using canes, crutches, etc.)	N
	Vertical Circulation – Elevators (for multi-level facilities) (at least 2 elevators for each vertical circulation core)	Y
	Vertical Circulation – Escalators (for multi-level facilities) (at least 2 bi-directional escalators for each vertical circulation core)	N
	Do Station Amenities Encourage Sleeping?	N
Notes on Station Accessibility	<ul style="list-style-type: none"> • Sidewalks in downtown Burbank on Olive Ave are wide, but the sidewalk on the Olive Ave bridge connecting the Metrolink station are narrow • There is only one elevator. The elevator connecting the station to the Olive Ave bridge serves as ADA access to the north side of the Olive Avenue bridge. There are ramps on the south side, but may be steeper than ADA requirements. • On Front St, a sidewalk is only present at intermittent segments. • There is a well-paved sidewalk on Olive Ave south of the station, but it is not 10 ft wide. • There are no tactile pavers south of the station beyond the immediate station area curb. • At-grade track crossings 	
Notes on Station Connections to Surrounding Land Use	<ul style="list-style-type: none"> • The station location is isolated from Downtown Burbank, with lack of access to the rest of the surrounding land uses. • The lack of amenities, such as shade, and/or pedestrian oriented retail on Olive Avenue can make the walk seem farther. • Downtown Burbank is close to the station and easily walkable, but it feels far based on the minor level of signage, and the aesthetic barriers surrounding the station (freeway, change in vertical circulation required, narrow sidewalk on the bridge) • If directing riders to/from downtown Burbank, the station could benefit from more “walk this way” style of signage, public art, distance to downtown (2 blocks’ walk, etc.) or other methods to reassure riders of nearby access 	
Station Boarding Area	Bus Stop Amenities (do adjacent bus stops host a full complement of amenities such as shelter, trash, seating)	Y
	Lean Bar	N
	Level Boarding	N
	Lighting	Y
	Does Lighting Extend Equally Throughout Platform Area and Transfer Area (incl. parking lots, adjacent paths, etc.)?	N
	Public Art	N
	Restrooms	Y
	Seating (at least 10 seats at light rail stations)	Y
	Seating (at least 3 seats per bay at bus facilities)	Y
	Security Kiosk	N
Shade Structures (84pprox.. 50% coverage of platform at outdoor rail or BRT stations)	Y	

Category	Improvement Type	Feature Present
	Shade Structures (85 Approximately 6 linear feet per bus bay at bus facilities)	N
	Sound Barrier	N
	High Levels of Ambient Noise (car traffic, etc.)	Y
	Ticketing Machine (light rail stations at least 2)	Y
	Trash and/or Recycling Receptacles (at least 2 receptacles for light rail stations)	Y
	Trash and/or Recycling Receptacles (at least 1 per 3 bays/2 per bus facility)	Y
	Trees Providing Shade	N
	Wi-Fi	Y
Notes on Station Boarding Area	<ul style="list-style-type: none"> • Approximately half of the bus bays on the north side of the tracks have a shelter • Parking areas have less lighting than the rail/bus boarding area • There are several shade structures, but it does not cover 50% of the platform 	
Operational Flow or Constraints for Trains, BRT, or Buses	<ul style="list-style-type: none"> • Metro and MegaBus have a bus plaza on the north side of the station, and pull in from Front St • BurbankBus and Glendale Beeline have a bus plaza on the south side of the station, and pull in from the lower level of Olive Ave • There are no bus stops serving the Olive Ave bridge via a vertical circulation connection. Buses coming from downtown Burbank must take a longer route via Flower St or Front St by way of Verdugo Ave • Metro bus bays on the north plaza appear to be fully utilized. Any proposed additional bus service may face constraints • There is insufficient space for a potential BRT station on the Olive Ave bridge for the NoHo to Pasadena BRT line. The sidewalk would have to be widened to support bus shelters, signage, seating, etc. appropriate to a BRT stop, but this would likely require removing a traffic lane from the bridge. This would leave one travel thru-lane in each direction, which would disrupt traffic flow when stopping. Note - this lack of space may not preclude stopping a bus in traffic. 	
General Notes on Wayfinding to/from Station from Other Transit Services (distance, perception, directness, clarity)	<ul style="list-style-type: none"> • Wayfinding is clear between both bus to rail, and rail to bus • Wayfinding is less clear or inviting between the station and downtown Burbank 	

Source: CR Associates and STV Incorporated, 2021

PHOTOS OF BURBANK DOWNTOWN METROLINK STATION:

Photo of bus plaza on north side of station:



Photo of digital real-time information sign (not working) at north bus plaza:



Photo of Elevator/stairs access to Olive Avenue bridge, which is too narrow to host any bus transfer:



Photo of bike hub at station:



Photo of wayfinding between transit services:



Norwalk

Norwalk Study Area

The Norwalk Study Area has two station areas, the Norwalk C (Green) Line Metro Station and the Norwalk/Santa Fe Springs Transportation Center. The study area spans the City of Norwalk and is roughly centered on the 2.5-mile corridor of Imperial Highway located in the northern portion of the City of Norwalk. The eastern portion of the Study Area is within the City of Santa Fe Springs and includes the Norwalk/Santa Fe Springs Station. The Norwalk Study Area is primarily single-family residential with commercial and industrial corridors along Imperial Highway, The planning area is bisected by the I-5 Freeway.

The following plans inform the land use and transportation priorities and policies within the study area:

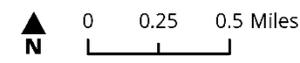
Table 5.17 - Local Planning Documents, Norwalk Study Area

Local Planning Documents	Jurisdiction	Year	Location
<i>The City of Norwalk General Plan</i>	City of Norwalk	1996	City-wide
<i>Heart of Norwalk</i>	City of Norwalk	2021	Center of the Study Area, does not connect to either Station Area
<i>City of Norwalk Bike Master Plan</i>	City of Norwalk	2022	City-wide
<i>City of Norwalk Economic Plan</i>	City of Norwalk	2018	City-wide
<i>Santa Fe Springs General Plan</i>	City of Santa Fe Springs	2022*	City-wide
<i>Santa Fe Springs Active Transportation Plan</i>	City of Santa Fe Springs	2021	City-wide
<i>Imperial Highway Master Plan</i>	Gateway Cities COG	TBD*	Unknown

*Not yet adopted

The Norwalk Study Area is locally and regionally connected to transit, as seen in the map below. Existing services include the Metro C (Green) Line, Metro Local Bus, Metro Rapid Bus, Norwalk Transit, Long Beach Transit, and Metrolink Antelope Valley and Ventura County Lines. Amtrak shares a track with Metrolink but does not stop at the Norwalk/Santa Fe Springs Station. Existing bike infrastructure is limited to the San Gabriel River Bike Path, Foster Road, Bloomfield Avenue, and a zig-zagging route through the industrial properties in western Santa Fe Springs – none of which connect directly to either station. The future CAHSR line will be constructed adjacent to the existing Metrolink Station. Norwalk Transit Routes 4 connect the two stations. The specific lines serving each station are outlined in the Station Area sections that follow.

Figure 5.28 - Map: Norwalk Study Area Existing Conditions and Planned Bike Routes



- Class I - Bike Path
- Class II - Bike Lane
- Class III - Bike Route
- - - Planned Bikeway
- C Line

- Norwalk Transit Shuttle
- Metrolink Lines
- Metro Bus Routes
- Metro Rapid Bus Routes
- Norwalk Bus Routes
- Long Beach Bus Routes
- Study Area Rail Stations
- Bus Stops

- Half-Mile Walkshed
- Half-Mile Buffer
- Buses Connecting to both Study Area Stations
- Norwalk Bus Route 2
- Norwalk Bus Route 4

Source: CR Associates, 2022

Stakeholder Feedback

SCAG

SCAG initiated a *Green Line Extension Study* in 2017 to examine the opportunity to connect multiple regions, including Orange County, through this approximately two-mile LRT extension. The study included initial public outreach to inform the development of several build alternatives. The study was put on hold in 2019.

City of Norwalk

The City of Norwalk is examining three major development sites:

- The State of California Youth Authority site – is a 32-acre property west of Zimmerman Park that the City is process of acquiring to develop a transit-oriented village. The plan is in development with public outreach anticipated in 2023. A challenge of this site is a lack of convenient access to the transit center.
- City Hall Lawn (also known as the “Entertainment District”) is a large open site in the middle of the study area. The community supports the redevelopment of this site, and the City is working with a developer to create a mixed-use center.
- This historic center of Norwalk, south of the I-5 is In the Heart of Norwalk planning area, is planned as a revitalization area. The City is working with a developer to obtain the north side of Front Street for affordable housing, programming, or other use.

In addition to the land use plans, the City recently adopted its *Bike Master Plan* (February 2022). The plan is focused on secondary streets, including Foster, San Antonio, Pioneer, and Civic Center, where there are fewer conflicts with fast-moving vehicles. The City sees a first/last mile gap to get to and from work to home. They have considered on-demand service partnerships with existing TNC providers.

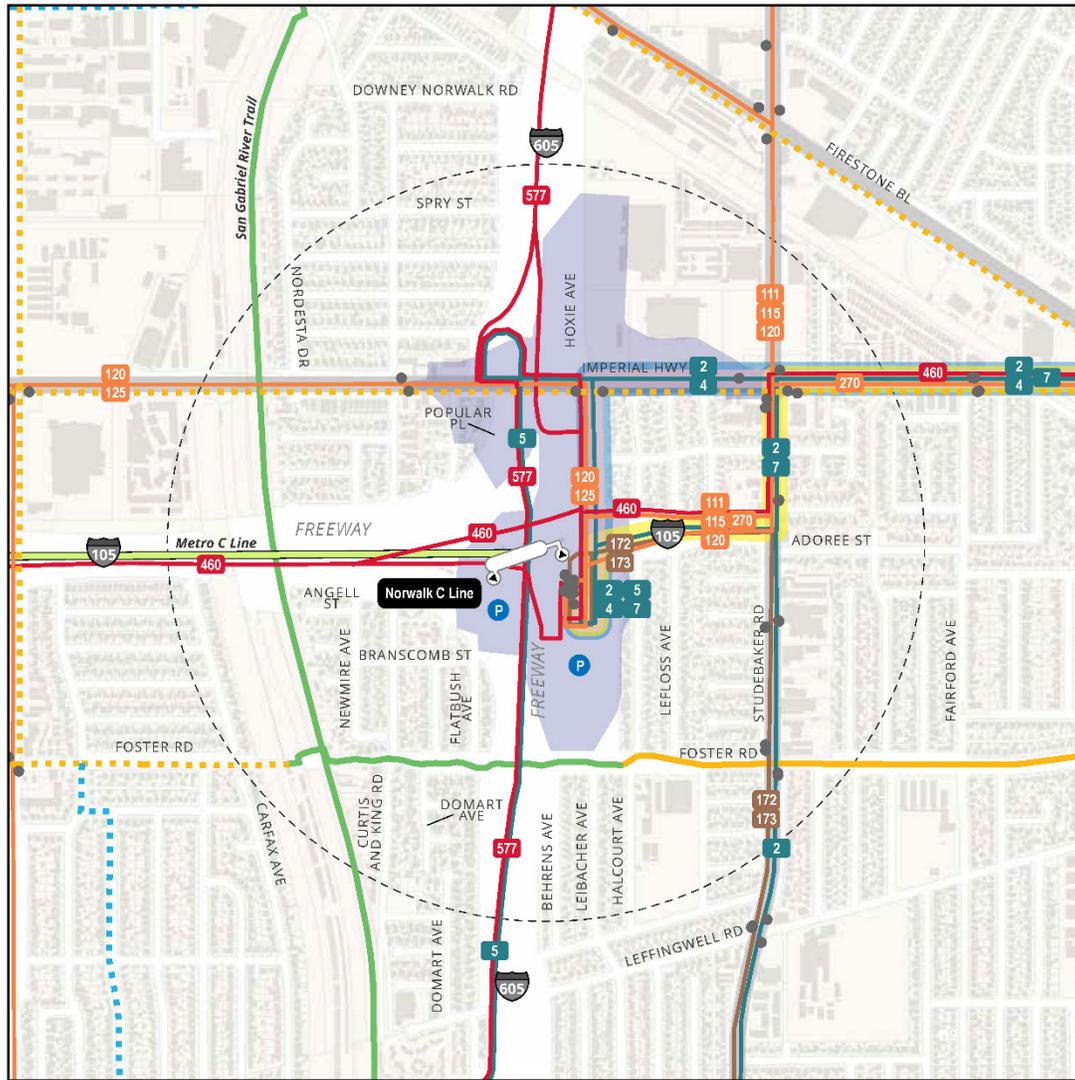
Norwalk Transit currently serves 25,000 to 27,000 passengers on a typical day. Norwalk Transit is working on several projects on an electric vehicle infrastructure plan and a 15-minute bus connection between Norwalk C-Line Station and the Metrolink Station.

The City notes that major multi-year projects, notably the I-5 freeway expansion, have left residents wary of large projects. City staff recommend that outreach and project proposals should take this under advisement.

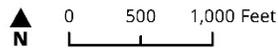
Metro C Line Norwalk Station Area

The Norwalk C Line Norwalk Station is the current terminus of the Metro C Line, formerly Green Line, light rail station. It is a heavily accessed station with extensive surface parking but is constrained in access by the I-5 Freeway and Imperial Highway.

Figure 5.29 - Map: Norwalk C Line Station Area Existing Conditions and Planned Bike Routes



Source: CR Associates, 2022



Existing Bike Facilities

- Class I - Bike Path
- Class II - Bike Lane
- Class III - Bike Route

Planned Bike Facilities

- ⋯ Class I - Bike Path
- ⋯ Class II - Bike Lane
- ⋯ Class III - Bike Route

- Ⓟ Metrolink Parking
- C Line
- Metro Bus Routes
- Metro Rapid Bus Routes
- Norwalk Bus Routes
- Long Beach Bus Routes
- Study Area Rail Station
- ⊙ Entrances
- Bus Stops

- Half-Mile Walkshed
- ⊖ Half-Mile Buffer
- Buses Connecting to both Study Area Stations
- Norwalk Bus Route 2
- Norwalk Bus Route 4

Metro C Line Norwalk Station Area Connectivity

The station area is connected to the surrounding area and the region by transit, bike, and car. The existing Metro Station is served by local and rapid Metro bus service, Long Beach Transit, and Norwalk Transit. Existing bike routes are within a half-mile of the station, but do not directly connect. Gates on Foster Avenue are closed to pedestrians and vehicles. Multiple agencies have reported that the bus facilities at the station are overloaded. The existing and future connections are displayed in the table below.

Table 5.18 - Existing and Future Transit Connections, Norwalk C Line Station Area

Connectivity	Existing	Future
Metrolink	None	None
Park-and-Ride	630 spaces (18 handicapped) on the Norwalk side of the Metrolink Station	Additional 700 planned at HSR Station
Inter-City Rail/Bus	None	No anticipated change
Transport Connection to Hollywood Burbank Airport (BUR)	None	None
Transport Connection to Los Angeles International Airport (LAX)	Metro C Line (pending completion of the Airport Metro Connector)	Metro C Line, Airport Metro Connector and LAX People Mover
Metro System (Rail and Bus Rapid Transit)	Metro C Line	Metro C Line Norwalk Extension
Metro Bus (Local)	111, 115, 120, 125	111, 115, 120, 125, 460, 577, 621
Metro Bus (Rapid)	460, 577	No NextGen Tier 1 bus routes
Metro or Municipal Shuttles	None	None
Municipal Bus	Norwalk Transit: 2, 4, 5, 7 Long Beach Transit: 172, 173	No anticipated changes
Private Shuttles	None	Unknown
FLM Projects - Metro defined	None	None
FLM Projects - Local defined	Heart of Norwalk SP, no specific projects SFS AT Plan: Bloomfield Class III, no ped projects	Norwalk: Strategic Area 8 (Economic Plan, 2018): advance TOD with residential and other uses - Park and Ride; SP; P3; Cap-n-Trade; GGRF
Strategic Project Lists - SRTP	None	Imperial /Bloomfield Metrolink Access Capital Improvements

Sources: Metro, 2022; Metrolink, 2022; Long Beach Transit, 2021; Norwalk Transit, 2021

The table below outlines the fare payment options, transfers accepted, and media accepted for the primary transit providers at the station area.

Table 5.19 - Fare Payment Options, Norwalk C Line Station Area

Fares and Transfers	Fare Payment Options	Transfers Accepted	Media
Metro	TAP Card – reload online, phone, vendor kiosks, platform kiosks; Cash is accepted on buses that do not have all-door boarding; GoPass/UPass for students; LIFE program for low-income fares	EZ Transit Pass, TAP unlimited transfers within 2 hours in one direction	TAP, EZ Transit Pass, Cash
Norwalk Transit (NTS)	Purchase on board (cash), TAP card	NTS to NTS (fee), Interagency transfer (fee)	TAP, EZ Transit Pass, Cash
Long Beach Transit (LBT)	Exact fare on board, TAP card	No transfers from LBT to LBT, interagency transfer (fee)	TAP, EZ Transit Pass, Cash

Sources: Metro, 2022; Long Beach Transit, 2021; Norwalk Transit, 2021

Metro C Line Norwalk Station Area Stakeholder Feedback

City of Norwalk

The City of Norwalk noted that the station is surrounded by single-family homes and the freeway, which affects access. This includes the closure of gates that were locked approximately three years ago because of parking overflow. The result of this closure includes vehicles parking on Studebaker and Imperial Highway and pedestrians and bicyclists using the freeway-off-ramp-style ramps to then access the station. The City expressed interest in developing the existing parking lot with a mixed-use TOD development.

Long Beach Transit

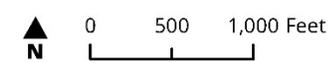
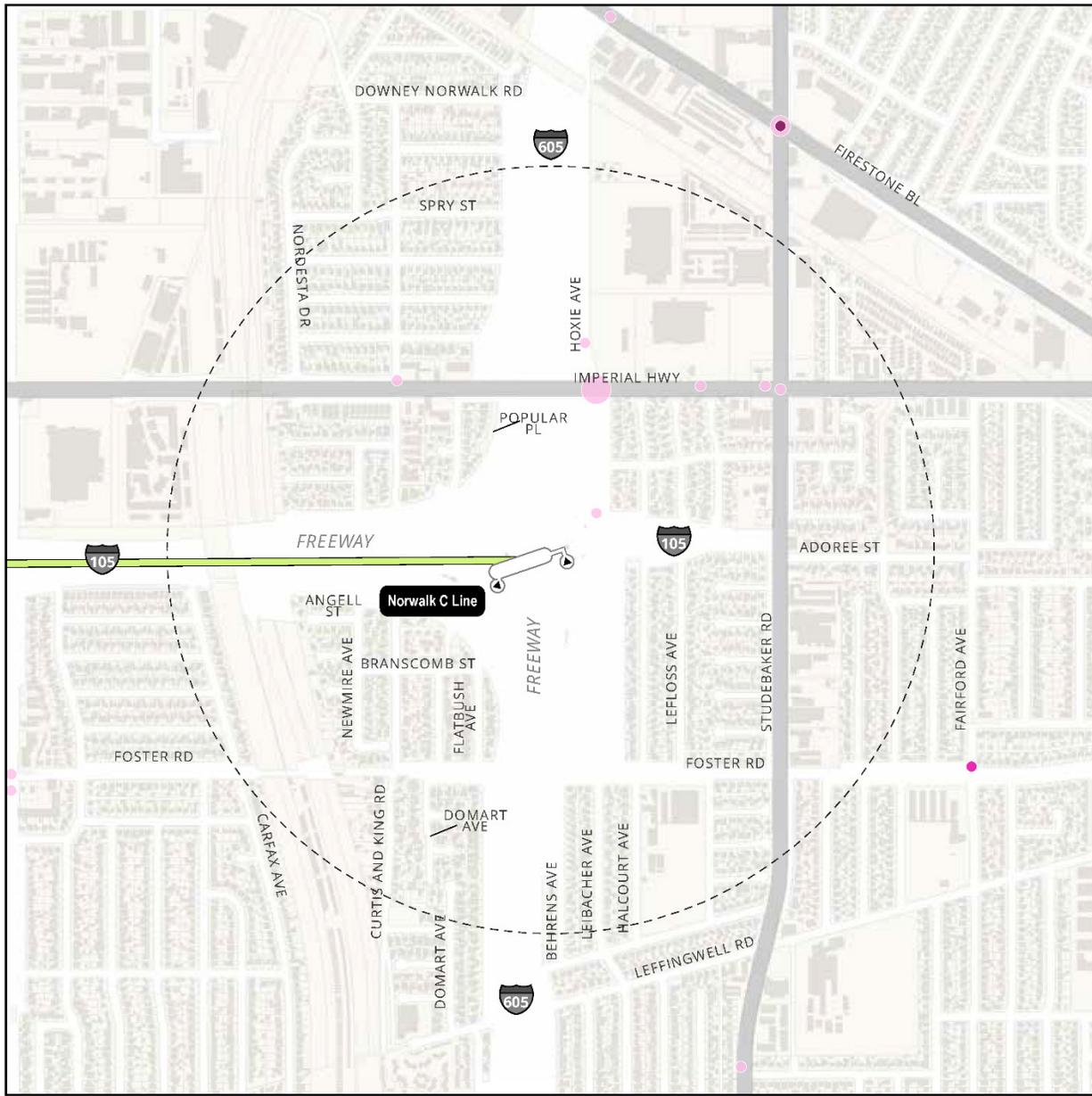
Long Beach Transit (LBT) serves the Metro C Line Station terminus in the City of Norwalk with bus routes 172 and 173 that connect to Long Beach. LBT have voiced concerns over the layover space available at the station, for all operators at the station. LBT is currently focused on charging stations at the ends of the routes and are interested in shared EV infrastructure at the Norwalk Metro C Line Station or Norwalk/SFS Metrolink station. LBT expressed interest in extending service to the Norwalk/Santa Fe Springs Metrolink Station if layover space and other amenities, such as restrooms for bus drivers, were available. LBT does not currently have major service expansion plans for their network and will be updating plans based on Metro’s NextGen implementation.

Metro C Line Norwalk Station Area Safety

The collisions near the C Line Norwalk Station primarily involve automobiles and bicycles.

- There are seven bicycle collisions on Imperial Highway with a concentration at the Hoxie Avenue and Studebaker Road Intersections. In addition, there is one bicycle collision near the station and a severe collision on Foster Road.
- Automobile collisions are concentrated on Imperial Highway, Foster Road, Studebaker Road, and Firestone Boulevard.
- Pedestrian collisions within a half-mile of the station are concentrated on Imperial Highway and Studebaker Road.
- There are no high injury networks in the station area as defined by SCAG or LADOT.

Figure 5.32 - Bicycle Collisions, Norwalk C Line Station Area



Source: Source: SWITRS 2015-2019; CR Associates, 2022

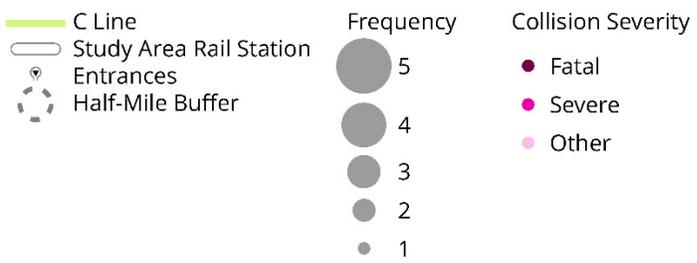
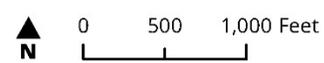
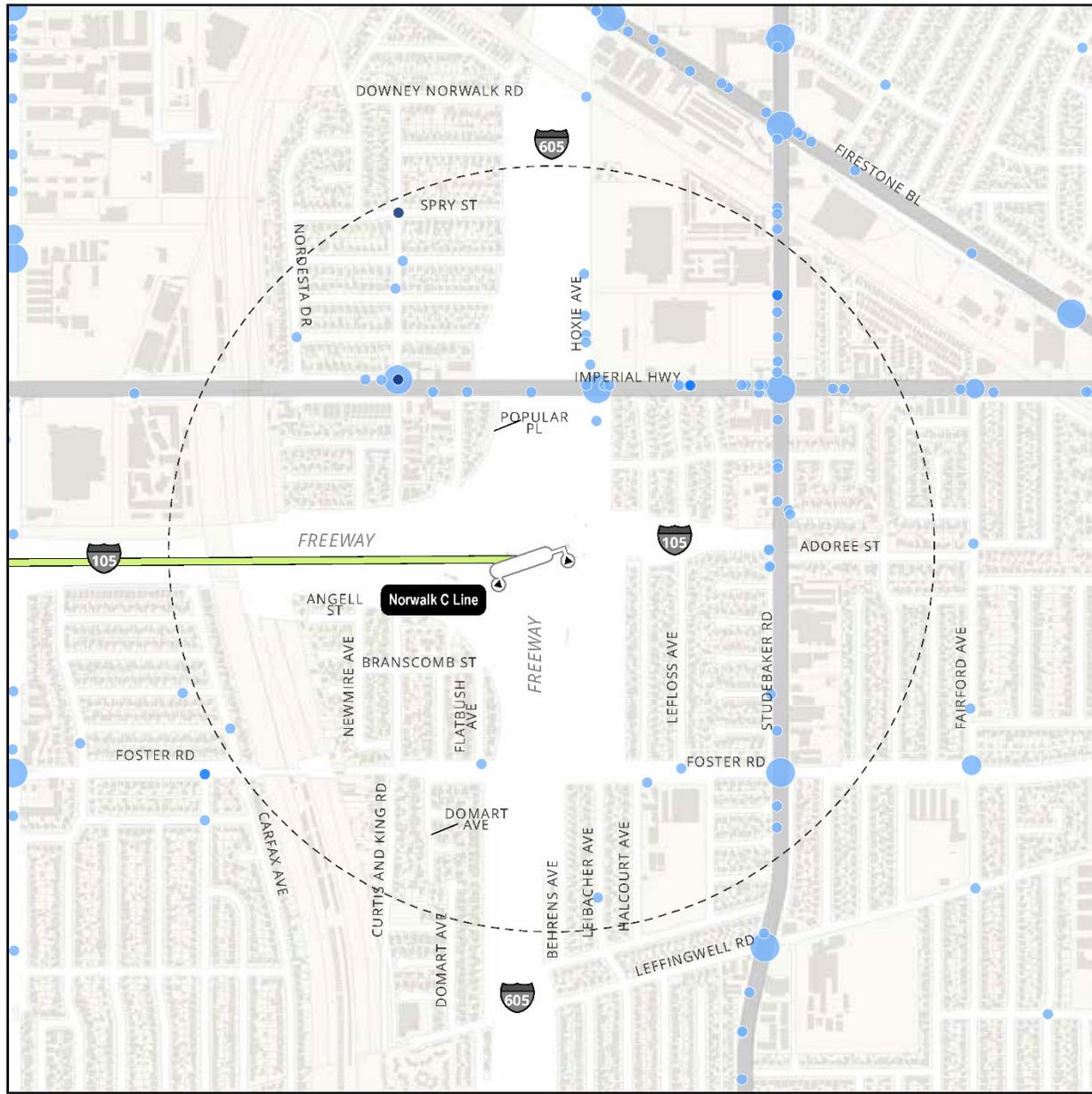
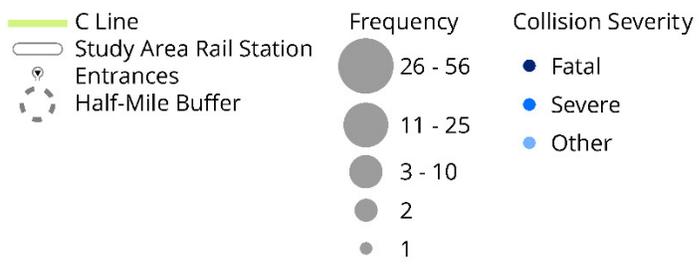


Figure 5.33 - Automobile Collisions, Norwalk C Line Station Area



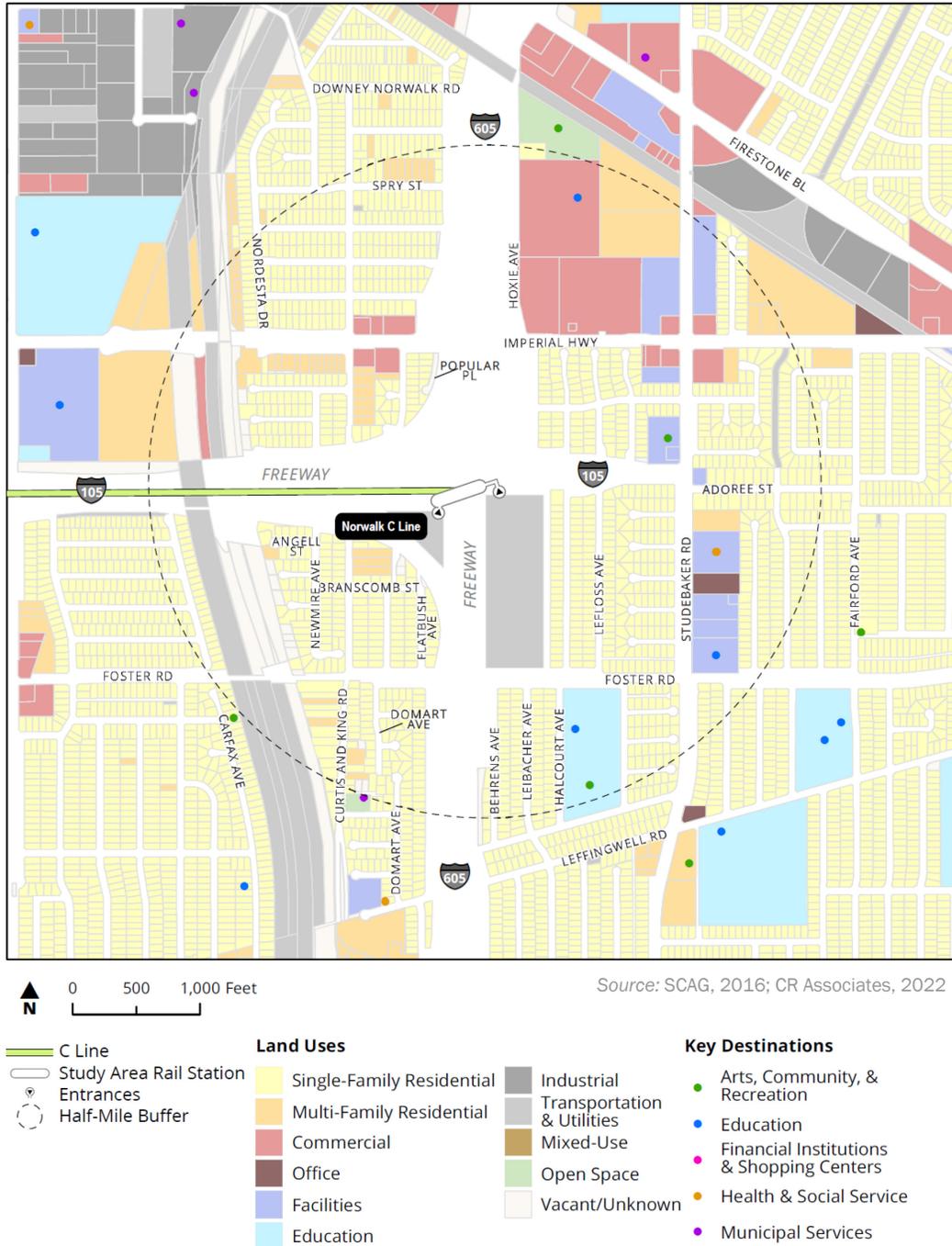
Source: Source: SWITRS 2015-2019; CR Associates, 2022



Metro C Line Norwalk Station Area Land Use

The C Line Norwalk Station Area is predominantly single-family housing and commercial and there are several schools in the area. Commercial uses are in the northeastern portion of the study area.

Figure 5.34 - Map: Norwalk C Line Existing Land Use



Norwalk C Line Station Area Field Assessment

Transit operators at Metro Norwalk C Line Station include Metro Rail, Metro Bus, Norwalk Transit, and Long Beach Transit service.

Table 5.20 - Norwalk C Line Station Area Field Assessment

Category	Improvement Type	Feature Present
Customer Information	Static Directional Signage	Y
	Digital Information Kiosk	Y
	Customer Service Kiosk	N
	Real-Time Arrival Information	Y
	Transit Schedule	N
	Station Area Map	Y
	Sidewalk Stop Pole	Y
	Public Announcement Speakers	N
	High Quality of Audio/Intelligibility of Speakers?	N/A
	Visual Wayfinding to Other Transit Service	Y
	Audio Wayfinding to Other Transit Service	N
	Tactile Wayfinding to Other Transit Service	N
Notes on Customer Information Amenities	<ul style="list-style-type: none"> No signs from the bus plaza to trains. The ‘to trains’ sign from the bus plaza are after the turnstiles and hidden from view until then by the shade structure over the turnstiles. However, there are signs to buses from LRT platform. Of the bus stop sidewalk poles, only Long Beach Transit included a posted bus schedule. No observed public announcements in the bus plaza or LRT platform Personnel kiosk observed at east parking lot entrance, but appears unused or for employee equipment storage only 	
Station Accessibility	Bi-Directional Access Ramps	N/A
	Bike Center/Hub	N
	Bike Lockers	Y
	Bike Racks	Y
	Bike Share (within service area)	N
	Car Share	N
	Continental Crosswalk	Y
	Curb Bulb-Out	N
	Leading Pedestrian Interval	N/A
	High-Quality Sidewalk Connections (continuous stretch of well-paved sidewalk 10 ft wide)	N
	Median Refuge	N
	Parking Facilities	Y
	Scramble Crosswalk	N
	Shared Dockless Micromobility Parking	N
	Pick-Up/Drop-Off Zone	N
	Tactile Warning Features (textured pavers at curb cuts)	Y
	Tactile Warning Features as Barriers? (do textured pavers create mobility barriers for people in wheelchairs, using canes, crutches, etc.)	N
Vertical Circulation - Elevators (for multi-level facilities) (at least 2 elevators for each vertical circulation core)	Y	

Category	Improvement Type	Feature Present
	Vertical Circulation – Escalators (for multi-level facilities) (at least 2 bi-directional escalators for each vertical circulation core)	N
	Do Station Amenities Encourage Sleeping?	Y
Notes on Station Accessibility	<ul style="list-style-type: none"> • Two elevators total – one at east end of LRT platform, one at west end • One escalator only – one-directional escalator at east end of LRT platform • No official pickup/drop-off zone observed, but much de facto space available in the parking lot • Sidewalk directly from fare gates ends at the WB 105 on-ramp. • Pedestrians observed crossing freeway ramps and Hoxie Avenue mid-block to access station • Narrow sidewalk on Hoxie Ave bridge, and no sidewalk on the I-105 East to Studebaker Road, which is a connecting roadway from the station to the neighborhood east of station. People observed walking and biking on this I-105 end stub, even though there is no sidewalk, to connect to Studebaker Rd 	
Notes on Station Connections to Surrounding Land Use	<ul style="list-style-type: none"> • There is a potential connection at southwest corner of station (west lot) to Flatbush Ave, but it is fenced off. Observed one patron slip through fences to connect anyway – indicates this can be a natural connection to improve • Station is fenced off from Foster Ave on south end of station (east lot). Observed one patron on bike approach south end of station looking for a connection, but ultimately exited north end of station for lengthy access via Hoxie Ave • There is a pedestrian path in the median of Foster Ave, which could benefit from connection to station 	
Station Boarding Area	Bus Stop Amenities (do adjacent bus stops host a full complement of amenities such as shelter, trash, seating)	Y
	Lean Bar	Y
	Level Boarding	Y
	Lighting	Y
	Does Lighting Extend Equally Throughout Platform Area and Transfer Area (incl. parking lots, adjacent paths, etc.)?	Y
	Public Art	Y
	Restrooms	N
	Seating (at least 10 seats at light rail stations)	Y
	Seating (at least 3 seats per bay at bus facilities)	Y
	Security Kiosk	Y
	Shade Structures (approx. 50% coverage of platform at outdoor rail or BRT stations)	Y
	Shade Structures (approx. 6 linear feet per bus bay at bus facilities)	Y
	Sound Barrier	N
	High Levels of Ambient Noise (car traffic, etc.)	Y
Ticketing Machine (light rail stations at least 2)	Y	

Category	Improvement Type	Feature Present
	Trash and/or Recycling Receptacles (at least 2 receptacles for light rail stations)	Y
	Trash and/or Recycling Receptacles (at least 1 per 3 bays/2 per bus facility)	Y
	Trees Providing Shade	N
	Wi-Fi	Y
Notes on Station Boarding Area	<ul style="list-style-type: none"> • There are high noise levels from the freeway • There are 5 bus shelters for 11 revenue bus bays • The I-605 freeway overpass provides the shade for the LRT platform 	
Describe Operational Flow or Constraints for Trains, BRT, or Buses	<ul style="list-style-type: none"> • Buses enter one of two southbound rows of bus bays for service or layover • Cars park in large lot and pay at kiosks, with access straight from the freeway to enter the lots • Buses occasionally layover on the Hoxie Ave bridge, instead of a layover bus bay • Buses exist north on Hoxie Ave or east on I-105 connection to Studebaker Rd 	
General Notes on Wayfinding to/from Station from Other Transit Services (distance, perception, directness, clarity)	<ul style="list-style-type: none"> • Station is not integrated with surrounding communities – is primarily a commuter-oriented station with vast parking facilities. • Potential connections to surrounding community do exist but are fenced off 	

Source: CR Associates and STV Incorporated, 2021

PHOTOS OF METRO C LINE NORWALK STATION:

Photo of main station entrance on Hoxie Avenue (east lot) for buses and cars:



Photo of real-time information sign for Metro buses:



Photo of tail tracks and end of C Line, east of LRT platform:



Photo of signage from LRT platform to bus plaza:



Photo of potential connection to Flatbush Avenue at west lot:



Photo of potential connection to Foster Avenue south of the bus plaza and pedestrian path in median:



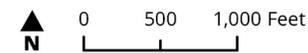
Metrolink Norwalk/Santa Fe Springs Station Area

The Metrolink Norwalk/Santa Fe Springs Station will be the future location of the California High-Speed Rail Norwalk Station. The station has extensive parking on the Norwalk and Santa Fe Springs sides. The Norwalk Transit System maintenance yard is adjacent to the station.

Figure 5.35 - Map: Norwalk/Santa Fe Springs Station Area Existing Conditions and Planned Bike Routes



Source: CR Associates, 2022



Existing Bike Facilities

— Class II - Bike Lane

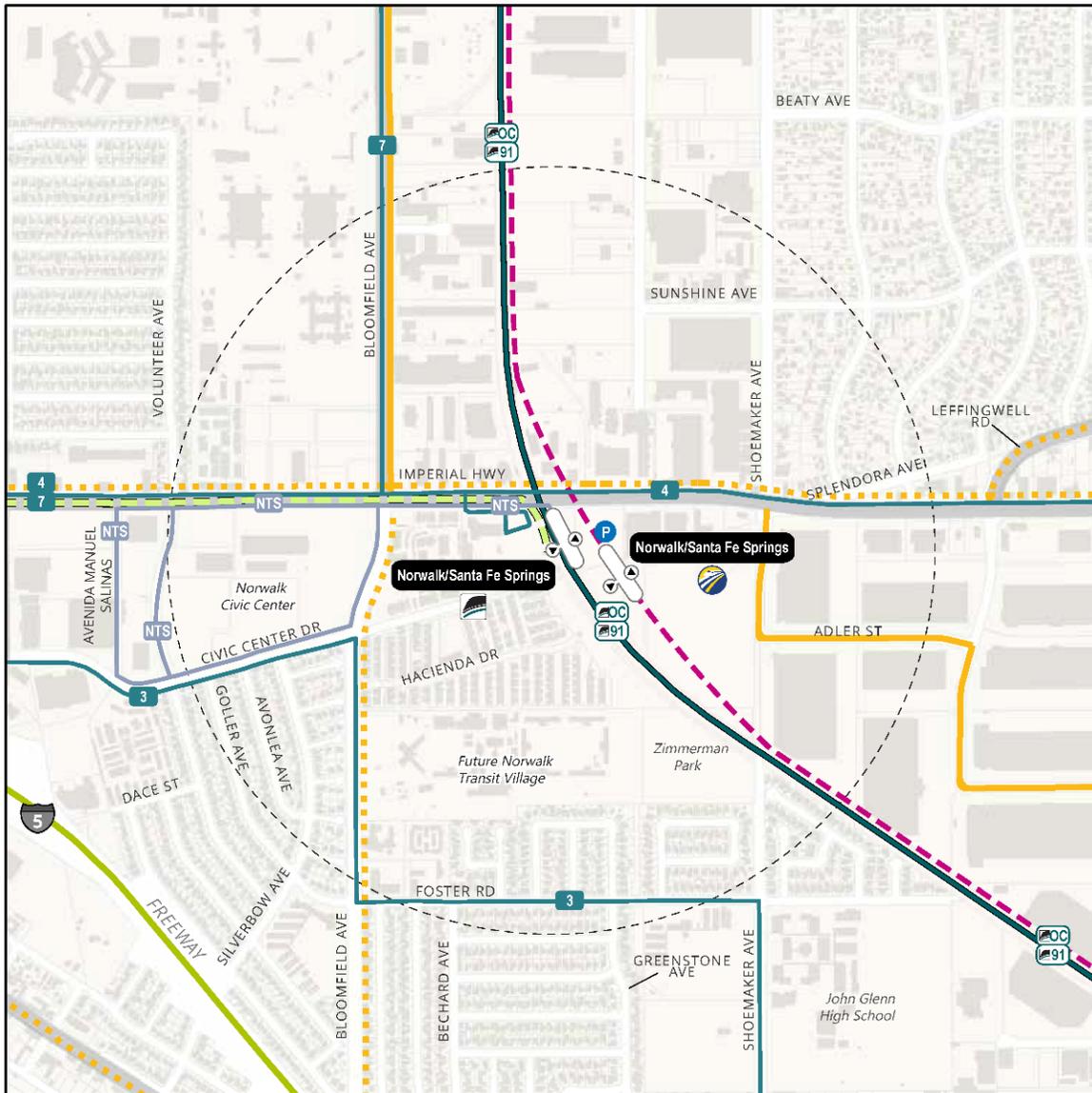
Planned Bike Facilities

— Class II - Bike Lane

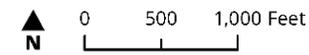
- Metrolink Parking
- Metrolink Lines
- Metro Bus Routes
- Norwalk Bus Routes
- Study Area Rail Station
- Entrances
- Bus Stops

- Half-Mile Walkshed
- Half-Mile Buffer
- Buses Connecting to both Study Area Stations
- Norwalk Bus Route 4

Figure 5.36 - Map: Norwalk/Santa Fe Springs Station Area Future Planned Conditions



Source: CR Associates, 2022



- Study Area Rail Station
- Entrances
- Half-Mile Buffer

- Existing Bike Facilities**
- Class II - Bike Lane
- Planned Bike Facilities**
- Class II - Bike Lane

- Existing Transit**
- Metrolink Lines
- Norwalk Transit Shuttle
- Norwalk Bus Routes
- Metrolink Parking

- Planned Transit**
- CA High Speed Rail Alignment Alternatives
- Metro C Line Extension

- Planned ExpressLanes**
- Metro Tier 2: ExpressLanes Mid-Term (2027-2032)

Metrolink Norwalk/Santa Fe Springs Station Area Connectivity

The station area is connected to the surrounding area and the region by a transit, bike, walking, and auto. The existing Metrolink Station is served by Norwalk Transit. Existing bike routes are within a half-mile of the station, but do not directly connect. Amtrak’s Pacific Surfliner corridor aligns with the Metrolink corridor but does not stop at the Norwalk/Santa Fe Springs Station. The existing and future connections are displayed in the table below.

Table 5.21 - Existing and Future Transit Connections

Connectivity	Existing	Future
Metrolink	Orange County Line, 91 Line	The Orange County Line will run more frequent 30-minute bi-directional service, based on SCORE
Park-and-ride	630 spaces	CAHSR Parking TBD
Inter-City Rail/Bus	None	California High Speed Rail (LAUS to Anaheim section)
Transport Connection to Hollywood Burbank Airport (BUR)	None	None
Transport Connection to Los Angeles International Airport (LAX)	None	Metro C Line East Extension
Metro System (Rail and Bus Rapid Transit)	None	Metro C Line East Extension
Metro Bus (Local)	None	None
Metro Bus (Rapid)	None	None
Metro or Municipal Shuttles	NTS Metrolink Parking Shuttle	No anticipated change
Municipal Bus	Norwalk Transit: 4, 7	No anticipated change
Private Shuttles	None	Unknown
FLM Projects - Metro defined	None	None
FLM Projects - Local defined	Heart of Norwalk Specific Plan, no specific projects	Santa Fe Springs Active Transportation Plan: Bloomfield Class III, no pedestrian projects
Strategic Project Lists - SRTP	None	Imperial /Bloomfield Metrolink Access Capital Improvements

Sources: Metro, 2022; Metrolink, 2022; Norwalk Transit, 2021, CAHSR 2021

The table below outlines the fare payment options, transfers accepted, and media accepted for the primary transit providers at the station area.

Table 5.22 - Fare Payment Options

Fares and Transfers	Fare Payment Options	Transfers Accepted	Media
Metro	TAP Card – reload online, phone, vendor kiosks, platform kiosks; Cash is accepted on buses that do not have all-door boarding; GoPass/UPass for students; LIFE program for low-income fares	EZ Transit Pass, TAP unlimited transfers within 2 hours in one direction	TAP, EZ Transit Pass, Cash
Norwalk Transit System (NTS)	Purchase on board (cash), TAP card	NTS to NTS (fee), Interagency transfer (fee)	TAP, EZ Transit Pass, Cash
Metrolink	App, platform kiosks, ticket outlets, pass by mail, and buy online/print at home	EZ Transit Pass, Connecting buses and rail (some require additional fare), local dial-a-ride (requires additional fare), Megabus	App, Paper ticket

Sources: Metro, 2022; Metrolink, 2022; Norwalk Transit, 2021

Metrolink Norwalk/Santa Fe Springs Station Area Stakeholder Feedback

HSR

California High-Speed Rail (HSR) Program is currently working on the environmental documents for the planned HSR station at Norwalk. It is anticipated that the draft environmental document will be completed in 2022 with final environmental clearance in 2024 followed by operational opening of the HSR station and line in 2033. The horizon year for the environmental documents is 2040. The plans currently do not include an Amtrak stop at the station or the C Line Extension. The plan does not currently include first/last mile connections or station area plans for development of transit-oriented communities.

SCRRA

SCRRA/Metrolink, which operates the trains at the Norwalk/Santa Fe Springs Station, expressed interest in extending the existing platforms to the south to accommodate demand at the station. They are also interested in seeing the area surrounding the station be developed with a focus on transit-oriented communities and first/last mile connections to increase ridership and opportunities for connection. They indicated dynamic signage for the platforms could provide improved customer information, as northbound and southbound trains sometimes need to shift tracks to accommodate freight.

City of Santa Fe Springs

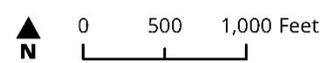
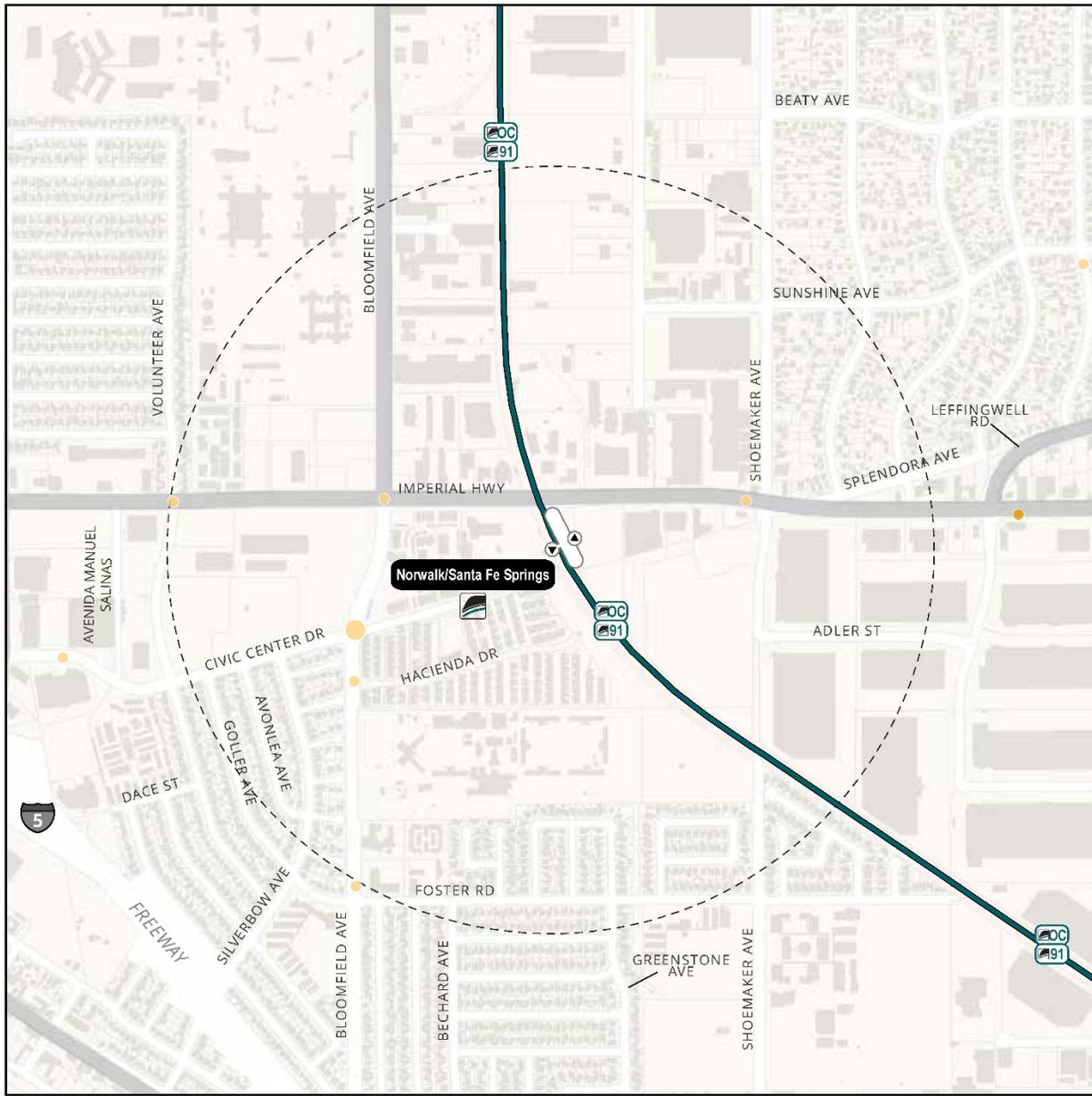
The City of Santa Fe Springs is interested in improving the station area and service at the station as they note that first/last mile connections are challenging, and service is infrequent. To facilitate this, the City of Santa Fe Springs is going through a General Plan update, which includes new land uses with a higher densities and TOD focus near the station, east of the railroad tracks and north of Imperial Highway. New developments include improved sidewalks and bike connections.

Metrolink Norwalk/Santa Fe Springs Station Area Safety

The collisions near the Norwalk/Santa Fe Springs Metrolink Station primarily involve automobiles and are located on Imperial Highway and in adjacent neighborhoods.

There are also a number of pedestrian and bicycle collisions. Bicycle collisions are primarily on Bloomfield Avenue and on Imperial Highway. There is a severe bicycle collision west of the Imperial Highway/Shoemaker Avenue intersection. Pedestrian collisions are located on Imperial Highway and Bloomfield Avenue south of Imperial Highway. There is a concentration of pedestrian collisions at the intersection of Bloomfield Avenue and Civic Center Drive.

Figure 5.37 - Pedestrian Collisions, Norwalk/Santa Fe Springs Metrolink Station



Source: Source: SWITRS 2015-2019; CR Associates, 2022

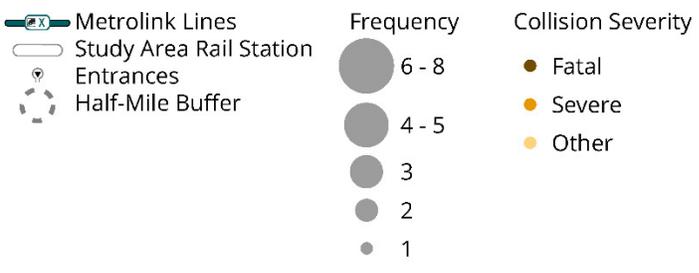
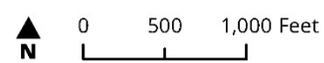
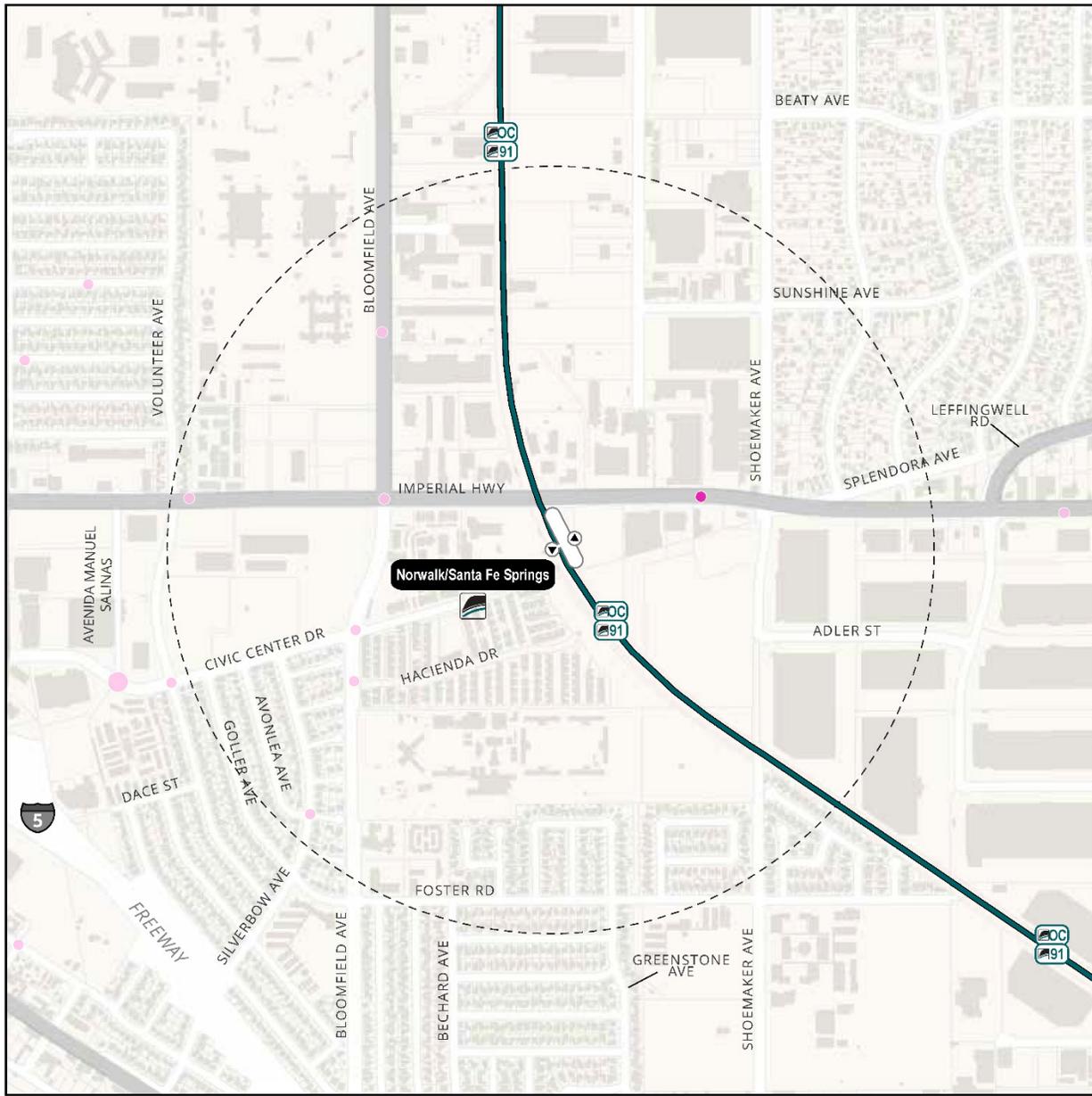


Figure 5.38 - Bicycle Collisions, Norwalk/Santa Fe Springs Metrolink Station



Source: SWITRS 2015-2019; CR Associates, 2022

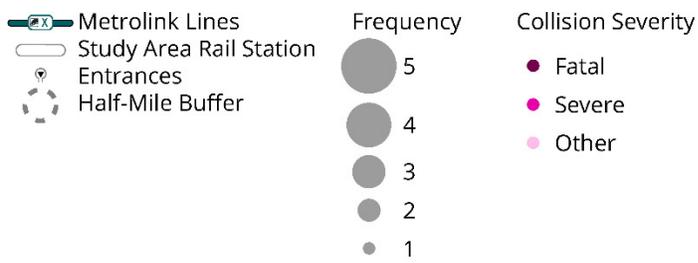
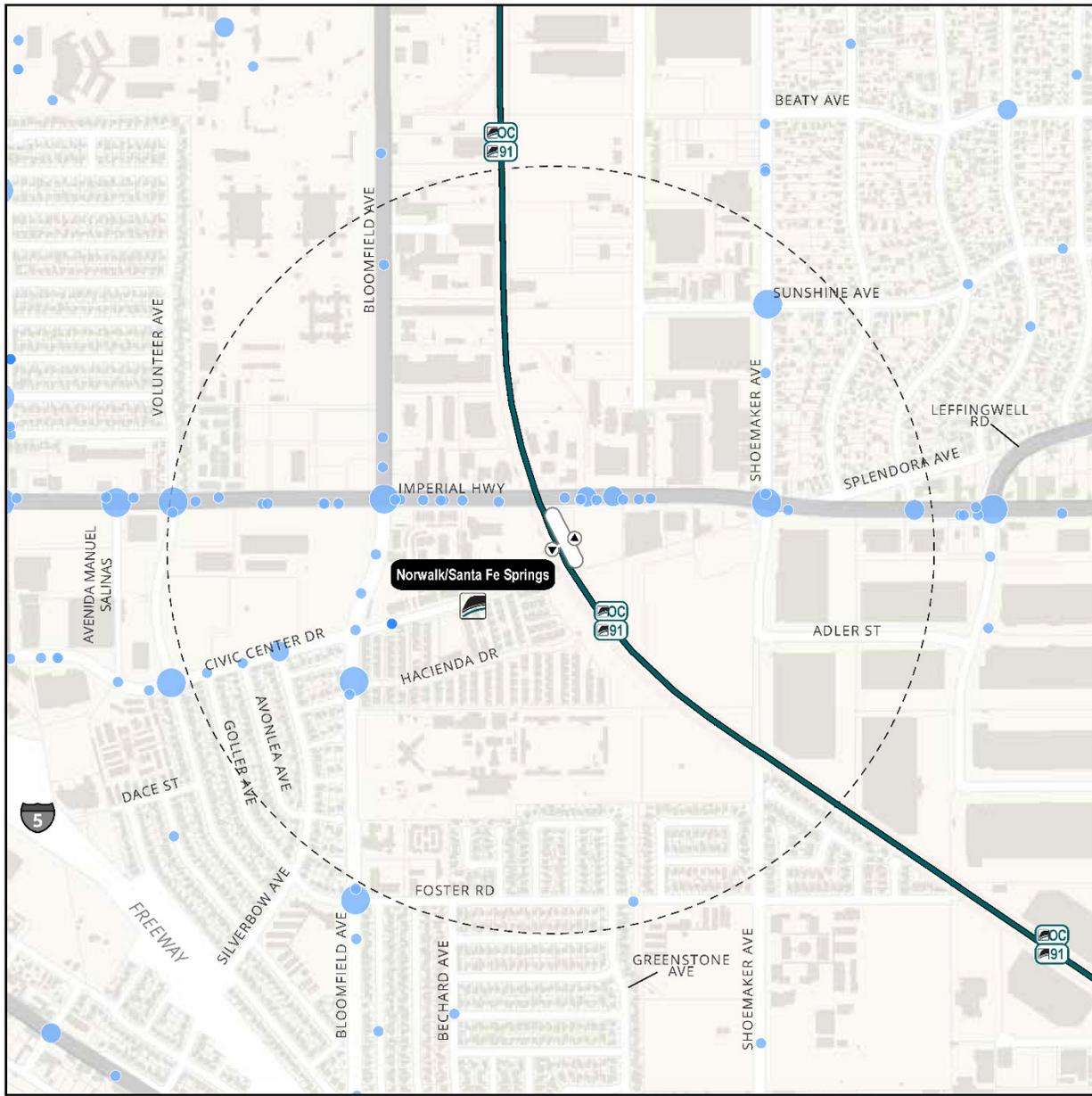
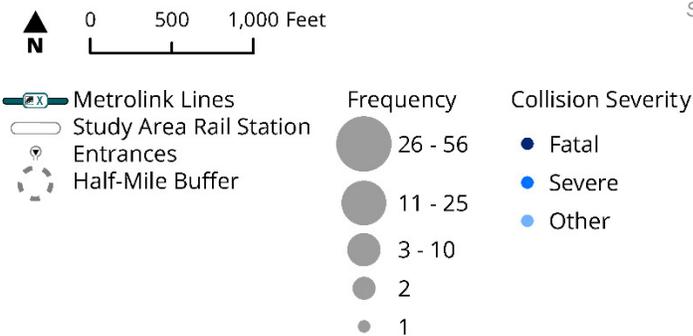


Figure 5.39 - Automobile Collisions, Norwalk/Santa Fe Springs Metrolink Station



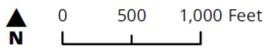
Source: Source: SWITRS 2015-2019; CR Associates, 2022



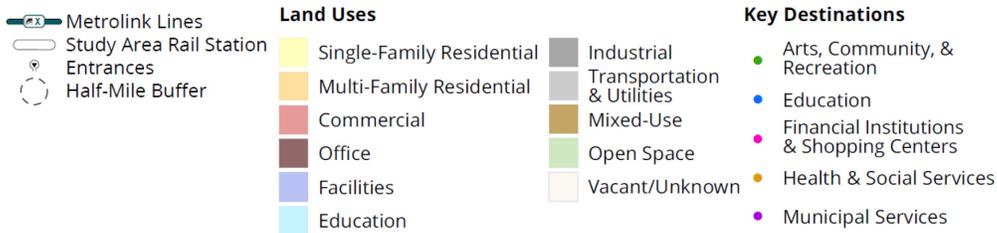
Norwalk/Santa Fe Springs Station Area Land Use

The Norwalk/Santa Fe Springs Station Area has a significant amount of industrial land uses with commercial uses near the station and schools to the south. Key destinations include Zimmerman Park and the adjacent, future Norwalk Transit Village, the Norwalk Civic Center, industrial employment centers, and John Glenn High School.

Figure 5.40 - Map: Norwalk/Santa Fe Springs Existing Land Use



Source: SCAG, 2016; CR Associates, 2022



Norwalk/Santa Fe Springs Station Area Field Assessment

Transit operators at Norwalk/Santa Fe Springs Metrolink Station include Metrolink and Norwalk Transit service. The field assessment is shown in **Table 5.23**.

Table 5.23 - Norwalk/Santa Fe Springs Station Area Field Assessment

Category	Improvement Type	Feature Present
Customer Information	Static Directional Signage	Y
	Digital Information Kiosk	N
	Customer Service Kiosk	N
	Real-Time Arrival Information	Y
	Transit Schedule	Y
	Station Area Map	N
	Sidewalk Stop Pole	N
	Public Announcement Speakers	Y
	High Quality of Audio/Intelligibility of Speakers?	Y
	Visual Wayfinding to Other Transit Service	N
	Audio Wayfinding to Other Transit Service	N
	Tactile Wayfinding to Other Transit Service	N
Notes on Customer Information Amenities	<ul style="list-style-type: none"> Real-time arrival info was available only by audio PA, not digital signs Platform had passenger information telephones Directional/destination signage on platforms appears reversed – northbound track (Track 1) is labeled Oceanside, and southbound track (Track 4) is labeled Los Angeles 	
Station Accessibility	Bi-Directional Access Ramps	N
	Bike Center/Hub	N
	Bike Lockers	Y
	Bike Racks	Y
	Bike Share (within service area)	Y
	Car Share	Y
	Continental Crosswalk	N
	Curb Bulb-Out	N
	Leading Pedestrian Interval	N
	High-Quality Sidewalk Connections (continuous stretch of well-paved sidewalk 10 ft wide)	N
	Median Refuge	N
	Parking Facilities	Y
	Scramble Crosswalk	N
	Shared Dockless Micromobility Parking	N
	Pick-Up/Drop-Off Zone	Y
	Tactile Warning Features (textured pavers at curb cuts)	Y
	Tactile Warning Features as Barriers? (do textured pavers create mobility barriers for people in wheelchairs, using canes, crutches, etc.)	N
Vertical Circulation - Elevators (for multi-level facilities) (at least 2 elevators for each vertical circulation core)	Y	
Vertical Circulation – Escalators (for multi-level facilities) (at least 2 bi-directional escalators for each vertical circulation core)	N	
Do Station Amenities Encourage Sleeping?	N	

Category	Improvement Type	Feature Present
<p>Notes on Station Accessibility</p>	<ul style="list-style-type: none"> • There is an ADA ramp from the bus plaza to rail platform, but it is narrow • Benches at the bus shelters have seat dividers, but the rail platform benches do not • The surrounding sidewalk on Imperial Hwy is well-paved, but is not 10 ft wide, and is not a low-stress walking environment given the high number of traffic lanes and high vehicle speeds • There is one elevator per platform, for a total of two, both serving the pedestrian bridge connecting the platforms. 	
<p>Notes on Station Connections to Surrounding Land Use</p>	<ul style="list-style-type: none"> • There is station access to Imperial Hwy on both east and west sides of the track, but both are essentially a mid-block entrance. This limits walkable access to the station entrance. 	
<p>Station Boarding Area</p>	<p>Bus Stop Amenities (do adjacent bus stops host a full complement of amenities such as shelter, trash, seating)</p>	<p>Y</p>
	<p>Lean Bar</p>	<p>N</p>
	<p>Level Boarding</p>	<p>N</p>
	<p>Lighting</p>	<p>Y</p>
	<p>Does Lighting Extend Equally Throughout Platform Area and Transfer Area (incl. parking lots, adjacent paths, etc.)?</p>	<p>Y</p>
	<p>Public Art</p>	<p>N</p>
	<p>Restrooms</p>	<p>N</p>
	<p>Seating (at least 10 seats at light rail stations)</p>	<p>Y</p>
	<p>Seating (at least 3 seats per bay at bus facilities)</p>	<p>Y</p>
	<p>Security Kiosk</p>	<p>N</p>
	<p>Shade Structures (approx. 50% coverage of platform at outdoor rail or BRT stations)</p>	<p>Y</p>
	<p>Shade Structures (approx. 6 linear feet per bus bay at bus facilities)</p>	<p>Y</p>
	<p>Sound Barrier</p>	<p>N</p>
	<p>High Levels of Ambient Noise (car traffic, etc.)</p>	<p>N</p>
	<p>Ticketing Machine (light rail stations at least 2)</p>	<p>Y</p>
	<p>Trash and/or Recycling Receptacles (at least 2 receptacles for light rail stations)</p>	<p>Y</p>
<p>Trash and/or Recycling Receptacles (at least 1 per 3 bays/2 per bus facility)</p>	<p>Y</p>	
<p>Trees Providing Shade</p>	<p>Y</p>	
<p>Wi-Fi</p>	<p>Y</p>	
<p>Notes on Station Boarding Area</p>	<ul style="list-style-type: none"> • Shade structures appear sufficient for PM peak crowds (based on observations made in November 2021) • Shade structures do not cover 50% of the platform • Wi-Fi is public but is locked by a password 	

Category	Improvement Type	Feature Present
<p>Describe Operational Flow or Constraints for Trains, BRT, or Buses</p>	<ul style="list-style-type: none"> • High-speed rail would replace the east side parking lot. If the Metrolink platform remains where it is, an at-grade walking connection would be simplest. However, Metrolink platform may be co-located with high-speed rail platform. • There is only one signage pole in the bus plaza showing a general 'Norwalk Transit' sign, but there are multiple bus shelters and space for more than one bus to dwell in the bus loop road. 	
<p>General Notes on Wayfinding to/from Station from Other Transit Services (distance, perception, directness, clarity)</p>	<ul style="list-style-type: none"> • The bus plaza is immediately adjacent to the west platform, with easy access and wayfinding. However, the east platform does not have clear signage to the buses on the west side • There is opportunity to connect the community south/southwest of the station with a path to the south of the west platform. • Train directional signage needs updating, as SB trains and NB trains may arrive on opposite platforms, due to operational conflicts with BNSF trains. 	

Source: CR Associates and STV Incorporated, 2021

PHOTOS OF NORWALK/SANTA FE SPRINGS METROLINK STATION:

Photo of potential connection point to community on southwest end of station:



Photo of bus shelters at bus plaza on west side of station area:



Photo of Norwalk Transit bus serving bus plaza:



Photo of bike/ped path entrance to station area, though there is no connecting bike infrastructure on the adjacent road:



Photo of freight train utilizing corridor:



Photo of Amtrak Pacific Surfliner utilizing corridor:



6.0 Recommendations for Examination in Task 3

Based upon the detailed connectivity and gap analysis conducted at each station, along with stakeholder input, a range of improvement strategies were identified for each station area. Short and long-term timeframes were included as a means of initially prioritizing the strategies.

For each of the six (6) station areas, a table (Tables 6.1 - 6.6) is presented that includes the improvements that have been identified for further delineation and study and short- and long-term implementation in Task 3. Additionally, an analysis approach is included for further study of expanded express bus service along with next steps.

Following Task 3, Task 4, the Network Integration Recommendations and Benefit/Cost Assessment, will take a deeper dive into the recommendations determined by this task.

Station Area Tables

Table 6.1 - Van Nuys Station Identified Improvements

Improvement	Near Term	Long Term
Pedestrian Access and Wayfinding signage to the Station	➔	➡
First/Last Mile & Safety Improvements	➔	➡
Bike connection to G-Line (Orange) Station	➔	➡
Relocate LRT Station test for connectivity assessment (examine previous findings prior to any further analysis) **		➡

** On hold pending direction from Metro

Table 6.2 - Burbank Airport North Station Identified Improvements

Improvement	Near Term	Long Term
Access to the community, north of RR tracks		➡
San Fernando Road Crossing to the south	➔	
First/Last Mile, including wayfinding signage	➔	➡
Airport shuttle, including Burbank Airport South, HSR and RITC	➔	➡
HSR ped connectivity		➡

Table 6.3 - Burbank Airport South Station Identified Improvements

Improvement	Near Term	Long Term
Pedestrian access to airport terminal – infrastructure and wayfinding	➔	➡
First/Last Mile to community	➔	➡
Airport shuttle, including Burbank Airport North station, RITC and HSR	➔	➡
Amtrak - test double stop at airport and downtown, and downtown-only stop		➡
Signage – on platform and wayfinding	➔	
Auto access - Pick-up/Drop-off and parking	➔	➡

Table 6.4 - Downtown Burbank Station Identified Improvements

Improvement	Near Term	Long Term
Vertical circulation access	➔	➡
First/Last Mile – ped connectivity to NoHo to Pasadena BRT stations and downtown	➔	➡
Signage and wayfinding	➔	➡
Amtrak - test double stop at airport and downtown, and downtown-only stop		➡
NoHo to Pasadena BRT stop on Olive. Olive Avenue Reconstruction for BRT stop – Cost Benefit **		➡

** On hold pending direction from Metro

Table 6.5 - Metro C-Line Norwalk Terminus Station Identified Improvements

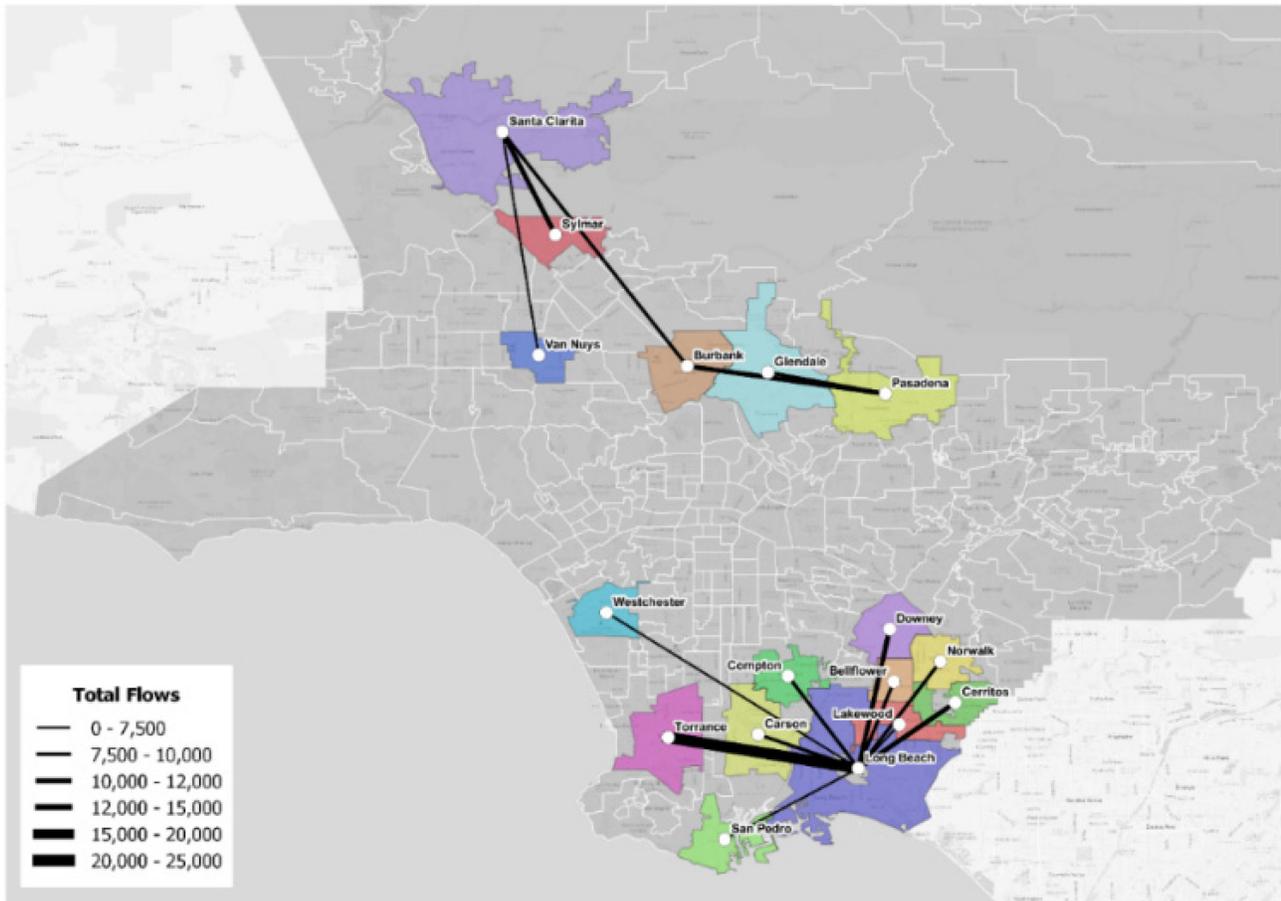
Improvement	Near Term	Long Term
Pedestrian/bike access <ul style="list-style-type: none"> • Studebaker • Freeway Ramps • Gates to community 	➔	➡
First/Last Mile – including bike to Metrolink	➔	➡
Signage	➔	➡
Metrolink Connection – shuttle, bus and fixed guideway (LRT) - C-line west connection options to be examined	➔	➡

Improvement	Near Term	Long Term
Bike Lockers and parking	➔	➡
Bike Share	➔	➡
Circulation for autos/ped/bike – prioritize safety for vulnerable ped/bike	➔	➡
Pick-Up/Drop-off	➔	➡

Table 6.6 - Metrolink Norwalk-Santa Fe Springs Station Identified Improvements

Improvement	Near Term	Long Term
First/Last Mile	➔	➡
Signage – Platform and wayfinding	➔	➡
C-Line Connection – shuttle, extending LBT (EV for LBT and/or Norwalk Transit), and fixed guideway	➔	➡
HSR Connections, including ped connection to Zimmerman Park		➡
Test Amtrak stop	➔	➡
Connections to CSULB	➔	➡

Figure 6.2 - Mode Share Outside of Downtown Los Angeles



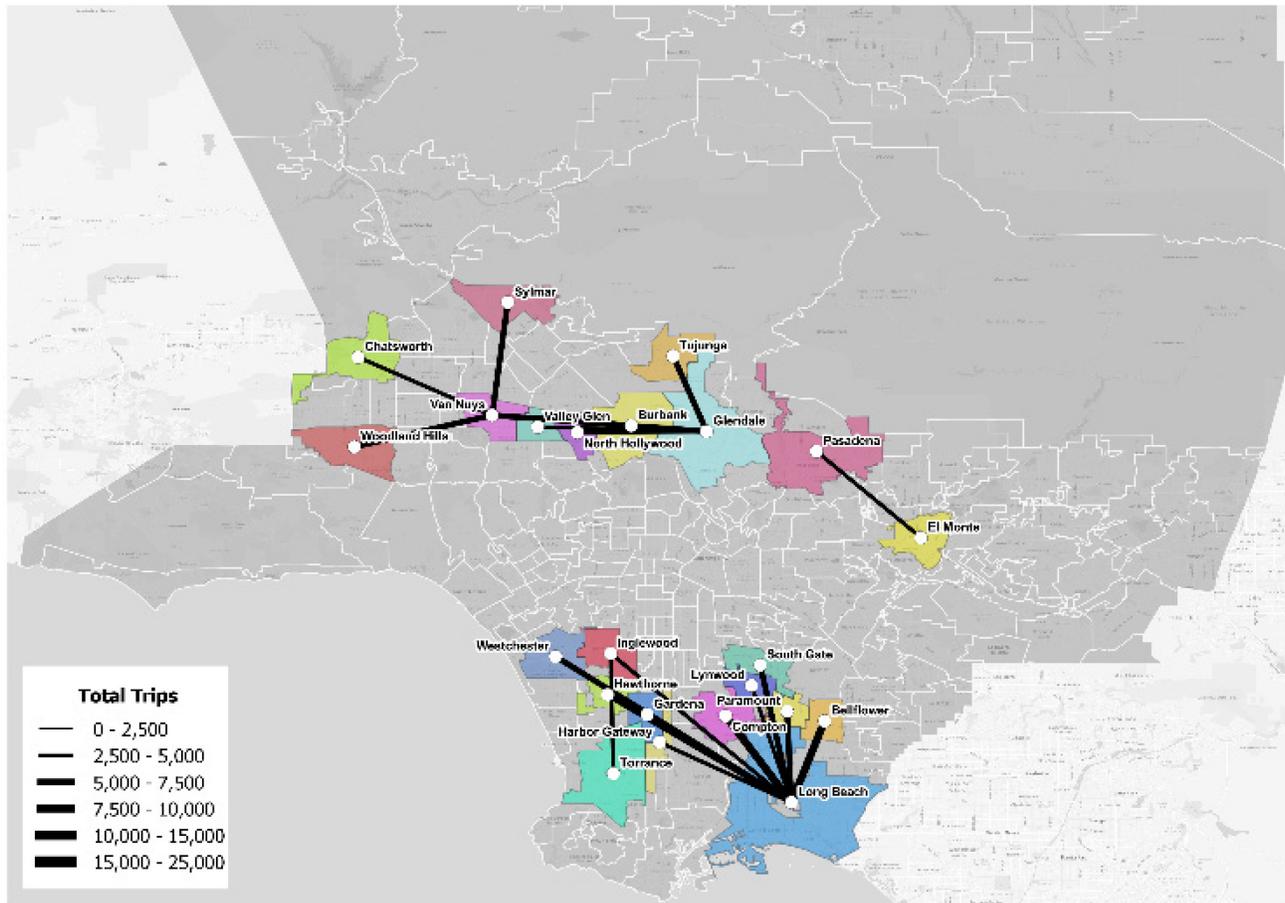
Source: CR Associates, Cambridge Systematics, 2022

The study homed in on major travel markets for total flows by equity focus communities, which were defined as:

- Having more than 40% of households that are low-income and either:
 - More than 80% of households are non-white OR
 - More than 10% have no access to a vehicle

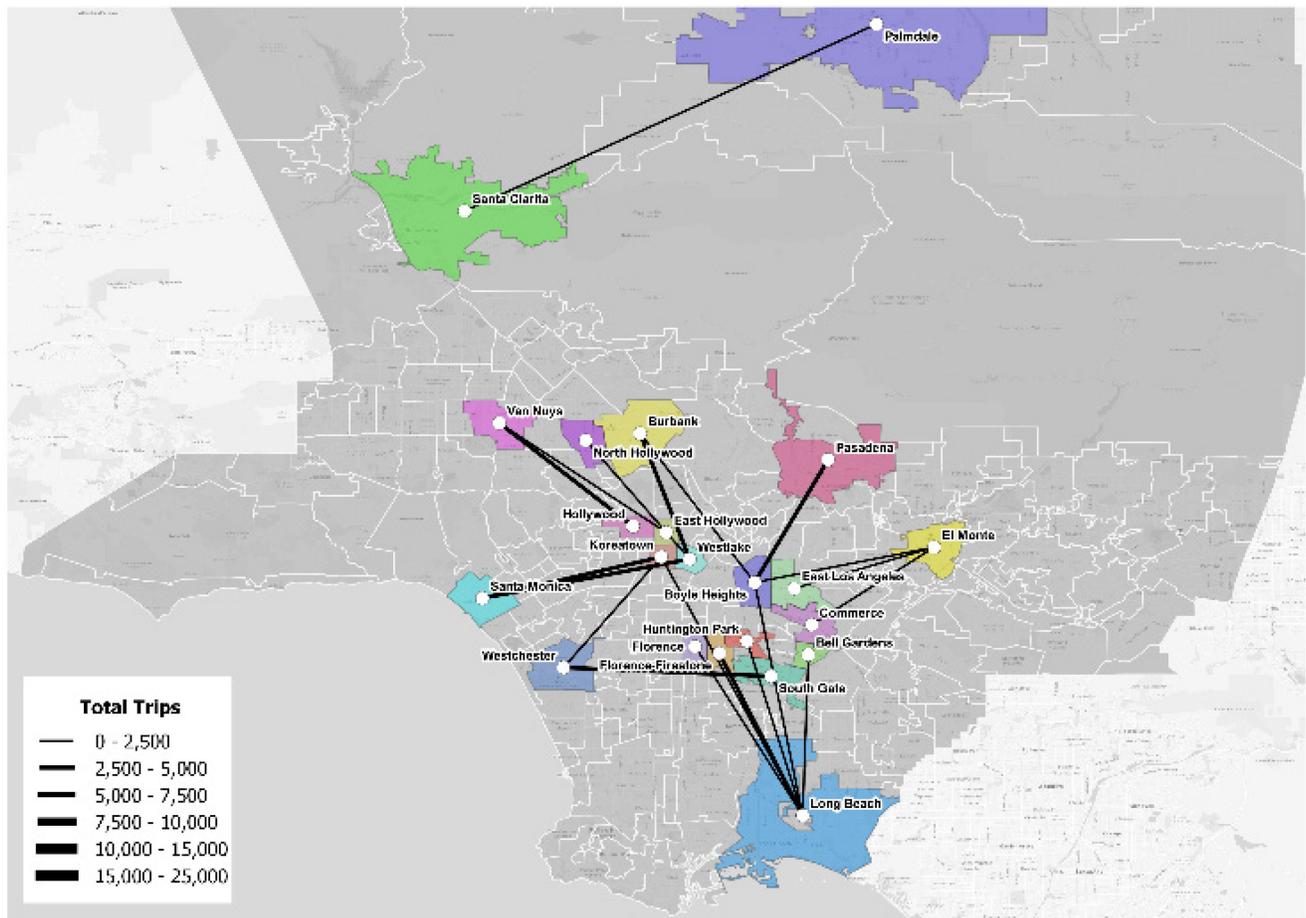
Major travel markets for higher-percentage equity focus communities are shown in **Figures 6.3 and 6.4**. Identified travel markets are in northern neighborhoods, between Santa Clarita, Sylmar, Burbank, and Glendale, central Los Angeles, and to Long Beach.

Figure 6.3 - Equity Share Between 30 and 50%



Source: CR Associates, Cambridge Systematics, 2022

Figure 6.4 - Equity Share Above 50%



Source: CR Associates, Cambridge Systematics, 2022

Next Steps

Task 3 Baseline Condition Report Development will include examination of the following considerations as described in the Task 3 Scope of Work.

- Cost/benefit criteria development
- Connectivity Assessment
- Operational Assessment
- Infrastructure and Equipment Assessment
- Policy Assessment

Appendix A: Reference Documents

LACMTA (Metro)

BRT Transit Service Policy, 2015

<https://www.scribd.com/document/291739315/2016-Metro-Transit-Service-Policies-and-Standards>

Customer Experience Plan, 2022 (DRAFT)

<https://www.dropbox.com/s/a4d02c2bk8nb2re/2022-Draft-Customer-Experience-Plan-ENG.pdf>

East San Fernando Valley Light Rail Transit First/Last Mile Plan, 2020:

<http://media.metro.net/2020/ESFVLR-FLM-Plan-Draft-Final-November-2020-ES.pdf>

Equity Platform Framework, 2018

<https://www.metro.net/about/equity-race>

ExpressLanes Strategic Plan Report, 2017

http://libraryarchives.metro.net/DB_Attachments/170111_Strategic_Plan_with_Appendices.pdf

Fares and Discounts

<https://www.metro.net/riding/fares/>

First/Last Mile Guidelines, 2021

<https://www.dropbox.com/s/395zn5ghsi1uqv/Metro-FLM-Guidelines.pdf>

First/Last Mile Implementation Policy, 2016

<https://metro.legistar.com/LegislationDetail.aspx?ID=2724996&GUID=0B6F1F21-8145-45D8-A968-353E2FAB2B54>

First/Last Mile Strategic Plan, 2014

<https://www.dropbox.com/sh/55dbbcvb9eifv9s/AACpVGtpRgzZ7OirWqqDCVNIa?dl=0&preview=FLM-Strategic-Plan.pdf>

Metro CBO Partnering Strategy, 2021

<https://thesource.metro.net/wp-content/uploads/2021/06/Attachment-A-%E2%80%93-CBO-Partnering-Strategy.pdf>

Metro Complete Streets Policy, 2014

https://media.metro.net/projects_studies/sustainability/images/policy_completestreets_2014-10.pdf

Metro Long Range Transportation Plan, 2020:

<https://www.metro.net/about/plans/long-range-transportation-plan/>

Metro Micro

<https://micro.metro.net/>

Metro Recovery Taskforce Report, 2021

<https://www.metro.net/about/plans/recovery-task-force/>

Metro Transfers Design Guide, 2018

http://media.metro.net/projects_studies/toc/images/Metro_Transfers_Design_Guide_2018-0312.pdf

Metro Understanding How Women Travel, 2019

http://libraryarchives.metro.net/DB_Attachments/2019-0294/UnderstandingHowWomenTravel_FullReport_FINAL.pdf

NextGen Bus Study, 2020

<https://la-metro.maps.arcgis.com/apps/MapSeries/index.html?appid=8decc337ba35474ba28d0b4e9ad71647>

Systemwide Station Design Standards Policy, 2018

<http://libraryarchives.metro.net/DPGTL/Policies/2018-systemwide-station-design-standards-policy.pdf>

Transit Service Policy, 2015

link not available

Vision 2028 Strategic Plan, 2018

<https://www.metro.net/about/plans/metro-strategic-plan>

Visioning BRT, 2020

<https://www.metro.net/about/brt/>

CalSTA/Caltrans

California Integrated Travel Program (Cal-ITP)

<https://dot.ca.gov/cal-itp>

California State Rail Plan, 2018

<https://dot.ca.gov/programs/rail-and-mass-transportation/california-state-rail-plan>

California State Rail Plan, 2022

<https://dot.ca.gov/programs/rail-and-mass-transportation/2022-california-state-rail-plan/>

California Transportation Plan 2050, 2021

<https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/ctp-2050-v3-a11y.pdf>

Transit and Intercity Rail Connectivity Program (TIRCP)

<https://calsta.ca.gov/subject-areas/transit-intercity-rail-capital-prog>

CAHSR

2021 Sustainability Report, 2021

https://hsr.ca.gov/wp-content/uploads/2021/09/Sustainability_Report_2021.pdf

Burbank to Los Angeles EIR/EIS

<https://hsr.ca.gov/programs/environmental-planning/project-section-environmental-documents-tier-2/burbank-to-los-angeles-project-section-draft-environmental-impact-report-environmental-impact-statement/>

Business Plan, 2022

<https://hsr.ca.gov/about/high-speed-rail-business-plans/2022-business-plan/>

Los Angeles to Anaheim

<https://hsr.ca.gov/high-speed-rail-in-california/project-sections/los-angeles-to-anaheim/>

Palmdale to Burbank

<https://hsr.ca.gov/high-speed-rail-in-california/project-sections/palmdale-to-burbank/>

LOSSAN

Amtrak

<https://www.amtrak.com/home.html>

LOSSAN

<https://www.octa.net/LOSSAN-Rail-Corridor-Agency/Overview/>

Pacific Surfliner

<https://www.pacificsurfliner.com/>

The Los Angeles – San Diego – San Luis Obispo Rail Corridor Optimization Study, 2021

https://www.octa.net/pdf/LOSSAN_Optimization_Report_2022.pdf

Metrolink/SCRRRA

Accessibility and Affordability Study, 2021

<https://metrolinktrains.com/globalassets/about/agency/metrolink-accessibility-affordability-report.pdf>

Fleet Management Plan Update, 2020

<https://metrolinktrains.com/globalassets/about/agency/rail-fleet-management-plan/metrolink-rail-fleet-management-plan-update--full-report.pdf>

Metrolink 10 Year Strategic Plan 2015-2025, 2015

https://metrolinktrains.com/globalassets/about/metrolink_10-year_strategic_plan_2015-2025.pdf

Metrolink 2018 Origin-Destination Study

<https://metrolinktrains.com/globalassets/about/agency/facts-and-numbers/metrolink-2018-od-study.pdf>

Metrolink Strategic Business Plan, 2021

<https://metrolinktrains.com/globalassets/about/agency/strategic-plan/metrolink-strategic-plan-final--full-report-r.pdf>

Passes & Tickets

<https://metrolinktrains.com/ticketsOverview/ticket-info/ticket-types/>

SCRRRA Design Criteria Manual, 2021

https://metrolinktrains.com/globalassets/about/engineering/scrra_design_criteria_manual.pdf

SCRRRA Highway - Rail Grade Crossing Manual, 2021

https://metrolinktrains.com/globalassets/about/engineering/scrra_grade_crossing_manual.pdf

Southern California Optimized Rail Expansion (SCORE) Impact Study, 2018

<https://metrolinktrains.com/globalassets/about/agency/score/laedc-score-impact-study.pdf>

SCAG

Connect SoCal (SCAG RTP/SCS), 2020

<https://scag.ca.gov/read-plan-adopted-final-plan>

Regional High Injury Network, 2018

<https://scag.ca.gov/regional-high-injury-network>

City of Los Angeles & LADOT

2016 Onboard Customer Survey Summaries, 2017
<https://www.ladottransit.com/reports/index.html>

Active Transportation Map
<https://ladotlivablestreets.org/programs/active-transportation/maps>

Changing Lanes Report on Gender Equity, 2021
<https://ladot.lacity.org/sites/default/files/documents/changing-lanes-report.pdf>

City of Los Angeles Supplemental Street Design Guide, 2020
<https://ladot.lacity.org/sites/default/files/documents/supplemental-design-guide-052620-final.pdf>

Complete Street Design Guide, 2015
https://planning.lacity.org/odocument/c9596f05-0f3a-4ada-93aa-e70bbde68b0b/Complete_Street_Design_Guide.pdf

High Injury Network, 2018
http://geohub.lacity.org/datasets/a1fb5f1eb42a4e139cc8c89b468865a7_0

LADOT 2019 Walk & Bike Count, 2021
<https://ladot.lacity.org/sites/default/files/documents/ladot2019walkandbikecount.pdf>

LADOT Strategic Plan Update 2021-2023, 2021
<https://ladot.lacity.org/sites/default/files/documents/ladot-strategic-plan-2021-2023.pdf>

LADOT Transit Fares
<https://www.ladottransit.com/fares.html>

Technology Action Plan, 2020
https://www.ladot.lacity.org/sites/default/files/documents/ladot-tap_january-2020-update_v2.pdf

LAWA

Airfield & Terminal Modernization Plan, 2021
<https://www.lawa.org/atmp/documents>

Landside Access Modernization Program, 2017
www.lawa.org/transforminglax/documents

Burbank

BurbankBus
<https://www.burbankca.gov/burbankbus>

Citywide Complete Our Streets Plan, 2020
<https://www.burbankca.gov/documents/173607/240347/20210208-Complete-Streets-Plan-English-001.pdf/227ebe00-522b-66e3-dc3d-d303f543755a?t=1612824147256&download=true>

Bicycle Master Plan, 2009
<https://www.burbankca.gov/documents/173607/240347/20210204-Bicycle-Master-Plan-001.pdf/53be8720-2d59-19ad-bd4a-168ac74d7d22?t=1612567201263>

Burbank Airport EIS, 2021
<https://bobhopeairporteis.com/documents-resources-and-reports/#reports>

Norwalk

Heart of Norwalk, 2021
https://static1.squarespace.com/static/5fea7e6220b15171e883c200/t/60dcc310008c9637779f2019/1625080609032/Public+Hearing+Draft_sm.pdf

Norwalk Bicycle Master Plan, 2022
<https://www.norwalk.org/home/showpublisheddocument/26574/637825988886870000>

Norwalk Transit Fares & Schedules
<https://www.norwalk.org/city-hall/departments/norwalk-transit-systems/fares-schedules>

Santa Fe Springs

Active Transportation Plan, 2021
link not available

Long Beach Transit

Fares
<https://ridelbt.com/fares/>

Long Beach Transit STAR Initiative, 2018
https://6jottui47i2iarq336nrse1e-wpengine.netdna-ssl.com/wp-content/uploads/2020/12/Long-Beach-Transit-STAR-Initiative_Exec-Summary.pdf

Glendale Transit

Cash Fares & Passes

<https://www.glendaletransit.com/tools/cash-fares-passes>

Santa Clarita Transit

Fares & Passes

<https://santaclaritatransit.com/fares-passes/>

OCTA

Connect OC-LA, 2020

https://www.octa.net/pdf/ConnectOCLA_FinalReport.pdf

Fares & Passes

<https://www.octa.net/bus/Fares-and-Passes/Overview/>

Appendix B: List of Acronyms

AMC	Metro’s Airport Metro Connector Transit Station	L RTP	Long Range Transportation Plan
APS	Amtrak Pacific Surfliner	Muni	Municipal transit operator, ex. BurbankBus
AVL	Metrolink Antelope Valley Line	NoHo	North Hollywood
BNSF	Burlington Northern Santa Fe	NTS	Not to Scale
BRT	Bus Rapid Transit	OC	Metrolink Orange County Line
CAHSR	California High-Speed Rail	PV	Metrolink Perris Valley Line
Cal-ITP	California Integrated Travel Project	RAISE	Federal Rebuilding American Infrastructure with Sustainability and Equity discretionary grant program
CAPTI	Climate Action Plan for Transportation Investments	RC	Metrolink Riverside County Line
CARB	California Air Resources Board	RHNA	Regional Housing Needs Allocation
CSRP	Caltrans’ California State Rail Plan	RITC	Regional Intermodal Transportation Center
CSULB	California State University Long Beach	RTP	Regional Transportation Plan
CTP	California Transportation Plan	SBC	Metrolink San Bernardino County Line
ESFV	East San Fernando Valley	SCAG	Southern California Association of Governments
EV	Electric Vehicle	SCORE	Southern California Optimized Rail Expansion Impact Study, 2018
FLM	First/Last Mile	SCRRA	Southern California Regional Rail Authority
GGRF	Greenhouse Gas Emission Reduction Fund	SRTP	Short Range Transportation Plan
HSR	High Speed Rail	TIRCP	Caltrans’ Transit and Intercity Rail Capital Program
ITS	Intelligent transportation system	TMO	Transportation management organization
LAWA	Los Angeles World Airports	TSA	LADOT <i>Transit Service Analysis Plan</i>
LAX	Los Angeles International Airport	VCL	Metrolink Ventura County Line
LBT	Long Beach Transit	VMT	Vehicle miles traveled
LCTOP	California Low-Carbon Transit Operations Program		
LRT	Light Rail		

Appendix C: Travel Demand Analysis

This brief memorandum documents the existing conditions analysis we conducted for the MRNI study.

Methods

A number of pieces of data, information, and tools were utilized to analyze existing conditions for this study. Three primary data sources include the following:

- *NextGen* location-based services data product. The *NextGen* data provide ground truth information about existing Metro and regionwide bus ridership in 2017. These data also provide detailed information about total demand. The underlying dataset is highly granular, though data was aggregated to neighborhoods and stations for the existing conditions analysis. This data was available only for Los Angeles County.
- Metrolink origin-destination (O-D) survey data from 2018 was used to provide an estimate of existing O-D demand for Metrolink service at the geographies consistent with the *NextGen* data. These data were expanded to represent average day flows.
- The California statewide travel model provides information about total demand and rail ridership for the entire state. For the existing conditions analysis, the model was used to supplement the *NextGen* data for areas outside of Los Angeles County.

While the Metro model was also available, the *NextGen* and survey data were used for existing conditions analysis since it provides ground truth information about travel flows rather than modeled flows. The Metro model will be utilized for future conditions analysis, however, since the *NextGen* and survey data only provide information about existing conditions.

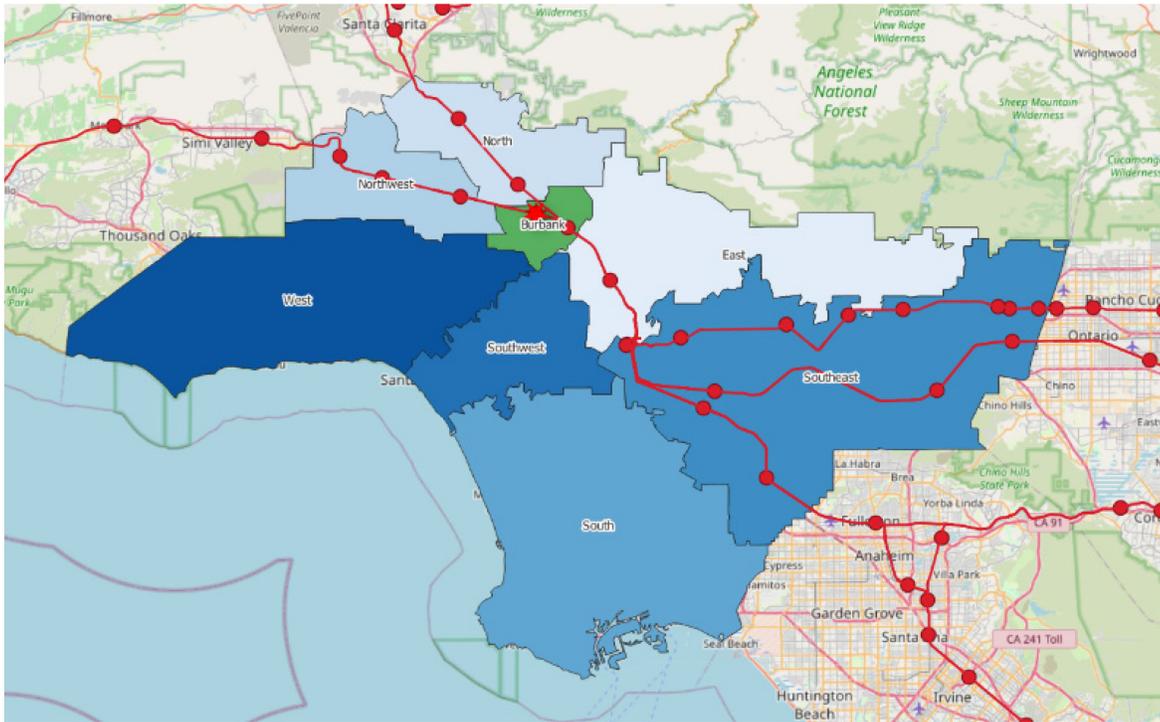
In all analyses, trips less than five miles in length were excluded from analysis since transit services typically serve longer distance trips rather than short distance trips.¹

Market Trends

The first analysis that was performed was to identify regional market trends by splitting the LA County region into several areas. The flows between these areas and each station of interest for this study (which included the Burbank Airport station, Van Nuys station, and Norwalk station) were then analyzed. **Figures 1 to 3** show the breakdown of areas used for this analysis. (While LA County extends to the north and east of the highlighted areas of the map, these were excluded from the figures to emphasize movements occurring within the central area of the Metrolink system).

¹ *Metro's NextGen study* showed that over half of transit trips are greater than 5 miles while only about 30 percent of total trips are greater than 5 miles. Transit market shares for trips less than 5 miles are only about 2 percent while transit market shares for trips greater than 5 miles are about 6 percent. See, e.g., *NextGen Bus Restructuring Study: Task 2.3 Market Demand Assessment*, Table 5.1.

Figure 1 Burbank Market Trends Map



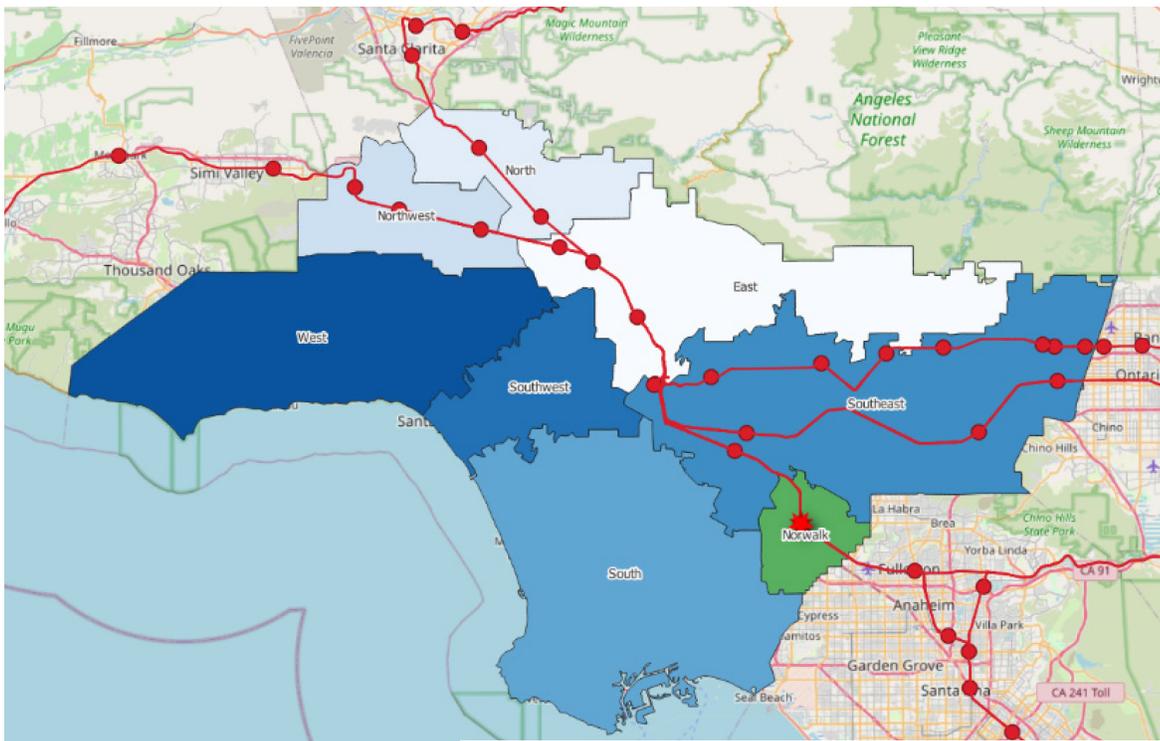
Source: Source: CR Associates and Cambridge Systematics, 2022

Figure 2 Van Nuys Market Trends Map



Source: Source: CR Associates and Cambridge Systematics, 2022

Figure 3 Norwalk Market Trends Map



Source: Source: CR Associates and Cambridge Systematics, 2022

NextGen data for LA County and survey data for Metrolink were used to generate demand between each area.

After breaking down demand into major regions, the 1-mile buffers were drawn around each station and analyzed at a more granular level. Demand between each of the three stations to/from neighborhoods within LA County were examined (LA County was split into about 250 neighborhoods) and demand to/from counties around the state of California were also examined. This analysis was used to help understand the major markets of demand for each station. The neighborhood analysis within LA County was performed using *NextGen* data while the county-level analysis of the entire state was performed using the statewide model.

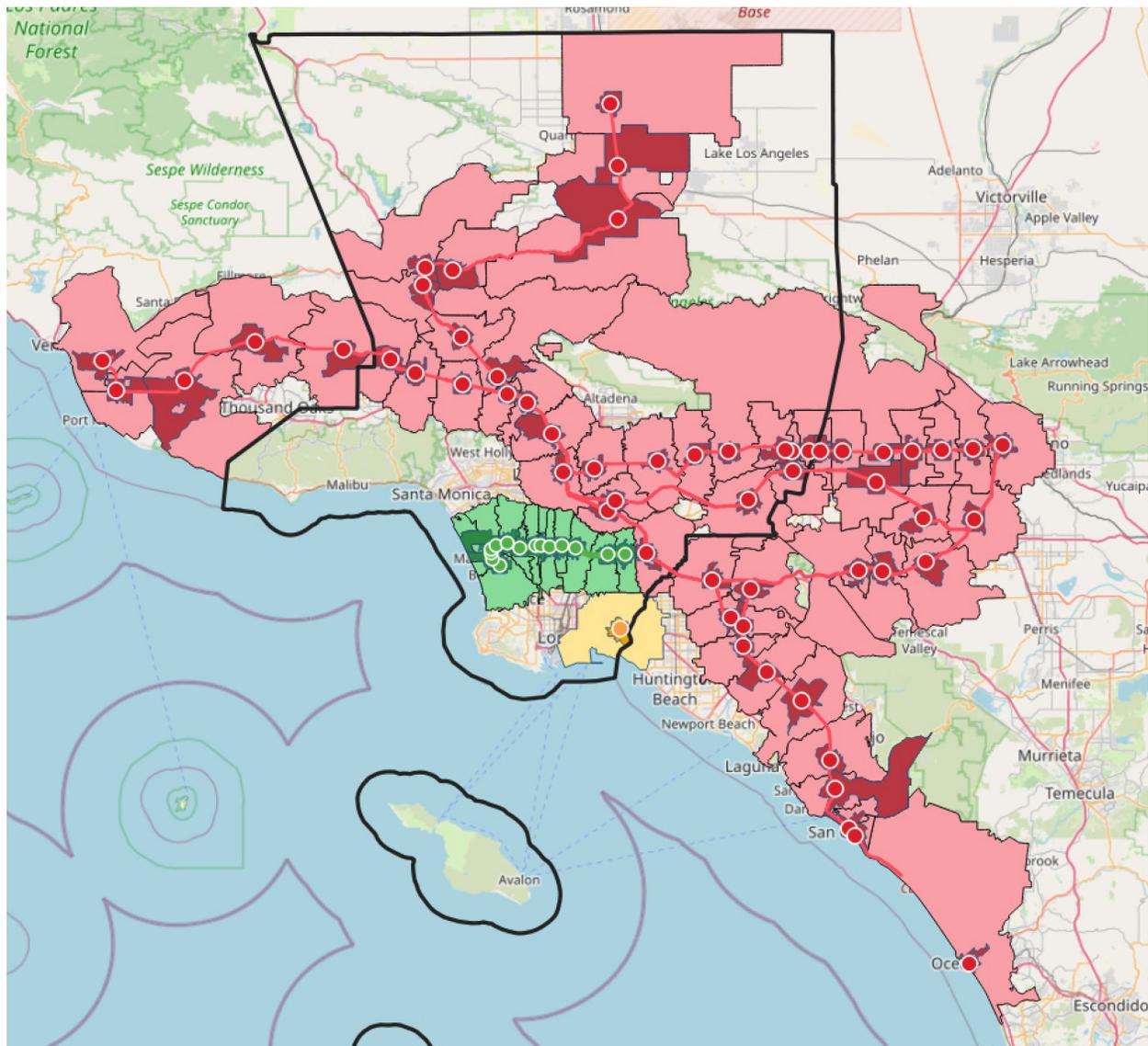
As a final step in analyzing market trends more generally within LA County, the *NextGen* data was used to analyze neighborhood to neighborhood flows. Top origin-destination (O-D) pairs were identified as ones with the highest flows. In addition to analyzing the top O-D pairs, O-D pairs were split by the percentage of flows made by equity populations using the following groups: equity percentage less than 30 percent, equity percentage between 30 and 50 percent, and equity percentage greater than 50 percent.

Corridor Analysis

In order to analyze key corridors of the Metrolink service area, each Metrolink station in the region was analyzed. Buffers of one and five miles around each station were developed and trips with origins and/or destinations within those buffers were identified. The *NextGen* data was available at the geography of Block Groups, so any block group that had any part of its geography inside a buffer was considered to be part of that buffer. In cases where Block Groups fell into multiple buffers, the station buffer whose center was closest to the geometric centroid of the Block Group was selected as the station buffer that Block Group belonged to.

In addition to the Metrolink stations, station buffers of one and five miles were drawn around the Metro C Line (Green). The Metro C Line (Green) service currently does not connect directly to the Metrolink Orange County line but has a terminus that is two to three miles from the Norwalk Orange County line station, and is thus, of particular interest to this study. Station buffers of one and five miles were also drawn around the center of the California State University Long Beach (CSULB) campus, which is also an area of interest for this study. Station buffers for Metrolink stations and Metro C Line (Green) stations in LA County are shown in **Figure 4** below:

Figure 4 One and Five Mile Station Buffers for Rail System Stations



Source: Source: CR Associates and Cambridge Systematics, 2022

***Note that Metrolink stations are shown in red, Metrorail Green Line stations are shown in green, and Cal State Long Beach is shown in yellow. For each station, the 1-mile buffer is colored in a dark shade and the 5-mile buffer is colored in a lighter shade.*

Once trips to and from these station buffers were identified using *NextGen* and survey data, a similar analysis was performed for the statewide model. Since the statewide model uses a custom zone system (and not Census Block Group geographies), the zones of the model substituted for Block Groups in this analysis. In addition to generating station to station flows with the statewide model, flows between stations and each county in the state were generated.

Finally, markets were defined by aggregating flows into corridors. The following corridors were used:

- Los Angeles Union Station (US). Due to high volumes at this station buffer, it was treated as its own corridor.

- Antelope Valley / Ventura County (AV/VC). This included stations common to both Metrolink lines (i.e., Glendale and Downtown Burbank).
- Antelope Valley (AV). This included the remaining stations on the Antelope Valley line.
- Ventura County (VC). This included the remaining stations on the Ventura County line.
- San Bernardino County (SB). All stations on the San Bernardino County line.
- Riverside County (RC). All stations on the Riverside County line excluding the terminus at downtown Riverside.
- Orange County (OC). All stations on the Orange County line.
- Perris Valley (PV). All stations on the Perris Valley line that are not shared with the Orange County line, including the downtown Riverside station.
- Metro C Line (Green) – East (GL-E). All Metro C Line (Green) Line station east of the Aviation/LAX station.
- Metro C Line (Green) – LAX (GL-LAX). The Aviation/LAX station only.
- Metro C Line (Green) – West (GL-W). All Metro Green Line stations west of the I-405.
- California State Long Beach (CSULB). A single market for the Cal State Long Beach campus that includes the VA Hospital (VA Long Beach Healthcare System).

Corridor to corridor flows were then analyzed to determine key markets to examine further as part of the current study.

Market Analysis

The results of the analyses provided useful information for identifying key markets for further analysis in subsequent tasks of the project.

Market Trends

Table 1 shows the results of the broad market trends analysis. This analysis shows general demand patterns of trips that start or end at and around the three stations of interest to this study. Table 1 is broken into three sections, one for each station. Burbank station is shown in the first segment of the table, Van Nuys in the middle segment, and Norwalk in the last segment.

Norwalk station has some of the largest markets, with flows between Norwalk and the south region of LA County numbering nearly 60,000 daily trips (weekday, all purposes) each and flows between Norwalk and the southeast region numbering about 35,000 daily trips each. However, the demand flows between the Norwalk station and other areas of LA County are much lower (none of the flows has a demand greater than 10,000 daily trips). For this analysis, the stations were defined by the collection of Census Block Groups that include the station as well as Block Groups in the immediate vicinity. While the collection of Block Groups included for each station was subjective, it generally included all Block Groups within one mile of the station but generally did not include Block Groups more than five miles away.

Burbank and Van Nuys stations have demand patterns that are broader and less well defined. For instance, the Burbank area demand between the East, Southwest, Northwest, and Southeast regions of LA County are all between 18,000 and 29,000 trips per day. In total, several observations can be made about these demand patterns:

- The Burbank area demand was found to have total demand of approximately 250,000 trips on an average day while both Van Nuys and Norwalk were found to have total demand of about 225,000 trips each on an average day.
- Transit demand was found to be highest for Burbank station overall, with about 17,000 total transit trips to/from the area and Van Nuys has nearly as many transit trips (16,000). Norwalk station had much lower existing transit share with only 6,000 average weekday trips occurring on transit.
- Van Nuys has the highest share of trips made by equity populations of about 36 percent compared to about 20-25 percent for the other two stations (Burbank and Norwalk).
- The single highest average weekday demands are between the Norwalk area and the south region of LA County with nearly 60,000 trips per day.

Table 1 Market Trends Analysis – Average Weekday (trips > 5 mi)

Origin	Destination	Daily (weekday) Trips			Market Shares		
		Total Daily Trips	Peak ¹	Metrolink	Non-Metrolink Transit	Equity ²	Work
Burbank	East	28,689	54%	0.1%	6%	22%	32%
East	Burbank	28,065	56%	0.0%	6%	22%	36%
Burbank	Southwest	21,150	54%	0.1%	9%	31%	35%
Burbank	Northwest	20,998	54%	0.2%	6%	26%	34%
Northwest	Burbank	20,702	56%	0.3%	6%	26%	34%
Southwest	Burbank	20,237	52%	0.3%	9%	30%	35%
Southeast	Burbank	18,847	53%	1.1%	10%	28%	35%

¹ Includes AM Peak (6:00 – 9:30 AM) and PM Peak (2:00 – 6:30 PM).

² Equity is defined using the following:

- More than 40% of households are low-income AND
- Either more than 80% of households are non-white OR
- More than 10% have no access to a vehicle

Origin	Destination	Daily (weekday) Trips			Market Shares		
		Total Daily Trips	Peak ¹	Metrolink	Non-Metrolink Transit	Equity ²	Work
Burbank	Southeast	18,609	51%	0.8%	9%	29%	32%
Burbank	North	14,455	49%	0.0%	2%	16%	28%
North	Burbank	13,195	57%	0.1%	2%	16%	33%
Burbank	South	11,473	44%	0.2%	7%	39%	32%
South	Burbank	11,032	49%	0.1%	11%	36%	34%
West	Burbank	10,886	56%	0.1%	6%	13%	31%
Burbank	West	10,559	56%	0.1%	5%	12%	34%
Burbank	Burbank	332	41%	0.0%	2%	15%	16%
Southwest	Van Nuys	27,616	51%	0.0%	9%	42%	32%
Van Nuys	Southwest	26,661	56%	0.0%	11%	42%	35%
East	Van Nuys	25,796	54%	0.0%	5%	33%	33%
Van Nuys	East	25,395	55%	0.0%	6%	34%	33%
West	Van Nuys	14,861	59%	0.0%	6%	31%	34%
Van Nuys	West	14,199	61%	0.0%	6%	31%	38%
Van Nuys	Northwest	14,041	54%	0.0%	8%	30%	35%
Northwest	Van Nuys	13,841	57%	0.0%	9%	29%	32%

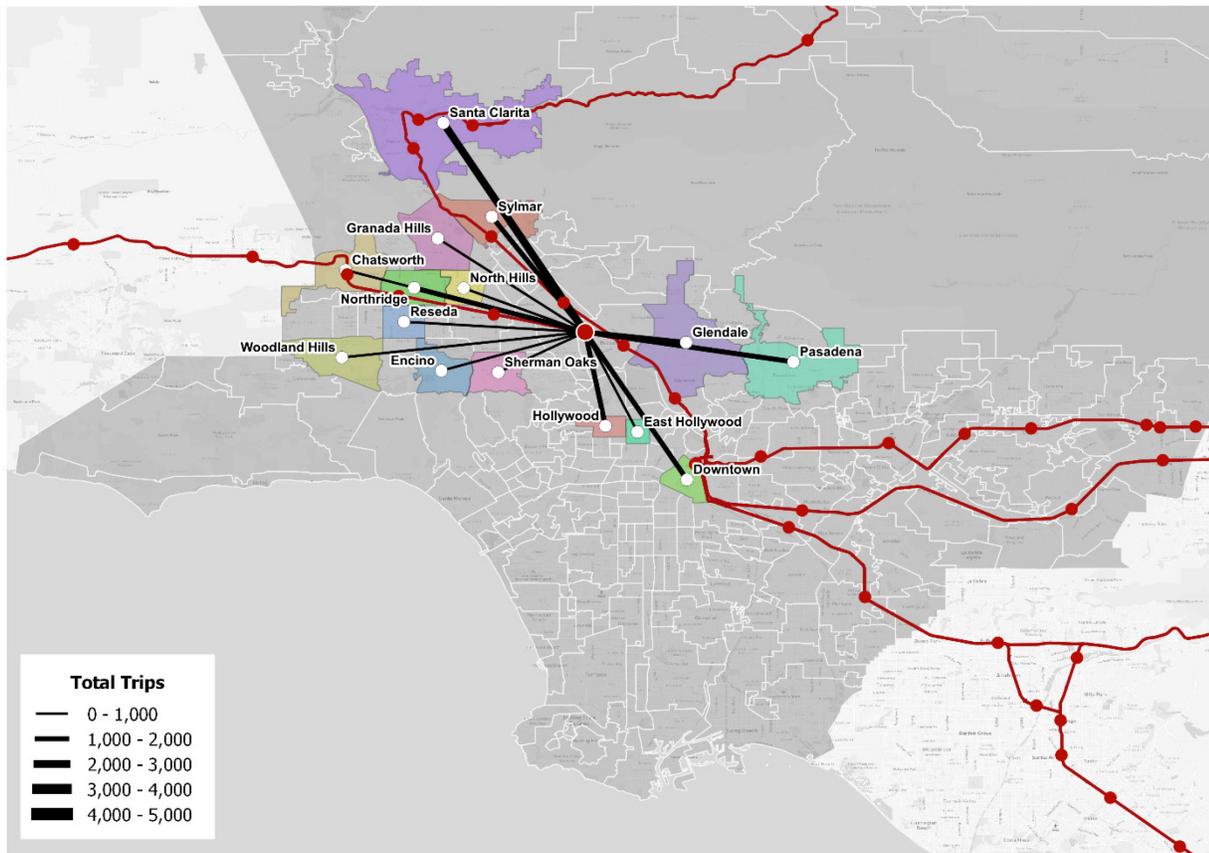
Origin	Destination	Daily (weekday) Trips			Market Shares		
		Total Daily Trips	Peak ¹	Metrolink	Non-Metrolink Transit	Equity ²	Work
Van Nuys	North	11,770	55%	0.0%	3%	31%	31%
North	Van Nuys	11,378	56%	0.0%	3%	31%	34%
Southeast	Van Nuys	9,736	49%	0.0%	9%	39%	31%
South	Van Nuys	9,469	43%	0.0%	4%	43%	25%
Van Nuys	Southeast	9,199	51%	0.0%	12%	39%	32%
Van Nuys	South	8,862	45%	0.0%	3%	44%	25%
Van Nuys	Van Nuys	125	55%	0.0%	2%	29%	39%
South	Norwalk	59,391	52%	0.0%	2%	23%	35%
Norwalk	South	58,419	53%	0.0%	3%	25%	35%
Norwalk	Southeast	34,928	52%	0.0%	2%	22%	34%
Southeast	Norwalk	34,132	51%	0.0%	2%	21%	35%
Norwalk	East	8,857	52%	0.0%	3%	17%	34%
East	Norwalk	8,818	52%	0.0%	2%	16%	35%
Southwest	Norwalk	8,399	47%	0.0%	5%	24%	35%
Norwalk	Southwest	8,230	46%	0.0%	7%	28%	33%
Norwalk	Norwalk	1,667	52%	0.0%	0%	5%	26%

Origin	Destination	Daily (weekday) Trips			Market Shares		
		Total Daily Trips	Peak ¹	Metrolink	Non-Metrolink Transit	Equity ²	Work
Norwalk	Northwest	862	48%	0.0%	1%	13%	28%
Northwest	Norwalk	851	41%	0.0%	1%	20%	30%
West	Norwalk	850	50%	0.0%	1%	9%	28%
Norwalk	West	697	40%	0.0%	2%	8%	33%
Norwalk	North	624	34%	0.0%	0%	19%	17%
North	Norwalk	576	50%	0.0%	0%	15%	27%

As described earlier, a 1-mile station buffer was developed around each of the three stations (Burbank, Norwalk, Van Nuys) and the top flows between each station and other neighborhoods within LA County and the top flows between each station and counties around the state of California were analyzed.

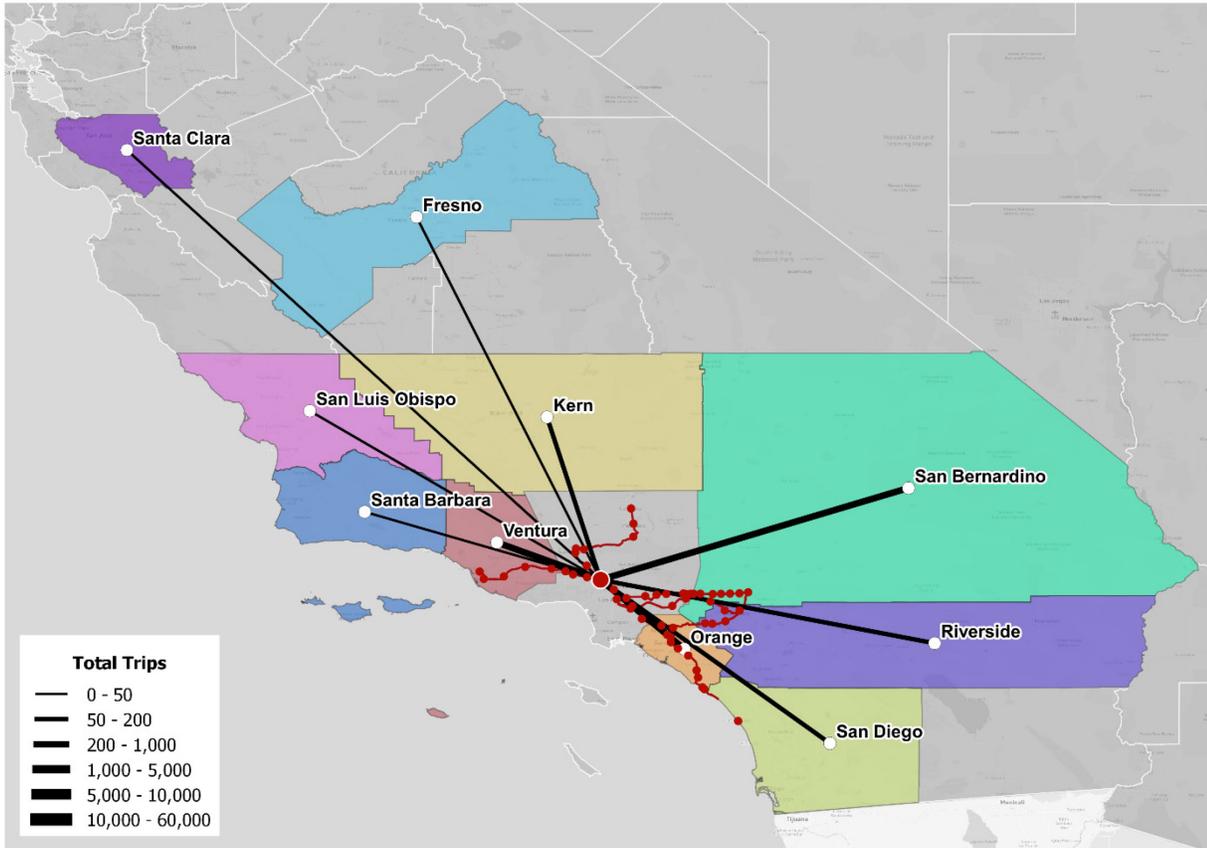
Figure 5 shows the station level neighborhood analysis for Burbank station and **Figure 6** shows the station level county analysis for Burbank. Some of the largest markets for trips to/from the Burbank station area are Santa Clarita, Sylmar, Glendale, and Pasadena. The county-level analysis for the Burbank station shows relatively low levels of long-distance travel with more local travel being predominate (e.g., from neighboring counties like San Bernardino, Ventura, and Kern).

Figure 5 Burbank Station Top Neighborhood Flows within LA County (trips > 5 mi)



Source: Source: CR Associates and Cambridge Systematics, 2022

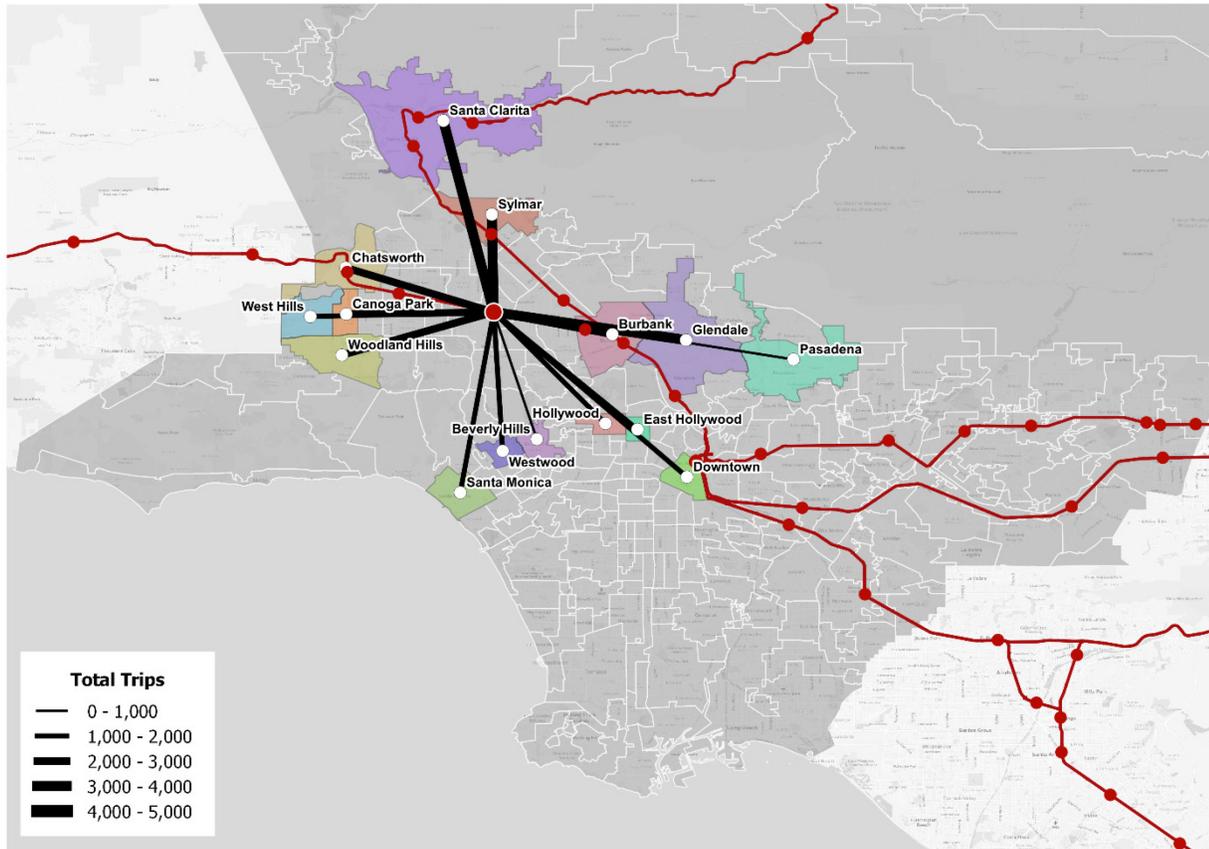
Figure 6 Burbank Station Top County Flows around California



Source: Source: CR Associates and Cambridge Systematics, 2022

Figure 7 shows the station level neighborhood analysis of trips greater than 5 miles for the Van Nuys station. Like Burbank station, Van Nuys has large markets with some similar neighborhoods like Santa Clarita, Sylmar, and Glendale. Unlike Burbank station where the majority of top neighborhoods lied to the west and northwest of the station, the Van Nuys station demand is more concentric with high levels of demand with neighborhoods in each direction from the station.

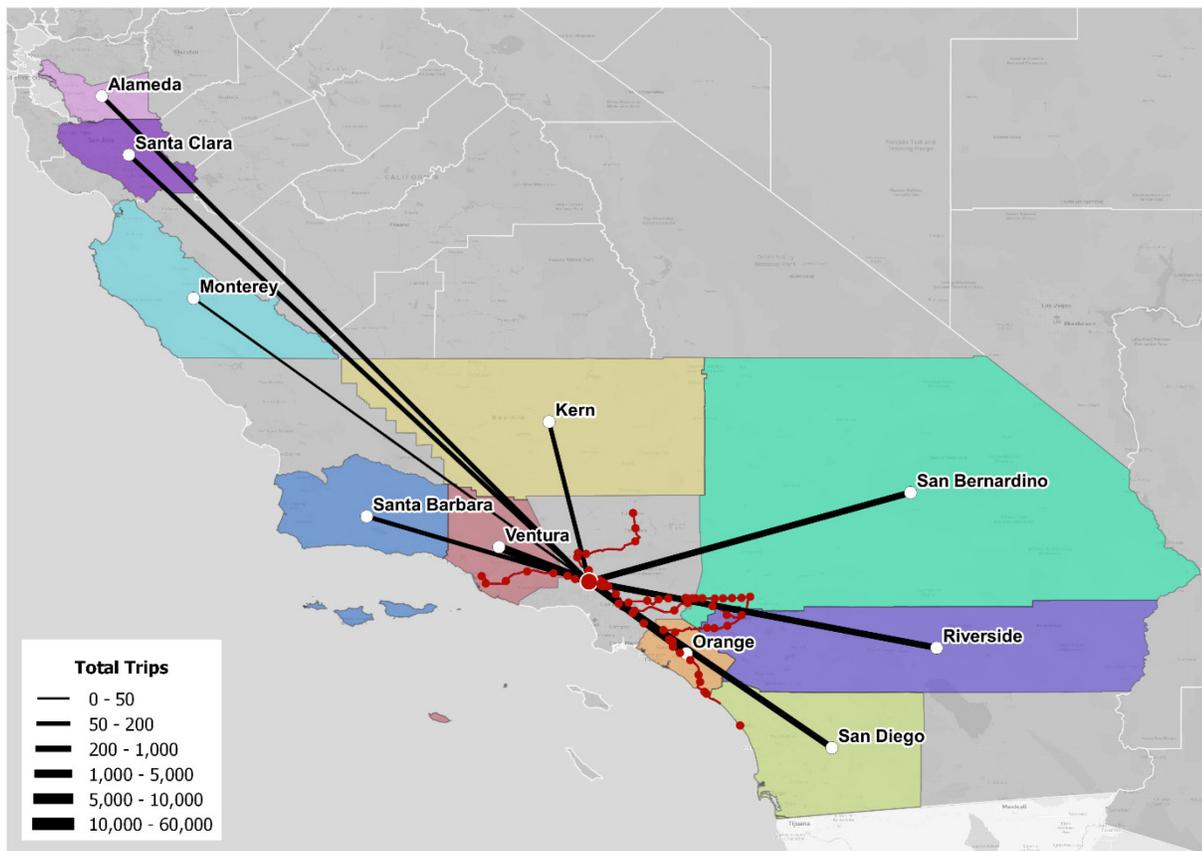
Figure 7 Van Nuys Station Top Neighborhood Flows within LA County (trips > 5 mi)



Source: Source: CR Associates and Cambridge Systematics, 2022

The county-level analysis for the Van Nuys station is shown in **Figure 8**. Not surprisingly, similar patterns that were observed for Burbank appear for Van Nuys here. The majority of trips coming to/from Van Nuys from areas outside LA County are local trips, like those to/from Ventura, Kern, and San Bernardino Counties. Long-distance trip markets are considerably smaller (e.g., to/from the Central Valley and the Bay Area).

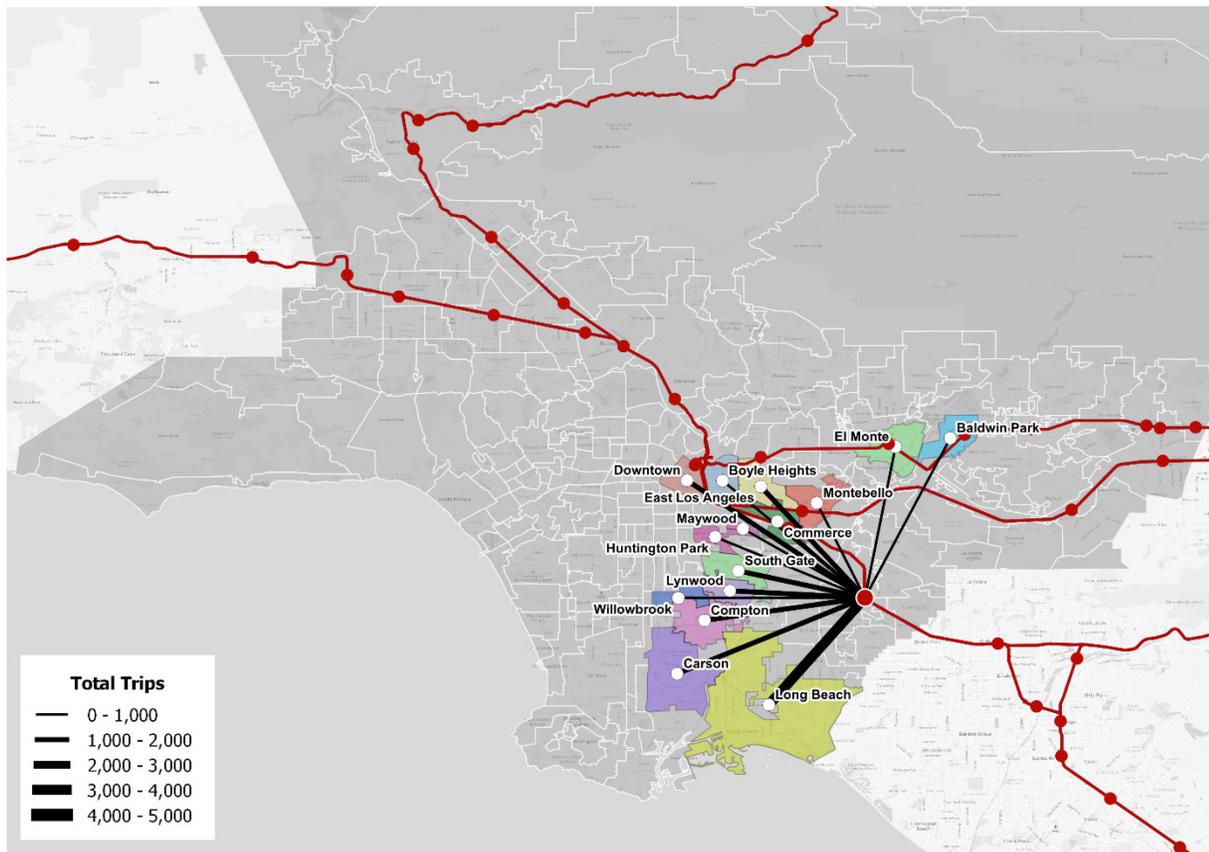
Figure 8 Van Nuys Station Top County Flows around California



Source: Source: CR Associates and Cambridge Systematics, 2022

The analysis of neighborhood to Norwalk station flows (of length 5 miles or greater) are shown in **Figure 9**. The single largest neighborhood market for the Norwalk station buffer is the Long Beach neighborhood. Furthermore, there appears to be relatively high levels of demand between Norwalk and various neighborhoods directly to the west, southwest, and northwest, including downtown. While the northwest direction is served by the Orange County Metrolink line and the west direction is served by the Metrorail C Line (Green), the southwest direction transit services have less frequency.

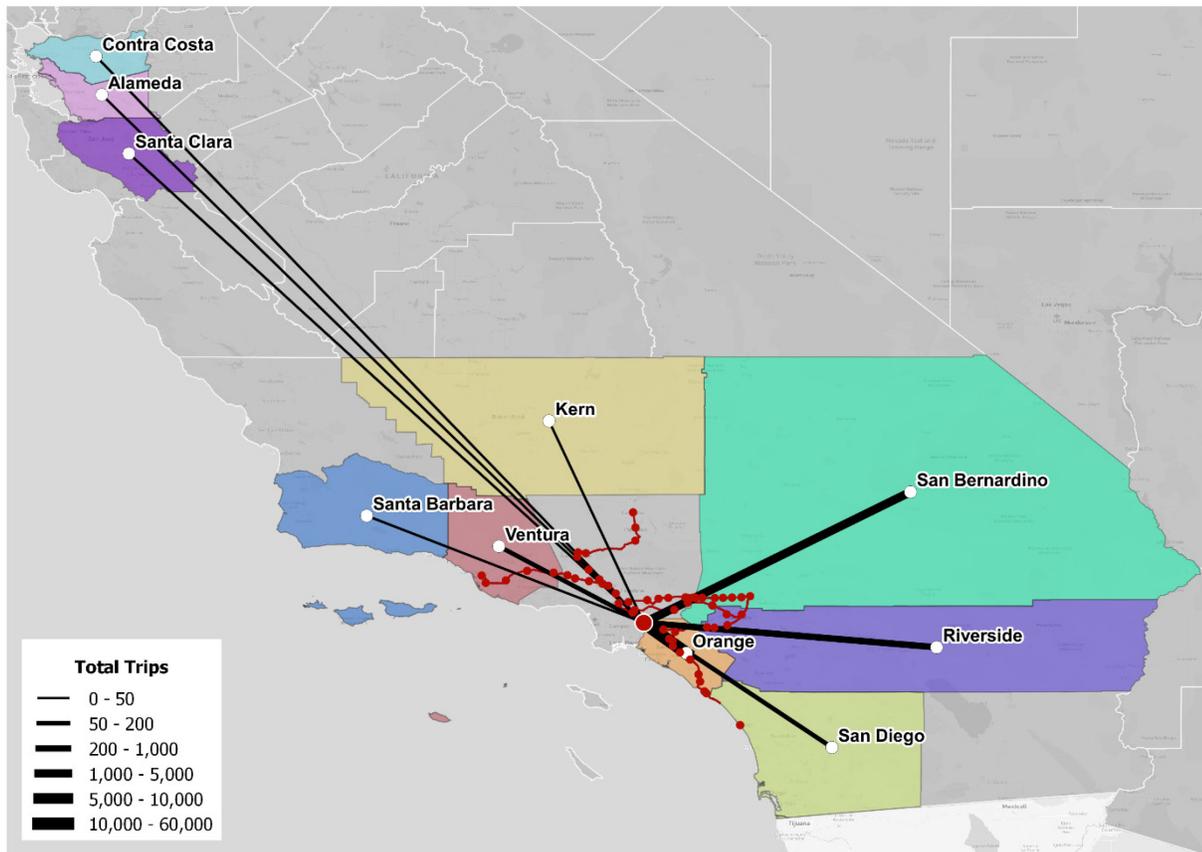
Figure 9 Norwalk Station Top Neighborhood Flows within LA County (trips > 5 mi)



Source: Source: CR Associates and Cambridge Systematics, 2022

Figure 10 shows the county-level analysis (of trips with one end outside of LA County) for the Norwalk station. The market between Orange County and the Norwalk Station is particularly strong, with 30,000 trips, which is likely because of the geographic proximity of Orange County with respect to Norwalk station. Other local counties also have relatively strong markets (e.g., Riverside and San Bernardino). Long-distance trip markets beyond the SCAG region are considerably less than the counties near Los Angeles.

Figure 10 Norwalk Station Top County Flows around California

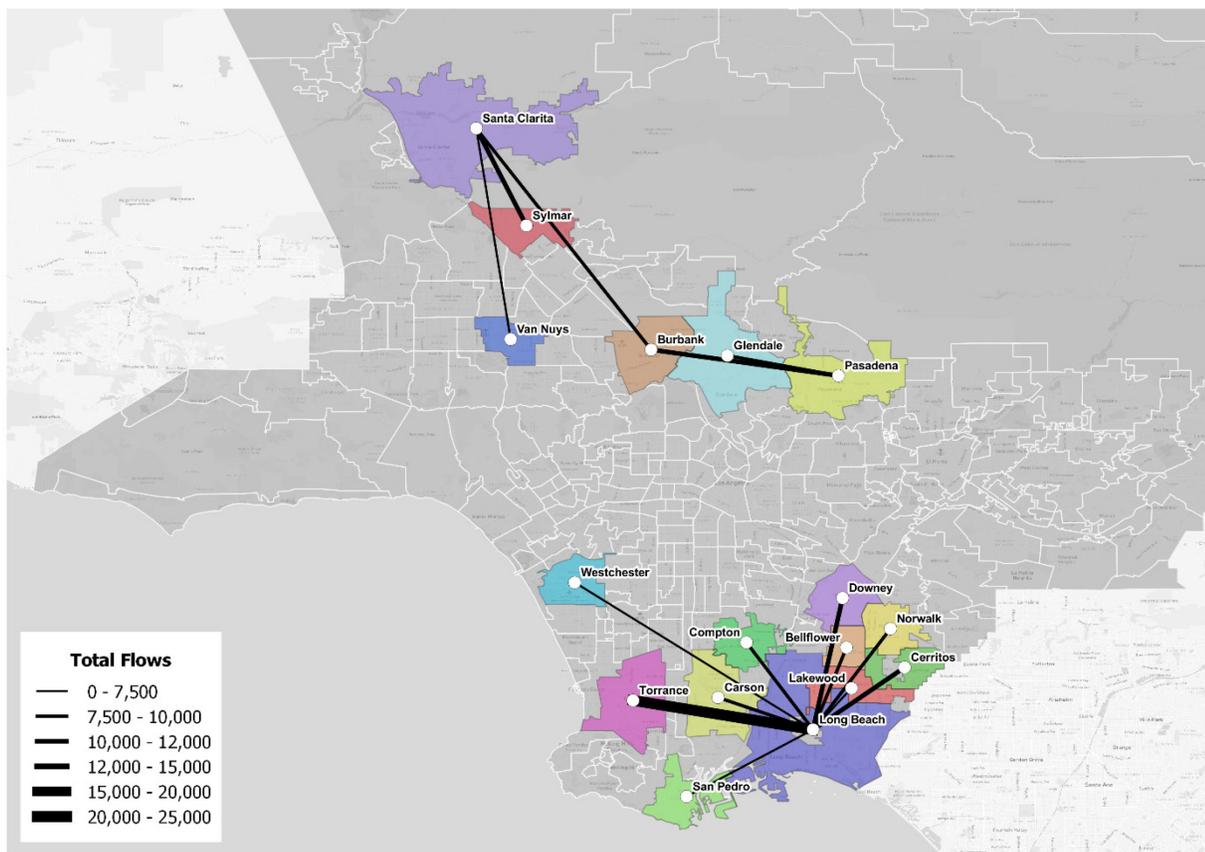


Source: Source: CR Associates and Cambridge Systematics, 2022

In addition to looking at markets between neighborhoods and the three specific stations of interest to this study, neighborhood-to-neighborhood flows of trips greater than 5 miles were also studied. **Figure 11** shows the top overall neighborhood-to-neighborhood flows of trips greater than 5 miles. Several things stand out from examining these trends:

- Long Beach is a major regional market. This is partially because the size of the City of Long Beach, and major attractors, such as the Port and Cal State Long Beach, is relatively large, but this serves to reinforce previous findings that the Long Beach area is an important market in the region.
- Flows between key northern neighborhoods are also strong, including Santa Clarita, Sylmar, Burbank, Glendale, and Pasadena.

Figure 11 Top Overall Neighborhood Flows in LA County (trips > 5 mi)

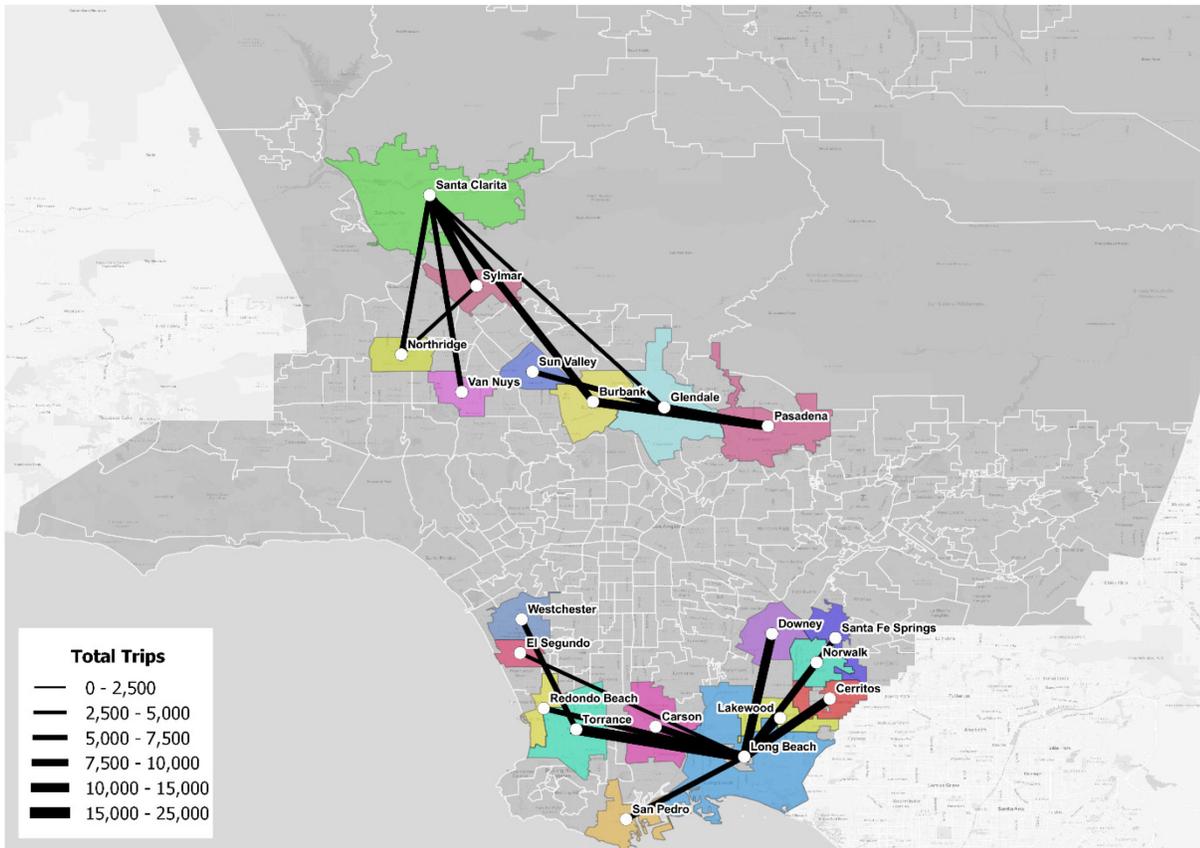


Source: Source: CR Associates and Cambridge Systematics, 2022

In order to further examine the demand patterns, markets were split between equity classification by classifying each neighborhood-to-neighborhood interchange as having 1) less than 30 percent equity trips, 2) 30 to 50 percent equity trips, 3) greater than 50 percent equity trips. For instance, in the last category, the study looked only at neighborhood-to-neighborhood pairs where the data suggests that 50% or more trips between those neighborhoods were made by equity travelers.

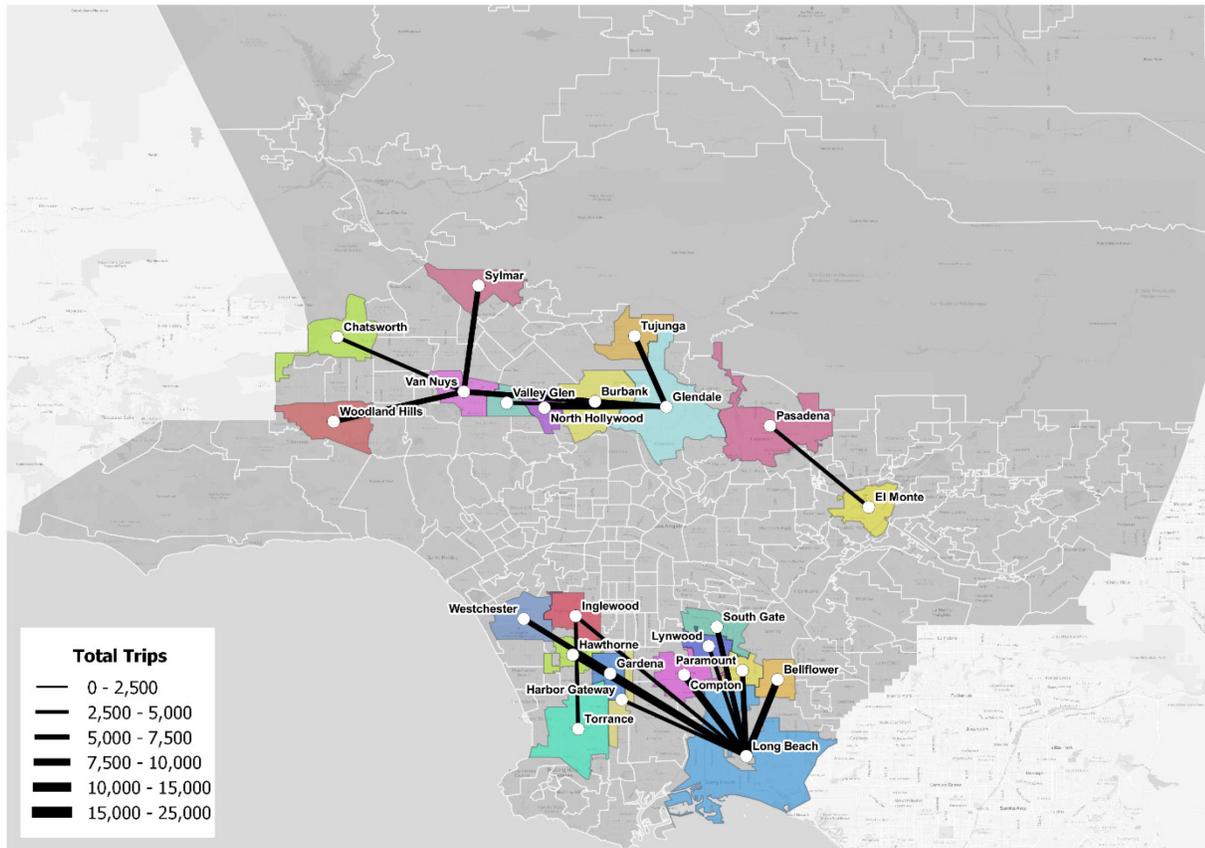
Figure 12, Figure 13, and Figure 14 show these results, respectively. In the first two figures, similar patterns emerge with Long Beach playing an outsized role and flows between northern LA County neighborhoods showing strong demand levels. However, when one focuses on travelers from EFCs (Figure 14), slightly different patterns emerge (though overall flow levels are also lower). Many more central LA County neighborhoods show up as being important, especially flows between those neighborhoods and some of the larger ones already noted (like Long Beach and Burbank). EFCs' populations are important because they often are more reliant on public transportation options.

Figure 12 Top Neighborhood Flows in LA County where Equity Percentage is Less than 30 (trips > 5 mi)



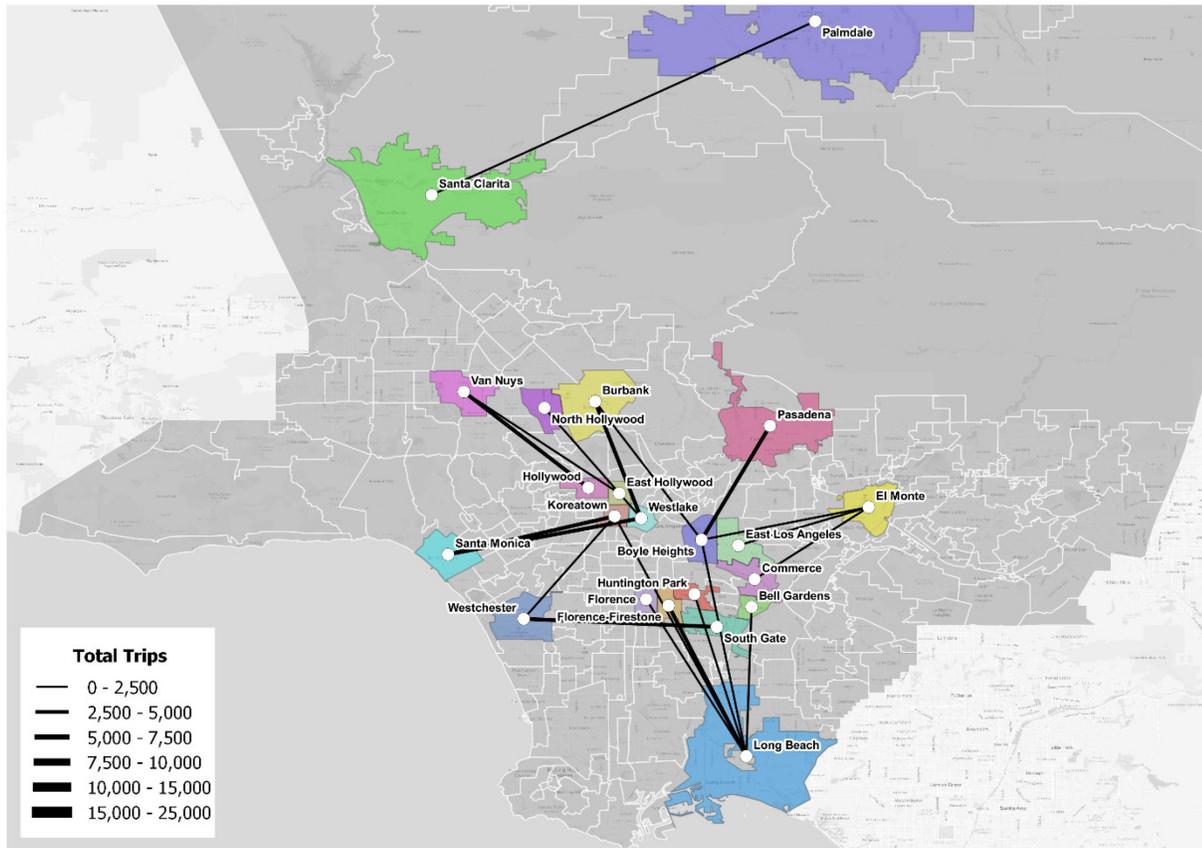
Source: Source: CR Associates and Cambridge Systematics, 2022

Figure 13 Top Neighborhood Flows in LA County where Equity Percentage is 30 to 50 percent (trips > 5 mi)



Source: Source: CR Associates and Cambridge Systematics, 2022

Figure 14 Top Neighborhood Flows in LA County where Equity Percentage is Greater than 50 (trips > 5 mi)



Source: Source: CR Associates and Cambridge Systematics, 2022

Corridor Analysis

The corridor analyses focused more on the demand patterns between key corridors where Metrolink service currently exists. In order to account for service outside of LA County, the *NextGen* data was combined with baseline flow estimates derived from the California Statewide model (as described in the methods section). In these analyses, each corridor is defined by the set of stations composing that corridor and buffers of either one mile or five miles around those stations.

Table 2 shows the results of this analysis. Several rows are highlighted that indicate markets where overall demand is highest that may be worth exploring in more detail as part of subsequent tasks of this study. Key findings include the following:

- Strong overall demand exists between the shared portions of the Antelope Valley and Ventura County lines and the non-shared portions (using 1-mile buffers, 6,000 trips between the shared portions of these lines and non-shared portion of Antelope Valley line and 7,000 trips between shared portions of these lines and non-shared portion of the Ventura County line). Given that these flows fall on existing services, they are likely not good candidates for further analysis in this study.
- Demand between the non-shared portions of Antelope Valley and Ventura County lines is even stronger (about 25,000 trips per day in the 1-mile buffers). Furthermore, the existing transit share in this market is low (only 1 percent) suggesting that improving the connectivity between these two

Metrolink lines could increase transit ridership, capturing the existing travel market. Based on these results, this corridor is one that is recommended to examine closely in Task 3.

- There are several strong markets for the San Bernardino County line corridor, including with Riverside County, Orange County, and Perris Valley lines. Because these three lines are all close in geography to one another, a large portion of these trips are not good candidates for further analysis of interlining rail service. The San Bernardino to Orange County movement is not recommended for further analysis since the natural point of connection between these two corridors would be Union Station where service is already provided.
- Similar to the San Bernardino County line corridor, the Riverside County line displays strong demand patterns with Orange County and Perris Valley lines. Again, due to the somewhat parallel geometries of these lines and proximity, these are not recommended for further examination in Task 3.
- Movements between the Orange County line and the Metro C Line (Green) are quite strong with very low transit market share. This is a market with a close rail connection between the lines since the terminus of the Metro C Line (Green) Line is about 2.8 miles away from the Norwalk station on the Orange County line. As a result, it is recommended that this market be examined in more detail for Task 3.
- The movement between Orange County and Cal State Long Beach area is also somewhat strong (about 10,000 trips using 1-mile buffer). The Cal State Long Beach market is one in which further investigation may be warranted pending consultation with Metro.
- Analysis of the Aviation/LAX station on the Metro C Line (Green) revealed that while the Aviation/LAX station draws a relatively large number of trips on an average day, there are no specific new markets that have particularly high demand levels. As a result, LAX is not recommended for further study.

Table 2 Corridor Analysis – Average Weekday (trips > 5 mi)

Segment1	Segment2	Peak + Offpeak					
		1-mile buffer			5-mile buffer		
		Total Trips	ML%	Trn%	Total Trips	ML%	Trn%
US	US	0	n/a	n/a	0	n/a	n/a
US	AV/VC	3,152	1%	10%	55,186	1%	10%
US	AV	4,528	6%	14%	59,277	4%	18%
US	VC	2,761	2%	21%	61,654	1%	19%
US	SB	7,447	4%	18%	115,259	2%	15%
US	RC	2,579	4%	10%	32,808	5%	11%
US	OC	2,411	1%	5%	65,191	1%	5%
US	GL-E	8,678	0%	24%	125,642	0%	16%
US	GL-LAX	1,777	0%	11%	25,082	0%	7%
US	GL-W	1,457	0%	13%	35,795	0%	7%

Segment1	Segment2	Peak + Offpeak					
		1-mile buffer			5-mile buffer		
		Total Trips	ML%	Trn%	Total Trips	ML%	Trn%
US	Perris	440	0%	0%	6,169	0%	0%
US	CalSt LB	335	0%	3%	20,579	0%	17%
AV/VC	AV/VC	23	0%	3%	8,742	0%	2%
AV/VC	AV	6,146	0%	3%	95,517	1%	4%
AV/VC	VC	7,039	0%	3%	122,325	0%	5%
AV/VC	SB	3,039	0%	3%	87,613	0%	5%
AV/VC	RC	1,121	0%	2%	15,205	2%	5%
AV/VC	OC	1,331	0%	1%	26,828	0%	2%
AV/VC	GL-E	1,748	1%	5%	47,959	0%	11%
AV/VC	GL-LAX	841	0%	0%	12,239	0%	3%
AV/VC	GL-W	457	0%	2%	12,449	0%	4%
AV/VC	Perris	264	0%	0%	3,339	0%	0%
AV/VC	CalSt LB	68	0%	0%	6,426	0%	6%
AV	AV	10,326	1%	1%	93,962	1%	1%
AV	VC	24,590	0%	1%	243,091	0%	3%
AV	SB	2,462	1%	2%	36,404	1%	4%
AV	RC	677	0%	2%	5,164	1%	4%
AV	OC	732	1%	1%	11,343	1%	2%
AV	GL-E	1,418	0%	4%	19,866	1%	9%
AV	GL-LAX	952	0%	1%	8,020	0%	1%
AV	GL-W	599	0%	1%	5,995	0%	3%
AV	Perris	188	0%	0%	1,716	0%	0%
AV	CalSt LB	50	0%	0%	2,913	1%	5%
VC	VC	134,498	0%	0%	905,688	0%	0%
VC	SB	1,572	0%	1%	29,834	0%	2%
VC	RC	614	0%	1%	5,499	1%	2%

Segment1	Segment2	Peak + Offpeak					
		1-mile buffer			5-mile buffer		
		Total Trips	ML%	Trn%	Total Trips	ML%	Trn%
VC	OC	743	0%	0%	11,305	0%	1%
VC	GL-E	1,225	0%	3%	25,690	0%	5%
VC	GL-LAX	748	0%	1%	13,324	0%	1%
VC	GL-W	575	0%	0%	10,260	0%	1%
VC	Perris	217	0%	0%	1,741	0%	0%
VC	CalSt LB	75	0%	0%	3,155	0%	2%
SB	SB	172,296	0%	0%	1,525,852	0%	0%
SB	RC	81,266	0%	0%	654,388	0%	0%
SB	OC	17,827	0%	0%	242,590	0%	0%
SB	GL-E	5,686	0%	6%	89,700	0%	4%
SB	GL-LAX	1,304	0%	3%	11,637	0%	2%
SB	GL-W	1,073	1%	9%	14,948	0%	3%
SB	Perris	47,899	0%	0%	418,579	0%	0%
SB	CalSt LB	640	0%	3%	17,833	0%	1%
RC	RC	6,680	0%	0%	149,552	0%	0%
RC	OC	16,140	0%	0%	237,133	0%	0%
RC	GL-E	3,065	0%	2%	31,798	0%	2%
RC	GL-LAX	773	0%	0%	3,261	0%	1%
RC	GL-W	358	0%	2%	4,286	0%	1%
RC	Perris	38,814	0%	0%	399,422	0%	0%
RC	CalSt LB	432	0%	0%	7,920	0%	1%
OC	OC	241,721	0%	0%	3,317,876	0%	0%
OC	GL-E	19,744	0%	1%	302,010	0%	1%
OC	GL-LAX	958	0%	1%	11,651	0%	2%
OC	GL-W	1,693	0%	1%	34,386	0%	0%
OC	Perris	65,862	0%	0%	773,140	0%	0%

Segment1	Segment2	Peak + Offpeak					
		1-mile buffer			5-mile buffer		
		Total Trips	ML%	Trn%	Total Trips	ML%	Trn%
OC	CalSt LB	9,628	0%	0%	403,651	0%	0%
Perris	Perris	94,862	0%	0%	688,438	0%	0%
Perris	GL-E	3,350	0%	0%	31,023	0%	0%
Perris	GL-LAX	64	0%	0%	705	0%	0%
Perris	GL-W	294	0%	0%	3,453	0%	0%
Perris	CalSt LB	1,122	0%	0%	27,995	0%	0%
GL-E	GL-E	3,818	0%	20%	85,959	0%	6%
GL-E	GL-LAX	5,965	0%	17%	41,929	0%	7%
GL-E	GL-W	4,647	0%	20%	76,031	0%	5%
GL-E	CalSt LB	2,602	0%	7%	101,533	0%	5%
GL-LAX	GL-LAX	0	n/a	n/a	0	n/a	n/a
GL-LAX	GL-W	0	0%	0%	8,915	0%	0%
GL-LAX	CalSt LB	261	0%	1%	8,591	0%	4%
GL-W	GL-W	0	n/a	n/a	3,514	0%	0%
GL-W	CalSt LB	740	0%	1%	28,925	0%	2%