MOBILITY HUB DESIGN AND IMPLEMENTATION GUIDE

Highlighting best practices and approaches for implementing mobility hubs in the SCAG region.

FEBRUARY 2025

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Introduction

Through the Connect SoCal 2024 Regional Transportation Plan/Sustainable Communities Strategy, SCAG continued efforts to substantially and equitably plan for projects to improve mobility and accessibility for travelers using all modes of transportation. Connect SoCal 2024 includes a mobility hubs strategy that encourages multimodal trips for individual commuters while also reducing vehicle miles traveled, single-occupant vehicle use, greenhouse gas emissions, and other transportation emissions that impact air quality.

The SCAG "Mobility Hub Design and Implementation Guide" highlights best practices and approaches for implementing mobility hubs in the SCAG region, providing guidance on how to build out a mobility hub network. This guide discusses locating and prioritizing candidate mobility hub sites, designing and optimizing sites, securing funding, exploring partnership opportunities, and other related topics.

What Are Mobility Hubs?

Mobility hubs provide strategic locations for travelers to easily connect with multiple modes of transportation suited for their needs in a safe, comfortable, and accessible environment. They include a range of transportation options to encourage travelers to use more sustainable transportation modes. A mobility hub can include access to public transit, active transportation (walking and bicycling), micromobility (e.g., scooter share and bikeshare), shared or hailed ride pick up and drop off curb space, and electric vehicle charging stations.

Mobility hubs emphasize easy and safe access for people traveling to and from the mobility hub, high levels of security, comfortable amenities (e.g., benches and seating), and shelter from inclement weather (e.g., heat and rain). Lastly, mobility hubs can also improve the traveler's experience by supporting and integrating ever-evolving transportation technologies through the inclusion of features and services, such as device charging ports, Wi-Fi access, and real-time travel information.

What's the Regional Vision for Mobility Hubs?

Connect SoCal 2024 identified mobility hubs as a regional strategic investment to increase multimodal connectivity, manage the existing transportation system, and improve the traveler experience. Connect SoCal 2024's mobility hubs strategy is built on SCAG's 2022 "Mobility as a Service (MaaS) Feasibility White Paper," which recommended establishing, investing in, and expanding mobility hubs across the region to provide foundational infrastructure that facilitates multimodal travel.

This guide is intended to function as a supportive framework for local implementation. It is meant to equip cities and local partners to conceptualize, design, and implement mobility hubs. SCAG is interested in seeing more hubs established as part of an integrated network of mobility hubs throughout the region that will increase multimodal connectivity for all.

The 2028 Summer Olympic and Paralympic Games, hosted by Los Angeles and the greater region, presents a time-sensitive opportunity to invest in mobility hubs to offer transportation options for athletes, visitors, and residents across the various venues spanning the region for the LA28 Games and into the future.

Why Do Mobility Hubs Matter?

Mobility hubs provide travelers with more transportation options and connections, improving individual travel experience while also benefiting the built and natural environment. More specifically, they:

Support safe and convenient transfers between transportation modes
Hubs should be safe, with good lighting, access points, and visibility.

Provide travel options, especially for those with limited mobility options
Hubs make transportation options accessible for all ages and abilities.

Provide first/last mile connections to transit
Hubs provide seamless transfers, with plenty of transportation options.

Motivate greenhouse gas reductions
Hubs encourage sustainable and energy-efficient modes of travel, as compared to single occupancy vehicle travel.

Promote mode shift
Hubs enable travelers to easily use modes of travel other than driving alone.

Placemaking
A sense of place creates a welcoming and useful space for travelers.

Reduce VMT from land development
New developments can utilize already existing transportation infrastructure.

Mobility Hub Typology

Mobility hubs work best when they are deployed as a seamless and connected network that create convenient access to a variety of transportation modes. The type of mobility hub deployed at a specific location will depend on the characteristics of the surrounding neighborhood, the transportation services available, the space available for developing a mobility hub, and surrounding community needs (e.g., access to jobs and educational opportunities).

Typologies describe mobility hub types across a variety of contexts and help identify the appropriate amenities that work best for the area. SCAG has identified six mobility hub types. Local agencies can utilize the mobility hub definitions below or create their own based on the unique areas in their city or region.

Downtown Hub

Downtown hubs are located in areas that have the highest employment and residential densities with a variety of high-capacity transportation and other mobility options that are easily accessible. They are located in walkable, bike-friendly areas and serve as commercial and cultural activity centers.

Urban Hub

Urban Hubs are located in areas that have moderate to high employment and residential densities. They contain a rich mix of high-capacity transit, frequent bus service, and access to bikeshare, carshare, and other mobility options. The built environment is walkable and bike-friendly.

Emerging Urban Hub

Emerging Urban Hubs have low to moderate employment and residential densities with access to high-capacity transit and local bus service, as well as limited share mobility services. These are smaller communities with low to moderate economic activity.

Suburban and Rural Hub

Suburban Hubs are located in areas that have land uses with relatively low employment and residential densities, and medium population and/or employment numbers today or in the future. These communities may be within driving distance to commuter rail, park-n-ride lots, local bus routes, and carshare. Rural Hubs may have rideshare or vanpool.

Equity Hub

Equity Hubs are located in moderate to high residential density areas which are communities of concern, and which may find elevated benefits from reliable transit service, bus routes, or shared mobility.

Institutional Hub

Institutional Hubs are large trip generators including universities, hospitals, stadiums, airports, and employer campuses. They may be located in a variety of environments including areas with high-capacity transit service and local bus routes. They tend to be removed from other high-intensity uses and can be challenging to access.

Other agencies in the SCAG region have developed similar typologies for mobility hubs, as described in the following table. While assigning typologies is not required for developing local mobility hubs, it can clarify and determine what amenities should be considered as critical (a "must-have") and what others are desirable (a "nice to have").

Exhibit 1 Mobility Hub Typologies Throughout the SCAG Region

Agency/Document	Mobility Hub Typologies	Description
Caltrans: Statewide Mobility Hub Plan (Draft)	Multimodal High Transit	Transit-adjacent hub supporting high frequency transit with active transportation connections.
	Multimodal Low Transit	Supports or is near local serving transit, with some active transportation components.
	Commuter Rideshare	Commuter rideshare facility that uses managed lanes on the freeway, opportunity for ridesharing.
LADOT: Mobility Hubs: A Reader's Guide	Neighborhood	Smaller ancillary stations found in lower density neighborhoods.
	Central	Encompasses one or more stations/bus stops, located in a more urban context.
	Regional	Largest scale station areas in a dense urban area or end-of-line stations connecting to other regional transit providers.
OCTA: Mobility Hubs Study	Gateways and Regional Activity Centers	Regional rapid transit connectivity with wide sphere of influence.
	Large Trip Generator/Destination	Offers car share, managed loading and servicing, bus stops, information pillar, and other supporting amenities.
	Local Transit Connection	Located in lower population density areas, operating as local community and economic activity centers.
	Neighborhood Center/Community Access	Attached to smaller ancillary station areas in suburbs or more rural areas.
	Virtual Hub	Addresses local connectivity needs, only requiring geofencing and light touch infrastructure.

Getting Started

Building out a productive mobility hub network requires a thoughtful process centered around the needs and desires of intended users. There are multiple ways mobility hub projects can be initiated for planning. An interested public agency can initiate the process internally or externally within their jurisdiction or transportation system. There are also occasions when a local community provides input or voices a need for a mobility hub solution, or there could be an opportunity for public-private partnership or as part of transit-oriented development or mitigation of development impacts. Whatever the reason to get started, the planning process described in this section provides a high-level guide to plan a mobility hub site or network.

Step 1. Plan the Mobility Hub Network

Start by defining customer needs and required functionality, considering both the business and the technical needs of all customers. This step involves identifying the problems or gaps in the transportation system's mobility connections, either today or in the future, that a mobility hub network can help address. The ideal planning process follows a structured, logical approach that is data-driven and grounded in equity. Consider the many recent examples of mobility hub network planning documents from various regions, listed in Appendix A, including the following common steps:

- Define what a mobility hub means for your community
- Develop mobility hub typologies appropriate for your community
- Identify mobility hub locations in your jurisdiction
- Consider existing transportation conditions (e.g., bike and pedestrian infrastructure, transit ridership, transportation parking, etc.)
- Develop conceptual designs and conduct community engagement
- Develop an implementation strategy and program recommendations

As depicted in the workflow above, defining, conceptualizing, and designing a mobility hub, along with understanding commuter and community needs and desires and incorporating them into the design and concept, make up most of the process, exemplifying the importance of investing significant time, energy, and resources in integrating the surrounding community and area into the development of a mobility hub.

Exhibit 2 The Riverside Vine Street Mobility Hub, shown as conceptual design and fully implemented.

Identifying, Prioritizing, and Selecting Projects

In the SCAG region, mobility hubs will need to be implemented around the existing or already planned transportation system. In many cases, mobility hub projects will involve retrofitting, upgrading, improving, modifying, or redeveloping an existing transportation facility, as opposed to developing a new site. Even less ideal locations can still be transformed to change how people utilize transportation and help achieve the desired goals and outcomes.

Through the development of Connect SoCal 2024, SCAG identified more than 700 potential mobility hub locations to assist agencies starting to build mobility hub networks in their respective areas of the region. The larger list of 700 locations was narrowed down to 350 locations, considering factors such as current and future conditions, transit access and connectivity, climate action, and equitable mobility. Considering limitations on resources and funding, locations will not be expected to be implemented simultaneously, and deployment will be strategic and phased out, beginning with the most promising locations that best achieve goals and objectives. Appendix B of this guide provides a regionwide prioritized list to use when

considering potential mobility hub locations in your area of the region or when developing your own prioritized list for a respective jurisdiction.

Facilitating a simple and thorough screening and prioritization process that allows community members and partners to identify the most promising candidates can help build consensus. The following are best practices to consider when prioritizing and selecting a project:

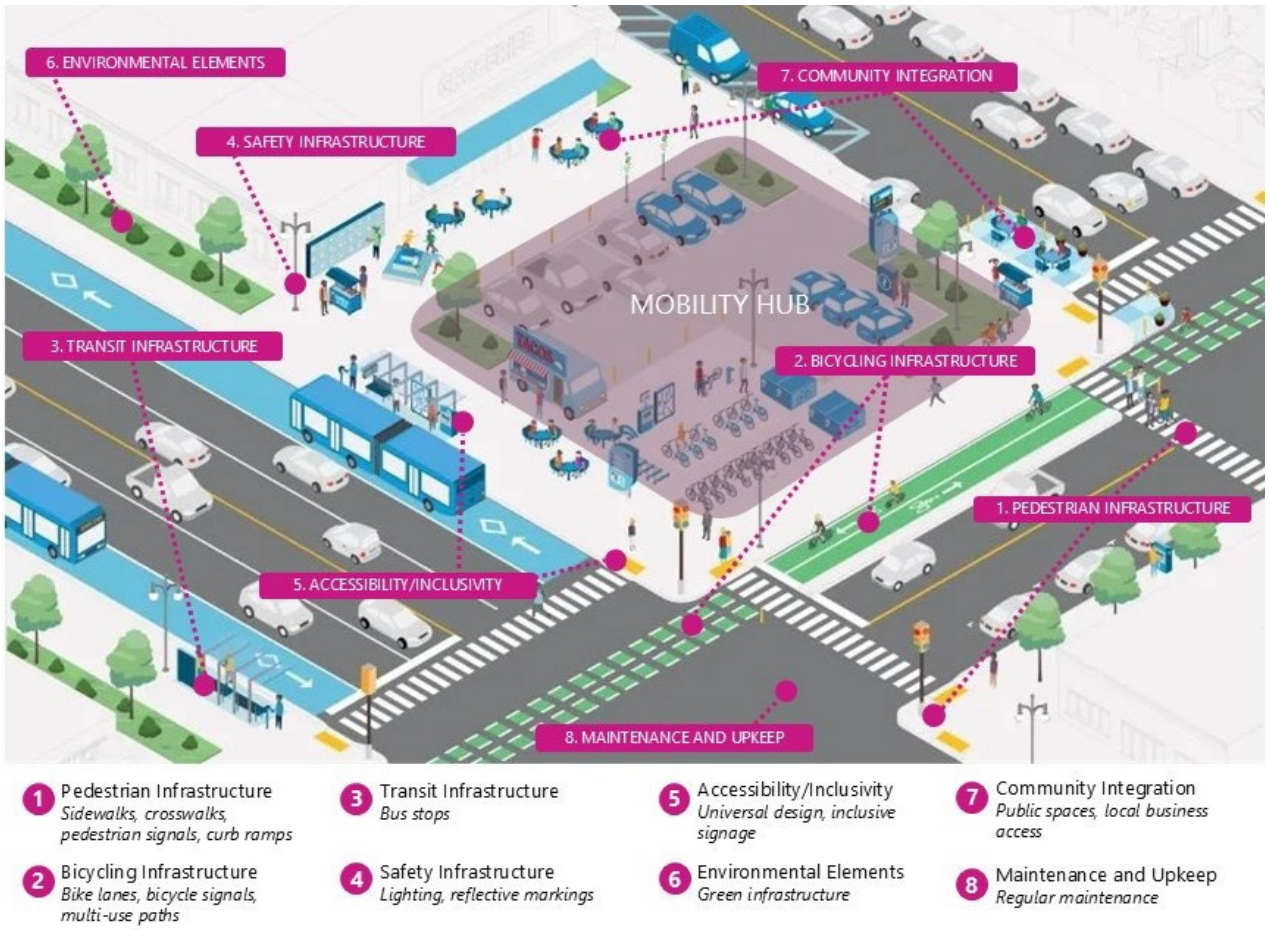
- **Assess existing conditions.** Analyze current conditions to identify what type of mobility hub makes sense to pursue based on local needs.
- **Select sites strategically and consider your overall transportation network.** Based on your existing conditions assessment, select project sites with the most potential for achieving desired goals. You can select a single site or a few sites within a network that function as a cohesive system. Consider community needs, safety, and equity and how mobility hubs can function as an anchor for future sustainable and equitable developments.
- **Consider overall mode shift.** Develop solutions that encourage residents, commuters, and employees to use sustainable and flexible modes of transportation, such as transit, shared mobility options, bicycling, and walking. Also, identify first/last mile solutions.
- **Weave equitable practices into your planning process.** Identify mobility hub locations that can help achieve equitable outcomes through need-based mobility and anti-displacement measures. Consider the cost of transportation options to users and explore the option to provide discounted pricing for income-qualifying customers.
- **Take a balanced approach – implement near-term projects and plan for projects that require longer lead times.** Projects with longer lead times should be considered and planned for, such as hubs with electric vehicle charging stations or bikeshare stations. However, near-term "quick wins" (e.g., less intensive treatments like wayfinding) can help to raise awareness of mobility hubs in the community and realize community benefits within a shorter time period. Solutions should be cost-effective and feasible to implement.
- **Consider typologies in selecting and designing mobility hub projects.** Typologies can help agencies identify a balanced portfolio of projects to address a range of community needs. For example, are you addressing the unique needs of both the emerging urban communities and core urban areas in your jurisdiction? It may be helpful to group potential hubs by typology before prioritizing projects.
- **Engage with the communities that the mobility hub would serve.** Building consensus among stakeholders will help in efficiently and effectively implementing your project. Invite community feedback to learn about mobility needs and develop collaborative solutions that will enhance the surrounding community.
- **Consider ongoing operations and maintenance.** Mobility hubs offering more amenities and features will require more resources for ongoing operations and maintenance. Vandalism to assets, broken equipment, and other issues will require dedicated and quick maintenance responses to maintain a positive traveler experience. Factor these expenses into your ongoing cost estimates.

- **Once projects are selected, develop an implementation strategy.** Your implementation strategy should estimate costs, identify potential funding sources, detail ongoing operational and maintenance needs (see point above), and establish cooperative maintenance agreements.

Outside the Mobility Hub

The adjacent infrastructure providing transportation options and connections to travelers is a significant factor in the success of a mobility hub. A well-developed active transportation network surrounding the mobility hub will encourage higher rates of walking, biking, micromobility, or transit use to access the transportation network. You might need to establish partnerships and commitment from appropriate stakeholders and community leaders to ensure the necessary supporting infrastructure is in place.

Exhibit 3 Example of roadway infrastructure adjacent to a mobility hub.



Supporting infrastructure can include:

- **Pedestrian Infrastructure**
  Sidewalks: Well-maintained, wide, and accessible sidewalks that accommodate pedestrians of all abilities in and around the mobility hub.
  Crosswalks: Clearly marked and well-lit crosswalks at intersections. Continental or Ladder crosswalks provide better visibility. A pedestrian hybrid beacon (PHB), also known as High-

Intensity Activated crossWalK (HAWK) beacons, are typically located at minor intersections or mid-block crossings. A PHB can make a crossing safer and reduce pedestrian collisions.
Pedestrian Signals: Tactics include:

- Advanced Accessible Pedestrian Signal (APS) with countdown timer signal that creates audible alerts at intersections to ensure safe crossing for people using the crosswalk.
- Automated pedestrian and micromobility detection system with video or LiDAR coupled with signs with flashing beacons to enhance safety.
- Pedestrian Phase Recall: where the pedestrian "Walk" signal is automatically displayed with every cycle, without needing a prompt from the push button.
- Extend Pedestrian Crossing Time to increase the pedestrian walk phase.
- Leading Pedestrian Interval to provide pedestrians and other users a head start to enter the crosswalk before vehicular traffic is allowed to move.
- Curb Ramps: Accessible and ADA-compliant curb ramps at intersections and crosswalks to facilitate wheelchair and stroller access.

Exhibit 4 Pedestrian crosswalk in downtown Long Beach with APS and curb ramps.

- **Bicycling Infrastructure**
  Bike Lanes: Dedicated bike lanes on streets, separated from vehicle traffic when possible. It is preferable that bike lanes can be protected or buffered bike lanes, such as Class I or Class IV facilities.
  Bicycle Signals: Bike signals enhance safety at intersections by giving cyclists a dedicated signal.

The dedicated bike signal can help prevent conflicts with vehicles making right-turns.
Multi-use Paths: Off-street bike paths or trails that are separated from vehicle traffic. Ideally, these have direct access to the mobility hub.

Exhibit 5 Bicycle lanes in the city of Long Beach.

- **Transit Infrastructure**
  Bus Stops: Sheltered and well-marked bus stops with seating and real-time schedule information at locations that are not inside the mobility hub. This will reinforce the concept that transit is a viable, safe, and secure option for users.
- **Safety Features**
  Lighting: Adequate street lighting for safety during nighttime and to enhance visibility for all users who may walk or bike to the mobility hub. This includes pedestrian scale lighting along sidewalks and other pedestrian walkways.
  Reflective Markings: Use of reflective paint and signage to improve visibility of road markings and obstacles.
- **Accessibility and Inclusivity**
  Universal Design: Accessibility and inclusion of all users without barriers should be considered. This includes, but is not limited to those who:
    - Are visually or hearing impaired, use mobility aids or push chairs.
    - Have learning difficulties.
    - Are elderly or pregnant.
    - Are short in stature.
    - Do not speak or read English.

  Infrastructure that adheres to principles of universal design ensures accessibility for people with various disabilities. Safe, easy access includes minimizing walking distance, site leveling as much as possible, and providing an intuitive, straightforward layout for low-vision users. It also includes providing smooth yet slip-resistant surfaces for pedestrians, people riding scooters, and people riding bikes. Sites should provide access to and from origins and destinations at different points

throughout the site and seamless transition for various transportation modes.
Inclusive Signage: Clear easy-to-read signage with visual and tactile elements for the visually impaired for easy and safe navigation to and from the mobility hub to the adjacent community.

- **Environmental Elements**
  Green Infrastructure: Trees, planters, and rain gardens to manage stormwater, provide shade, and enhance aesthetics in the community surrounding the mobility hub.
- **Community Integration**
  Public Spaces: Integration of parks, plazas, and gathering spaces with mobility hubs to enhance placemaking and accessibility for travelers to these public spaces.
  Local Business Access: Infrastructure that supports easy access between the mobility hub and local businesses, encouraging economic activity and vibrancy by encouraging travelers who use the mobility hub to shop without leaving the vicinity.
- **Maintenance and Upkeep**
  Regular Maintenance: Routine inspection and maintenance of all infrastructure components to ensure they remain in good condition and encourage the long-term viability of the mobility hub.

Partnerships

Strategic partnerships for mobility hubs will depend on the existing transportation infrastructure, stakeholders, and jurisdiction(s) of each location, as well as the operating agency of the adjacent transportation modes. Some mobility hub sites might exist and operate entirely within a single local jurisdiction, while others may be privately owned or operated by another agency, such as the county or state. Some might border another jurisdiction or multiple jurisdictions. Some might include key transit operator(s).

Mobility hub functional needs may differ based on the affected jurisdiction(s) and key stakeholder(s). Supporting adjacent infrastructure can also involve private land owners and multiple jurisdictions, in which case, identifying roles and responsibilities, as well as identifying jurisdictional facilities and elements of proposed conceptual improvements is critical in ensuring the success of mobility hubs. Identifying roles and responsibilities might be required to divide resources and secure commitments for the respective capital improvements and assets. Pooled resources may also be needed on an ongoing basis for operations and maintenance. Coordination and collaboration should start as early as possible for these types of facilities.

When mobility hub development requires the efforts of multiple parties, each party might have to commit resources and have specific goals, objectives, and permitting and approval requirements for a particular site. Identifying roles and responsibilities among agencies can be complex but essential for successful project execution. Collaboration should start with a common understanding that the mobility hub development is in the best interest of everyone involved. Partnership roles and responsibilities should be defined for the planning, development, maintenance, and operations of the hub, and should include the following steps:

- Identify all potential partners and stakeholders involved.
- Identify who will champion project development.
- Identify who will need to provide support and critical input.
- Identify the approval process and agreements needed.

- Establish a communication plan.
- Identify resource allocation and establish commitments to resources.
- Identify and manage risks.

Best Practice: Orange County Mobility Hub Strategy

In the Orange County Mobility Hub Strategy, the Orange County Transportation Authority (OCTA) describes how to define responsibilities between the different stakeholders involved in the creation and maintenance of a mobility hub. First, they recommend defining the area of governance and defining the party or parties involved in each area of governance. In Orange County, governance for mobility hubs involves five major stakeholder groups, including landowners, public transit operators, regional policy and funding agencies, major utility providers, and local community-based organizations. The following framing questions help to establish responsibilities and a governance structure:

1. What are the primary objectives of a mobility hub coalition?
2. Who can realistically provide the resources to lead the effort?
3. What historic precedents and relationships are there?

Examples of different governance scenarios are shown in the following table:

Governance Option	OCTA Level of Control	OCTA Level of Involvement	OCTA Level of Funding	Level of Harmonization across the region
OCTA MH Office	●●●	●●●	●●●	●●
OCMH JPA	●●	●●	●●	●●●
OCMH TMA	-	●	-	●●
OCMH WG	●	●	-	●

Legend

- ●●● High
- ●● Medium
- ● Low
- \- None

Step 2. Design the Mobility Hub

Key Strategies

When designing, keep in mind these key strategies to build a successful mobility hub:

1. **Create a sense of place.** Mobility hubs provide an opportunity to highlight the unique identity of the hub's surrounding community and neighborhood. Placemaking elements can be used to create a welcoming and useful experience.
2. **Ensure user safety and comfort.** Mobility hubs should offer a safe and comfortable environment, which can be achieved through good lighting, visibility, restroom access, and other design elements.
3. **Incorporate technology and electrification.** As new technologies emerge, ensure that sufficient electrical power and other supporting infrastructure are available to support a variety of transportation modes.
4. **Provide resources for seamless transfers and destination-finding.** Incorporate wayfinding signs and maps, showing transportation options, amenities, and key neighborhood destinations. Consider how digital infrastructure can reinforce physical information and connections across modes.

Mobility Hub Elements

Each mobility hub should be unique to its location, contributing to the placemaking of the community. Location, size, layout, transportation infrastructure, transit service, and surroundings require design specific to each site location and constraints.

There is no one approach to designing a mobility hub. Each will depend on the surrounding community, existing and future transportation network, and context from the greater region. The design approach can include one or more of the following:

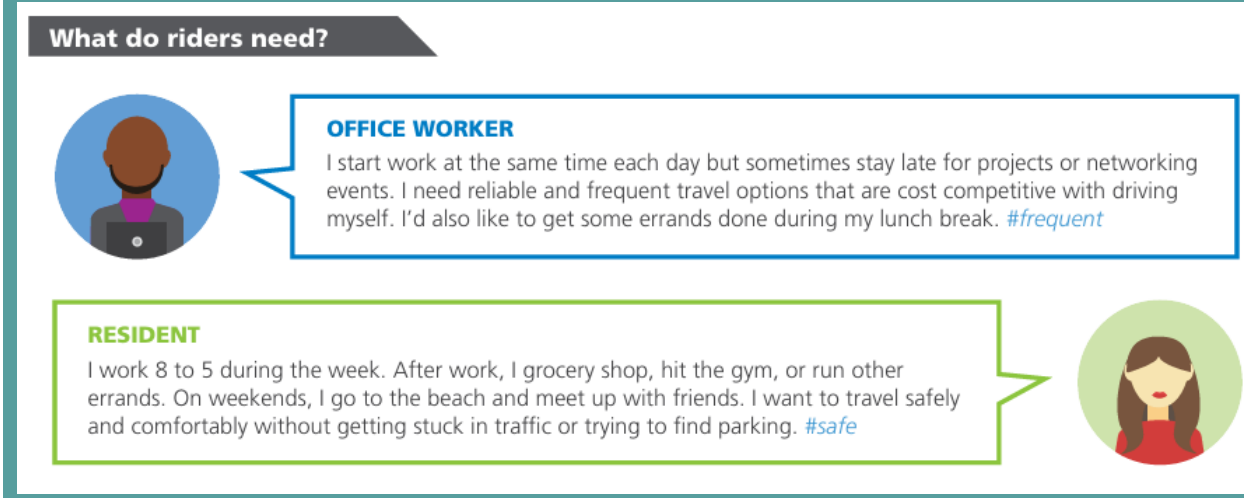
- **User-Oriented Design:** Customer-first, user-oriented design depends on knowing customer needs, preferences, priorities, and mobility-related decision-making. User-oriented design is inclusive and equitable, designed for all ages and abilities, cultures, genders (especially women traveling in caregiving roles), and financial means. User-oriented design considers the entire customer journey from door to door.
- **Community-Centered/Community-Responsive Design:** This approach centers design choices around local community members and considers how they might be affected. Place, community, and culture are central considerations of community-centered design, resulting in a facility that reflects and enhances the existing community character. Community-centered design can include art designs and placemaking elements created by local artists, retail vendors that reflect the interests and needs of the community, designs that prioritize safety in areas of less-frequent transit service and mimic the rhythm and scale of the neighborhood.
- **Equity-Centered Design:** Equity-centered design ensures that historically underserved and disadvantaged communities are not negatively impacted by mobility hub design, and instead are

prioritized in the design process, considering people of color, people with disabilities, and other marginalized populations.

- **Innovation and Asset Management Design:** Innovation and Asset Management design implements innovative design strategies that are flexible and considerate of future conditions and impacts on mobility hubs with iterative design and fix-it-first, lifecycle, and resilience principles.
- **Cohesive Network Design:** Mobility hub design and operations contribute to a cohesive travel network, creating clear and distinct connections between origins, destinations, travel routes, and modes. The cohesive network design approach can be achieved by collaborating with stakeholders to create clear connections within the transportation network to provide seamless transfers and natural integration. Key elements in cohesive network design include the integration of multiple transportation modes, clear wayfinding, consistent quality, and multiple route options.

Best Practice: San Diego Association of Governments Mobility Hub Profiles and User-Oriented Design

As part of its mobility hub strategy, the San Diego Association of Governments (SANDAG) created mobility hub profiles for potential implementation at existing transit stations. Each of these profiles considered the needs of the specific user per mobility hub. For the Executive Drive Station, SANDAG identified that the station connected employees, residents, and students accessing large office and research complexes, business and financial centers, residential complexes, and religious and educational institutions. The profile provided an example of two typical riders at the station, including an office worker and resident, and illustrated recommended mobility hub features and next steps.



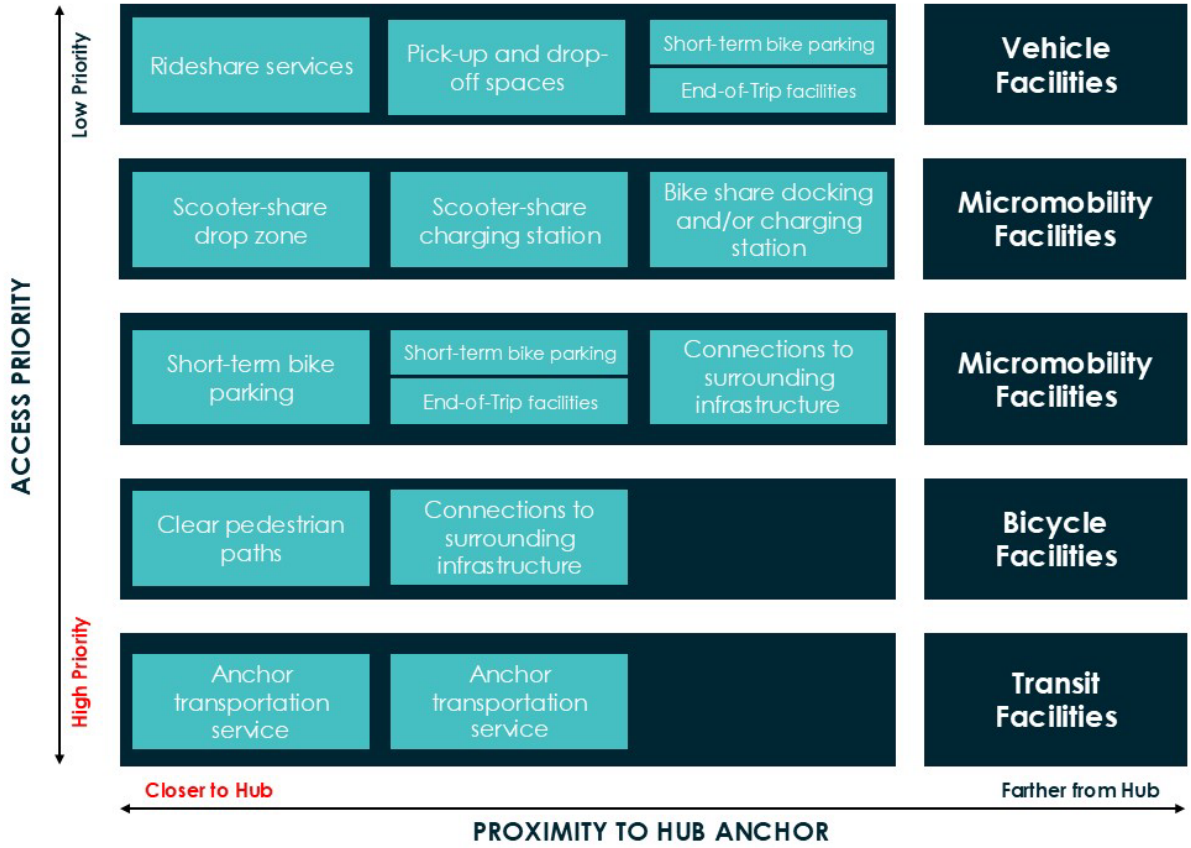
Design Considerations

For mobility hubs, the key focus should always be on enhancing safety, particularly for pedestrians, bicyclists, and other micromobility users of all ages and abilities, and inducing mode shift with movement efficiencies, including external access and internal circulation for all modes. For streets connecting to mobility hubs, this includes designing complete streets, which provide safe, comfortable, convenient, and connected facilities for all modes of transportation.

ACCESS HIERARCHY FOR MOBILITY HUBS

A common challenge in creating a mobility hub is finding adequate space to fit all desired mobility hub elements or amenities. There will be instances of having to include or exclude certain elements due to constraints. Create a priority-proximity matrix, as shown in the following figure, to guide discussions on which elements or amenities to include within a mobility hub. Include elements for each mobility service and their priority in relation to the center of the hub (typically the transportation anchor). The process of creating this matrix allows for discussions about priority and proximity and can be recalled if stakeholders have different opinions on how to best allocate space.

Exhibit 6 Example of a priority-proximity matrix.



ACCESS CONSIDERATIONS

Pedestrian and Bicyclist Access

Regardless of the variety of transportation options available in one hub, all mobility hubs are pedestrian places.

Pedestrians tend to follow the most direct and efficient path between their origin to their destination. A safe, intuitive, and inviting public realm with clearly identified pedestrian paths can include using natural features and other aesthetically pleasing barriers to guide pedestrians, creating a dedicated pedestrian through-zone or designing a pedestrian plaza to engender a sense of place. As the design progresses, incorporate pedestrian pathways into the pedestrian through-zone, a dedicated path void of obstruction for efficient pedestrian movement.

Mobility hubs and surrounding infrastructure should separate pedestrian pathways and bicycling routes to minimize collisions where possible. When bicycling routes share access points to the hub, separate spaces can be created through dedicated lanes that connect to bicycle amenities and services. Designs should also locate bikeshare systems and bike parking near active paths to minimize potential conflicts and discourage cyclists from riding across pedestrian zones. Considering both pedestrian and bicyclist access facilitates seamless and safe transfers between multiple modes.

OTHER DESIGN CONSIDERATIONS

On-Site Safety Considerations to Minimize Conflicts

To minimize potential conflicts, separate access to the mobility hub by travel mode (pedestrian, bicycle, and motor vehicle) should be provided where possible. Active transportation access within and around the mobility hub site, including first/last mile connections, should use separated bikeways and separated shared-use paths. These facility types are most appropriate given the concentration of traffic volume, active transportation, and transit vehicles within the mobility hub site. These active transportation facilities are comfortable for all users because of the enhanced separation with a raised buffer element.

All intersections with mobility hub access and along the perimeter of the mobility hub site need to be designed to accommodate predicted traffic demands and to the appropriate geometric design standards. Also, as with any parking facility, adequate space should be required to mitigate inbound queuing for access to the vehicle parking area, so that vehicle queues do not obstruct the entrance. Unique considerations for the design of these intersections to facilitate the mobility hub might include the need to mitigate the number of potential conflicts between motor vehicle, active transportation, and micro-mobility modes of travel.

Directional indicators should be considered for large open-floor areas. The directional indicators can lead from the pedestrian entrances to the mobility hub (e.g., pedestrian access into the site, transit disembarking areas, pedestrian drop-off zones) to pedestrian destinations (e.g., transit stops, transit information, pick-up and drop-off waiting area, and pedestrian exits from the hub).

On-Site Safety Considerations for Crime Prevention by Design

Mobility hubs should be designed to promote a safe, secure, and comfortable environment for users.

Physical features and activities should be organized and placed to maximize visibility and positive social interaction. Access points should be limited and clearly identifiable, and design elements should be used to control the flow of people through space. Design elements can also be used to naturally define public, semi-public, and private space. Proper maintenance (both cleaning and repair) is a very important tool for minimizing vandalism and maintaining a sense of security for users.

An evaluation should also be conducted during the mobility hub design process to identify any elements that might inadvertently compromise the overall safety and security of mobility hub users. A design review can evaluate elements such as sight lines, access to entrances and exits, signage legibility, ADA accessibility, lighting, pavement markings, crossing locations and signages, and access for all users (drivers, pedestrians, and people of bikes).

Consider implementing security camera-monitored zones. These zones, which can be demarcated by paint and signage, can notify mobility hub users that the area is monitored by security cameras, which can help users feel more comfortable, especially for those traveling alone or at night.

On-Site Renewable Energy Production

Mobility hubs can integrate renewable energy sources, such as solar panels, to fulfill some or all electrical needs. Solar panels can be integrated into shade structures over parking lots and transit stations or atop mobility hub buildings. Ensure solar panels can be maintained before including them in the design. Also, consider feeding surplus generated power to the grid to offset monthly utility costs.

Backup Power Systems

Backup power systems include generators and energy storage systems (e.g., batteries). Consider including backup power systems such as generators, batteries, or uninterruptible power sources if the mobility hub serves as a critical transportation node or if there is a critical need. The amount of time of backup power would depend on the critical device or facility element. Consult with relevant stakeholders to determine the use of a backup power system and amount of required time for backup.

Kit of Parts

Mobility hubs integrate multimodal services and supporting elements, or amenities, known as the "kit of parts." Mobility services and elements should align with the mobility hub typology, influenced by specific community needs, space constraints, and budgetary considerations. The table below summarizes specific amenities for each of SCAG's six mobility hub types, which includes a list of elements that are either highly recommended, recommended, or not applicable for that hub.

Category	Element	Downtown Hub	Urban Hub	Emerging Urban Hub	Suburban & Rural Hub	Equity Hub	Institutional Hub
Transit and Active Transportation Facilities	Train/rail	●	●	●	●	○	●
	Bus stop/station	●	●	●	○	●	●
	Carshare	●	●	●	◗	◗	◗
	Electric Vehicle parking	●	●	◗	◗	◗	●
	Shared micromobility zone	●	●	●	◗	◗	◗
	Pick-up and drop-off zone	●	●	●	●	●	●
	Bike facilities	●	●	●	◗	●	●
Access Facilities and Services	Covered bus shelters	●	●	◗	◗	●	◗
	Street furniture	●	●	◗	○	○	○
	Bathrooms	●	●	●	●	●	●
	Package delivery lockers	●	●	◗	◗	◗	●
	Water re-filling stations	●	●	◗	◗	●	●
Technology, Information, Wayfinding	Real-time travel information	●	●	●	◗	○	●
	Wayfinding signage	●	◗	◗	◗	◗	●
	Hub area maps, facilities info	●	●	◗	◗	◗	●
	Closed-circuit television cameras	●	●	●	●	●	●
	Public wi-fi and phone charging ports	●	●	◗	○	◗	◗
	Emergency telephone	●	●	●	●	●	●
Placemaking	Community art themes	●	●	●	●	●	●
	Lighting	●	●	●	●	●	●
	Landscaping	●	●	●	●	●	●

Footnotes:
1-Mobility Hub owners offering carshare with EVs should anticipate providing EV charging infrastructure as well
2-Amenities can include bike racks, bike lockers, and bike repair stations
3- See the case study on Throne Labs on page X for an example of a public-private partnership to provide restroom services in busy transit hubs.
4- Publicly-accessible charging options for micro-mobility options like e-bikes and scooters, especially in underserved communities, is an emerging topic of interest in some U.S. cities.

● **Highly Recommend**
◗ **Recommended**
○ **Not Applicable**

It is important to note, however, that design and access elements can vary significantly based on topography, property lines, local context factors, and other factors. For example, a highly developed downtown center might not have the physical space available to accommodate EV charging stations. Additionally, a suburban and rural hub may have transit services nearby and can benefit from having a comfortable and secure bus stop with shelter and seating available.

TRANSIT AND ACTIVE TRANSPORTATION FACILITIES AND AMENITIES

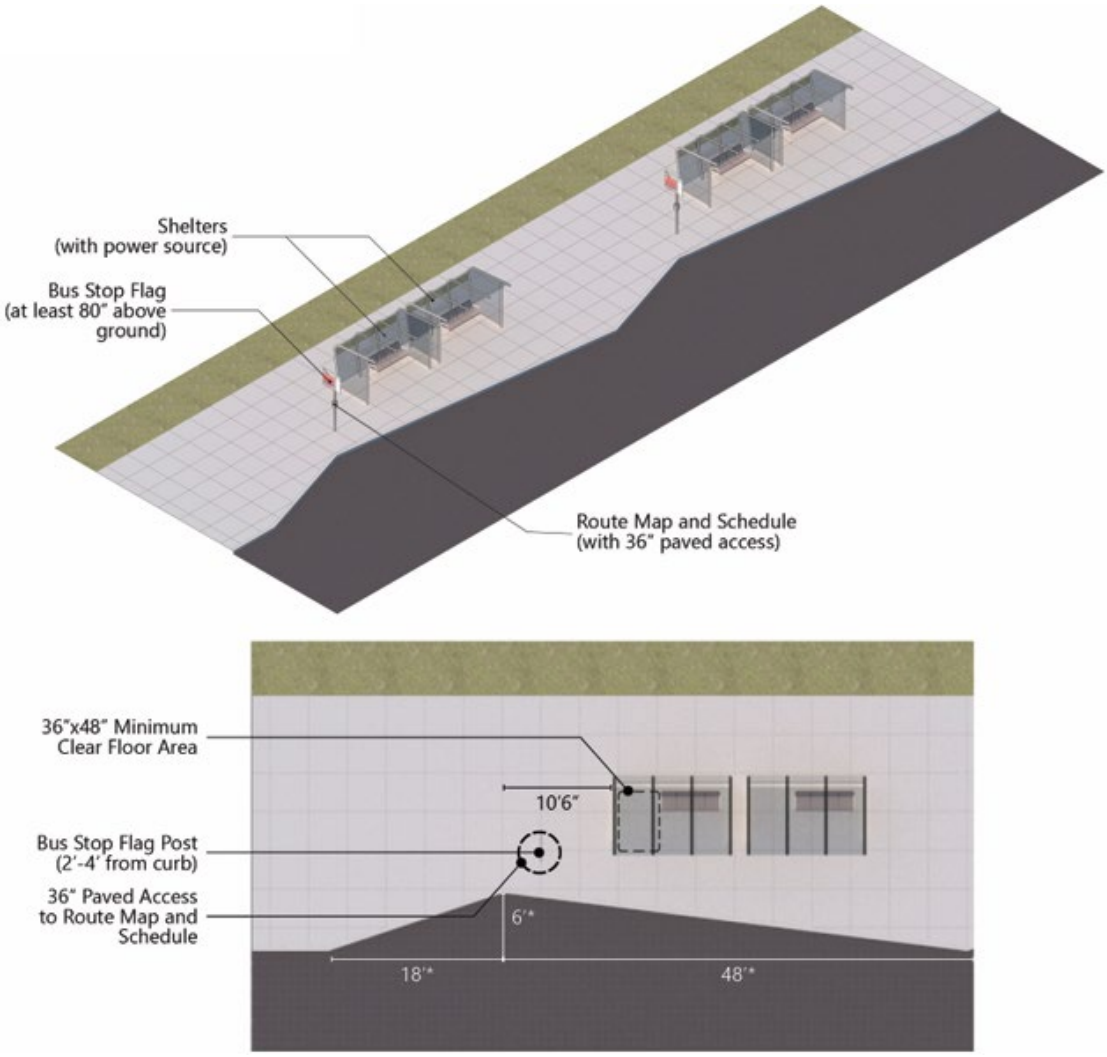
Transit Stop

Mobility hubs are often designed and implemented around existing transportation infrastructure and existing transit stations. Many transit stops, such as light rail or bus stops, are located on a street along the perimeter of the mobility hub or within the interior of the mobility hub.

Considerations for Application

- For transit stops on streets with curbside parking, parking should be prohibited in the curb lane to establish a bus zone.
- The geometric dimensions for an on-street transit stop in a curbside parking lane with independent arrival and independent departure should conform to the standards or requirements of the transit service provider.
- Street-level transit stops with a bus bay should consider approach speed when designing the taper lengths for the transit stop.
- An on-site transit exchange (e.g., a sawtooth transit exchange configuration) might need to accommodate independent arrival and departure of buses at the facility.
- Specific design should be based on consultation with the transit service provider(s).

Exhibit 7 Example of sawtooth bus bays.



Source: Washington Metropolitan Area Transit Authority

Carshare

Carshare is a short-term car rental typically provided by private companies but also can be a service of shared cars managed and operated by citizens. Many carshare programs use electric vehicles that require electric vehicle (EV) charging stations. Carsharing is relevant for commuters traveling longer distances from the mobility hub.

Considerations for Application

- The minimum parking space size for a carshare vehicle is 20 feet long by 8 feet wide.
- Each dedicated carshare parking space should be identified with regulatory signage, which can include a sign identifying the specific carshare operator.
- Carshare vehicles can be deployed in pods of two or more.

Exhibit 8 Zipcar, a carshare service, at Union Station in Los Angeles.

Electric Vehicle Parking and Charging Stations

EVs are powered completely by electricity rather than internal combustion engines. Some plug-in hybrid cars, which use both internal combustion and electric power, can also use EV parking and charging facilities. EV parking should be deployed within the onsite parking area of the mobility hub, as opposed to on-street curbside parking, to allow for EV charging stations. EV charging stations are strategically located within mobility hubs to encourage the adoption of EVs and provide convenient access to charging for both private and shared EVs. If providing charging stations, ensure sufficient capacity in the electric grid, even if electrification is planned for a later date.

Considerations for Application

- EV charging parking spaces should be 20 feet long by 9 feet wide.
- The charging station should be located 12 inches to 18 inches from the curb edge.
- EV charging stations can be installed by a third-party vendor with a permit.
- Parking stalls on the edge of the parking lot should offer space outside the paved area to house the charging station. Parking with a 90-degree parking angle is preferred for EV parking inside the parking lot.
- Parking should offer multiple charging ports to simultaneously accommodate multiple vehicles.
- Users typically need to authenticate and make payments to use the charging stations. Authentication methods can include radio-frequency identification cards, mobile apps, or credit

card readers. Payment options can vary, including pay-as-you-go, subscription models, or membership-based plans.

- Charging stations are often equipped with real-time monitoring and reporting capabilities, which allow operators and users to check the availability of charging spots, monitor charging progress, and receive notifications when charging is complete.
- EV charging stations should be designed for access by people with disabilities. Accessibility includes features such as accessible parking spaces, signage, and tactile information.
- Additional considerations can be found in SCAG's "EV Charging Station Study."

Exhibit 9 EV charging stations at the Norwalk Metrolink Station.

Source: Southern California Edison

Shared Micromobility

Bikeshare and scooter-share are commonly provided by transit agencies, municipalities, or private sector companies to make bicycles, electric bicycles, or electric scooters available for use as needed. These shared micromobility devices can supplement fixed-route service by acting as a first/last mile solution, replacing fixed-route service, or serving locations without fixed-route service. Users can pick up a micromobility device at one station and return it to another station at their destination or return it back to the same station. For devices that do not require docking, such as some bikeshares and most scooter-shares, mobility hubs should include a physical corral or designated parking space for the devices. Bicycle or scooter-share parking should be clear of the pedestrian pathways and vehicle traffic.

Considerations for Application

- Bikeshares typically include a docking station, some with electric bike charging.
- Bikeshare facilities should be implemented near other bicycle-supporting infrastructure and amenities listed within this kit of parts.
- Zones should be located within close walking distance (25 to 50 feet) of the mobility hub transit stop or transit exchange, separated from motor vehicles and with a direct route from the street.
- Flexible posts should be spaced at 10 feet maximum along the parking stop perimeter to deter encroachment by motor vehicles.
- Minimum dimensions of 4 feet by 5 feet can be scaled up as needed and as space allows to accommodate higher micromobility vehicle volumes.

Exhibit 10 Metro Bikeshare at Los Angeles Union Station.

Pick-up and Drop-off Zone

Designated pick-up/drop-off (PU/DO) zones provide dedicated areas for vehicles to stop temporarily to pick up or drop off users. PU/DO zones can include users of ride-hailing companies, such as Uber or Lyft, microtransit, taxis, campus and student shuttles, and other passenger vehicles. By providing a designated curbside space for a PU/DO zone, unsafe behaviors and interactions can be avoided.

Considerations for Application

- Designated PU/DO zones should be located as close to the mobility hub access point as possible.
- A curb face PU/DO zone could be provided adjacent to a pedestrian waiting area near the transit focal point within the mobility hub.
- The PU/DO zone should be long enough to accommodate two to three single unit trucks depending on the size of the mobility hub. Short-term parking stalls for waiting vehicles during pick up activity can be provided nearby, connected by maneuvering aisles to the PU/DO zone.
- A queuing isle can be provided for taxis along the right side of the access lane into the PU/DO zone. Taxis should line up single file in the queuing aisle and operate on a first-come, first-served basis. Other ride hail services should park in designated stalls the short-term parking area until hired by a customer.
- Short-term parking should have the same dimensions as the mobility hub parking.

Exhibit 11 OC Flex, a microtransit service, at a PU/DO zone in a Metrolink station.

Bicycle Facilities

Secure and accessible bicycle parking is necessary to allow users to conveniently transfer between bicycle trips and other modes. Types of bicycle parking include racks (with or without locker lids), lockers, or rooms, each offering different levels of flexibility, security, space requirements, and financial investment. Bicycle racks are the most flexible form of parking, easy to install and maintain, but they offer less security than other options. Bicycle lockers or rooms offer high-security and weather protection and allow for longer-term storage. Bike rooms are large, locked rooms designated for bike storage with controlled access for registered users. Bicycle rooms provide large volumes of bike parking, making them particularly attractive at commuter transit stations.

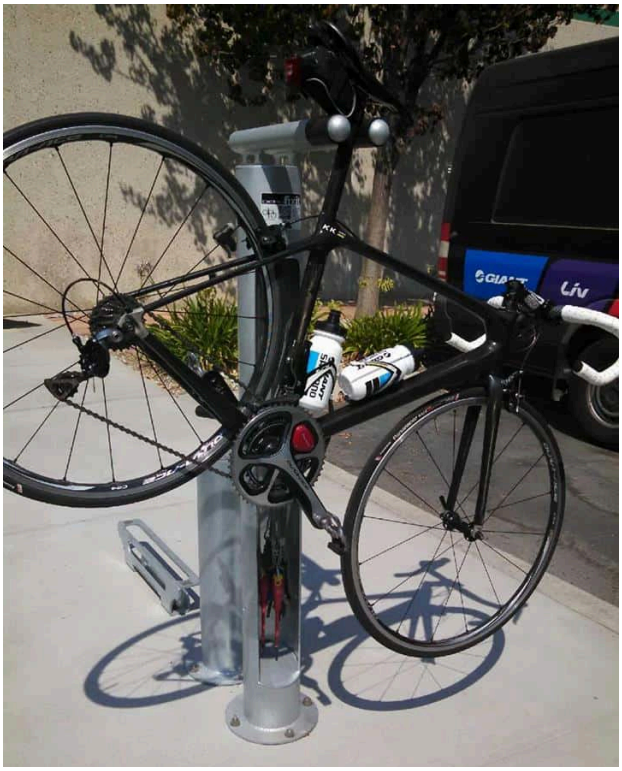
In addition to bicycle parking, mobility hubs can offer bicycle fix-it stations, which are small, indoor or outdoor bike repair stations that include tools necessary to perform basic maintenance and repairs on bicycles. They typically include tool kits, wheel support, and air pumps.

Considerations for Application

- Bike racks should support the bicycle in an upright position, providing at least two points of contact with the bicycle frame, and should be simple and intuitive to use. Racks and installation should be consistent with local design standards and use tested, approved, and context-appropriate rack types, attachments, and mounting surfaces.
- Racks and lockers should be installed close to the focal points in the mobility hub.
- Lockers should be designed to allow the user to roll their bicycle into the locker and have appropriate clearances between the locker or lid entrance and any walls or barriers.
- Bicycle rooms can be repurposed from an existing room or custom-built for an available space in the mobility hub.
- Consider the long-term financial investment for bicycle rooms and fix-it stations, including tools, maintenance supplies, and staff.

Exhibit 12 Examples of Bicycle Facilities

A bike repair station in Ventura County.



Bicycle room at Los Angeles Union Station.

Lockable lids at the Fontana Metrolink station.

ACCESS FACILITIES AND SERVICES

Covered Bus Shelters

Bus shelters provide a covered place to wait for transit with protection from the elements (e.g., rain, heat, sun exposure).

Considerations for Application

- Bus shelters should provide a space to rest (bench or leaning rail), lighting, and wayfinding signage (stop name, route number, stop number, and destination). There must be enough space to maintain at least a 4-foot-wide path of travel around shelter amenities for ADA compliance.
- The shelter should be constructed of durable, architecturally sound materials to withstand heavy use and continual exposure to the elements.
- A clear view of the approaching bus and bus loading pad is necessary. This can be achieved by orienting the shelters to face the travel lane and by using tempered, clear glass panels. Design elements can be added with films or clear view materials.
- Who will handle construction and ongoing maintenance of the shelter? Some cities will form public-private partnerships (P3s) with an outdoor advertising company to fund both activities, while others fund construction through competitive grants and cover maintenance through local return and general fund dollars.

Exhibit 13 A bus shelter at a bus stop in Ventura County.

Street Furniture

Street furniture, including benches, seating areas, and trash receptacles, greatly enhance traveler experience. Benches improve comfort for passengers, especially the elderly, disabled, or those with limited mobility, and can also enhance the appearance of the surrounding area around the bus stop. Transit stops adjacent to large developments, near activities that generate a large number of transit passengers, or that have very long intervals between buses or trains, might require a bench. Additionally, trash and recycling receptacles are important for maintaining a clean, comfortable, and inviting environment.

Considerations for Application

- Benches should be about 40 inches long and at least 20 inches wide. At stops with high boarding numbers, lean bars and shallow benches could be provided as well.
- Stops with a high number of boardings, high wait times, or high use by older adults and children should provide seating.
- The installation of trash receptacles is typically a systemwide decision and the size, shape, and color reflect the transportation agency policy. Coordinate with the partner transportation agency to maintain consistency in trash receptacle design, use, and maintenance.

Exhibit 14 (Left) Benches at a mobility hub, installed as part of the city of Minneapolis' pilot program. (Right): Bus shelter, benches, and trash can at a bus stop in the city of Long Beach.

Restrooms

Publicly available restrooms are an important amenity for mobility hubs. Users may be traveling long distances or for a large part of their day. Restrooms can also help to maintain clean hub facilities.

Consideration for Application

- Consider ongoing operations and maintenance needs of restrooms.
- Consider contracting the operations and maintenance of the restrooms to a third-party vendor. The figure below shows travelers using Throne, a portable smart bathroom, located at a transit station. Using the bathroom is free and requires registration and access via the user's phone. The Los Angeles County Metropolitan Transportation Authority has contracted with Throne Labs to provide and clean these bathrooms.
- Fulfill the needs of parents traveling with infants by installing a changing table or a nursing room.

Exhibit 15 Mobility hub users accessing Throne, a portable bathroom, for free by phone.

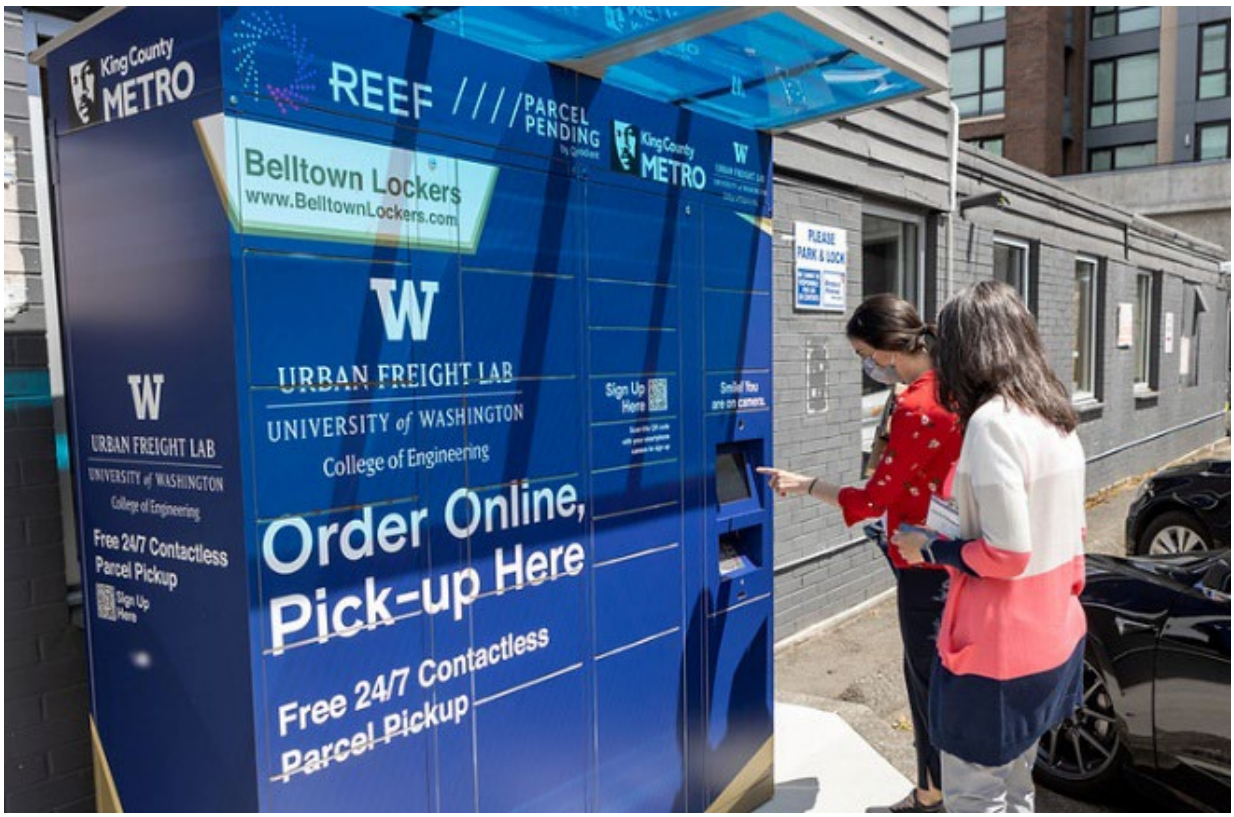
Package Delivery Lockers

Package delivery stations provide secure lockers for storing and picking up online orders. Offering package delivery lockers at a mobility hub can save travelers from an extra car trip to pick up a package, creating an incentive to use the mobility hub.

Consideration for Application

- Consider providing security elements, such as lighting and cameras, at package delivery stations within the mobility hub.
- Consider regulations and policies that govern for-profit business in a public right of way.
- Consider developing memoranda of understanding or other agreements with package delivery services.

Exhibit 16 Package locker in Seattle, Washington.



Source: Urban Freight Lab

Water Refilling Stations

A water refill station is a place where people can fill their reusable water bottles or containers with purified water. Users can benefit from the convenience of easy access to fresh water without the hassle of transporting heavy containers of water. Water refill stations support people during periods of extreme heat. They also reduce the amount of plastic waste generated from using disposable bottles.

Considerations for Application

- Consider the placement of the water refilling station to ensure convenient, safe locations that discourage vandalism.

Exhibit 17 Water refill station at a train station in London, U.K.

TECHNOLOGY, INFORMATION, WAYFINDING

Real-time Travel Information

Illuminated signs should be employed throughout a mobility hub for wayfinding and informational purposes. These signs should share real-time information of nearby mobility options to inform travel decisions (e.g., estimated arrival and departure times, location of services, etc.). Information signs can also show directions, transit schedules, parking availability, road safety, traffic conditions information, promotional content, and enhance the hub's visibility and accessibility.

Considerations for Application

- Is there electricity available at the location? If not, consider using solar-powered e-ink signs. Also consider illuminating wayfinding signs to increase nighttime visibility.
- Consider providing information display boards, including digital maps, and schedules, to provide travelers with real-time information and updates about transportation services. Information display boards are best placed in areas with widespread visibility such as entrances, waiting areas, and station platforms.
- Consider the electrical and communication requirements for informational display boards.
- Coordinate with site planners and relevant stakeholders and partners on where to locate illuminated signs and information display boards. Provide conduit and conductors for power and communication (if needed).
- LED monitors should be installed facing north when possible and located under a canopy to shield from direct light and to provide improved visibility.
- LED monitors are recommended to be placed to meet ADA requirements, but at heights to reduce the chance of vandalism.
- Consider coordinating with local or regional partners and transit agencies to implement consistent or synergistic elements and provide maintenance.
- Consider the location, purpose, and size of the sign—different types of signs are better suited for different situations.
- Consider installing public address systems used for automated announcements and emergency notifications.

Exhibit 18 Real-time train arrival information, Fullerton Station.

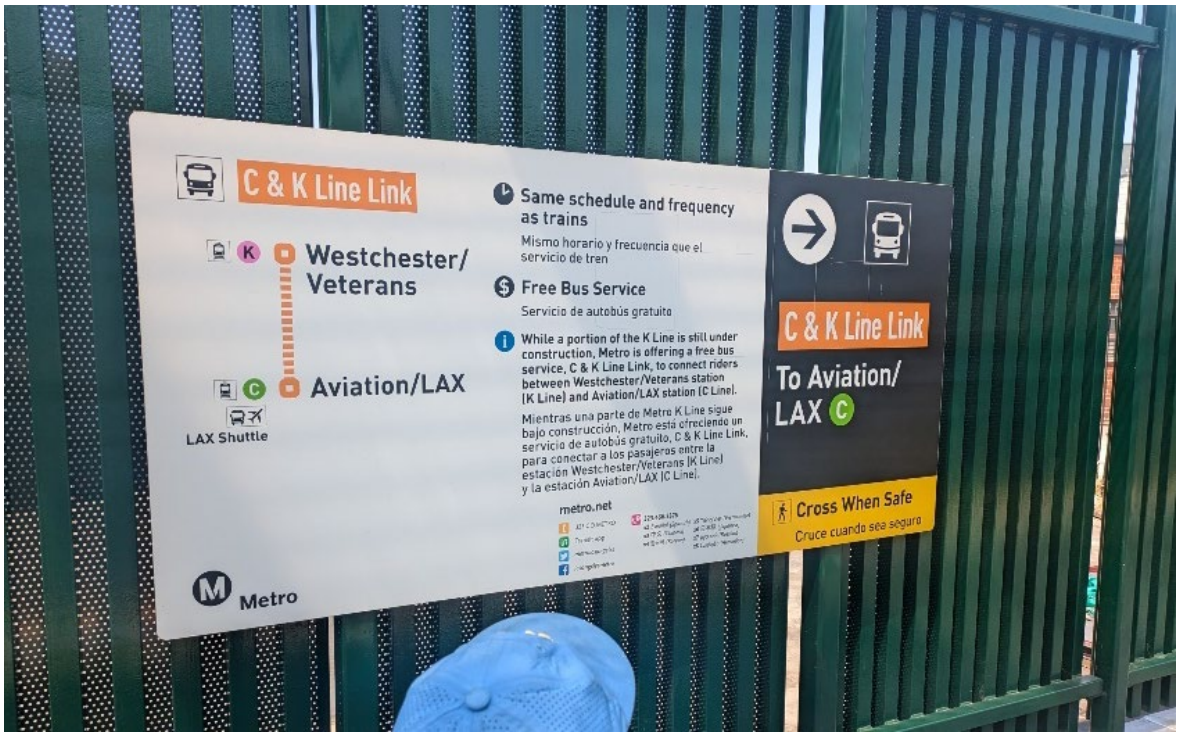
Wayfinding Signage Purpose

Mobility hubs should include wayfinding information to help customers easily navigate to and from platform entrances and exits, bicycle parking areas, bus stops, and other nearby mobility services and facilities. Signs can also direct passengers to nearby public facilities and major civic attractions.

Consideration for Application

- Signage should be clear and legible and include route and system maps, schedules, expected travel times, real-time arrival times, and ridership procedures.
- Wayfinding signage can include information in different languages, accessible enhancements, transit center identification, transit connections and transfers, information flags, wayfinding kiosks, and real-time transit information.
- Wayfinding signage can be located off-site along major active transportation pathways.
- Signage should incorporate transit operator branding where appropriate. Branding elements might require negotiation across operators. The placement and general content of signage should be consistent within mobility hub areas whenever possible.
- Signs and graphics in mobility hubs should be consistent with standards established by the Americans with Disabilities Act, the American Association of State Highway and Transportation Officials, and the "California Manual on Uniform Traffic Control Devices."
- Signage can be static, variable electronic message signs, or real-time.
- Materials, finishes, and placement of mobility hub signage should remain consist throughout the transit system and mobility hub network to discourage vandalism and withstand normal wear.

Exhibit 19 Wayfinding signage at the K Line Station in Inglewood, California.



Hub Area Maps and Facility Information

Physical displays orient users within the mobility hub and direct them to hub facilities, entrances and exits, and nearby destinations. Displays can be static or digital, which can display real-time information such as announcements or train and bus schedules.

Consideration for Application

- Hub area maps and facilities information should be clear and legible and designed to clearly guide passengers to and through the mobility hub and its functions. This includes passengers who are not familiar with the transit system, passengers with disabilities, non-English speakers, and passengers with difficulties reading.
- Maps can be illuminated to offer visibility in both indoor and outdoor environments and during both daytime and nighttime hours.
- Maps and facilities information should offer system-wide consistency in materials, finishes, and placement to discourage vandalism as well as withstand normal wear.

Exhibit 20 Hub area map at the Vine Street Mobility Hub in Riverside, California.

Closed-Circuit Television (CCTV) Cameras

Video surveillance of the mobility hub provides an additional layer of security and safety for mobility hub users. Closed-circuit television (CCTV) cameras also help security personnel and law enforcement agencies identify security breaches, incidents, or suspicious behavior.

Consideration for Application

- Different CCTV camera types provide different capabilities, including pan, tilt, and zoom features, built-in radars and analytics, protective physical elements, day and night image qualities, and fields of view.
- Strategically position CCTV cameras throughout the mobility hub. Key places for CCTV cameras include platforms, waiting areas, entrances, exits, and parking facilities to provide remote security visibility.
- Consider positioning CCTV cameras to maximize area covered and minimize coverage gaps.
- Consider electrical power and communication bandwidth requirements and confirm sufficient conduit capacity to include wiring for cameras.
- Consider mounting CCTV cameras on lighting standards for optimum viewing of mobility hub surroundings.
- Consider the appropriate party to operate and maintain the surveillance videos.
- CCTV cameras for mobility hubs do not necessarily need to meet the requirements for roadway surveillance. The CCTV cameras for mobility hubs are typically not for real-time monitoring.

Exhibit 21 CCTV camera at Buena Park Metrolink Station.

Emergency Telephone

An emergency telephone, also known as an emergency callbox or emergency phone, is a communication device specifically designed for situations where individuals require immediate assistance or emergency services. These phones include an emergency call button that, when pressed, connects directly to the local 911 emergency call center to provide a quick and reliable means of audio communication during emergencies. Emergency telephones should comply with accessibility guidelines and have an alternate power source such as solar or battery power.

Consideration for Application

- Coordinate with local law enforcement on utilizing automatic location identification technology in callbox.
- Consider establishing emergency telephones in parking areas, station platforms, and waiting areas.

Exhibit 22 Emergency callbox in a parking structure by the Orange Metrolink Station.

Public Wi-Fi and Charging Ports for Mobile Phones

Public Wi-Fi allows free connection for users to get transit information, get directions, pay fares or fees, or use transportation and other apps, without a data plan. Providing Wi-Fi and charging ports can improve accessibility of information for mobility hub users.

Considerations for Applications

- Personal devices can be charged over a power-only USB port or through wireless charging.
- Evaluate if there is sufficient broadband infrastructure available at the mobility hub site. If unavailable, funding programs or partnerships may be available to extend broadband access.

Exhibit 23 The city of Columbus (OH) offers free Wi-Fi at its mobility hubs across their jurisdiction.

Source: Brent Warren for ColumbusUnderground.com.

PLACEMAKING

Lighting

Lighting affects safety and security of mobility hub users and the general public. Good lighting can enhance a waiting passenger's sense of comfort and security; poor lighting can encourage unintended use of the facility by non-bus riders, especially after hours. Lighting enhances safety, visibility, and aesthetics, while also providing guidance and creating a welcoming atmosphere for travelers and pedestrians. Well-lit areas deter criminal activities and enhance the overall sense of safety.

Consideration for Application

How will the lighting be powered and operated?

- Consider early coordination with the utility provider to ensure sufficient electrical capacity.
- Consider using sustainable lighting and fixtures that minimize light pollution, such as LED with warm color temperature, full shielding to prevent upward light emission, and ideally, a "Dark Sky" certification from the International Dark Sky Association to ensure proper design to minimize light trespass and avoid unnecessary glare.
- Install lighting in key areas, including intersections, under and over passes, crossings, paths or trails, tunnels, viaducts, and near signage.
- Consider the local context of the mobility hub when designing lighting. Light levels should be compliant with local lighting standards for safety, security, and enjoyment, while not negatively impacting the neighboring communities.
- Consider pedestrian-scale lighting, which is positioned lower and closer together than roadway lighting, to improve safety and visibility, highlight pathways, and prevent tripping hazards.

Landscaping

Landscaping of areas partly or completely covered with grass, trees, or shrubs, in and around parking areas improves visual aesthetics, reduces soil erosion and carbon dioxide emissions, and provides shade while minimizing the heat island effect that results from asphalt, large building surfaces, andparking lots.

Consideration for Application

- Many local agencies have landscaping requirements for parking facilities within their jurisdiction. In such cases, the landscaping design at a mobility hub should consider these requirements. Where no local design requirements for landscaping are available, the following general requirements may be considered.
- Install drought tolerant (preferably native plants) landscaping, efficient irrigation systems, and climate-adapted plant material with low water and maintenance requirements.
- Install landscaping in parking lots and walkways to reduce the heat island effect. In large parking areas, planters help with the flow of car and pedestrian traffic by improving visibility and filtering stormwater runoff.
- Use high canopy trees, low shrubs, or ground cover to avoid obstructing driver views and signage.
- Group plants together according to water, sun and shade, and soil requirements.
- Avoid grass lawns, which are the most water intensive form of landscaping.

- Preserve and develop existing tree canopies, soils, and native vegetation where possible. Avoid palm trees.
- Avoid trees that drip sap or drop large quantities of fruit, flowers, seed pods, or leaves in parking lots.

Community Art Themes (Local Art and Murals)

Community-centered art is a common method to integrate and connect with the local neighborhood by creating opportunities for community members to provide input, partnering with local artists or organizations, showcasing the community's identity, and establishing a sense of place. Community-centered art also can improve the perception of safety for mobility hub users.

Consideration for Application

- Partnering with residents, community organizations, nonprofit organizations, local businesses or schools, and local artists in planning and creating an artistic theme for the mobility hub.

Exhibit 24 Mural at the Oxnard Transportation Center in Oxnard, California.

Plazas

An open, community-centric space located at the mobility hub offers a flexible area to be used as a pedestrian plaza, an event space, or a community meeting space. This public space can be activated based on the unique needs of the surrounding community.

Considerations for Application

- Consider maintenance of the space, especially for landscaping or permanent fixtures located within the plaza.
- If the plaza is available for events, consider the access of necessary vehicles, such as for event set-up or food trucks.
- Consider the amenities and utilities for the variety of uses the space can host that might benefit from restrooms, trash receptacles, lighting, and energy sources.

Exhibit 25 A night market event at the Culver City Station Plaza.

Parklets

Parklets are public spaces occupying one to two parking spaces within a street or parking lot to provide features such as benches, tables and chairs, landscaping, and local art.

Considerations for Application

- Consider the entrances and exits to the parklet to ensure accessibility and safety.
- Raise the parklets from the street level to allow for drainage and separation from street.

- Use physical barriers, such as planter boxes or railings to separate the parklet from street traffic.
- Ensure that parklets are easy to move and relocate in case of an emergency.
- Contact the appropriate city agency to apply for any necessary permits for the parklet.

Exhibit 26 Parklets located in the city of Boston.

Event and Meeting Spaces

Flexible spaces at the mobility hub can encourage social interaction and community participation. Local agencies, organizations, and individuals can utilize these spaces, whether a small room or a larger community center, as a convenient location for community meetings, outreach opportunities, and more.

Considerations for Application

- Consider the maintenance and operations of the room or space. You might need to utilize a system to manage reservations.
- The space can be located indoors or outdoors.

Exhibit 27 City of Moorpark special event held at City Downtown Metrolink Station hub.

Conceptual Design

Once you have the list of facilities, features, elements, and design parameters identified for your selected site, the next step should be to develop a conceptual design of the mobility hub. Mobility hub conceptual design, including the design, layout, and availability of transportation options at a mobility hub, will depend on the local context, nearby transit options, and existing and future land use patterns.

A well-developed conceptual design is a crucial foundation for a successful project and is used to communicate with stakeholders. It should incorporate feedback from stakeholders and communities, including facilities and spaces ideal for the mobility hub typology within the constraints of the location and illustrating how the desired amenities can fit together cohesively. Conceptual design will also help to

refine the scope and cost estimate. The Riverside County Vine Street Mobility Hub project team developed an extensive conceptual design for use during community engagement.

Case Study: SCAG's 710 North Mobility Hubs Study

SCAG, Los Angeles. County Public Works, the Los Angeles Department of Transportation, California State University L.A., the city of South Pasadena, the city of Alhambra, and Metro partnered to create the 710 North Mobility Hubs Plan. This plan showcased how meaningful community engagement can help create conceptual plans of mobility hubs that incorporate stakeholder feedback.

Step 3. Implement the Mobility Hub

Paths to Implementation

After planning and designing your hub, a variety of pathways to implementation can be used to deploy project elements over time, all at once, or on adjacent sites and rights-of-way. Collaboration within the planning team helps determine the best strategy for funding and implementation, including launch, branding, marketing, public messaging, and operations and maintenance. This guide recommends a flexible approach to implementation that works in a wide variety of circumstances. When choosing an implementation approach, consider the local and regional context of the proposed mobility hub, including community interest and reception, funding sources and budgetary limitations, political considerations, and partnership opportunities.

- **Pop-up projects.** A temporary demonstration project exhibit that invites conversation and feedback around potential design or infrastructure improvements. **Exhibit 28** depicts a pop-up project hosted by the Sacramento Area Council of Governments, where community members in Yuba City conceptualized what a mobility hub might look like in the region.
- **Pilot projects.** Pilot projects are a proof of concept to assess the potential success of a mobility hub installation and test scalable designs. They allow the implementing agency to test services, amenities, and innovations prior to larger-scale investments. Pilot projects can include use of modular components that are easy to install and uninstall. Similar to traditional projects, community engagement is important to establish and report measures of success.
- **Quick-build projects.** Quick-builds are temporary projects that require minimal construction activity and budget to provide communities with benefits in a shorter timeframe than a larger-scale project.
- **Incremental or phasing strategies.** When working with budgetary and resource constraints, incremental or phasing strategies prioritize implementation of more critical and relevant features, assets, and amenities, adding less critical components over time. Adding the full kit of parts can take time, and it might not make sense or be necessary to build the entire vision upfronting one phase of construction. The implementation strategy should consider which elements and services are required on day one and which can be layered over time (e.g., "nice to have" features that require very little space) according to mode priority, project goals, performance outcomes, and user and community input. Also consider aligning the incremental improvements as opportunities arise (e.g., development fees, tax-increment funding, partnerships, grant funding, etc.).
- **Full build-out.** Typically aligned with new or expanded transit stations and exchanges, full build-out projects develop all project elements in one step. Full build-out allows for the flexibility to design and build the mobility hub that contains all the features needed to best meet the needs of the community and usually requires the most initial capital.
- **Direct public action.** Direct public action can be achieved when land, either developed or open space, is owned by the implementing agency, allowing them the authority to design and implement the mobility hub.
- **Partnerships.** Consider incorporating city or state-wide partnerships with private mobility service providers to streamline the provision of first and last mile multimodal options at anchor transit

stations. Public-private partnerships allow for pooled resources for implementation with the condition of shared financial interest. These can include joint development land value, advertising and sponsorship, developer incentives (e.g., reduced parking requirements, mitigation, or density bonuses), and private service leases.

- **New developments.** Agreements with private developers on new projects can include provisions or conditions to add hub services and amenities. Streetscape and landscaping, electric vehicle charging, common carrier lockers, real-time information screens, and other common elements can be negotiated. Equity and community building features are also commonly included in development agreements. While some developers recognize the value in including mobility hub elements in their projects, others might only include these elements when required as part of the project plan to reduce single-occupancy car trip caps or as vehicle miles traveled mitigations required under the California Environmental Quality Act.
- **External site improvements.** Collaborate with partners and stakeholders to extend the mobility hub environment beyond the site by including active transportation and transit priority measures along connecting corridors to the mobility hub.

Pilot, quick-build, and pop-up projects are attractive options for local agencies because they allow testing of new and innovative ideas, require a smaller budget, provide "quick wins" for the community, and scale to other locations. When planning for a mobility hub, consider one of these options if they align with the project's constraints and goals.

Exhibit 28 A community member builds their own mobility hub concept using magnetic elements on a whiteboard.

Source: Sacramento Area Council of Governments (SACOG)

Case Study: East Boston GoHubs! Pilot Program

The city of Boston launched the East Boston GoHubs! Pilot Program in 2020 to identify transportation gaps and needs, collect feedback on proposed mobility hub locations and components, identify placemaking opportunities, engage partners for implementation, build awareness and community support and ownership, and pilot the engagement, planning, and design process. Eight GoHubs! (the branded name of Boston's mobility hubs) were created at locations chosen through community input, with a focus on environmental justice communities.

The pilot program added three Bluebike bikeshare stations, 33 Bluebike bikeshares, bike parking racks, carshare spaces for Zipcar and Getaround, four smart benches with Wi-Fi and personal device charging, and improvements for pedestrian safety, greening, and placemaking. The program, funded by a grant from the Massachusetts Department of Transportation's Rail and Transit Division, gathered survey submissions from over 400 participants to better understand travel behaviors and existing transportation gaps.

Key findings included:

- 52 percent of Bluebike rides in East Boston started at a GoHub! in summer 2022, one year after pilot kickoff.
- Sites in residential areas far from the subway saw the highest demand for Bluebike and carshare amenities, with a 110 percent increase in Bluebike ridership at their Eagle Hill hub and a 72 percent increase in Bluebikes ridership at Porzio Park.
- Placemaking and public art elements were very popular, with 61 percent of respondents to a community survey expressing interest in parklets and 57 percent of respondents interested in public art features.

Next steps included: expanding the city mobility hub program by focusing on areas with anticipated transportation-related Capital projects, focusing on locations with robust bus service that are 10+ minutes from a subway station; and expanding its kit-of-parts program to support two additional citywide goals, by leveraging innovation and technology and reducing greenhouse gas emissions through mode shift.

Did you know?

SCAG's Toolbox Tuesday Trainings

SCAG offers online skills training for topics such as "Innovative Technologies and Smart City Projects and Pilots," "Arts & Active Transportation Safety," and "Quick-build Projects for Roadway Safety and Complete Streets." These "Toolbox Tuesday" trainings offer additional information on planning and implementing your projects and can provide information and tools to help you get started. To receive invitations to upcoming trainings, subscribe to updates.

Ongoing Adjustments, Upgrades, and Enhancements

Mobility hubs take advantage of new transportation technologies and approaches such as intelligent transportation systems, identify future technology needs, and closely coordinate implementation with local development plans.

Rapid change and evolution should be planned for to the extent possible. For example, electric vehicle (EV) charging technologies have changed charging standards, connector types, charging speeds, and network integrations in just the past several years. Changes in smart-charging technology have resulted in charger installations that original equipment manufacturers no longer support.

Other technologies, such as real-time web- and mobile-enabled trip planning and ride-sourcing services, are changing how people travel. The advent of connected vehicles, autonomous vehicles, and EVs are already transforming mobility. Similarly, new microtransit and micromobility alternatives, such as bikeshare and scooter share, are changing how people travel, particularly how they access high-quality transit services.

MANAGING DATA AT THE CURB

Two of the new transportation technologies emerging as a tool for cities to manage their transportation networks are Mobility Data Specification (MDS) and Curb Data Specification (CDS). MDS standardizes communication and data-sharing between cities and private mobility providers, like e-scooter and bike-share companies, allowing cities to manage transportation better in the public right of way. CDS helps cities and companies pilot and scale dynamic curb zones. CDS communicates static and dynamic regulations, measures activity at the curb, and develops policies that create more accessible, useful curbs. Consider utilizing these tools to streamline coordination with shared mobility providers, which may be necessary for your mobility hubs.

PERFORMANCE METRICS

Mobility hubs are integral to daily transportation network services. Performance measures not only help track progress and success in achieving the goals and objectives but also provide continuous insight into opportunities for improvement. Key performance indicators (KPIs) can monitor the progress of the most critical objectives of a specific mobility hub location or a system-wide network of mobility hubs.

KPIs should include measures to evaluate the use and effectiveness of mobility hubs such as:

- Percentage of trips utilizing a mobility hub.
- Percentage change in mode usage.
- Percentage change in access to job centers within 30 minutes via transit or active transportation.
- Percentage change in mode usage in disadvantaged communities.
- Percentage change in access to job centers from disadvantaged communities by 30-minute transit or active transportation trip.
- Number of affordable housing complexes within a half mile.
- Number of housing units starting within a half mile.
- Number of planned housing units within a half mile.
- Total value for commercial projects constructed within a half mile.
- Number of supported affordable housing units created per year within a half mile.

- Percentage of households that pay 30 percent or more of income on housing within a half mile.
- Number of changes and access to quality of services available to environmental justice or disadvantaged communities.

For these measures, accurate and comprehensive data collection will be essential. To the extent possible, incorporating technological devices to automatically collect and store data and calculate these KPIs will help agencies measure and monitor the progress of mobility hubs.

Best Practices: Mobility Hub Evaluation

Guides and plans from other agencies provide great examples of evaluation measures for mobility hubs. Both the Metropolitan Transportation Commission's (MTC) "Mobility Hub Playbook" and the "Boston GoHubs! Guidebook" outline key performance indicators and metrics to evaluate mobility hub implementation.

MTC's "Mobility Hub Playbook" organizes key measures based on categories, including coordinated mobility, climate action, equitable mobility, exceptional experience, value, and safety. Data collection methods and goals are described for each measure. For example, one of the coordinated mobility measures is the number of daily transit boardings and alightings. This data is collected via automated passenger counts, and the goal is to increase this number.

The "Boston GoHubs! Guidebook" uses the following metrics to evaluate pilot programs:

SHORT-TERM EVALUATION

- Ridership data
- Utilization of services, number of trips
- Review of engagements (311, emails, phone calls, online feedback)
- Calculating curb productivity
- Observed use
- Surveying of public n transportation options, sense of place, safety, comfort, and usefulness
- Surveying of private operators and MBTA on user experience

LONG-TERM EVALUATION

- Ridership data
- Mode shift
- A reduction in vehicle mile traveled
- Reduced fossil fuel use/CO2 emissions
- Economic impact on businesses
- Observed use

Operations & Maintenance

As with any other facility or shared space, mobility hubs will require ongoing operations and maintenance. Operations include continuous evaluation of the mobility hub services and facilities, transportation connections, utilization, customer satisfaction, and key performance outcomes.

Operations controls are the mechanisms, procedures, and systems established to manage and regulate the day-to-day operations of the facility. They play a key part in achieving performance outcomes by ensuring smooth operations, efficient resource uses, and positive mobility hub user experiences. With more widespread use of multimodal transportation comes a greater need for operational controls.

Identifying and implementing operational needs, which can differ by site, should be coordinated with relevant stakeholders. The table below outlines typical operations controls.

Exhibit 29 Operations Controls Summary

Operations Controls	Description
Access Controls	Determine who can enter the facility and when. Access controls include ticketing or access card systems, barriers, or gates that regulate vehicle and passenger flow.
Parking Management	Organize and monitor the allocation of parking spaces. Parking management controls include signage, designated areas for vehicle types, and monitoring systems to enforce parking and use regulations. Potentially include emergency management, such as facility closures or evacuations.
Traffic Management	Ensure smooth traffic flow within the mobility hub. Traffic management controls include clear signage, road markings, traffic signals, and designated routes for entering, exiting, and navigating the facility.
Security and Safety	Ensure a safe and secure environment for consumers. Security and safety controls involve active security and safety operations, including technology devices, in-person patrols, and on-site personnel or enforcement patrols.
Maintenance and Cleanliness	Ensure the facility is well-maintained and welcoming. Maintenance and cleanliness controls include scheduled cleaning routines, regular inspections, and maintenance checks.
Customer Service and Information	Provide users with a positive experience and relevant information. Controls include the presence of staff or automated systems to help, provide guidance, and address consumer queries or concerns.

There are two levels or types of mobility hub site operations: monitoring and active management. For any of the controls, site operations might require only monitoring, while others require active management. The mobility hub topology, integration with the local and regional multimodal transportation systems, and stakeholder collaboration will determine the type of site operations and requirements. Once information is gathered, collaborate with relevant stakeholders to collectively determine the operations controls needed for the site and whether the operations need to be active management or if monitoring will suffice.

Funding Resources

Identifying and securing funding for your project is one of the most critical steps to project development and implementation. Whether improving an existing hub or building a new hub, the project can be funded by one agency or might require co-funding by multiple agencies. There are various competitive funding programs available to fund the planning, design, or construction of mobility hub projects, whether in part or in full. Programs can have specific focus areas, such as technology demonstrations, improvements to disadvantaged or historically marginalized communities, safety, improvements to a state or national transportation network, or others. Keep in mind that securing and maintaining competitive funding will require preparing, and submitting, an application. If awarded funding, projects and programs might be required to provide progress reports or data to the funding agency.

The tables below include, but are not limited to, discretionary competitive programs from federal, state, and regional and local sources that fund projects that plan, design, or constructs improvements to mobility hubs or mobility hub elements. If a program only offers funding for part of your mobility hub, consider a phased project implementation approach.

Exhibit 30 Regional Funding for Mobility Hubs and Mobility Hub Elements

Regional Agency	Funding Program	Program Goal
Southern California Association of Governments (SCAG)	Sustainable Communities Program	Offers technical assistance and funding for agencies responsible for land use and transportation decisions.
	Local Communities Engagement and Safety Mini-Grant	Funds for projects that build street-level community resiliency and increase the safety of vulnerable street users.
Los Angeles County Metropolitan Transportation Authority (Metro)	Visionary Seed Fund	For pilot projects that test and assess ridership strategies that demonstrate through measurable outcomes how to grow ridership to pre-COVID levels and beyond, including improving first/last mile connections, addressing women's transportation needs, easing payment and navigation, and other creative proposals that will assist the region in restoring and growing ridership.
	Access for All	For projects that increase the availability of on-demand wheelchair accessible vehicle service in Los Angeles County.

In addition to competitive grant programs, local agencies have other methods of funding projects or requiring improvements to sites. These include:

- Sales tax funding by self-help county transportation agencies.
- Parking revenues.
- Transportation impact fees.
- Developer requirements.
- Transportation demand management requirements.
- Tax increment financing.
- Community benefit districts.
- Mello-Roos community facilities districts.

Exhibit 31 State Funding for Mobility Hubs and Mobility Hub Elements

State Agency	Funding Program	Program Goal
California Transportation Commission	Solutions for Congested Corridors Program	Funds projects that are part of a comprehensive corridor plan, and improves transportation, environmental, and community access improvements to reduce congestion throughout the state.
	Local Partnership Program	Funds agencies that have voter-approved fees or taxes dedicated to transportation improvements.
	Active Transportation Program	Funds projects that increase the proportion of trips accomplished by walking and biking.
California Department of Transportation (Caltrans)	State Highway Operations and Protection Program	"Fix-it-first" program to fund improvements on the state highway system.
	Sustainable Communities Grant	Funds local and regional multimodal transportation and land use planning projects that further Connect SoCal goals and contribute to the state's greenhouse gas reduction targets.
	Strategic Partnership Transit Grants	Funds multimodal planning studies with a focus on transit.
	Local Highway Safety Improvement Program	Funds for work on any public road or publicly owned bicycle or pedestrian pathway or trail, specifically for safety projects that can be designed and constructed expeditiously.
California Air Resources Board	Clean Mobility Options Voucher Pilot Program	Funds community-driven mobility projects that increase residents' access to key destinations by providing various clean transportation options, including bikeshare and ride-on-demand services.
	Sustainable Transportation Equity Project	Funds clean transportation and supporting projects that support transportation equity.
California Department of Housing and Community Development	Transit-Oriented Development Housing Program	Funds infrastructure improvements necessary for development of specified housing developments, with the goal of increasing transit ridership.
California Strategic Growth Council	Transformative Climate Communities Program	Funds development and infrastructure projects that achieve environmental, health, and economic benefits in disadvantaged communities.
California Office of Traffic Safety (OTS)	California OTS General Grants	Funds for addressing traffic safety problems, including for pedestrians and people on bikes.

Exhibit 32 Federal Funding for Mobility Hubs and/or Mobility Hub Elements

Federal Agency / Funding Program		Program Goal
Federal Transit Administration	All Stations Accessibility Program	Funds capital projects that make all public areas of a rail station accessible to people with disabilities.
	Areas of Persistent Poverty Program	Funds planning, engineering, or development of plans for projects to assist Areas of Persistent Poverty or Historically Disadvantaged Communities.
	Accelerating Innovative Mobility	Funds activities leading to the development and testing of innovative mobility (planning and development, equipment procurement, etc.).
	Enhancing Mobility Innovation	Funds technology projects that focus on improving mobility and traveler experience through demonstration projects or software solutions.
	Integrated Mobility Innovation	Funds demonstration projects focusing on mobility on demand, transit automation, and mobility payment integration.
	Mobility on Demand Sandbox Demonstration Program	Funds demonstration projects focusing on innovative mobility on demand and transit integration concepts.
	Pilot Program for Transit-Oriented Development Planning	Funds for communities to integrate land use and transportation planning for a new transit project corridor through a planning study.
	Public Transportation Innovation	Funds to advance innovative public transportation research and development.
Federal Highway Administration	Advanced Transportation and Congestion Management Technologies Deployment Program	Funds for development of model deployment sites for large scale installation and operation of advanced transportation technologies to improve safety, efficiency, system performance, and infrastructure return on investment.
	Advanced Transportation Technology and Innovation	Funds to deploy, install, and operate advanced transportation technologies to improve safety, mobility, efficiency, system performance, intermodal connectivity, and infrastructure return on investment.
	Surface Transportation Block Grant	Flexible funding for transportation projects, including improvements for highways, bridges, public roads, pedestrian and bicycle infrastructure, and transit capital projects.
U.S. Department of Transportation	Neighborhood Access and Equity	Funds to improve walkability, safety, and affordable transportation access, especially in disadvantaged or underserved communities.
	Rebuilding American Infrastructure with Sustainability and Equity	Funds for surface transportation infrastructure projects with significant local or regional impact.
	Safe Streets and Roads for All	Funds for projects to prevent deaths and serious injuries on the nation's highways.

Public-Private Partnerships

Public-private partnerships (PPPs) can be developed with mobility service providers to place and rebalance bikes and scooters, developers and large employers to build and operate mobility hubs, and local business management districts to provide incentives and keep the hub clean and safe. A partnership memorandum of understanding (MOU) can serve to delineate roles, responsibilities, and expectations for each entity.

Advertising and sponsorship from companies that buy and display media can outfit hubs with mobility and experiential amenities. This might be a way to access direct funding that is less competitive. Cities may formalize these partnerships through MOUs to memorialize roles, expectations, service level agreements, and in-kind contributions.

Using PPPs to implement improvements contributes to one of two goals: 1) minimize financial and schedule risks by holding a private concern financially responsible for maintaining project budget and ensuring timely delivery and 2) secure private investments that can be recovered through some type of charges (e.g., tolls on managed lanes). Therefore, PPPs might not be conducive to implementing all mobility hub improvements. However, some elements of mobility hub improvements may be funded by PPP, including installing electric vehicle (EV) chargers, concessions, or even naming rights.

Case Study: The Metropolitan Transportation Commission's EV Car Sharing and Mobility Hubs in Affordable Housing Pilot Program

In 2017, the Metropolitan Transportation Commission (MTC) partnered with TransForm, a nonprofit that promotes walkable communities with viable transportation choices to connect people of all incomes to opportunity, on a pilot project to launch mobility hubs at affordable housing developments in Richmond, Oakland, and San Jose. These hubs included on-site EV charging for a carshare fleet, e-bikes, folding bicycles, secure bike parking, and real-time arrival information for nearby transit services. This project aimed to tackle equity and climate change at the same time and was funded with California Climate Investments grant funding from the California Air Resources Board.

Other examples of PPPs include:

- Operations and Maintenance – Hub owner outsources ongoing maintenance as a contracted municipal service, e.g., street furniture managed by JCDecaux, OUTFRONT, and Clear Channel. For example, Pittsburgh, Pennsylvania, works closely with Lime to operate its scooter-based mobility hubs.
- Design-Build – Private contractor designs and builds a new or upgraded mobility hub as part of conditions of private development.
- Design-Build-Operate-Maintain – Private contractor staffs the facility after construction. According to MTC, this approach is typically designed as a "public concession model," and it

requires public funds. Examples include MTC's Affordable Housing Mobility Pilot (described earlier), and the cities of Los Angeles and Long Beach working with Tranzito to build a network of mobility hubs in exchange for future revenues from ad panels on site.

- Design-Build-Finance-Operate or Maintain – Private sector finances project entirely to benefit private business operations. Examples include the mobility hub at the Wilshire Grand building in downtown Los Angeles, funded by the developer.

Case Study: Advertiser-Supported Bus Stops
City of Los Angeles partnership with Tranzito and Vector Media

Source: Tranzito

The city of Los Angeles contracted with Tranzito, an urban mobility operator, and Vector Media, a transit advertising company, to build 3,000 high-tech bus shelters in Los Angeles by 2033. The bus shelters will include amenities such as canopies, digital displays with real-time bus information, Wi-Fi, phone charging stations, solar panels, integrated lighting, and package lockers. Digital advertising will be displayed through the screen at the shelters, which will provide revenue to support the bus stops.

Appendices

Appendix A: Best Practices and References

Appendix B: SCAG Prioritized Mobility Hub List

Appendix C: Conceptual Designs for Priority Projects

Appendix A: Best Practices and References

Mobility Hub-Specific Planning Documents and Best Practices

Agency/Organization	Document Name	Description
Arlington County	"Mobility Hubs Guidebook and Pilot Concept Design" (2021)	This report provides a step-by-step guide for the development of mobility hubs, citing precedent studies from Portland, Oregon; Washington, D.C.; and Boston. It also proposes a prototype design for Arlington County, Virginia.
California Department of Transportation (Caltrans)	Caltrans Statewide Mobility Hubs Facilities Improvement Plan (2023) and "Caltrans Mobility Hub Design and Operations Guide" (2024)	The Caltrans Statewide Mobility Hub Facilities Improvement Plan defines the Caltrans Mobility Hubs program and addresses the required five-step process of the State Highway System Management Plan: 1) establish a baseline inventory and asset conditions, 2) identify needs and performance metrics, 3) set target conditions, 4) determine performance gaps, and 5) estimate costs to address the performance gaps. The "Caltrans Mobility Hub Design and Operations Guide" is intended to provide information and guidance to help Caltrans improve existing mobility hub facilities and build new ones in collaboration with Caltrans partner agencies and stakeholders.
City of Boston	"GoHubs! Neighborhood Mobility Hubs Guidebook" (2022)	This paper outlines Boston's plan for implementing citywide mobility hubs as part of the city's 2030 transportation vision. It defines three forms of hubs (gateways, squares, and points) and provides a kit of parts that can be tailored to the requirements of specific locations.
City of Columbus	Smart Mobility Hubs (SMH) Concept of Operations (2018)	This report details the Concept of Operations for the city of Columbus Smart Columbus program, with a goal to connect people by creating opportunities for Columbus, Ohio residents to better access jobs and services while improving the overall safety and efficiency of the transportation network.
City of Hamilton, Canada	James Street North Mobility Hub Study (2014)	This report examines the James Street North station area mobility hub in the Greater Toronto and Hamilton Area. It provides an introduction, planning framework and background, key directions, design guidelines review, and implementation and phasing of the project.
City of Los Angeles Department of Transportation (LADOT)	Mobility Hubs – A Reader's Guide (2016)	LADOT's mobility hubs guide provides guidance and inspiration for city staff, property owners, developers, designers, transit agencies, and community members for enhancing project developments and public right of way improvements in proximity to existing or new transit stations with amenities, activities, and programs to support multimodal connectivity and access.

Agency/Organization	Document Name	Description
City of Minneapolis	Minneapolis Mobility Hub Pilot Program – 2019 and "2020 Minneapolis Mobility Hubs Pilot Report"	In 2019, Minneapolis, Minnesota launched a mobility hub pilot program to increase access to convenient, low-, or no-carbon transportation options, including transit, shared scooters, and Nice Ride bicycles. The three-month pilot program was intended to introduce the concept of mobility hubs to the public and help inform a long-term approach to implementing a larger mobility hub network in Minneapolis. The city collaborated with Metro Transit, Hennepin County, mobility service providers, and neighborhood organizations on the pilot. Mobility Hub locations in 2020 built upon the 2019 network, adding an additional 13 hubs to total 25 locations, including seven locations from 2019. Mobility Hubs are now located in 14 neighborhoods throughout Minneapolis.
City of Oakland	"Mobility Hub Suitability Analysis Technical Report" (2015)	The report details a study on the optimal placement of future mobility hubs throughout Oakland, California, and the distribution of modes at each hub. The report emphasizes social equity and environmental resiliency.
City of Pittsburgh	Move PGH Pilot Program	Move PGH was a two-year pilot program to integrate transportation options in Pittsburgh, Pennsylvania, to make mobility more affordable, accessible, sustainable, and equitable. This pilot was conducted from July 2021 to July 2023, during which Pittsburgh residents and visitors took over a million trips on shared e-scooters and bikes and purchased hundreds of thousands of digital tickets. Move PGH is a public-private partnership that connected Pittsburghers with flexible, low-cost transportation options. This pilot program ended July 2023 and installed 25 mobility hubs in Pittsburgh. Documents include: "Mid Pilot Report," "E-Scooter Pilot Report," E-Scooter Operation and Pilot Program Policy, E-Scooter Executive Order, E-Scooter Operations Permit, and Spin Operating Plan.
Collaborative Mobility UK (CoMoUK)	Mobility Hubs Guidance (2019)	The report introduces the concept and benefit of mobility hubs. It uses case studies to show design tailored to local scenarios and contexts.
Institute of Transportation Engineers (ITE)	Mobility Hubs – ITE Technical Brief (2022)	This report documents the current state of the practice of mobility hub planning. It is intended to help promote the mobility hub network concept as a form of development that can support greater sustainability in transportation and urban development.
Metropolitan Transportation Commission (MTC)	"Bay Area Regional Mobility Hubs: Mobility Hub Implementation Playbook" (2021)	The playbook provides comprehensive technical assistance and guidance to public agencies looking to install mobility hubs. It discusses seven 'plays'—assigning and configuring a hub kit of parts, phasing and layering hub amenities, enriching the community, applying governance and management, informing the customer, measuring and iterating, and unlocking funding.

Agency/Organization	Document Name	Description
North Carolina Department of Transportation	North Carolina Regional S-Line Mobility Hub Plan [Grant Application Report] (2022)	This plan advances regional multimodal transportation along the S-Line Rail Corridor in central and eastern North Carolina—enhancing mobility options, improving social equity, increasing the resilience of the transportation network, improving the environment, and spurring economic growth.
Orange County Transportation Authority (OCTA)	Orange County Mobility Hubs Strategy (2022)	This report identifies areas of high potential for a future county-wide mobility hub network based on their mode shift and vehicle miles traveled impacts and then provides a planning and implementation framework.
Portland Bureau of Transportation	"Mobility Hub Typology Study" (2020)	This report shares lessons learned from recent implementations of mobility hubs in Portland, Oregon, and elsewhere and defines four types of mobility hubs (mini, minor, mid-size, and major) suitable for the Portland context.
Regional Transportation District (RTD)	RTD Mobility Hub Guidelines (2019)	This guidebook explores ways for RTD and agencies throughout the greater-Denver region to cost-effectively improve and expand transit access, while also offering customers more ways to make more trips. The report contains an overview of different mobility hub typologies and provides a toolbox of hub components and guidance on the use of each treatment.
Sacramento Association of Governments (SACOG)	"Regional Mobility Hub Design Guidance" (2024)	SACOG developed its guidance document to create a network of regional mobility hubs that prioritizes people through universal accessibility, safety, and community integration. These hubs will seamlessly connect two or more modes of transportation: transit, bike, pedestrian, scooter, shared mobility services, carpooling and vanpooling, and on-demand services. The purpose of the report is to establish a clear definition and vision for mobility hubs in the Sacramento region; tie directly to the Next Generation Transit Strategy's focus on customer experience; provide a planning and implementation framework for local jurisdictions and transit agencies; identify high-potential locations for future mobility hubs; and align mobility hub development with broader regional goals for sustainability, equity, and economic vitality.
San Diego Association of Governments (SANDAG)	Regional Mobility Hub Implementation Strategy (2017)	Consisting of a memo, SANDAG's Regional Mobility Hub Implementation Strategy features a catalog and implementation memo. The strategy also offers guidance on establishing mobility hubs in existing and new developments, highlights how hubs can best serve disadvantaged communities in San Diego and Imperial counties, and provides a catalogue of services, facilities, and technologies that can be implemented in a mobility hub.
Seattle Department of Transportation (SDOT)	"EVSE Roadmap for Shared Mobility Hubs" (2018)	This roadmap outlines an initial regional strategy for Seattle to test an innovative method to increase EV adoption in shared mobility services. SDOT is looking to provide improved connections to public transit via electrically-powered shared mobility services, in accordance with the Department of Energy's broader multi-regional project titled Making the Business Case for Smart, Shared, and Sustainable Mobility Services.

Agency/Organization	Document Name	Description
Southern California Association of Governments and Partners	I-710 North Mobility Hubs Plan	The 710 North Mobility Hubs Plan is the result of a multi-jurisdictional initiative to improve mobility and the quality of life in the heavily congested region surrounding the northern end of the 710 Freeway. This plan identifies 10 future mobility hub locations that offer more transportation options, public spaces, and environmentally friendly features in the area bounded by Union Station in downtown Los Angeles; the South Pasadena A Line Station; the Los Angeles County Public Works headquarters in Alhambra; California State University, Los Angeles; and surrounding neighborhoods.

Other References (Design Guides, Research Papers, White Papers, Presentations, Other Planning Documents)

Agency/Author/Organization	Document Name/Link	Description
American Association of State Highway and Transportation Officials (AASHTO)	AASHTO Publications Catalogue	This document summarizes relevant AASHTO publications relating to bridges and structures, materials, maintenance, construction, passenger rail and freight, highway transport and trucking, administration and economics, design and traffic, safety, environment, reports, and asset management and planning.
Aono, S.	"Identifying Best Practices for Mobility Hubs" (2019)	This project was performed in collaboration with TransLink to explore the concept of mobility hubs to implement strategies and initiatives that prioritize low emission transportation modes in the long term in the Vancouver, British Columbia region.
Bowman, M.	"Addressing Challenges to Mobility Hub Implementation at Suburban Commuter Rail Parking Lots in Greater Toronto" (2012)	This paper looks at the issue of parking demand and station area office development at station area mobility hubs in the Greater Toronto and Hamilton area in Ontario, Canada.
British Columbia Ministry of Transportation and Infrastructure	"Active Transportation and Transit-Oriented Development Design Guide" (2021)	The "Active Transportation Design Guide" helps communities in British Columbia build safe, effective active transportation infrastructure. The document provides guidance for pedestrian, bicycling, and multi-use facility design, as well as amenities and integration and post-implementation processes.
California Air Resources Board	2022 Scoping Plan for Achieving Carbon Neutrality (2022)	This plan lays out the sector-by-sector roadmap for California to achieve carbon neutrality by 2045 or earlier, outlining a technologically feasible, cost-effective, and equity-focused path to achieve the state's climate target.

Agency/Author/Organization	Document Name/Link	Description
California State Transportation Agency	California Transportation Plan 2050 (2021)	The California Transportation Plan for 2050 is the state's fiscally unconstrained long-range transportation roadmap for positive change. It outlines policies and strategies required to close the gap between what the area's regional transportation plans aim to achieve and what other goals must be met by 2050.
California State Transportation Agency	Climate Action Plan for Transportation Infrastructure (CAPTI) (2021)	CAPTI responds to Governor Newsom's call to climate action by outlining strategies and actions that will advance more sustainable, equitable, and healthy modes of transportation, as well as accelerate the transition to zero-emission vehicle technology. CAPTI leads with a vision for how to prioritize future state and federal transportation dollars to create good jobs and employment pathways for economic and community resilience and recovery.
Caltrans	"Park and Ride Program Resource Guide" (2010)	This report consolidates existing information to aid in the development of a robust park and ride system that will improve the performance of California's transportation infrastructure.
Caltrans	"Ramp Metering Design Manual" (2016)	The "Ramp Metering Design Manual" covers Caltrans' ramp metering policies, design standards, and practices for new or existing ramp meter installations. The manual applies when planning and designing ramp meters and is not intended to address operational topics.
Caltrans	"Highway Design Manual, 7th ed" (2020)	The "Highway Design Manual" includes chapters that address basic design policies, geometric design and structure standards, intersections at grade, landscape architecture at roadsides and roadside sites, bicycle transportation design, and more.
County of San Diego Department of Planning and Land Use	"Parking Design Manual" (2013)	This report, prepared for property owners, architects, engineers, developers, landscape architects, and others involved with use and the development of land in the unincorporated county of San Diego, was prepared to provide guidance on how to design parking areas that are in compliance with the county's regulations and procedures.
Fadel, E. H., Khodeir, L. M., & Nessim, A. A.	Design guidelines for pedestrian circulation requirements of multi-modal hub stations (2023)	The paper suggests a framework for design guidelines for pedestrian circulation requirements in multimodal hub stations in Egypt.
Horjus, J. S., Gkiotsalitis, K., Nijenstein, S., & Geurs, K. T.	"Integration of shared transport at a public transport stop: Mode choice intentions of different user segments at a mobility hub." Journal of Urban Mobility, 2, Article 100026. (2022)	The paper describes the results of a survey performed in the Hague, Netherlands, investigating the mode choice intentions of mobility hub users. It finds that younger people with a high education level and high level of digital skills have greater intention of using shared transport.

Agency/Author/Organization	Document Name/Link	Description
Los Angeles County Metropolitan Transportation Authority (Metro)	First/Last Mile Strategic Plan Case Study Sites (2013)	The First/Last Mile Strategic Plan selected 12 locations for case studies. The locations cover a range of Metro's Sustainable Community Planning Framework identified typologies, as well as a range of geographic, demographic and physical challenges that give a full view of the potential opportunities and constraints in need of addressing throughout Los Angeles County.
Metro	Blue Line First/Last Mile: A Community-Based Process and Plan	This Blue Line First/Last Mile Plan was prepared for all 22 stations on the Metro Blue Line. This report documents the inclusive, equity-focused community engagement process that took place. As part of the consultant team, Metro partnered with a coalition of community-based organizations to lead outreach efforts on the project, and to help shape the overall direction of this plan.
Orange County Transportation Authority and Caltrans District 12	"Beach Boulevard Corridor Study Final Report" (2020)	This report proposes a comprehensive multimodal transportation vision for the Beach Boulevard Corridor in Orange County. The study evaluates existing conditions, forecasts future growth, and develops solutions ranging from enhanced pedestrian, bicycle, and transit facilities to improved signal synchronization. The study provides local agencies with transportation options to guide and enhance local planning initiatives.
Southern California Association of Governments (SCAG)	Connect SoCal 2024 Regional Transportation Plan/Sustainable Communities Strategy	Connect SoCal 2024 embodies a collective vision for the SCAG region's future through 2050, developed with input from a wide range of constituents and stakeholders. Connect SoCal 2024 outlines the challenges facing the region, shared goals and policies, and the transportation investments and land use strategies needed to chart a path toward a brighter future.
SCAG	"Mobility as a Service (MaaS) Feasibility White Paper" (2022)	SCAG's "MaaS Feasibility White Paper" builds upon Connect SoCal 2020, which identified Key Connections at the intersection of land use, transportation, and innovation to advance policy discussions and strategies to leverage new technologies, create better partnerships, and increase progress on regional goals. One of the Key Connections is shared mobility and MaaS, emphasizing that the future of travel will be shaped by technology and the ability of residents to easily choose from and use a variety of travel options.

Appendix B

SCAG Prioritized Mobility Hub List

Location	Transit Provider	City
Fremont/Main	LACMTA (LA Metro)	Alhambra
Main/Palm	Alhambra Community Transit	Alhambra
Valley/Grand View	LA Metro	Alhambra
Valley/Atlantic	Alhambra Community Transit	Alhambra
Beach/Lincoln	Orange County Transportation Authority (OCTA)	Anaheim
City Center Parking Garages (FRAN)	OCTA	Anaheim
Euclid/Katella	OCTA	Anaheim
Euclid/La Palma	OCTA	Anaheim
Hampton Inn & Suites by Hilton	Anaheim Resort Transportation	Anaheim
La Palma/Harbor	OCTA	Anaheim
La Palma/State College	OCTA	Anaheim
Anaheim Station (Metrolink)	Multiple	Anaheim
Anaheim Canyon Station	Metrolink	Anaheim
Platinum Triangle	Anaheim Resort Transportation	Anaheim
Portofino Inn & Suites	Anaheim Resort Transportation	Anaheim
Arcadia Station (L Line)	LA Metro	Arcadia
Barstow Station (Amtrak)	Amtrak	Barstow
Florence/Atlantic	LA Metro	Bell
Santa Monica/Wilshire	Antelope Valley Transit Authority (AVTA)	Beverly Hills
Wilshire/Canon	AVTA	Beverly Hills
Wilshire/La Cienega	AVTA	Beverly Hills
5th/G	Imperial Valley Transit	Brawley
Buena Park Station	Metrolink	Buena Park
Orangethorpe/Magnolia	LA Metro	Buena Park
Burbank	Metrolink	Burbank
Burbank Airport North	Metrolink	Burbank
Burbank Airport South	Amtrak	Burbank
Olive/Hollywood	Burbank Bus	Burbank
South Buena Vista/West Olive	Burbank Bus	Burbank
West Alameda/Bob Hope	Burbank Bus	Burbank
Cal State Channel Islands	Ventura County Transportation Commission (VCTC)	Camarillo
Camarillo	Metrolink	Camarillo
Claremont	Metrolink	Claremont
EB Valley/La Cadena FS	Omnitrans	Colton
Commerce	Metrolink	Commerce
Artesia Station (A Line)	LA Metro	Compton

Location	Transit Provider	City
Compton Station (A Line)	LA Metro	Compton
Corona North Main	Metrolink	Corona
Corona West	Metrolink	Corona
Harbor/19th	OCTA	Costa Mesa
Harbor/Wilson	OCTA	Costa Mesa
Orange Coast College	OCTA	Costa Mesa
Placentia/19th	OCTA	Costa Mesa
Sunflower/Bristol	OCTA	Costa Mesa
Victoria/Placentia	OCTA	Costa Mesa
Culver City Station (E Line)	LA Metro	Culver City
SW Slauson/Sepulveda	Culver CityBus	Culver City
Washington/Lincoln	Culver CityBus	Culver City
Washington/Sepulveda	Culver CityBus	Culver City
Garfield/Gardendale	LA Metro	Downey
Lakewood Station (C Line)	LA Metro	Downey
Limonite/Pats Ranch	Riverside Transit Agency (RTA)	Eastvale
State/7th	Imperial Valley Transit	El Centro
El Monte Transit Center	Multiple	El Monte
Garvey/Santa Anita	El Monte Transit (Trolleys)	El Monte
El Monte Station	Metrolink	El Monte
Santa Anita/Valley Mall	El Monte Transit (Trolleys)	El Monte
Mariposa Station (C Line)	LA Metro	El Segundo
Fontana Station	Metrolink	Fontana
SB Sierra/Foothill FS	Omnitrans	Fontana
Euclid/Bellflower	OCTA	Fountain Valley
Fullerton Station	Amtrak & Metrolink	Fullerton
Nutwood/State College	OCTA	Fullerton
Harbor/Chapman	OCTA	Garden Grove
Central/Laurel	Glendale Beeline	Glendale
San Fernando/Pacific	Glendale Beeline	Glendale
APU/Citrus Station (L Line)	LA Metro	Glendora
Glendora/Ada S	Foothill Transit	Glendora
Crenshaw Station (C Line)	LA Metro	Hawthorne
Hawthorne/Lennox Station (C Line)	LA Metro	Hawthorne
Hemet Mobility Hub	RTA	Hemet
Goldenwest Transportation Center Dock 8	OCTA	Huntington Beach
Pacific Coast/Main	OCTA	Huntington Beach
Florence/California	LA Metro	Huntington Park
Slauson/Pacific	LA Metro	Huntington Park
Imperial Valley College	Imperial Valley Transit	Imperial

Location	Transit Provider	City
Manchester/11th	LA Metro	Inglewood
Manchester/Market	City of Inglewood I-Line Shuttle	Inglewood
Westchester/Veterans Station	LA Metro	Inglewood
Jeffrey Rd Park & Ride	Multiple	Irvine
Main/Mercantile	OCTA	Irvine
Irvine Station (Metrolink)	Amtrak	Irvine
University of California Irvine	OCTA	Irvine
Laguna Beach	Multiple	Laguna Beach
Lancaster Station	Metrolink	Lancaster
1st St Station (A Line)	LA Metro	Long Beach
NW Artesia/Long Beach Blvd	Long Beach Transit	Long Beach
5th St Station (A Line)	LA Metro	Long Beach
Anaheim Station (A Line)	LA Metro	Long Beach
Wardlow Station (A Line)	LA Metro	Long Beach
SW Cherry/7th	Long Beach Transit	Long Beach
NW Ocean/Atlantic	Long Beach Transit	Long Beach
NE Ocean/Pine	Long Beach Transit	Long Beach
NE Pacific/5th	Long Beach Transit	Long Beach
PCH Station (A Line)	LA Metro	Long Beach
NE PCH/Cherry	Long Beach Transit	Long Beach
SE PCH/Pacific	Long Beach Transit	Long Beach
NW PCH/Santa Fe	Long Beach Transit	Long Beach
NW Willow/Long Beach	Long Beach Transit	Long Beach
W Pico/Bundy	Santa Monica Big Blue Bus	Los Angeles
EB 103rd/Central	LADOT DASH	Los Angeles
WB 108th/Central	LADOT DASH	Los Angeles
3rd/Robertson	LA Metro	Los Angeles
6th/Alameda	LA Metro	Los Angeles
EB 6th/Bonnie Brae	LADOT DASH	Los Angeles
EB 6th St/Valencia	LADOT DASH	Los Angeles
SB Adams/Crenshaw Blvd	LADOT DASH	Los Angeles
Adams/Fairfax	LA Metro	Los Angeles
Adams/Thurman	LA Metro	Los Angeles
Adams/Vermont	LA Metro	Los Angeles
Adams/Main	GTrans (formerly known as Gardena Municipal Bus Lines)	Los Angeles
Alvarado/Sunset	LA Metro	Los Angeles
Van Nuys Station (Metrolink)	LADOT DASH	Los Angeles
Balboa Station (G Line)	LA Metro	Los Angeles
103rd/Watts Towers Station (A Line)	LA Metro	Los Angeles

Location	Transit Provider	City
Vernon Station (A Line)	LA Metro	Los Angeles
Washington (A Line)	LA Metro	Los Angeles
Willowbrook/Rosa Parks (A Line)	LA Metro	Los Angeles
Boyle/Hollenbeck	LA Metro	Los Angeles
Broadway/Griffin	LADOT DASH	Los Angeles
Canoga Station (G Line)	LA Metro	Los Angeles
Central/Jefferson	LADOT DASH	Los Angeles
Century/Harbor	LA Metro	Los Angeles
WB Century/Broadway	LADOT DASH	Los Angeles
WB Century/Vermont	LADOT DASH	Los Angeles
Century/Aviation	Beach Cities Transit	Los Angeles
Cesar Chavez/Figueroa	LADOT DASH	Los Angeles
Cesar Chavez/Gage	Los Angeles County Shuttles (LA Go Bus)	Los Angeles
Cesar E Chavez/Mission	LA Metro	Los Angeles
WB Colorado/Eagle Rock	LADOT DASH	Los Angeles
EB Colorado/Townsend Ave	LADOT DASH	Los Angeles
Crenshaw/39th	LADOT DASH	Los Angeles
Crenshaw/MLK Jr.	LADOT DASH	Los Angeles
Crenshaw/Slauson	LADOT DASH	Los Angeles
Crenshaw/Vernon	LADOT DASH	Los Angeles
Crenshaw/Venice	LA Metro	Los Angeles
Expo/Vermont Station (E Line)	LA Metro	Los Angeles
Expo/Western Station (E Line)	LA Metro	Los Angeles
La Cienega/Corbett	LA Metro	Los Angeles
Expo/Crenshaw Station (E Line)	LA Metro	Los Angeles
Palms Station (E Line)	LA Metro	Los Angeles
NB Fairfax/3rd	LADOT DASH	Los Angeles
Fairview Heights	LA Metro	Los Angeles
WB Figueroa/Ave 57	LADOT DASH	Los Angeles
EB Figueroa/Ave 59	LADOT DASH	Los Angeles
Figueroa/MLK Jr.	LADOT DASH	Los Angeles
Figueroa/Avenue 26	LA Metro	Los Angeles
Figueroa/Pico	LADOT Commuter Express	Los Angeles
Florence/Crenshaw	LA Metro	Los Angeles
Florence/Western	LA Metro	Los Angeles
WB Florence/Broadway	LADOT DASH	Los Angeles
Foothill/Van Nuys	LA Metro	Los Angeles
Chinatown Station (L Line)	LA Metro	Los Angeles
Lincoln/Cypress Station (L Line)	LA Metro	Los Angeles
Southwest Museum Station (L Line)	LA Metro	Los Angeles

Location	Transit Provider	City
Grand Ave Arts/Bunker Hill Station	LA Metro	Los Angeles
Avalon Station (C Line)	LA Metro	Los Angeles
Aviation/LAX Station (C Line)	LA Metro	Los Angeles
Harbor Gateway Transit Center	LA Metro	Los Angeles
Hollywood/Normandie	LA Metro	Los Angeles
Hollywood/Vine	LA Metro	Los Angeles
Hollywood/Western	LA Metro	Los Angeles
Huntington/Edloft	LA Metro	Los Angeles
WB Huntington/Lowell	LADOT DASH	Los Angeles
NB Kester/Vanowen	LADOT DASH	Los Angeles
La Brea/Obama	LADOT DASH	Los Angeles
La Brea/Venice	LA Metro	Los Angeles
La Cienega/Cashio	LA Metro	Los Angeles
SB La Cienega/Beverly	LADOT DASH	Los Angeles
La Cienega/Jefferson Station (E Line)	LA Metro	Los Angeles
Lankershim/Sherman Way	LA Metro	Los Angeles
Lankershim/Vanowen	LA Metro	Los Angeles
Laurel Canyon Station (G Line)	LA Metro	Los Angeles
LAX City Bus Center	LAX Shuttle and Airline Connections, Big Blue Bus, Culver CityBus, Torrance Transit, Beach Cities Transit, LA Metro	Los Angeles
Lorena/8th	LA Metro	Los Angeles
Main/Daly	LADOT DASH	Los Angeles
Main/Hancock	LA Metro	Los Angeles
Main/7th	Gtrans	Los Angeles
Manchester/Broadway	LA Metro	Los Angeles
Manchester/Harbor Transitway Station	LA Metro	Los Angeles
Manchester/Western	LA Metro	Los Angeles
MLK Jr./Broadway	GTrans	Los Angeles
WB Meridian/Vista	LADOT DASH	Los Angeles
Mission/Broadway	LA Metro	Los Angeles
Cal State LA Station	Metrolink	Los Angeles
Chatsworth Station	Amtrak and Metrolink	Los Angeles
MLK Jr./Halldale	LADOT DASH	Los Angeles
Northridge	Metrolink	Los Angeles
Sun Valley	Metrolink	Los Angeles
Sylmar/San Fernando Station	Metrolink	Los Angeles
Nordhoff/Canoga	LA Metro	Los Angeles
Nordhoff/Sepulveda	LA Metro	Los Angeles
Nordhoff/Van Nuys	LA Metro	Los Angeles
Normandie/11th	LA Metro	Los Angeles

Location	Transit Provider	City
Olympic/Hoover	LA Metro	Los Angeles
Olympic/Grande Vista	Montebello Bus Lines	Los Angeles
Sherman Way Station (G Line)	LA Metro	Los Angeles
Van Nuys (G Line)	LA Metro	Los Angeles
Osborne/Glenoaks	LA Metro	Los Angeles
Osborne/San Fernando	LA Metro	Los Angeles
Overhill/Slauson	LA Metro	Los Angeles
EB Oxnard St/Owensmouth Ave	LADOT Commuter Express	Los Angeles
Pershing Square	LA Metro	Los Angeles
Pico/Maple	LADOT DASH	Los Angeles
Vermont Station (B & D Lines)	LA Metro	Los Angeles
Hollywood/Highland Station (B Line)	LA Metro	Los Angeles
North Hollywood Station (B Line)	LA Metro	Los Angeles
Universal City/Studio City Station (B Line)	LA Metro	Los Angeles
Vermont/Beverly Station (B Line)	LA Metro	Los Angeles
Reseda Station (G Line)	LA Metro	Los Angeles
SB Reseda/Nordhoff	LADOT DASH	Los Angeles
SB Reseda/Roscoe	LADOT DASH	Los Angeles
Roscoe/Canoga	LA Metro	Los Angeles
Roscoe/Winnetka	LA Metro	Los Angeles
Roscoe/Woodman	LA Metro	Los Angeles
San Fernando/Fletcher	LA Metro	Los Angeles
San Fernando/Van Nuys	LA Metro	Los Angeles
San Pedro/Adams	LA Metro	Los Angeles
Sanborn/Sunset	LA Metro	Los Angeles
Santa Monica/Westwood	LA Metro	Los Angeles
Sepulveda Station (G Line)	LA Metro	Los Angeles
Sepulveda/Oxnard	LA Metro	Los Angeles
NB Sepulveda/Roscoe	LADOT DASH	Los Angeles
Sepulveda/La Tijera	Culver CityBus	Los Angeles
7th/Metro Center	LA Metro	Los Angeles
Sherman/Canoga	LA Metro	Los Angeles
WB Slauson/Broadway	LADOT DASH	Los Angeles
EB Slauson/Figueroa	LADOT DASH	Los Angeles
Soto/Cesar E Chavez	LA Metro	Los Angeles
Spring/Temple	AVTA	Los Angeles
State/Marengo	LADOT DASH	Los Angeles
Sunset/Coronado	LA Metro	Los Angeles
Sunset/La Brea	LA Metro	Los Angeles
Tampa Station (G Line)	LA Metro	Los Angeles

Location	Transit Provider	City
UCLA Gateway Plaza	Long Beach Transit	Los Angeles
Union Station	Multiple	Los Angeles
Valley College Station (G Line)	LA Metro	Los Angeles
Van Nuys/Glenoaks	LA Metro	Los Angeles
Van Nuys/Woodman	LA Metro	Los Angeles
SB Van Nuys/Roscoe	LADOT DASH	Los Angeles
Vanowen/Van Nuys	LA Metro	Los Angeles
Venice/Overland	LA Metro	Los Angeles
Ventura/Reseda	AAVTA	Los Angeles
Ventura/Cedros	LA Metro	Los Angeles
Ventura/Sepulveda	LADOT Commuter Express	Los Angeles
Vermont/112th	Los Angeles County Shuttles (LA Go Bus)	Los Angeles
NB Vermont/74th	LADOT DASH	Los Angeles
Vermont/120th	GTrans	Los Angeles
Vermont/Santa Monica	LA Metro	Los Angeles
Vermont/Sunset	LA Metro	Los Angeles
Victory/De Soto	LA Metro	Los Angeles
Victory/Topham	LA Metro	Los Angeles
Victory/Woodley	LA Metro	Los Angeles
Vine/Hollywood	LADOT DASH	Los Angeles
Vine/Santa Monica	LA Metro	Los Angeles
SB Washington/Crenshaw	LADOT DASH	Los Angeles
CCW Western/5th	LADOT DASH	Los Angeles
SB Western/Beverly	LADOT DASH	Los Angeles
Western/Fernwood	LADOT DASH	Los Angeles
SB Western/Washington	LADOT DASH	Los Angeles
SB Western/Slauson	LADOT DASH	Los Angeles
Westwood/Lindbrook	AVTA	Los Angeles
Whittier/Lorena	LA Metro	Los Angeles
Wilshire/Fairfax	AVTA, LA Metro	Los Angeles
Wilshire/Bonsall	LA Metro	Los Angeles
Wilshire/Crenshaw	LA Metro	Los Angeles
Wilshire/McClellan	LA Metro	Los Angeles
Woodman Station (G Line)	LA Metro	Los Angeles
World Wy N/Terminal 2	LAX Shuttle and Airline Connections	Los Angeles
Long Beach Blvd Station (C Line)	LA Metro	Lynwood
Slauson/Atlantic	LA Metro	Maywood
Medical Center-Ent Mission Hospital	OCTA	Mission Viejo
Saddleback College	OCTA	Mission Viejo
Monrovia Station (L Line)	LA Metro	Monrovia

Location	Transit Provider	City
Montclair Station	Metrolink	Montclair
Montebello/Commerce Station	Metrolink	Montebello
Paramount/Market Place	Montebello Bus Lines	Montebello
Whittier/Garfield	Montebello Bus Lines	Montebello
Atlantic/Garvey	City of Monterey Park Spirit Bus	Monterey Park
Garfield/Pomona	Montebello Bus Lines	Monterey Park
Moorpark Station	Metrolink	Moorpark
Moreno Valley/March Field Station Improvements	Metrolink	Moreno Valley
Perris/Rivard	RTA	Moreno Valley
Placentia/Flagship	OCTA	Newport Beach
Norwalk Station (C Line)	LA Metro	Norwalk
EB Airport/Terminal Way NS	Omnitrans	Ontario
NB Archibald/Guasti NS	Omnitrans	Ontario
EB Holt/Campus FS	Omnitrans	Ontario
EB Holt/Grove FS	Omnitrans	Ontario
EB Holt/Mountain FS	Omnitrans	Ontario
Ontario East Station	Metrolink	Ontario
Ontario Mills Mobility Hub	Omnitrans	Ontario
ALO Hotel by Ayres	Anaheim Resort Transportation	Orange
Main/Almond	OCTA	Orange
C Street Transfer Center	Ventura County Transportation Commission (VCTC)	Oxnard
Oxnard Station	Metrolink	Oxnard
SW Rosecrans/Paramount	Long Beach Transit	Paramount
Allen Station (L Line)	LA Metro	Pasadena
Fillmore Station (L Line)	LA Metro	Pasadena
Lake Station (L Line)	LA Metro	Pasadena
Sierra Madre Villa Station (L Line)	LA Metro	Pasadena
Green/Raymond E	Foothill Transit	Pasadena
Memorial Park Station (L Line)	LA Metro	Pasadena
Perris Downtown Station	Metrolink	Perris
Perris South Station	Metrolink	Perris
Holt/Garey	Foothill Transit	Pomona
Pomona North Station	Metrolink	Pomona
WB Foothill/Haven FS	Omnitrans	Rancho Cucamonga
WB Foothill/Milliken FS	Omnitrans	Rancho Cucamonga
WB Foothill/Rochester FS	Omnitrans	Rancho Cucamonga
Rancho Cucamonga Station	Metrolink	Rancho Cucamonga
Redlands Esri Station	Metrolink	Redlands
EB Redlands/6th FS	Omnitrans	Redlands

Location	Transit Provider	City
EB Redlands/Alabama Mid	Omnitrans	Redlands
SB Tippecanoe/Victoria Fs	Omnitrans	Redlands
182nd/Kingsdale	GTrans	Redondo Beach
Redondo Beach Station (C Line)	LA Metro	Redondo Beach
WB Foothill/Riverside FS	Omnitrans	Rialto
Rialto Station	Metrolink	Rialto
East University/Lemon	Multiple	Riverside
Riverside Downtown Station	Metrolink	Riverside
Riverside Hunter Park/UCR Station	Metrolink	Riverside
EB Hospitality/Carnegie FS	Omnitrans	San Bernardino
EB Mill/Sierra FS	Omnitrans	San Bernardino
San Bernardino Depot Station	Metrolink	San Bernardino
San Bernardino Transit Center	Beaumont Transit	San Bernardino
NB E St/Inland Center Mall Mid	Omnitrans	San Bernardino
NB Hospitality/Tippecanoe FS	Omnitrans	San Bernardino
NB Waterman/Orange Show Nb FS	Omnitrans	San Bernardino
Truman/Brand	LA Metro	San Fernando
Camino Capistrano/Del Obispo	OCTA	San Juan Capistrano
Rancho Viejo/Junipero Serra	OCTA	San Juan Capistrano
Airport Arrival Terminal	OCTA	Santa Ana
Bristol/17th	OCTA	Santa Ana
Bristol/Edinger	OCTA	Santa Ana
Bristol/Santa Ana	OCTA	Santa Ana
Civic Center/Main	OCTA	Santa Ana
Eucid/1st	OCTA	Santa Ana
Euclid/Westminster	OCTA	Santa Ana
Fairview/5th	OCTA	Santa Ana
Fairview/Edinger	OCTA	Santa Ana
Fairview/Westminster	OCTA	Santa Ana
Harbor/McFadden	OCTA	Santa Ana
Main/17th	OCTA	Santa Ana
Main/Main Place	OCTA	Santa Ana
Main/McFadden	OCTA	Santa Ana
Santa Ana Station (Amtrak)	Amtrak	Santa Ana
Santa Ana Station	Metrolink	Santa Ana
Santiago/Civic Center	OCTA	Santa Ana
Westminster/Harbor	OCTA	Santa Ana
Colorado/Lincoln	Santa Monica Big Blue Bus	Santa Monica
Pico/4th	Santa Monica Big Blue Bus	Santa Monica
Main/Bay	Santa Monica Big Blue Bus	Santa Monica

Location	Transit Provider	City
4th/Colorado	Los Angeles County Shuttles (LA Go Bus)	Santa Monica
26th/Bergamot Station (E Line)	LA Metro	Santa Monica
Santa Monica Station (E Line)	LA Metro	Santa Monica
Wilshire/14th	LA Metro	Santa Monica
Simi Valley Civic Center	Metrolink	Simi Valley
Peck/Durfee	Norwalk Transit System	South El Monte
Firestone/Atlantic	LA Metro	South Gate
Firestone/Long Beach	LA Metro	South Gate
South Pasadena Station (L Line)	LA Metro	South Pasadena
Winchester/Nicolas	RTA	Temecula
Borchard Rd Caltrans Mobility Hub	Thousand Oaks Transit	Thousand Oaks
Oaks Mall in Thousand Oaks	Thousand Oaks Transit	Thousand Oaks
Crenshaw/208th	Torrance Transit	Torrance
Upland Station	Metrolink	Upland
Ventura (Amtrak)	Amtrak	Ventura
County of Ventura Government Center	Multiple	Ventura
Ventura East Metrolink	Metrolink	Ventura
Ventura College	Ventura County Transportation Commission (VCTC)	Ventura
La Cienega/Santa Monica	LA Metro	West Hollywood
Santa Monica/San Vicente	LA Metro	West Hollywood
Sunset/Fairfax	LA Metro	West Hollywood
Beach/McFadden	OCTA	Westminster
Beach/Westminster	OCTA	Westminster
Winchester/Simpson	RTA	Winchester
Avalon/120th	Los Angeles County Shuttles (LA Go Bus)	Unincorporated Los Angeles County
Firestone Station (A Line)	LA Metro	Unincorporated Los Angeles County
Slauson Station (A Line)	LA Metro	Unincorporated Los Angeles County
Central/Florence	Los Angeles County Shuttles (LA Go Bus)	Unincorporated Los Angeles County
SB Central/Manchester	LADOT DASH	Unincorporated Los Angeles County
City Terrace/Herbert	Los Angeles County Shuttles (LA Go Bus)	Unincorporated Los Angeles County
Florence/Holmes	Los Angeles County Shuttles (LA Go Bus)	Unincorporated Los Angeles County
Florence/Malabar	Los Angeles County Shuttles (LA Go Bus)	Unincorporated Los Angeles County
Atlantic Station (L Line)	LA Metro	Unincorporated Los Angeles County
East LA Civic Center (L Line)	LA Metro	Unincorporated Los Angeles County
Imperial/Western	Los Angeles County Shuttles (LA Go Bus)	Unincorporated Los Angeles County

Location	Transit Provider	City
Slauson/Central	LA Metro	Unincorporated Los Angeles County
Whittier/Atlantic	Los Angeles County Shuttles (LA Go Bus)	Unincorporated Los Angeles County
Whittier/Herbert	Los Angeles County Shuttles (LA Go Bus)	Unincorporated Los Angeles County

Appendix C

Burbank Downtown Mobility Hub

Implementation Plan

Mobility Hub Implementation Plan: Downtown Burbank

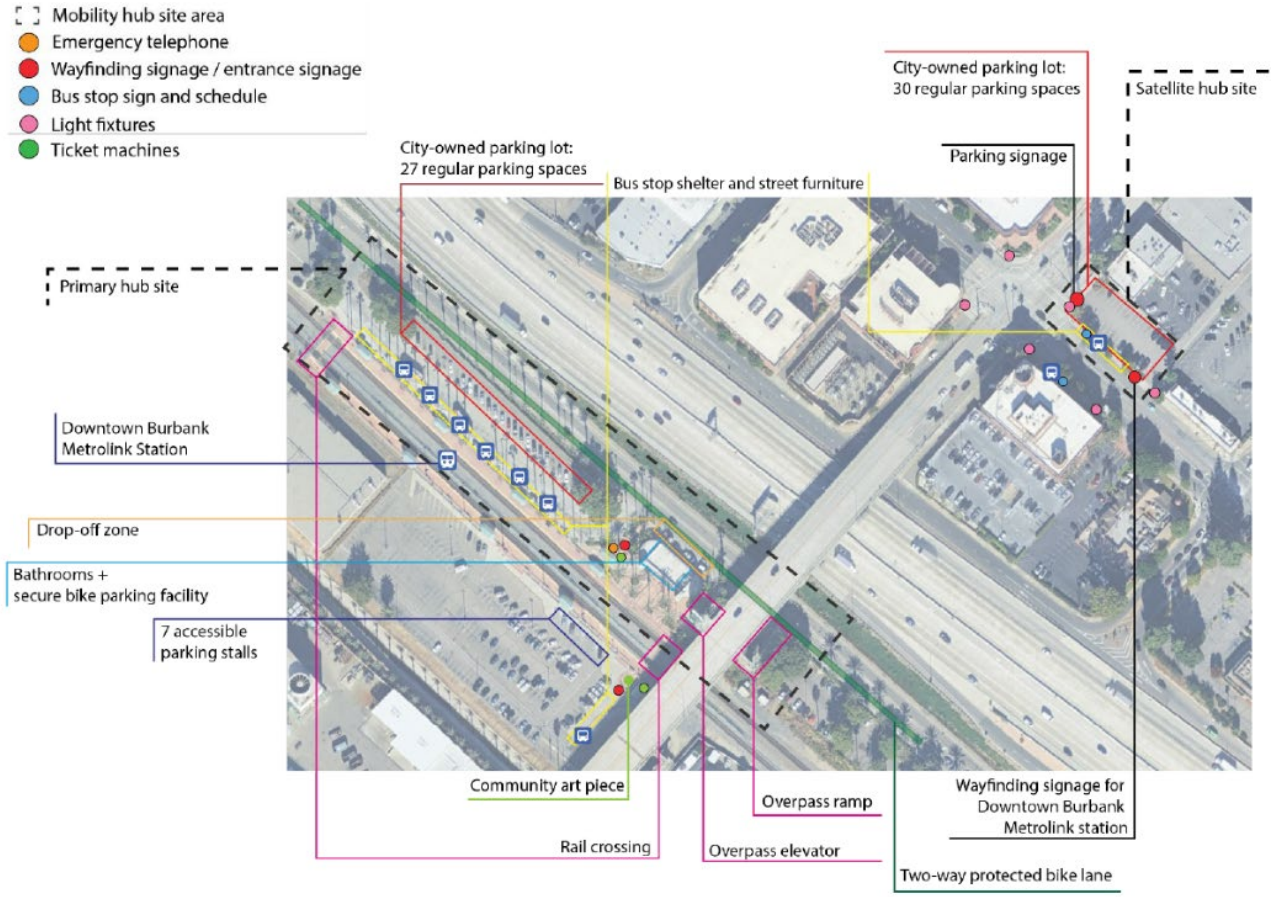
Background and Site Description

Mobility hubs are strategic locations for travelers to easily connect with multiple modes of transportation suited for their needs in a safe, comfortable, and accessible environment. SCAG's Connect SoCal 2024 identified mobility hubs as a regional strategic investment to increase multimodal connectivity, manage the existing transportation system, and improve the traveler experience. As such, SCAG partnered with local agencies, including the City of Burbank, to create implementation plans for potential mobility hubs throughout the SCAG region.

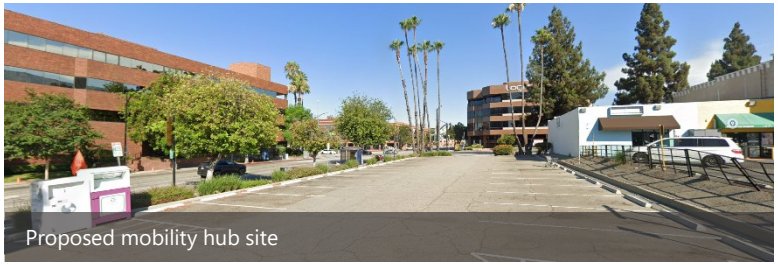
The proposed mobility hub site is situated in a City of Burbank public parking lot, located in the city's downtown commercial area, just northeast of the Golden State Freeway. The site features an adjacent bus stop (1st/Olive) and the Downtown Burbank Metrolink station across the freeway from this site. As the City of Burbank has intentions to develop the Metrolink station as a mobility hub in the long-term, this implementation plan considers the location's interaction with the future mobility hub at the Metrolink Station. Additionally, one major consideration for the City of Burbank is supporting regional mobility for the 2028 Olympics (LA28), to be hosted in Los Angeles. Building a mobility hub site at one of the busiest bus stops in the City will strengthen intermodal transportation for travelers.

The 1st/Olive bus stop is serviced by several LA Metro bus routes: 92, 154, 164, 165, 294 and 296. Route 92 is a night bus route, while the others operate between roughly 5am and 10pm. Most buses arrive at least every 30 minutes during peak hours. Route 92 operates once hourly between 9pm and 4am. The 1st St/Olive Ave bus stop is located just one block away from the San Fernando Strip. The quarter-mile long street is characterized by a variety of traffic calming elements and storefronts. It is a popular hub of restaurants and nightlife. The Downtown Burbank train station serves two Metrolink train lines (Antelope Valley and Ventura County). Bus routes 154, 164, 165, 294, and 296 also stop at this location, alongside three additional local routes. The rail station is served by the Amtrak Pacific Surfliner which runs between San Diego and San Luis Obispo.

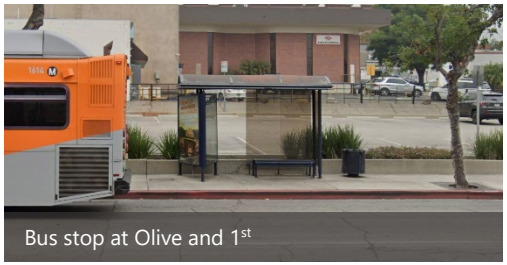
Existing Conditions



Sign at entrance to parking lot



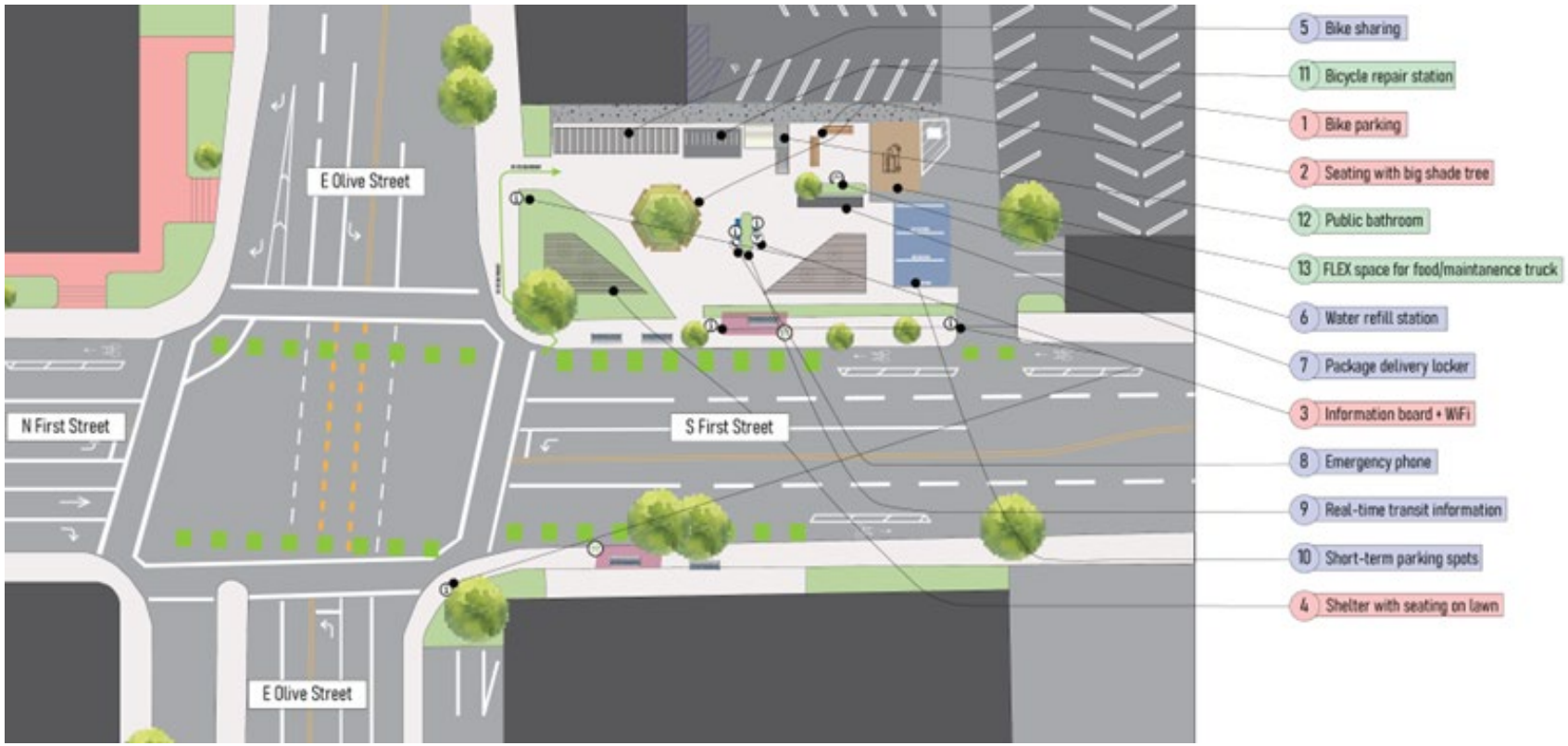
Proposed mobility hub site



Bus stop at Olive and 1st

Ped ramp to Metrolink station

Conceptual Design



Mobility Hub Elements

Below are the recommended mobility hub amenities for the Downtown Burbank Metrolink Station:

Wayfinding Signage Quality signage can help travelers identify modal connections, mobility hub amenities, and major destinations near the mobility hub, like Downtown Fontana.

Bathrooms The station parking lot has ample room for bathrooms. They can be permanent facilities or portable bathrooms with app-enabled access.

Pick-up/Drop-off (PU/DO) Zones Dedicated curbside spaces can help facilitate mobility hub users moving to and from vehicles. Short-term parking may be useful for pick-up areas.

Emergency Phone Providing an emergency phone for use will help provide security for travelers, especially those traveling alone or at night.

Package Delivery Locker Mobility hub users can utilize the delivery lockers to conveniently and securely pick up their packages.

Bicycle Lockers or Rooms Secure, high-quality bicycle parking can encourage more bicycle trips. This can be achieved through lockers, manned rooms, or secure bicycle racks.

Shared Mobility Bikeshare provides users with access to a bicycle or scooter without having to own one. This can be a useful mode for users accessing further away destinations.

Water Refilling Station A water fountain or refilling station will provide travelers with clean drinking water.

Street Furniture Benches, trash receptacles, and other street furniture, can help to provide a comfortable environment for mobility hub users to rest or wait for their bus, train, or vehicle.

Bus Shelter A physical shelter can protect mobility hub users from the sun and rain.

Proposed Implementation Schedule

A phased approach to the implementation of the Burbank mobility hub at 1st and Olive.

Phase 1

1) Bike parking
2) Seating with big shade tree
3) Information board
4) Shelter with seating

Phase 2

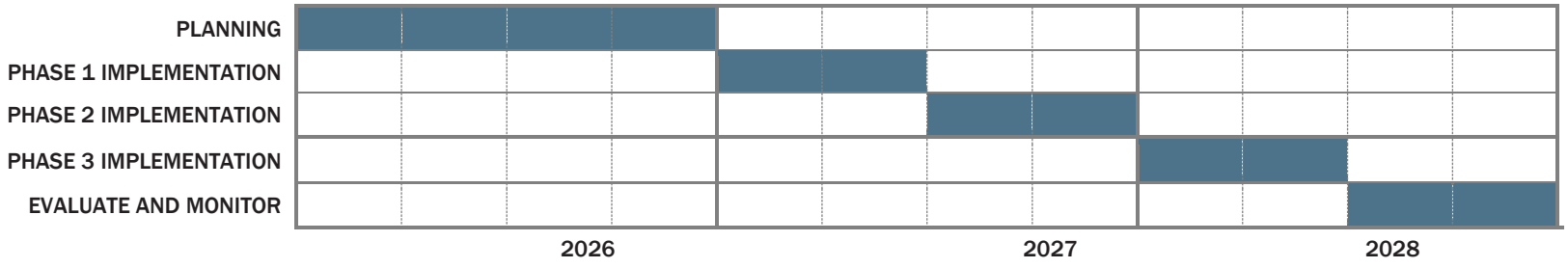
5) Bike sharing
6) Water refill station
7) Package delivery locker
8) Emergency phone
9) Real-time transit information
10) Short-term parking spots

Phase 3

11) Bicycle repair station
12) Public bathroom
13) FLEX space for food/maintenance truck

Off-site Recommendations

- Intersection upgrades
- Pedestrian/bike safe connection between primary and satellite hubs
- Pavement markings



Cost Estimate

	Quantity Internal	Quantity Off-Site	Unit Cost	Total Cost
PHASE 1				**$85,000**
1) Bike parking	1	0	$5,000	$5,000
2) Seating with big shade tree	10	0	$1000	$10,000
3) Information board with public wi-fi	3	1	$5,000	$20,000
4) Shelter with seating	2	0	$25,000	$50,000
PHASE 2				**$219,000**
5) Bike share station	1	3	$50,000	$200,000
6) Water refill station	1	0	$5,000	$5,000
7) Package delivery locker	1	0	$5,000	$5,000
8) Emergency phone	1	0	$5,000	$5,000
9) Real-time transit information	2	0	$1,000	$2,000
10) Short-term parking spaces	3	0	$500	$2,000
PHASE 3				**$105,000**
11) Bicycle repair station	1	0	$2,000	$2,000
12) Public bathroom	1	0	$100,000	$100,000
13) FLEX space for food/maintenance truck	1	0	$5,000	$3,000
OFF-SITE RECOMMENDATIONS				**$280,000**
Intersection upgrades	0	1	$100,000	$100,000
Primary and satellite hub connection	0	1	$100,000	$100,000
Pavement markings	2	10	$2,000	$24,000
Wayfinding	1	4	$2,000	$10,000
Landscaping	LS	0	$6,000	$6,000
Security measures (CCTV, signs)	LS	0	$40,000	$40,000
SUBTOTAL				$689,000
CONTINGENCY				$138,000
TOTAL				**$827,000**

Funding and Partnerships

Various funding opportunities are available for mobility hubs or mobility hub elements at the local, state, and federal levels. Below is a list of funding programs that are available for the mobility hub elements and off-site recommendations identified in the conceptual design.

For mobility hub elements:

Visionary Seed Fund, LA Metro: A program established to fund pilot projects that test and assess ridership strategies that demonstrate through measurable outcomes how to grow ridership to pre-COVID levels and beyond. Ideas include improving first/last mile connections, addressing women's transportation needs, easing payment and navigation, and other creative proposals that will assist the region in restoring and growing ridership.

Regional Pilot Initiatives Program (RPI), SCAG: SCAG is providing funding for projects that demonstrate innovative, next-generation technologies and models of regional significance. Mobility hubs are included as one of six Program Areas for the RPI program.

Fast and Available Charging for All Californians (FAST 2.0), California Energy Commission (CEC): This state program provides funding to deploy EV charging infrastructure at existing structures and facilities. The EV chargers must be open to the public, in locations and parking areas that are well-lit, and incorporate signage. The maximum grant award per project is up to 50 percent of total project cost or $5 million (whichever is less).

Pilot Program for TOD Planning, Federal Transit Administration (FTA): This program helps support FTA's mission of improving America's communities through public transportation by providing funding to integrate land use and transportation planning.

Clean Mobility Options, California Climate Investments (CCI): This program funds zero-emissions shared mobility projects in disadvantaged and low-income communities, including some tribal and affordable housing communities. Eligible projects include car sharing, bike sharing, and on-demand sharing programs.

Hydration Station Initiative Program, Los Angeles Department of Water and Power (LA DWP): This program provides reimbursements for the cost of installing or refurbishing a publicly accessible drinking water station. The hydration station must be publicly accessible and in an area that receives high pedestrian traffic.

For connecting infrastructure:

Active Transportation Program, California Transportation Commission (CTC): This program funds projects that increase use of active modes of transportation, such as walking and biking. This includes infrastructure projects for active transportation, as well as plans and non-infrastructure projects.

Sustainable Transportation Planning Grant, Caltrans: The Climate Adaptation Planning category of the program funds local and regional multimodal transportation and land use planning projects that further the region's RTP SCS/APS, contribute to the State's GHG reduction targets, address the needs of under-resourced communities, and assist in achieving the Caltrans Mission and Grant Program Objectives.

Pilot project consideration: A pilot program for these services can help provide the community with the opportunity to test shared mobility programs, such as bikeshare or carshare, to determine if they are a good fit for the mobility hub site. The City will have the opportunity gather feedback prior to full investment and implementation.

Next Steps

Community and Stakeholder Engagement

- ✓ Provide varied opportunities for the surrounding community to give feedback, including residents and local businesses. This can be done through online or in-person surveys, door-to-door outreach, engagement at community events, presenting at or creating a technical advisory committee, or social media. Meaningful engagement is key to building consensus and developing collaborative solutions that incorporate the community's feedback.
- ✓ Collaborate with city stakeholders, such as City Council and executive staff, to move forward with a conceptual design that aligns with the City of Burbank's goals and vision.

Identify Funding Opportunities and Partnerships

- ✓ After or concurrently with the project's community engagement activities, identify funding opportunities to successfully implement the project. This will allow the City to update the conceptual design based on the stakeholder feedback and find the applicable opportunities for their project.
- ✓ Partner with a private operator to pilot a shared mobility service at the mobility hub site. This will allow for community feedback before full implementation.

Evaluate Connecting Infrastructure

- ✓ Identify pedestrian and bicycle infrastructure that connect the mobility hub site to major destinations and if opportunities for improvement are identified, include the improvements in the next capital improvement plan or active transportation plan. One identified opportunity for improvement is the pedestrian and bicycle connection between the mobility hub site and the Metrolink station.

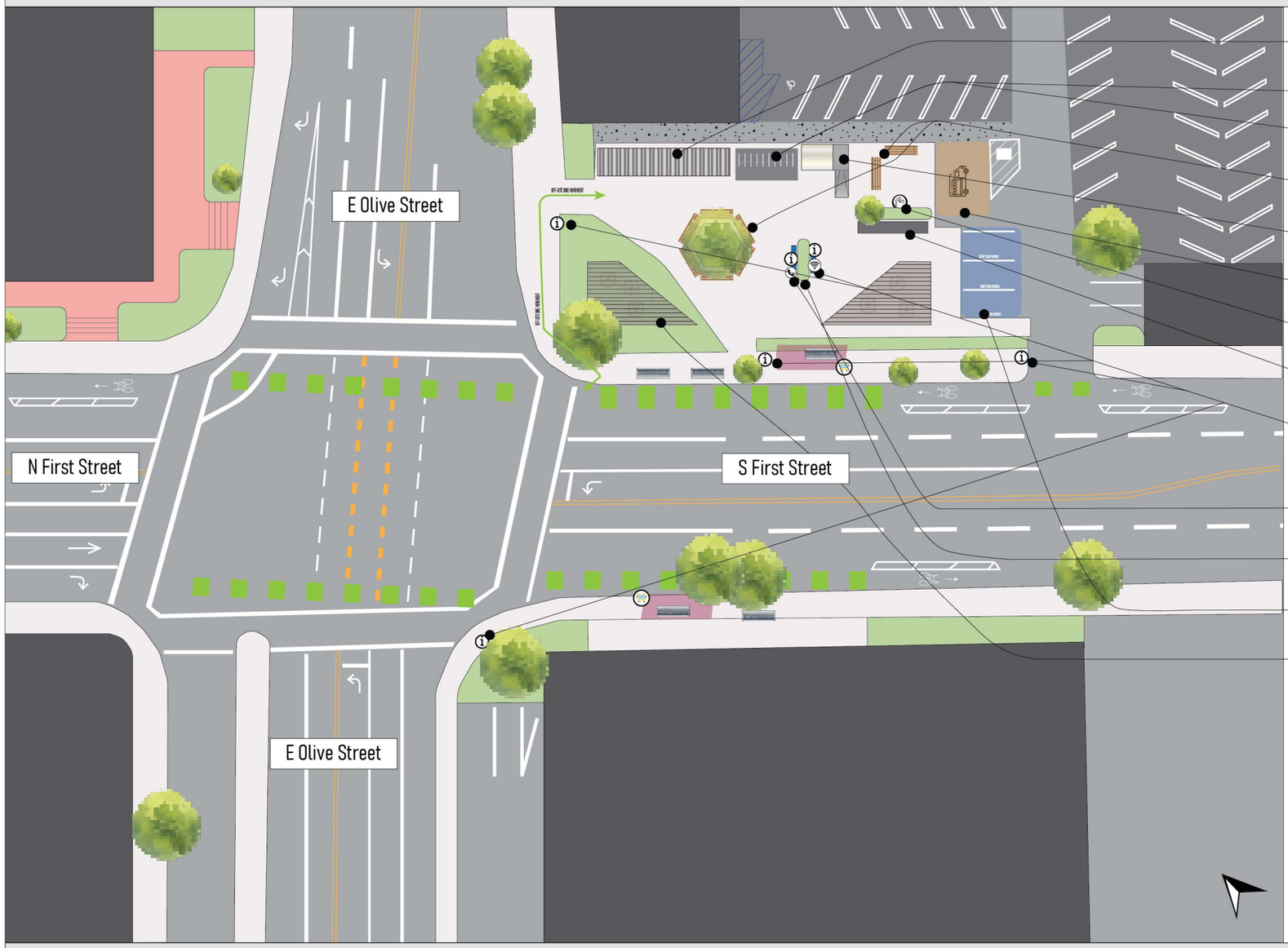
Appendix C

Burbank Downtown Mobility Hub

Concept Design

Burbank Downtown Mobility Hub Concept Design

Illustrations not to scale and intended for visualization only. Not intended for detailed design.



5 Bike sharing

11 Bicycle repair station

1 Bike parking

2 Seating with big shade tree

12 Public bathroom

13 FLEX space for food/maintanence truck

6 Water refill station

7 Package delivery locker

3 Information board + WiFi

8 Emergency phone

9 Real-time transit information

10 Short-term parking spots

4 Shelter with seating on lawn

1

Source: Christopher Kidd

2

Source: Green Furniture Concept

3

Source: Mobility Hubs: A Reader's Guide, City of Los Angeles

4

Source: SEEDiA

5

Source: Bike Metro

7

Source: Matti Blume

10

Source: Kenneth Chan

11

Source: Brad Ross

12

Source: Throne Labs

Additional ideas

Source: Tara Nurin

Source: Neri Oxman

Burbank Downtown Mobility Hub Concept Design

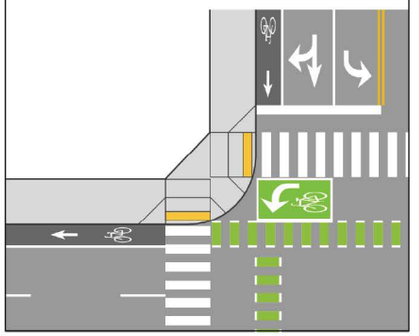
INTERSECTION UPGRADES

Olive Ave/ First St

Olive Ave/ San Fernando Blvd

Olive Ave/ 3rd St

DESIGN REFERENCE



Source: USDOT FHA

EXISTING

- Bicycle facilities
- Downtown destinations
- Bus Stops

PLANNED

- Bicycle improvements
- Connection between hubs
- BRT line

RECOMMENDATIONS

- Intersection upgrades
- Wayfinding signage for mobility hub

Illustrations not to scale

Appendix C

Burbank Downtown Mobility Hub

Gaps and Opportunities Analysis

SCAG Mobility Hubs – Priority Projects Development

Burbank Downtown Mobility Hub

Gaps and Opportunities

February 2025

Introduction

The City of Burbank public parking lot at 110 E Olive Ave and adjacent bus stop (1st/Olive) has been earmarked by SCAG as a potential mobility hub site. The site is centrally located in the city's downtown commercial area, just northeast of the Golden State Freeway. The nearest rapid transit service is the Downtown Burbank Metrolink station, located across the freeway from this site. The City of Burbank has intentions to develop the Downtown Burbank Metrolink station as a mobility hub in the long-term. Therefore, the analysis and subsequent concept design of the 1st/Olive bus stop mobility hub will consider the location's interaction with a future mobility hub at the Metrolink station.

Transforming the 1st/Olive bus stop site into a mobility hub will build on the strengths of the existing site, services, and surrounding area. Considering key opportunities for improvement, additional amenities and design elements are identified to improve the multi-modal accessibility and safety of the site, as well as create a sense of place and improve connectivity to the surrounding area.

Assuming the longer-term development of a mobility hub at the Downtown Burbank Metrolink station, the 1st/Olive bus stop site will be considered in conjunction with the Metrolink station as a *dispersed mobility hub* (i.e. a mobility hub with multiple nodes within a defined walkshed/bikeshed). The 1st/Olive site, referred to as the satellite hub site, will be designed to maximize its unique opportunities relative to the opportunities at the Metrolink station, referred to as the primary hub site. According to SCAG's six types of mobility hubs, the dispersed mobility hub qualifies as a Downtown Hub.

Existing transit services

The 1st/Olive bus stop is serviced by several LA Metro bus routes: 92, 154, 164, 165, 294 and 296. Route 92 is a night bus route, while the others operate between roughly 5am and 10pm. Most buses arrive at least every 30 minutes during peak hours. Route 92 operates once hourly between 9pm and 4am. The 1st St/Olive Ave bus stop is located just one block away from the San Fernando Strip. The quarter-mile long street is characterized by a variety of traffic calming elements and storefronts. It is a popular hub of restaurants and nightlife.

The Downtown Burbank train station serves two Metrolink train lines (Antelope Valley and Ventura County). Bus routes 154, 164, 165, 294, and 296 also stop at this location, alongside three additional local routes. The rail station is served by the Amtrak Pacific Surfliner which runs between San Diego and San Luis Obispo.

Methodology

The mobility hub concept design methodology is as follows:

- Identify gaps and opportunities: all potential improvements/amenities are considered and included in the initial site analysis.
- Prioritize opportunities: the City of Burbank and all relevant stakeholders provide feedback and prioritization of the proposed site improvements. The prioritized list of amenities will be used to guide design.
- Develop conceptual designs: mobility hub concept sketches are developed and submitted for review by the City. The concept illustrations are updated to reflect the City's comments.
- Project cut sheets: a project cut sheet is developed to reflect the proposed site improvements and includes pertinent information for funding applications.

This technical memorandum is the output from the first phase — gaps and opportunities.

Existing Conditions

The existing conditions of the Downtown Burbank dispersed mobility hub site are first summarized spatially in ***Figure 1*** and then by the mobility hub kit of parts. The existing conditions described below are a high-level summary; further study and definition will be included in subsequent design phases.

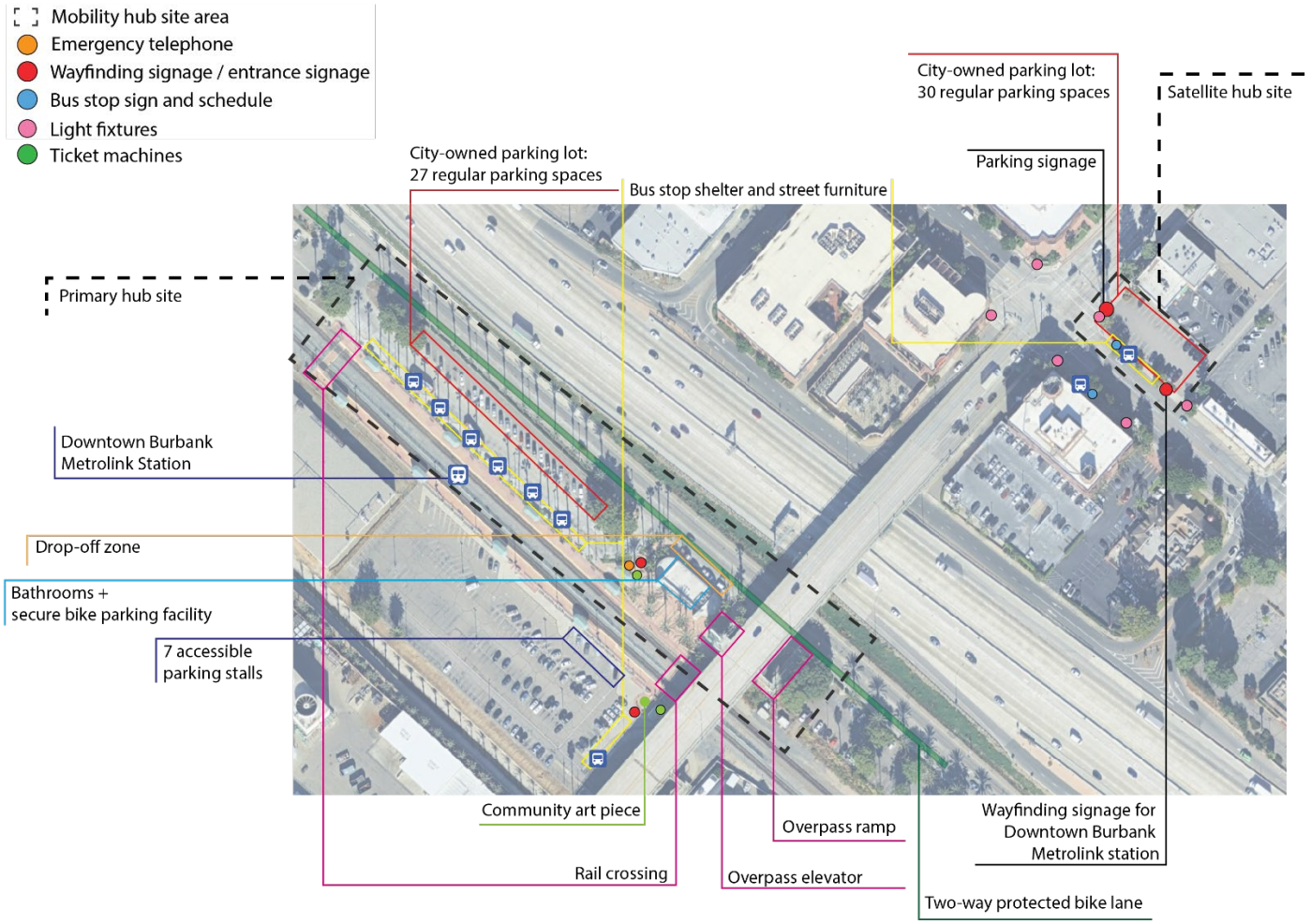


Figure 1 – Existing conditions assessment of Downtown Burbank dispersed mobility hub site

Kit of Parts Analysis

SCAG has developed a kit of parts of design elements and amenities that could be included at a mobility hub site, according to the site's typology. The Downtown Burbank dispersed mobility hub site most closely aligns with the downtown hub definition; however, certain services and amenities are better suited to the primary site and some to the satellite site. The elements highlighted in pink boxes are elements applicable to the satellite hub site. The table below identifies the mobility hub elements that already exist, that could be improved, and that are missing at the 1st/Olive satellite site.

Category	Element	Downtown Hub	Urban Hub	Emerging Urban Hub	Suburban & Rural Hub	Equity Hub	Institutional Hub
Transit and Active Transportation Facilities	Train/rail	Not applicable	Highly recommended	Highly recommended	Highly recommended	Not applicable	Highly recommended
	Bus stop/station	Existing	Highly recommended	Highly recommended	Not applicable	Highly recommended	Highly recommended
	Carshare	Not applicable	Highly recommended	Highly recommended	Recommended	Recommended	Recommended
	EV parking	Not applicable	Highly recommended	Recommended	Recommended	Recommended	Recommended
	Shared micromobility zone	Missing	Highly recommended	Highly recommended	Recommended	Recommended	Recommended
	Pick-up and drop-off zone	Missing	Highly recommended	Highly recommended	Highly recommended	Highly recommended	Highly recommended
	Bike amenities	Missing	Highly recommended	Highly recommended	Recommended	Highly recommended	Highly recommended
Access Amenities and Services	Covered bus shelters	Existing *	Highly recommended	Recommended	Recommended	Highly recommended	Recommended
	Street furniture	Existing	Highly recommended	Recommended	Not applicable	Not applicable	Not applicable
	Bathrooms	Missing	Highly recommended	Highly recommended	Highly recommended	Highly recommended	Highly recommended
	Package delivery lockers	Missing	Highly recommended	Recommended	Recommended	Recommended	Highly recommended
	Water re-filling stations	Missing	Highly recommended	Recommended	Recommended	Recommended	Highly recommended
Technology, Information, and Wayfinding	Real-time travel information	Missing	Highly recommended	Highly recommended	Recommended	Not applicable	Highly recommended
	Wayfinding signage	Existing *	Recommended	Recommended	Recommended	Recommended	Highly recommended
	Hub area maps & amenities information	Missing	Highly recommended	Recommended	Recommended	Recommended	Highly recommended
	Closed-circuit television (CCTV) cameras	Missing	Highly recommended	Highly recommended	Highly recommended	Highly recommended	Highly recommended
	Public Wi-fi and charging ports for phones	Missing	Highly recommended	Recommended	Not applicable	Recommended	Recommended
	Emergency telephone	Missing	Highly recommended	Highly recommended	Highly recommended	Highly recommended	Highly recommended
Placemaking	Community art themes	Missing	Highly recommended	Highly recommended	Highly recommended	Highly recommended	Highly recommended
	Lighting	Existing *	Highly recommended	Highly recommended	Highly recommended	Highly recommended	Highly recommended
	Landscaping	Existing *	Highly recommended	Highly recommended	Highly recommended	Highly recommended	Highly recommended

Highly recommended · Recommended · Not applicable · Existing · * Existing but could be improved · Missing · Not applicable

Figure 2 – Kit of parts assessment of Downtown Burbank dispersed mobility hub site

Gaps and Opportunities

Gaps and opportunities on-site and off-site identified in the kit of parts are described below. They are guided by the following key questions:

- What are the current gaps/need/barriers of the site from a customer-facing perspective?
- What are the current gaps/need/barriers of the site from an operational perspective?
- How do the identified improvements fit within the larger mobility hub site context?

As previously stated, the 1st St/Olive Ave site will act as a node of a future downtown dispersed mobility hub site at the nearby Burbank Downtown Metrolink station. The gaps analysis is inclusive of the full site; however, recommendations are exclusive to the 1st/Olive satellite site. Recommendations for the satellite site fall into three categories, each of which addresses a gap or complements the primary site. They include improving the first/last mile connectivity of the satellite site, improving wayfinding and signage, and creating a sense of place. Other mobility hub elements such as parking and car share either already exist or are a better fit at the primary hub site. This approach also builds on the existing strengths of the site – its proximity to nearby services and amenities, such as the Metrolink station and the San Fernando strip.

On-site

The tables below describe the on-site transportation infrastructure and services, information, and placemaking gaps and opportunities within the site area. The opportunities identified are inclusive, not definitive. As mentioned in the preceding ***Methodology*** section, this initial list will be prioritized to determine which improvements will be implemented with available SCAG funding.

Table 1 – On-site transportation infrastructure and services gaps and opportunities

Transportation		
Gap	**Opportunity**	**Comments**
The site is missing shared/rental transportation options and micromobility (i.e. bike share, scooter share).	Consider collaborating with local bike share and micromobility providers to locate a parking/docking station on the site.	Explore this alongside improvements to off-site cycling infrastructure, particularly connections between this site and the Downtown Burbank Metrolink station.
The surface parking lot offers no dedicated parking spaces for pick-up/drop-off (PU/DO) or EV parking.	Not applicable.	While this is a gap at the satellite site, parking is available at the primary hub site. Consider longer-term opportunities for concentrating PU/DO, EV parking, and car share opportunities at the primary hub site.
Minimal short-term bike parking and bike facilities.	Consider adding bike racks and other opportunities for short-term bike parking to the satellite site.	Secure bike parking is available at the primary hub site but consider opportunities for short-term parking or additional secure parking at

Transportation		
Gap	Opportunity	Comments
		the satellite site, according to demand.

Table 2 – On-site information and wayfinding gaps and opportunities at Burbank Downtown mobility hub site

Information and wayfinding		
Gap	Opportunity	Comments
Wayfinding signage on-site is minimal.	Implement and expand wayfinding signage on-site directing people to nearby transit connections or transportation amenities. Include reference to on-site and off-site services and amenities.	Ensure signage is pedestrian-oriented, clearly visible and understandable.
	Consider installing neighborhood-specific event/information boards (e.g. popular destinations and approx. distance, notifications of upcoming events, etc.).	To contribute to a sense of place, consider collaborating with local community groups to develop signage for community events or popular destinations.
There is no real-time transit information at bus stops.	Consider installing real-time transit information at bus stops.	
Minimal transit system/schedule information.	Increase the number and size of transit system maps and schedules at the site.	

Table 3 – On-site placemaking gaps and opportunities at Burbank Downtown mobility hub site

Placemaking and other services		
Gap	Opportunity	Comments
Weather protection at the site is minimal.	Consider adding additional seating in front of bus stops with shelter from precipitation.	Explore informal seating opportunities (high planters, etc.) to create an abundance of seating areas for high peak hour passenger loads.
Little to no sense of place.	Consider reallocating parking spaces to create a parklet/plaza or flex programming space to be used by food trucks, events, etc.	A percent reduction (or total reallocation) of parking would allow for the conversion of parking area into community space.

Placemaking and other services		
Gap	**Opportunity**	**Comments**
		Collaborate with local community groups for programming of the space.
	Explore opportunities to collaborate with local artists and community groups to develop local art displays (e.g. painted planters).	
No additional passenger amenities.	Consider installing public Wi-Fi in the area, charging ports available to all hub users, and water refill stations.	These amenities may be better suited to the primary hub site. These amenities would contribute to creating a sense of place and utility. Consider one large wi-fi zone that covers the entire dispersed site for easy and convenient access.

Off-site

This section details the gaps and opportunities pertaining to off-site transportation infrastructure and services, information and wayfinding.

Table 4 – Off-site transportation infrastructure and services gaps and opportunities

Transportation services		
Gap	**Opportunity**	**Comments**
Lack of separated bicycle facilities leading into and out of the mobility hub site.	Consider improvements to the off-site cycling infrastructure within the bikeshed of the site to ensure it is attractive to cyclists of all ages and abilities, including separation from motor vehicles (i.e. class IV facilities).	There is a bike lane on E Angeleno Avenue southeast of the bus stop. Consider connections to the Burbank Channel Bikeway which is roughly 1000 ft southwest of this location.
	Improve pedestrian and bicycle connectivity between the satellite site and the primary site.	
	Consider implementing bicycle facilities on Olive Avenue to provide direct connections between satellite and primary sites.	Provide bike facilities that are attractive to cyclists and separated from motor vehicle traffic (i.e. class IV facilities).
	Consider protected intersection designs for large	Intersection upgrades for active transportation may look

Transportation services		
Gap	**Opportunity**	**Comments**
	intersections within the walkshed and bikeshed of the site, prioritizing from the mobility hub outward.	like continental crosswalks, APS upgrades, ADA compliant designs, etc.

Table 5 – Off-site information and wayfinding gaps and opportunities

Information and wayfinding		
Gap	**Opportunity**	**Comments**
Limited wayfinding signage between the satellite and primary hub sites Limited wayfinding signage directing people to the mobility hub site within the walkshed/bikeshed of the site.	Install wayfinding at major intersections and along active transportation pathways within the walkshed/bikeshed of the site.	Ensure signage directs travelers to the site and clearly identifies the transportation options and services available at the site. Signage should also help create a sense of arrival and enable a seamless first/last mile experience. Off-site wayfinding signage can double as directions to the mobility hub as well as other prominent local destinations. Signage should be pedestrian-scale and easily readable and understandable.
	Install wayfinding signage at the satellite site directing travelers to the primary hub site. Include information about services and amenities available at the primary site. Ensure signage is pedestrian-scale.	Conversely, install wayfinding signage at the primary hub site directing travelers to the satellite hub site, noting the available services and amenities.

Appendix C

Burbank Downtown Mobility Hub

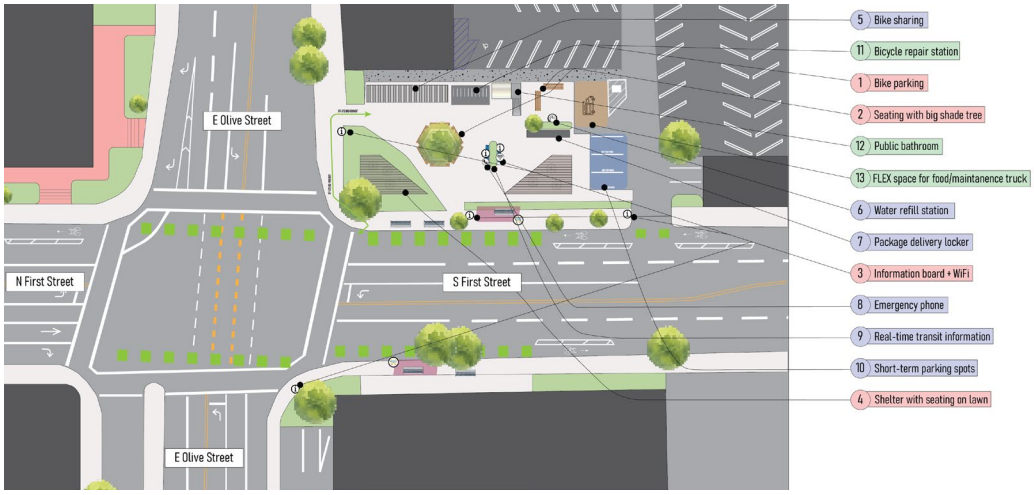
Project Cut Sheet

Burbank Downtown Mobility Hub

Project Background & Description

The proposed site of the Burbank Downtown Mobility Hub is located at 110 E Olive Ave. The existing parking lot and adjacent bus stop (1st/Olive) are centrally located in the city's downtown commercial area, just northeast of the Golden State Freeway. The nearest rapid transit service is the Downtown Burbank Metrolink station, located across the freeway from this site. Additionally, a BRT line is planned to run on E Olive St. The nearest station would be just northeast of the mobility hub at Olive and San Fernando Blvd. Transforming the 1st/Olive bus stop site into a mobility hub will build on the strengths of the existing site, services, and surrounding area (location, available space, connection to planned bike network). Considering key opportunities for improvement (pedestrian safety and amenities, wayfinding, placemaking), additional amenities and design elements are identified to improve the multi-modal accessibility and safety of the site, in addition to creating a sense of place and improving connectivity.

Conceptual Design



Proposed Improvements

PHASE 1

1) Bike parking
2) Seating with big shade tree
3) Information board
4) Shelter with seating

PHASE 2

5) Bike sharing
6) Water refill station
7) Package delivery locker
8) Emergency phone
9) Real-time transit information
10) Short-term parking spots

PHASE 3

11) Bicycle repair station
12) Public bathroom
13) FLEX space for food/maintenance truck

OFF-SITE RECOMMENDATIONS

- Intersection upgrades
- Pedestrian and bike safe connection between primary and satellite hubs
- Pavement paintings

Costs

Phase 1 Capital
- $100,000

Phase 2 Capital
- $225,000

Phase 3 Capital
- $105,000

Off-Site Capital
- $300,000

Benefits (Qualitative)

PHASE 1 improves the access for bicyclists, creates a more comfortable space for all and connects users to community events.

PHASE 2 elevates the experience at the mobility hub, adding more amenities and safety features.

PHASE 3 adds additional customer amenities to diversify the use of the space and to make it a more convenient and attractive place to be.

Appendix C

Fontana Downtown Mobility Hub

Implementation Plan

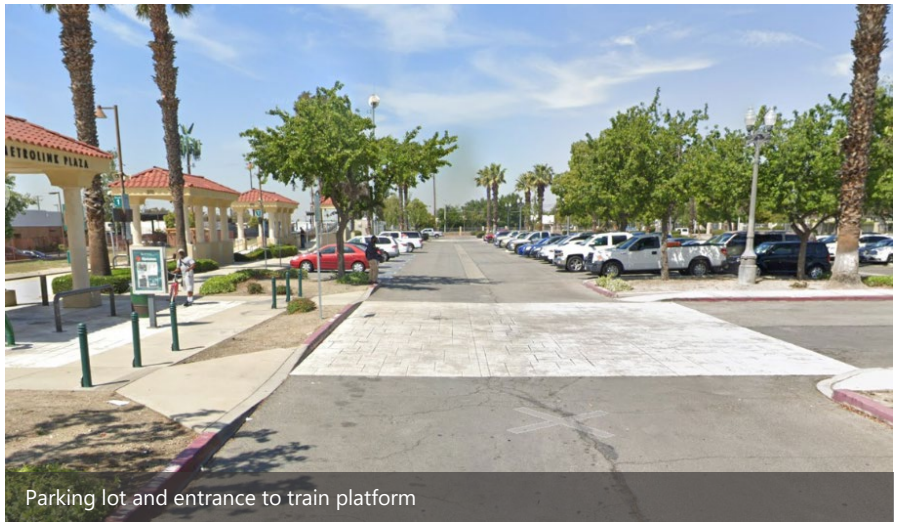
Mobility Hub Implementation Plan: Downtown Fontana Station

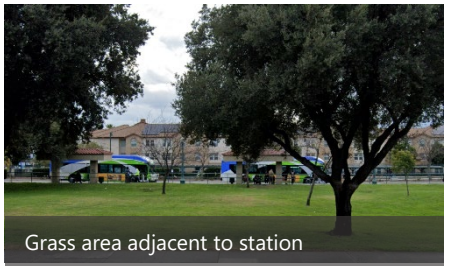
Background and Site Description

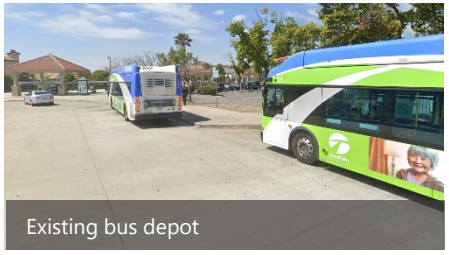
Mobility hubs are strategic locations for travelers to easily connect with multiple modes of transportation suited for their needs in a safe, comfortable, and accessible environment. SCAG's Connect SoCal 2024 identified mobility hubs as a regional strategic investment to increase multimodal connectivity, manage the existing transportation system, and improve the traveler experience. As such, SCAG partnered with local agencies, including the City of Fontana, to create implementation plans for potential mobility hubs throughout the SCAG region.

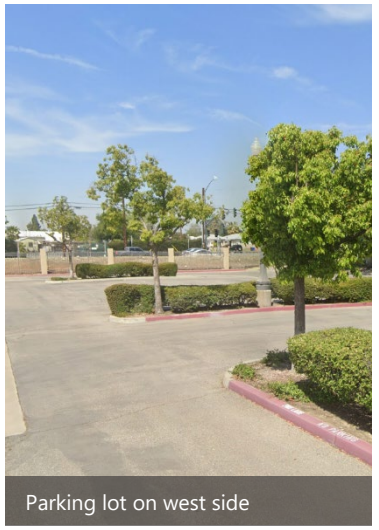
The Fontana Metrolink station and bus exchange are in Fontana's historic downtown core. The recently approved Downtown Core Project lays the groundwork for higher residential density and mixed-use development for entertainment and night-oriented businesses in the area. The existing site is anchored by the Fontana station on Metrolink's San Bernardino line, which had the highest ridership in Metrolink's system (2024), a bus exchange connecting one Victor Valley Transit bus route and nine Omnitrans bus routes, eight of which terminate at this exchange. Transforming the site into a mobility hub will build on the strengths of the existing site (bike parking, bus stop amenities, ample lighting, and landscaping) and surrounding neighborhood, and will address the identified gaps and opportunities (placemaking, passenger pick-up and drop-off, and first-last mile connectivity). The mobility hub is designed to integrate with the surrounding land use and to support the Downtown Core Project redevelopment.

Existing Conditions

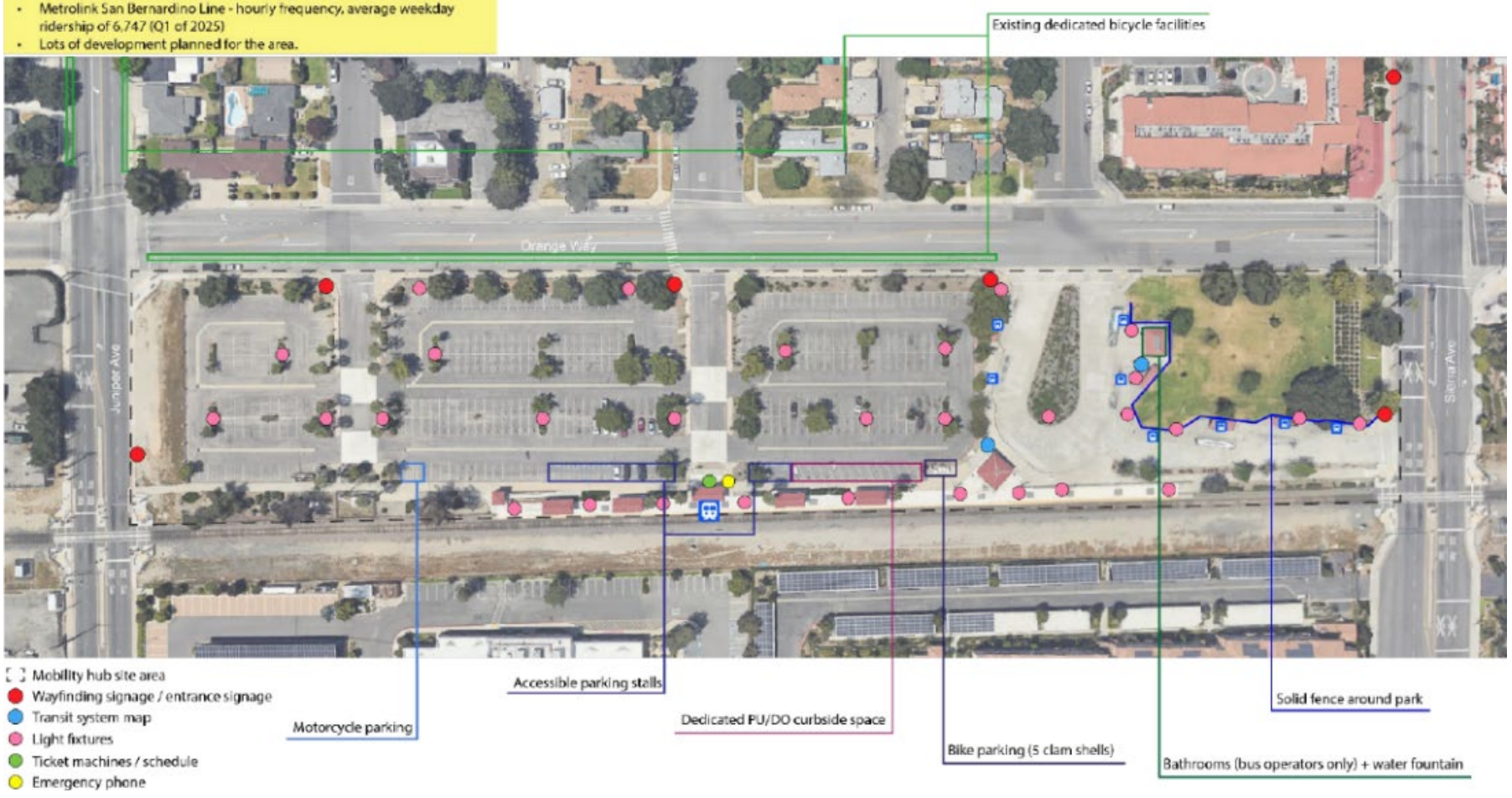

Parking lot and entrance to train platform


Grass area adjacent to station


Existing bus depot

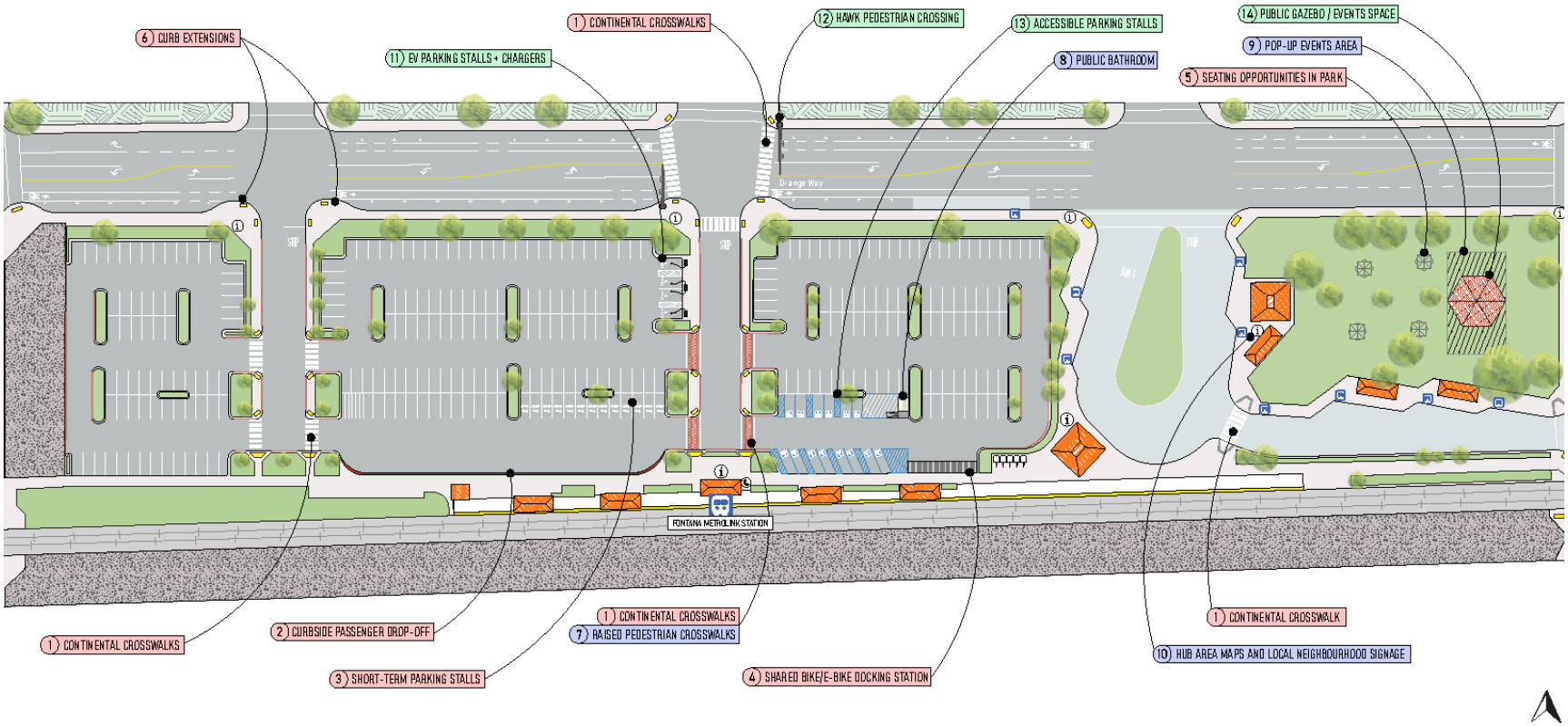

Parking lot on west side

Notes
- Lighting, benches, CCTV, and pavement in good condition.
- Popular transfer station, mostly between buses.
- Sierra Ave future conditions: 1 GP lane bidirectional, landscaped median, and protected bidirectional bike lanes. Currently 2 GP lanes and parking.
- 10 bus routes, 7 terminate at this exchange
- Metrolink San Bernardino Line - hourly frequency, average weekday ridership of 6,747 (Q1 of 2025)
- Lots of development planned for the area.



Gap analysis for the Fontana Downtown Station

Conceptual Design



Mobility Hub Elements

Below are the recommended mobility hub amenities for the Downtown Perris Metrolink Station:

1) At-grade continental crosswalks
2) Curbside pick-up/drop-off area
3) Short-term parking stalls
4) Shared bike/e-bike docking station
5) Seating opportunities in park
6) Curb extensions
7) Raised pedestrian crosswalks
8) Public bathroom
9) Pop-up events area
10) Hub area maps and local signage
11) EV Parking stalls and chargers
12) HAWK pedestrian crossing
13) Additional accessible parking stalls
14) Public gazebo/events space

Off-site Recommendations

1) Wayfinding
2) Intersection improvements
3) Pedestrian-scale lighting

Below are some of the main improvements to the station:

Wayfinding Signage Quality signage can help travelers identify modal connections, mobility hub amenities, and major destinations near the mobility hub, like Downtown Fontana.

Carshare Partnership with a carsharing service provides mobility hub users with access to shared vehicles, providing a convenient way to connect to longer distance trips from the mobility hub.

Pick-up/Drop-off (PU/DO) Zones Dedicated curbside spaces can help facilitate mobility hub users moving to and from vehicles. Short-term parking may be useful for pick-up areas.

Bathrooms The station parking lot has ample room for bathrooms. They can be permanent facilities or portable bathrooms with app-enabled access.

Shared Mobility Bikeshare provides users with access to a bicycle or scooter without having to own one. This can be a useful mode for users accessing further away destinations.

Electric Vehicle (EV) Charging Stations Parking spaces with designated charging equipment provide mobility hub users with convenient stations to fuel EVs.

Proposed Implementation Schedule

A phased approach is recommended to the implementation of the mobility hub at the downtown Fontana office:

Phase 1

1) At-grade continental crosswalks
2) Curbside pick-up/drop-off area
3) Short-term parking stalls
4) Shared bike/e-bike docking station
5) Seating opportunities in park
6) Curb extensions

Phase 2

7) Raised pedestrian crosswalks
8) Public bathroom
9) Pop-up events area
10) Hub area maps and local signage

Phase 3

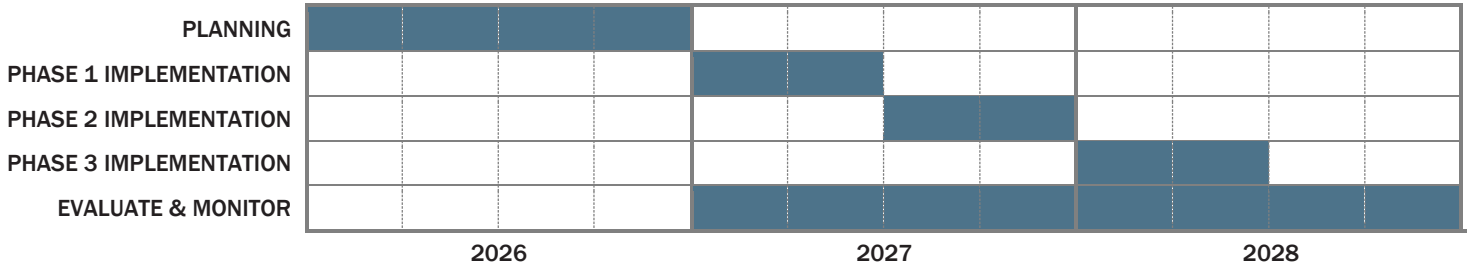
11) EV Parking stalls and chargers
12) HAWK pedestrian crossing
13) Additional accessible parking stalls
14) Public gazebo/events space

Off-site Recommendations

Wayfinding
Intersection improvements
Pedestrian-scale lighting

Future Considerations

Parking structure



Cost Estimate

	Quantity Internal	Quantity Off-Site	Unit Cost	Total Cost
PHASE 1				**$255,100**
1) At-grade continental crosswalks	4	1	$500	$2,500
2) Curbside pick-up / drop-off area	1	0	$5,000	$5,000
3) Short-term parking stalls	13	0	$200	$2,600
4) Shared bike/e-bike docking station	1	3	$50,000	$200,000
5) Seating opportunities in park	LS	0	$20,000	$20,000
6) Curb extensions	0	5	$5,000	$25,000
PHASE 2				**$120,000**
7) Raised pedestrian crosswalks	4	0	$500	$2,000
8) Public bathroom	1	0	$100,000	$100,000
9) Pop-up events area, art, landscaping	LS	0	$15,000	$15,000
10) Hub area maps and local signage	1	0	$3,000	$3,000
PHASE 3				**$946,000**
11) EV parking stalls and chargers	4	0	$70,000	$280,000
12) HAWK pedestrian crossing	6	0	$100,000	$600,000
13) Additional accessible parking stalls	6	0	$500	$3,000
14) Public gazebo / events space	1	0	$10,000	$10,000
15) Additional security measures (CCTV, signs)	LS	0	$53,000	$53,000
OFF-SITE RECOMMENDATIONS				**$138,000**
Wayfinding	2	10	$2,000	$24,000
Intersection improvements	0	2	$50,000	$100,000
Pedestrian-scale lighting	14	0	$1,000	$14,000
SUBTOTAL				$1,459,100
CONTINGENCY				$291,900
TOTAL				**$1,751,000**

Funding and Partnerships

Various funding opportunities are available for mobility hubs or mobility hub elements at the local, state, and federal levels. Below is a list of funding programs that are available for some or all of the mobility hub elements identified in the conceptual design.

Regional Pilot Initiatives (RPI), SCAG: SCAG is providing funding for projects that demonstrate innovative, next-generation technologies and models of regional significance. Mobility hubs are one of four RPI Program Areas.

Fast and Available Charging for All Californians (FAST 2.0), California Energy Commission (CEC): This state program provides funding to deploy EV charging infrastructure at existing structures and facilities. The EV chargers must be open to the public, in locations and parking areas that are well-lit, and incorporate signage. The maximum grant award per project is up to 50 percent of total project cost or $5 million (whichever is less).

Active Transportation Program, California Transportation Commission (CTC): This state program provides funding for projects to increase active modes of transportation. The off-site recommendations identified in the implementation plan, such as intersection improvements, would be eligible components.

Pilot Program for TOD Planning, Federal Transit Administration (FTA): This program helps support FTA's mission of improving America's communities through public transportation by providing funding to integrate land use and transportation planning.

Pilot project consideration: Carshare and shared mobility are not widely implemented in the surrounding region. A pilot program for these services can help provide the community with the opportunity to test carshare and/or shared mobility programs to determine if they are a good fit for the mobility hub site. The City will have the opportunity gather feedback prior to full investment and implementation.

Next Steps

Allocate Space for Phased Improvements

- ✓ Dedicate physical space for improvements in later phases. For example, the City of Fontana aims to build a parking structure in the Metrolink parking lot. This space should be allocated for future use so no major improvements or infrastructure is built in this space.

Community Engagement

- ✓ Provide varied opportunities for the surrounding community to give feedback, including residents and local businesses. This can be done through online or in-person surveys, door-to-door outreach, engagement at community events, presenting at or creating a technical advisory committee, or social media. Meaningful engagement is key to building consensus and developing collaborative solutions that incorporate the community's feedback.

Identify Funding Opportunities and Partnerships

- ✓ After or concurrently with the project's community engagement activities, identify funding opportunities to successfully implement the project. This will allow the City to update the conceptual design based on the community's feedback and find the applicable opportunities for their project.
- ✓ Partner with a private operator to pilot a shared mobility service at the mobility hub site. This will allow for community feedback before full implementation.

Evaluate Connecting Infrastructure

- ✓ Identify pedestrian and bicycle infrastructure that connect the mobility hub site to major destinations and if opportunities for improvement are identified, include the improvements in the next capital improvement plan or active transportation plan. This includes connections to the City's downtown and the nearby Pacific Electric Trail.

Appendix C

Fontana Downtown Mobility Hub

Concept Design

Fontana Downtown Mobility Hub Concept Design

Illustrations not to scale and intended for visualization only. Not intended for detailed design.

1

Source: City of Long Beach

4

Source: City of Vancouver

5

Source: NACTO Urban Street Design Guide

6

Moorpark Metrolink Station. Source: Google Maps

7

Source: Throne Labs

8

Source: City of Vancouver

9

Source: Mobility Hubs: A Reader's Guide, City of Los Angeles

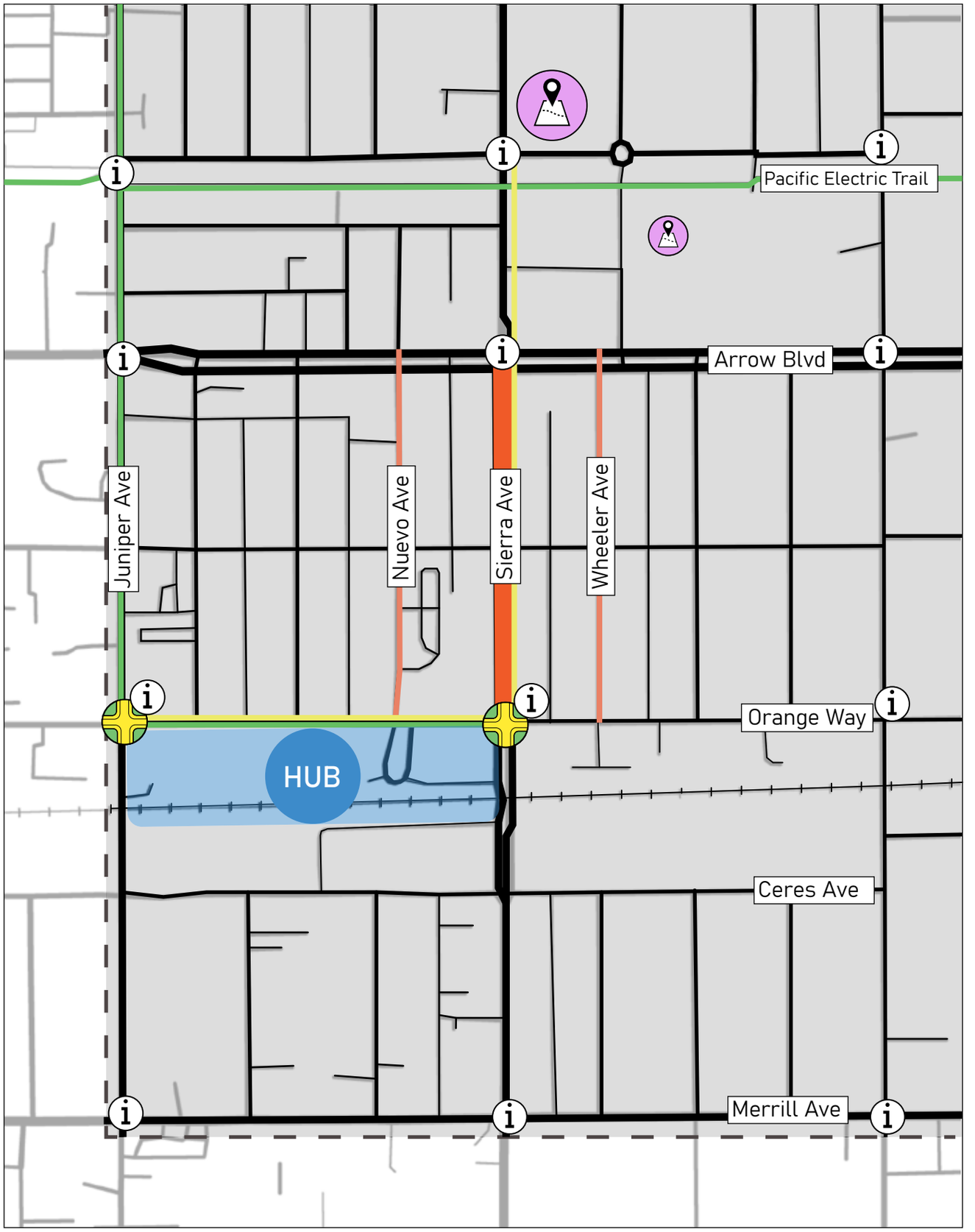
12

Source: Mobility Hubs: A Reader's Guide, City of Los Angeles

13

Moorpark Metrolink Station. Source: Google Maps

Fontana Downtown Mobility Hub Concept Design



EXISTING

- Bicycle facilities
- Downtown destinations

PLANNED

- Pedestrian / bicycle improvements
- Laning / traffic flow changes
- Downtown Core Project area

RECOMMENDED

- Pedestrian-scale lighting
- Intersection upgrades
- Wayfinding signage for pedestrians and vehicles

Illustrations not to scale

Appendix C

Fontana Downtown Mobility Hub

Gaps and Opportunities Analysis

SCAG Mobility Hubs – Priority Projects Development

Fontana Downtown Mobility Hub

Gaps and Opportunities

February 2025

Introduction

The Fontana Metrolink station and bus exchange are located in Fontana's historic downtown core. The recently approved Downtown Core Project lays the groundwork for higher residential density and mixed-use development for entertainment and night-oriented businesses in the area. The project also proposes pedestrianization of select sections of Sierra Avenue between Orange Way and Arrow Boulevard. It encourages the creation of a livable public realm with vibrant corridors and the development of the downtown as a destination. Recommendations for mobility hub development at the Fontana Downtown station and bus exchange are in alignment with this vision.

The proposed mobility hub site features a regional rail station (Metrolink San Bernardino Line) and a bus exchange connecting one Victor Valley Transit bus route and nine Omnitrans bus routes, eight of which terminate at this exchange. Bus service frequency ranges from 15 to 60 minutes and trains arrive every 30 minutes in the peak hour and peak direction, and every 60 minutes otherwise. Metrolink's San Bernardino line reported an average weekday ridership of 6,747 between July 2024 and September 2024 – the highest ridership line in Metrolink's system.

Transforming this site into a mobility hub builds on the strength of the existing site, services, and surrounding neighborhood and adds additional amenities and design elements that improve the multi-modal accessibility and safety of the site by considering key opportunities for improvement and the planned development of the area.

According to SCAG's six definitions of mobility hub typology, this site qualifies as a Downtown Hub.

Methodology

The proposed mobility hub concept design methodology is as follows:

- Identify gaps and opportunities: all potential improvements/amenities are considered and included in the initial site analysis.
- Prioritize opportunities: the City of Fontana and all relevant stakeholders provide feedback and prioritization of the proposed site improvements. The prioritized list of amenities will be used to guide design.
- Develop conceptual designs: mobility hub concept sketches are developed and submitted for review by the City. The concept illustrations are updated to reflect the City's comments.
- Project cut sheets: a project cut sheet is developed to reflect the proposed site improvements and includes pertinent information for funding applications.

This technical memorandum is the output from the first phase — gaps and opportunities.

Existing Conditions

The existing conditions of the Fontana Downtown Mobility Hub site are first summarized spatially in ***Figure 1*** and then by the mobility hub kit-of-parts. The existing conditions described below are a high-level summary; further study and definition will be included in subsequent design phases.

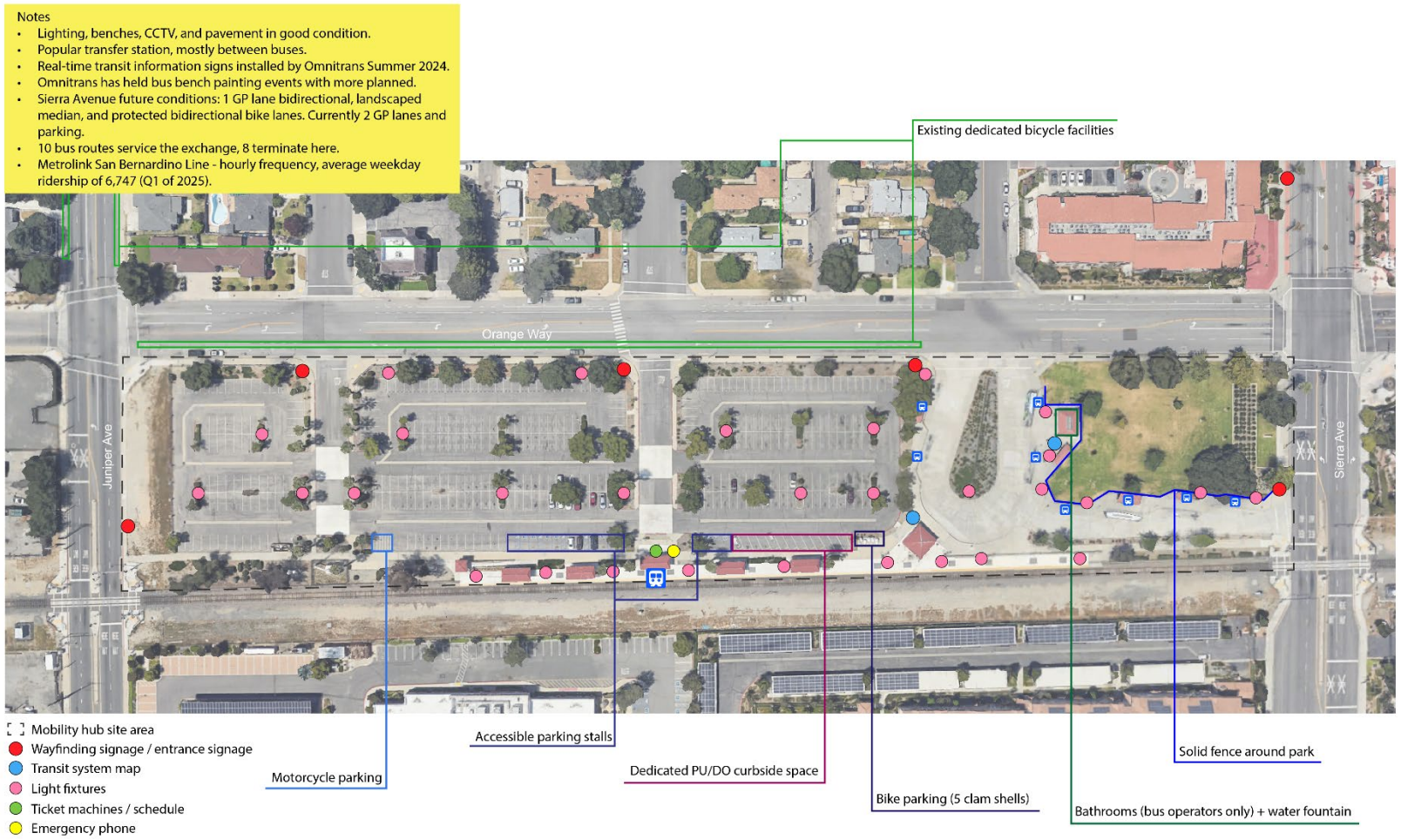


Figure 1 – Existing conditions assessment of Fontana Downtown mobility hub site

Kit of Parts Analysis

SCAG has developed a kit-of-parts of design elements and amenities that could be included at a mobility hub site, according to the site's typology. The table below summarizes which of these elements exist currently at the Fontana site, which could be improved, and which are missing.

Category	Element	Downtown Hub	Urban Hub	Emerging Urban Hub	Suburban & Rural Hub	Equity Hub	Institutional Hub
Transit and Active Transportation Facilities	Train/rail	✓	●	●	●	○	●
	Bus stop/station	✓	●	●	○	●	●
	Carshare	●	●	●	◑	◑	◑
	EV parking	●	●	◑	◑	◑	◑
	Shared micromobility zone	●	●	●	◑	◑	◑
	Pick-up and drop-off zone	✓*	●	●	●	●	●
	Bike amenities	✓*	●	●	◑	●	●
Access Amenities and Services	Covered bus shelters	✓	●	◑	◑	●	◑
	Street furniture	✓	●	◑	○	○	○
	Bathrooms	●	●	●	●	●	●
	Package delivery lockers	●	●	◑	◑	◑	●
	Water re-filling stations	✓*	●	◑	◑	◑	●
Technology, Information, and Wayfinding	Real-time travel information	✓*	●	●	◑	○	●
	Wayfinding signage	✓*	◑	◑	◑	◑	●
	Hub area maps & amenities information	●	●	◑	◑	◑	●
	Closed-circuit television (CCTV) cameras	✓	●	●	●	●	●
	Public Wi-fi and charging ports for phones	●	●	◑	○	◑	◑
	Emergency telephone	✓	●	●	●	●	●
Placemaking	Community art themes	●	●	●	●	●	●
	Lighting	✓	●	●	●	●	●
	Landscaping	✓	●	●	●	●	●

● Highly recommended ◑ Recommended ○ Not applicable ✓ Existing ✓* Existing but could be improved ● Missing

Figure 2 – Kit of parts assessment of Fontana Downtown mobility hub site

Gaps and Opportunities

On-site and off-site gaps and opportunities identified in the previous section are described in further detail below. They are guided by the following key questions which helps ensure that the site address gaps from unique perspectives: the customer, mobility operators, and the broader community and neighborhood.

- Customer: What are the existing gaps, needs, and barriers of the site from a customer-facing perspective?
- Operations: What are the existing gaps, needs, and barriers of the site from an operational perspective?
- Community: How might the identified improvements fit within the planned land use development of the area?

On-site

The tables below describe the on-site transportation, information, and placemaking gaps within the site area, alongside opportunities for improvement. The opportunities identified are inclusive, not definitive. As mentioned in the preceding ***Methodology*** section, this initial list will be prioritized to determine which improvements will be implemented with available SCAG funding.

Table 1 – On-site transportation gaps at Fontana Downtown mobility hub site

Transportation		
Gap	**Opportunity**	**Comments**
The site is missing shared/rental transportation options and micromobility (i.e. car share, bike share, scooter share).	Consider collaborating with local car share and micromobility providers to locate a parking/docking station on the site.	Consider this improvement alongside larger-scale off-site improvements to active transportation facilities within the site's walkshed (~1/2 mile) and bikeshed (~1-2 miles). Consider collaborating with the City of Rialto for the implementation of a bikeshare program.
The surface parking lot is expansive but offers only minimal dedicated parking spaces for pick-up/drop-off, taxi queuing, and accessible parking.	Consider expanding pick-up/drop-off area for TNCs and rideshare, assigning dedicated taxi queuing aisles, and improving signage.	
	Consider allocating dedicated spaces for vanpool and EV parking.	Consider also installing charging stations for electric vehicles. Further study would be required to determine suitable types of charging facilities, considering voltage, charging network, etc.
	Consider allocating a dedicated curbside area for TNCs and rideshare pick-up/drop-off.	

Transportation		
Gap	**Opportunity**	**Comments**
Pavement and sidewalk facilities are in good condition but do not include accessible design features.	Consider implementing ADA-compliant infrastructure improvements (including but not limited to tactile warning systems, flashing beacons at crossings, etc.)	
Lack of sidewalks connecting off-site pedestrian facilities to train station.	Provide dedicated, safe pedestrian facilities between the train station and key destinations (e.g., raised crosswalks).	
Pedestrian priority at intersection entrances to the hub site is minimal.	Consider extending curbs to create bulb-outs at mid-block crossings.	Curb extensions, or bulb-outs, decrease pedestrian crossing distances and increase the visibility of pedestrians to motor vehicles and cyclists, thereby enhancing safety and encouraging slower travel speeds.
	Consider pedestrian signals at mid-block crossings and entrances to the hub.	
Bike facilities and amenities on the site are minimal (five covered bike racks).	Consider expanding bike parking, including a bike room and fix-it station.	
	Consider the addition of charging facilities for bikes/scooters.	
Existing facilities have adequate waiting area space but connections between facilities/amenities could be improved.	Consider opportunities for co-locating services within the central hub area in a direct and clearly marked way.	

Table 2 – On-site information and wayfinding gaps at Fontana Downtown mobility hub site

Information and wayfinding		
Gap	**Opportunity**	**Comments**
Wayfinding signage on-site is minimal.	Implement wayfinding signage on-site directing people to the services and amenities located within the hub area.	Ensure signage is pedestrian-oriented, clearly visible and understandable (Spanish and English).
	Consider installing neighborhood-specific event/information boards (e.g. popular destinations and approx. distance, notifications of upcoming events, etc.).	
There is no real-time transit information at bus stops.	Consider installing real-time transit boards at both bus loops.	Collaborate with Omnitrans — they are implementing safety

Information and wayfinding		
Gap	Opportunity	Comments
		improvements, e-signs and lighting at bus stops.

Table 3 – On-site placemaking gaps at Fontana Downtown mobility hub site

Placemaking and other services		
Gap	Opportunity	Comments
No public bathrooms are available on-site (existing bathrooms are reserved for bus drivers).	Consider adding public bathrooms through partnerships or new technology that mitigates associated challenges.	Consider a partnership with Throne Labs to implement public 'smart' bathrooms.
Little to no sense of place on site.	Consider reallocating some parking spaces to create a parklet/plaza or flex programming.	Provide protection from the elements when creating public spaces. Partner with local business owners, organizations, and artists to further enhance sense of place.
	Consider breaking up the fence around Santa Fe Park and installing formal and informal seating options in the park (particularly under trees) for people waiting for buses, pick-up, and all other hub users.	
	Provide opportunities for the public to contribute ideas for amenities they would like to see at the site.	
	In line with street activations planned in the Downtown Core Project, consider commissioning local artists on public art projects within the mobility hub site.	
Few additional passenger amenities on site.	Consider installing public Wi-Fi in the area, charging ports available to all hub users, and package delivery stations. Also consider installing additional water refill stations, particularly closer to the rail station.	

Off-site

This section details the gaps and opportunities pertaining to off-site transportation services, information and wayfinding.

Table 4 – Off-site transportation gaps at Fontana Downtown mobility hub site

Transportation services		
Gap	**Opportunity**	**Comments**
Lack of separated bicycle facilities leading into and out of the mobility hub site. *While there are on-street cycling facilities on Orange Way and north of the hub site, there no east-west cycling facilities. Existing facilities are class III, meaning cyclists must share the road with vehicles, leading to potential safety issues and discouraging prospective cyclists.*	Consider improvements to the off-site cycling infrastructure within the bikeshed to ensure it is attractive to cyclists of all ages and abilities, including separation from motor vehicles (i.e. class IV facilities).	Connections to the Pacific Electric Trail (an off-site bike route) 600m north of the hub site should be considered. Orange Way has as unbuffered painted bike lane, beginning at Juniper Avenue and continuing until Nuevo Avenue, where the dedicated lane ends and cyclists must share the road with vehicles. Sierra Avenue is a class III bike route (i.e. cyclists must share the road with vehicles). Juniper Avenue is a class III bike route, with an unbuffered painted bike lane beginning north of Orange Way.
	Consider developing a city center cycling facility design guide so that future developments in the area are required to provide these facilities.	
	Consider protected intersection designs for large intersections within the walkshed and bikeshed, prioritizing from the mobility hub outward.	Intersection upgrades for active transportation may look like continental crosswalks, APS upgrades, ADA compliant designs, etc.

Table 5 – Off-site information and wayfinding gaps at Fontana Downtown mobility hub site

Information and wayfinding		
Gap	**Opportunity**	**Comments**
Limited wayfinding signage directing people to the mobility hub site within the walkshed/bikeshed of the site.	Install both vehicle-scale and pedestrian-scale wayfinding at major intersections and along active transportation pathways	Ensure signage directs travelers to the site and clearly identifies the transportation options and services available at the site.

Information and wayfinding		
Gap	**Opportunity**	**Comments**
	within the walkshed/bikeshed of the site.	Signage should also help create a sense of arrival and enable a seamless first/last mile experience. Off-site wayfinding signage can double as directions to the mobility hub as well as other prominent local destinations.

Ongoing and Future Plans

Parking structure: The City of Fontana has participated in early talks with the federal government to develop a several thousand stall parking structure at this site. The development of the structure is dependent on increased residential density in the downtown core. The western half of the site's parking lot is a prospective location for this structure. Therefore, the recommendations to be included in the mobility hub site will focus primarily on the eastern half of the site to avoid investment in infrastructure and services that may be removed in future.

Downtown Core Project: The Downtown Core Project includes upgrades to Sierra Avenue between Arrow Boulevard and Orange Way. The first phase of the project will remove one general purpose traffic lane and improve pedestrian and bicycle facilities, while the second phase will fully pedestrianize the street. Nuevo Avenue and Wheeler Avenue will be limited to one-way traffic and there is interest in improving pedestrian connections along Nuevo Avenue. The mobility hub design will consider these near- and long-term improvements and recommendations will include complementary projects on and off the mobility hub site.

Appendix C

Fontana Downtown Mobility Hub

Project Cut Sheet

Fontana Downtown Mobility Hub Concept Illustration

Project Background & Description

The Fontana Metrolink station and bus exchange are in Fontana's historic downtown core. The recently approved Downtown Core Project lays the groundwork for higher residential density and mixed-use development for entertainment and night-oriented businesses in the area. The existing site is anchored by the Fontana station on Metrolink's San Bernardino line which had the highest ridership in Metrolink's system (2024), a bus exchange connecting one Victor Valley Transit bus route and nine Omnitrans bus routes, eight of which terminate at this exchange. Transforming the site into a mobility hub will build on the strengths of the existing site (bike parking, bus stop amenities, ample lighting and landscaping) and surrounding neighbourhood, and will address the identified gaps and opportunities (placemaking, passenger pick-up and drop-off, and first-last mile connectivity). The mobility hub is designed to integrate with the surrounding land use and to support the Downtown Core Project redevelopment.

Conceptual Design

Proposed Improvements

PHASE 1

(1) At-grade continental crosswalks
(2) Curbside pick-up / drop-off area
(3) Short-term parking stalls
(4) Seating opportunities in park
(5) Curb extensions

OFF-SITE RECOMMENDATIONS

Wayfinding
Intersection improvements
Pedestrian-scale lighting
Pedestrian crossing with RRFB

PHASE 2

(6) Raised pedestrian crosswalks
(7) Public bathroom
(8) Pop-up events area
(9) Hub area maps and local signage
(10) Additional accessible parking stalls
(11) Public gazebo / events space
(–) Additional security measures

PHASE 3

(12) Shared bike / e-bike docking station
(13) EV parking stalls and chargers

Costs

PHASE 1 CAPITAL
- $81,000

PHASE 2 CAPITAL
- $223,000

OFF-SITE CAPITAL
- $258,000

PHASE 3 CAPITAL
- $480,000

Qualitative Benefits

PHASE 1 improves safety and comfort and enables seamless passenger pick-up and drop-off.
PHASE 2 improves pedestrian safety, adds additional amenities, and diversifies the use of the space helping to foster community-building.
PHASE 3 encourages low-carbon mobility and further improves sense of place.

Appendix C

Moorpark Metrolink Station Mobility Hub

Implementation Plan

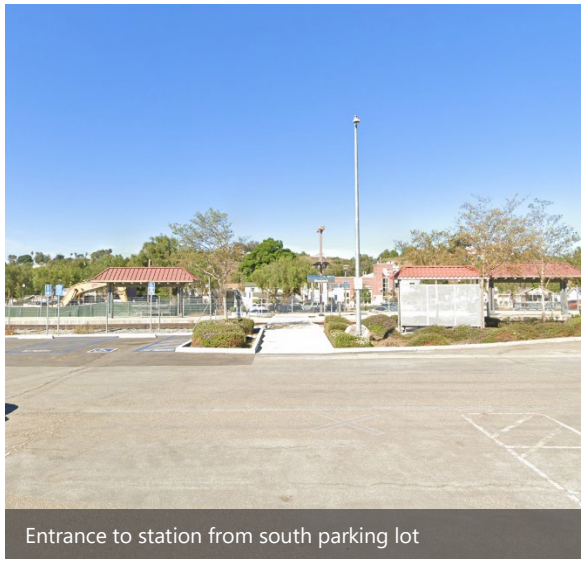
Mobility Hub Implementation Plan: Moorpark Station

Background and Site Description

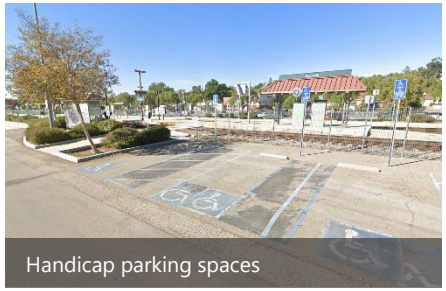
Mobility hubs are strategic locations for travelers to easily connect with multiple modes of transportation suited for their needs in a safe, comfortable, and accessible environment. SCAG's Connect SoCal 2024 identified mobility hubs as a regional strategic investment to increase multimodal connectivity, manage the existing transportation system, and improve the traveler experience. As such, SCAG partnered with local agencies, including the City of Moorpark, to create implementation plans for potential mobility hubs throughout the SCAG region.

The Moorpark Metrolink station is centrally located in Moorpark, California. The Downtown Specific Plan (amended 2024) creates a vision for downtown Moorpark that is diverse, inclusive, and pedestrian-oriented with mixed land uses that preserve the cultural heritage of the neighborhood. The proposed mobility hub site features a regional rail station (Metrolink Ventura County line) and on-street bus stops. The north parking lot has recently been updated and includes ample parking for personal vehicles (including charging stations for electric vehicles). Transforming this site into a mobility hub builds on the strengths of the existing site, services, and surrounding neighborhood (e.g., large dedicated area, accessible facilities, recently improved north parking lot, etc.) and addresses the identified gaps and opportunities in the south parking lot (e.g., pedestrian safety, wayfinding, cycling amenities, etc.).

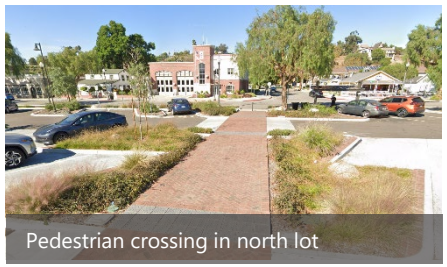
Existing Conditions



Entrance to station from south parking lot



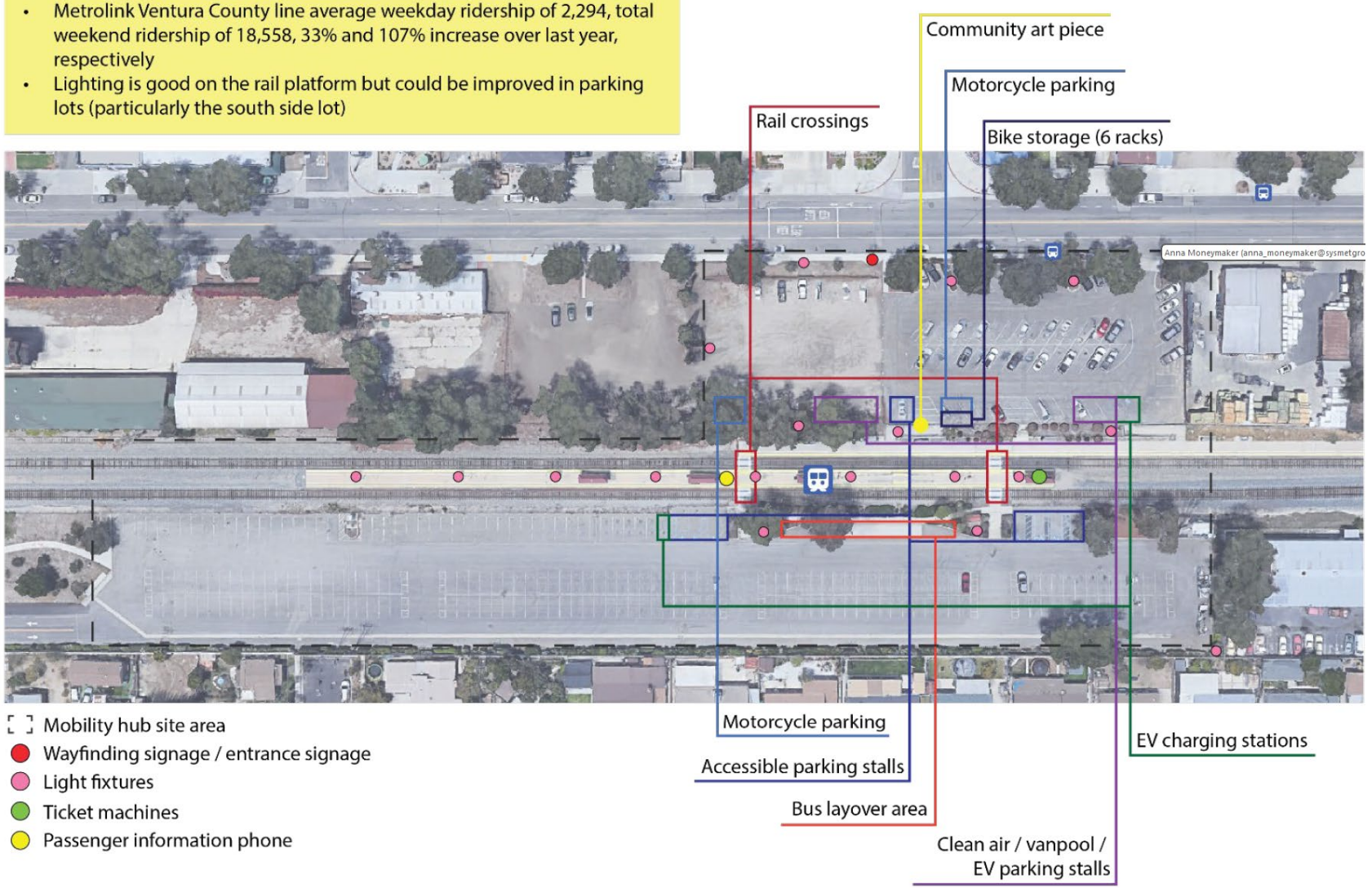
Handicap parking spaces



Pedestrian crossing in north lot

Entrance to south parking lot of Moorpark Station

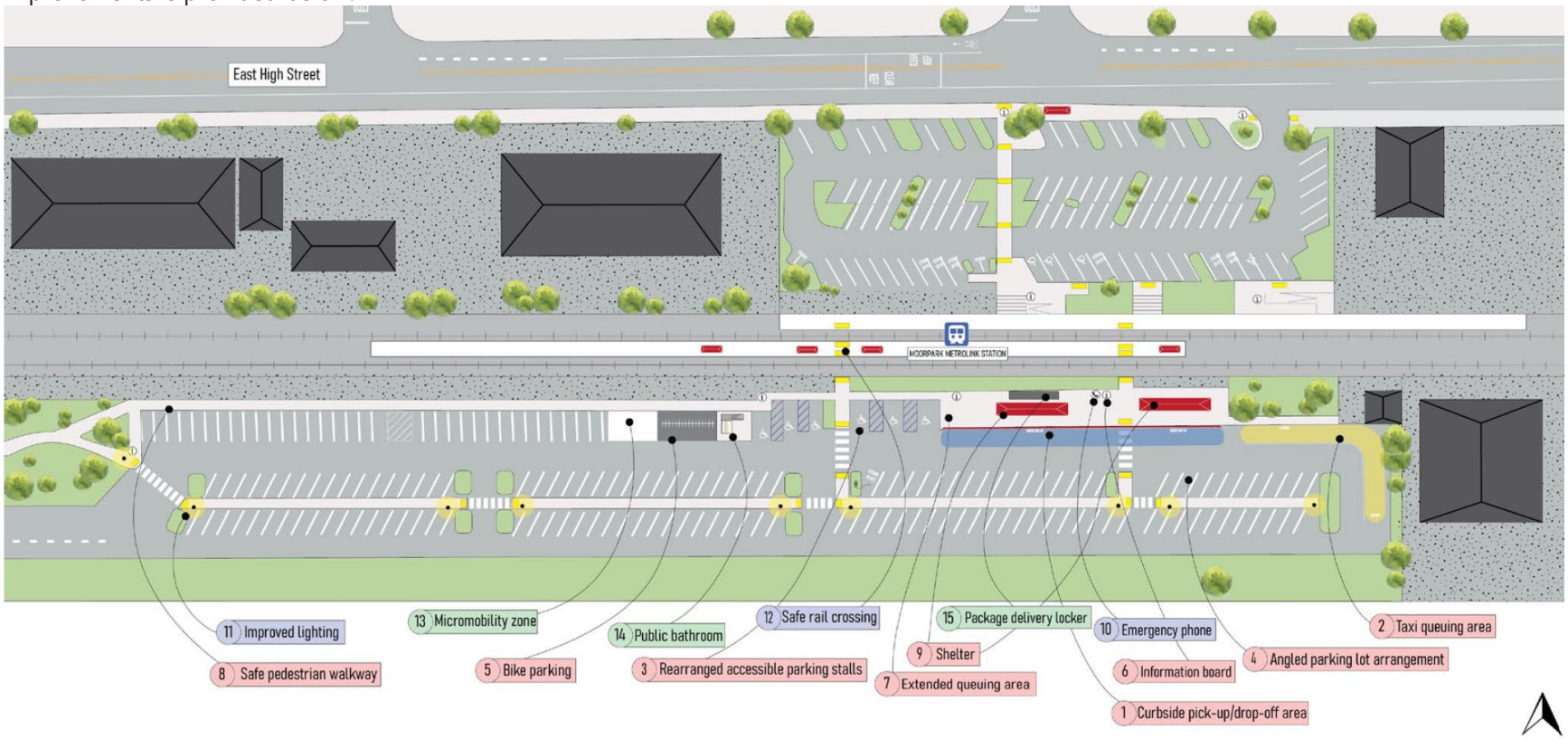
Notes
- 270 regular parking spaces/8 accessible parking spaces
- Metrolink Ventura County line average weekday ridership of 2,294, total weekend ridership of 18,558, 33% and 107% increase over last year, respectively
- Lighting is good on the rail platform but could be improved in parking lots (particularly the south side lot)



Gap analysis for Moorpark Station showing existing conditions

Conceptual Design

The conceptual design illustrates the proposed improvements to the Moorpark station to create a mobility hub. A description of the proposed improvements is provided below.



1) Curbside pick-up/drop-off area
2) Taxi queuing area
3) Rearranged accessible parking stalls
4) Angled parking lot arrangement
5) Bike parking racks
6) Wayfinding and transit information with information boards
7) Extended queuing area
8) Pedestrian walkways
9) Upgraded weather-protected waiting areas
10) Emergency phone
11) Improved lighting
12) Improved pedestrian rail crossings
13) Micromobility zone
14) Public bathroom
15) Package delivery lockers and public Wi-Fi
16) Canopy
17) Seating area

Off-site recommendations

Cycling Infrastructure and protected intersections

Mobility Hub Elements

Below are the recommended mobility hub amenities for the Moorpark Metrolink Station:

Wayfinding Signage Quality signage can help travelers identify modal connections, mobility hub amenities, and major destinations near the mobility hub, like city hall.

Lighting Installing lighting, especially at the pedestrian scale, provides a sense of security and creates an inviting atmosphere.

Pick-up/Drop-off (PU/DO) Zones Dedicated curbside spaces can help facilitate mobility hub users moving to and from vehicles. Short-term parking may be useful for pick-up areas.

Bus Shelter A physical shelter can protect mobility hub users from the sun and rain.

Emergency Phone Installing an emergency phone at the parking lot can provide security to mobility hub users, especially those traveling alone or when the station is less crowded.

Bicycle Lockers or Rooms Secure, high-quality bicycle parking can encourage more bicycle trips. This can be achieved through lockers, manned rooms, or secure bicycle racks.

Shared Mobility Bikeshare provides users with access to a bicycle or scooter without having to own one. This can be a useful mode for users accessing further away destinations.

Electric Vehicle (EV) Charging Stations Parking spaces with designated charging equipment provide mobility hub users with convenient stations to fuel EVs.

Bathrooms The station parking lot has ample room for bathrooms. They can be permanent facilities or portable bathrooms with app-enabled access.

Package Delivery Locker Mobility hub users can utilize the delivery lockers to conveniently and securely pick up their packages.

Proposed Implementation Schedule

Due to the large number of improvements proposed for this mobility hub site, a phased approach to the implementation of the Moorpark mobility hub is recommended. The proposed phases include:

Phase 1

1) Curbside pick-up/drop-off area
2) Taxi queuing area
3) Rearranged accessible parking stalls
4) Angled parking lot arrangement
5) Bike parking racks
6) Wayfinding and transit information with information boards
7) Extended queuing area
8) Pedestrian walkways
9) Weather-protected waiting areas

Phase 2

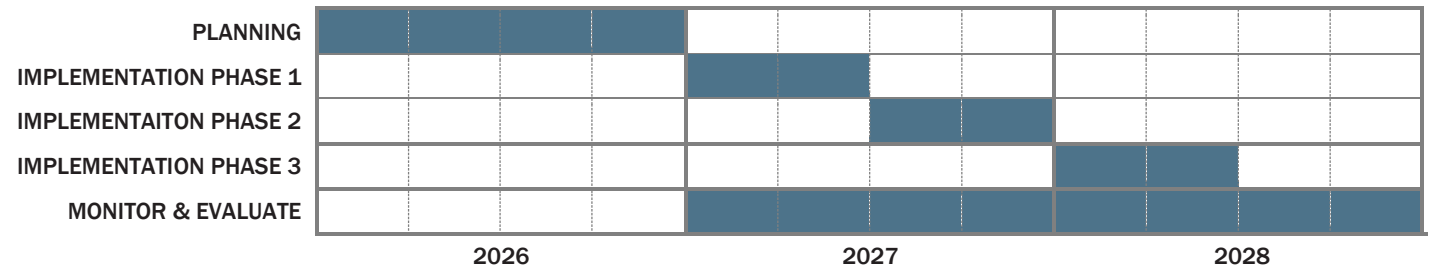
10) Emergency phone
11) Improved lighting
12) Improved pedestrian rail crossings

Phase 3

13) Micromobility zone
14) Public bathroom
15) Package delivery lockers and public Wi-Fi
16) Canopy
17) Seating area

Off-site recommendations

Cycling Infrastructure and protected intersections



Cost Estimate

	Quantity Internal	Quantity Off-Site	Unit Cost	Total Cost
PHASE 1				**$167,400**
1) Curbside pick-up / drop-off area	1	0	$5,000	$5,000
2) Taxi queuing area	1	0	$5,000	$5,000
3) Rearranged accessible parking stalls	6	0	$400	$2,400
4) Angled parking lot arrangement	180	0	$100	$18,000
5) Bike parking racks	1	0	$4,000	$4,000
6) Wayfinding and transit information with information boards	1	0	$3,000	$3,000
7) Extended queuing area	LS	0	$20,000	$20,000
8) Pedestrian walkways	800 ft	0	$100	$80,000
9) Weather protected shelters with seats	1	0	$30,000	$30,000
PHASE 2				**$39,000**
10) Emergency phone	4	0	$5,000	$20,000
11) Improved lighting	9	0	$1,000	$9,000
12) Improved pedestrian rail crossings	LS	0	$10,000	$10,000
PHASE 3				**$118,000**
13) Micromobility zone	1	0	$3,000	$3,000
14) Public bathroom	1	0	$100,000	$100,000
15) Package delivery lockers and public Wi-Fi	1	0	$5,000	$5,000
16) Canopy	1	0	$10,000	$10,000
OFF-SITE RECOMMENDATIONS				**$164,000**
Cycling infrastructure	0	1	$100,000	$50,000
Wayfinding	3	4	$2,000	$14,000
Protected intersection crossing	0	1	$100,000	$100,000
SUBTOTAL				$488,400
CONTINGENCY				$101,600
TOTAL				**$590,000**

Funding and Partnerships

Various funding opportunities are available for mobility hubs or mobility hub elements at the local, state, and federal levels. Below is a list of funding programs that are available for some or all of the mobility hub elements identified in the conceptual design.

Regional Pilot Initiatives (RPI), SCAG: SCAG is providing funding for projects that demonstrate innovative, next-generation technologies and models of regional significance. Mobility hubs are included as one of four Program Areas for RPI.

Fast and Available Charging for All Californians (FAST 2.0), California Energy Commission (CEC): This state program provides funding to deploy EV charging infrastructure at existing structures and facilities. The EV chargers must be open to the public, in locations and parking areas that are well-lit, and incorporate signage. The maximum grant award per project is up to 50 percent of total project cost or $5 million (whichever is less).

Pilot Program for TOD Planning, Federal Transit Administration (FTA): This program helps support FTA's mission of improving America's communities through public transportation by providing funding to integrate land use and transportation planning.

Next Steps

Allocate Space for Improvements

- ✓ Ensure that there is enough physical space for all improvements throughout the phases by allocating space within the site for specific improvements.

Community Engagement

- ✓ Provide varied opportunities for the surrounding community to give feedback, including residents and local businesses. This can be done through online or in-person surveys, door-to-door outreach, engagement at community events, presenting at or creating a technical advisory committee, or social media. Meaningful engagement is key to building consensus and developing collaborative solutions that incorporate the community's feedback.

Identify Funding Opportunities and Partnerships

- ✓ After or concurrently with the project's community engagement activities, identify funding opportunities to successfully implement the project. This will allow the City to update the conceptual design based on the community's feedback and find the applicable opportunities for their project.
- ✓ Partner with a private operator to pilot a shared mobility service at the mobility hub site. This will allow for community feedback before full implementation.

Evaluate Connecting Infrastructure

- ✓ Identify pedestrian and bicycle infrastructure that connect the mobility hub site to major destinations and if opportunities for improvement are identified, include the improvements in the next capital improvement plan or active transportation plan.

Appendix C

Moorpark Metrolink Station Mobility Hub

Concept Design

Moorpark Metrolink Station Mobility Hub Concept Design

Illustrations are not to scale and intended for visualization only. Not intended for detailed design

16 Canopy

17 Seating area

6 Information board

East High Street

STOP

STOP

MOORPARK METROLINK STATION

11 Improved lighting

8 Safe pedestrian walkway

13 Micromobility zone

5 Bike parking

14 Public bathroom

3 Rearranged accessible parking stalls

12 Safe rail crossing

7 Extended queuing area

15 Package delivery locker

9 Shelter with seating

10 Emergency phone

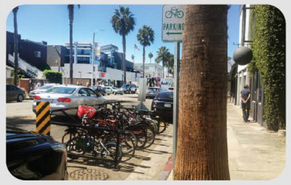
6 Information board

1 Curbside pick-up/drop-off area

4 Angled parking lot arrangement

2 Taxi queuing area

5



Source: Mobility Hubs: A Reader's Guide, City of Los Angeles

6

Source: Mobility Hubs: A Reader's Guide, City of Los Angeles

13

Source: Mobility Hubs: A Reader's Guide, City of Los Angeles

14

Source: Throne Labs

15

Source: Matti Blume

16 + 17

Source: Ryan Smolar

Moorpark Metrolink Station Mobility Hub Concept Design

EXISTING

- Bicycle facilities
- Town Center
- Walkshed
- Bikeshed

PLANNED

- High Street Depot

RECOMMENDED

- Intersection upgrades

Illustrations not to scale

Appendix C

Moorpark Metrolink Station Mobility Hub

Gaps and Opportunities Analysis

SCAG Mobility Hubs – Priority Projects Development

Moorpark Downtown Mobility Hub

Gaps and Opportunities

February 2025

Introduction

The Moorpark Metrolink station is centrally located in Moorpark, California. The Moorpark Downtown Specific Plan pertains to the hub area and surrounding neighbourhood. The plan establishes design standards, guidelines, and strategies for the area's development, particularly the preservation and revitalization of Old Town Moorpark. Downtown Moorpark aims to be a diverse, inclusive, and pedestrian-oriented community with mixed land uses that preserve the cultural heritage of the neighbourhood. The area's policy context will inform the development of the Moorpark mobility hub.

The proposed mobility hub site features a regional rail station (Metrolink Ventura County line) and on-street bus stops. The bus stop on High Street is serviced by local Moorpark bus routes 1 and 2. The two routes are operational between 6am and 6pm Monday to Friday at 60-to-70-minute headways. Ventura County operates an additional four routes that service this stop every 80 to 170 minutes. The Fillmore-Moorpark Valley Express bus also stops at this location every 60 to 90 minutes between 6am and 6pm Monday to Friday.

Metrolink's Ventura County line recorded 2,294 average weekday riders between July 2024 and September 2024 and 18,558 total weekend riders, a 33% and 107% change from the previous year, respectively. Trains arrive hourly in the peak hour and peak direction, and every 2 to 3 hours otherwise. The Amtrak Pacific Surfliner stops at this station five times daily. The route runs from downtown San Diego to San Luis Obispo, servicing 21 stops in total.

Transforming this site into a mobility hub builds on the strength of the existing site, services, and surrounding neighbourhood. Considering key opportunities for improvement, additional amenities and design elements are identified to improve the multi-modal accessibility and safety of the site, as well as its sense of place.

According to SCAG's six definitions of mobility hub typology, this site qualifies as a Downtown Hub.

Methodology

The proposed mobility hub concept design methodology is as follows:

- Identify gaps and opportunities: all potential improvements/amenities are considered and included in the initial site analysis.
- Prioritize opportunities: the City of Moorpark and all relevant stakeholders provide feedback and prioritization of the proposed site improvements. The prioritized list of amenities will be used to guide design.
- Develop conceptual designs: mobility hub concept sketches are developed and submitted for review by the City. The concept illustrations are updated to reflect the City's comments.
- Project cut sheets: a project cut sheet is developed to reflect the proposed site improvements and includes pertinent information for funding applications.

This technical memorandum is the output from the first phase — gaps and opportunities.

Existing Conditions

The existing conditions of the Moorpark Downtown Mobility Hub site are first summarized spatially in ***Figure 1*** and then by the mobility hub kit-of-parts. The existing conditions described below are a high-level summary; further study and definition will be included in subsequent design phases.

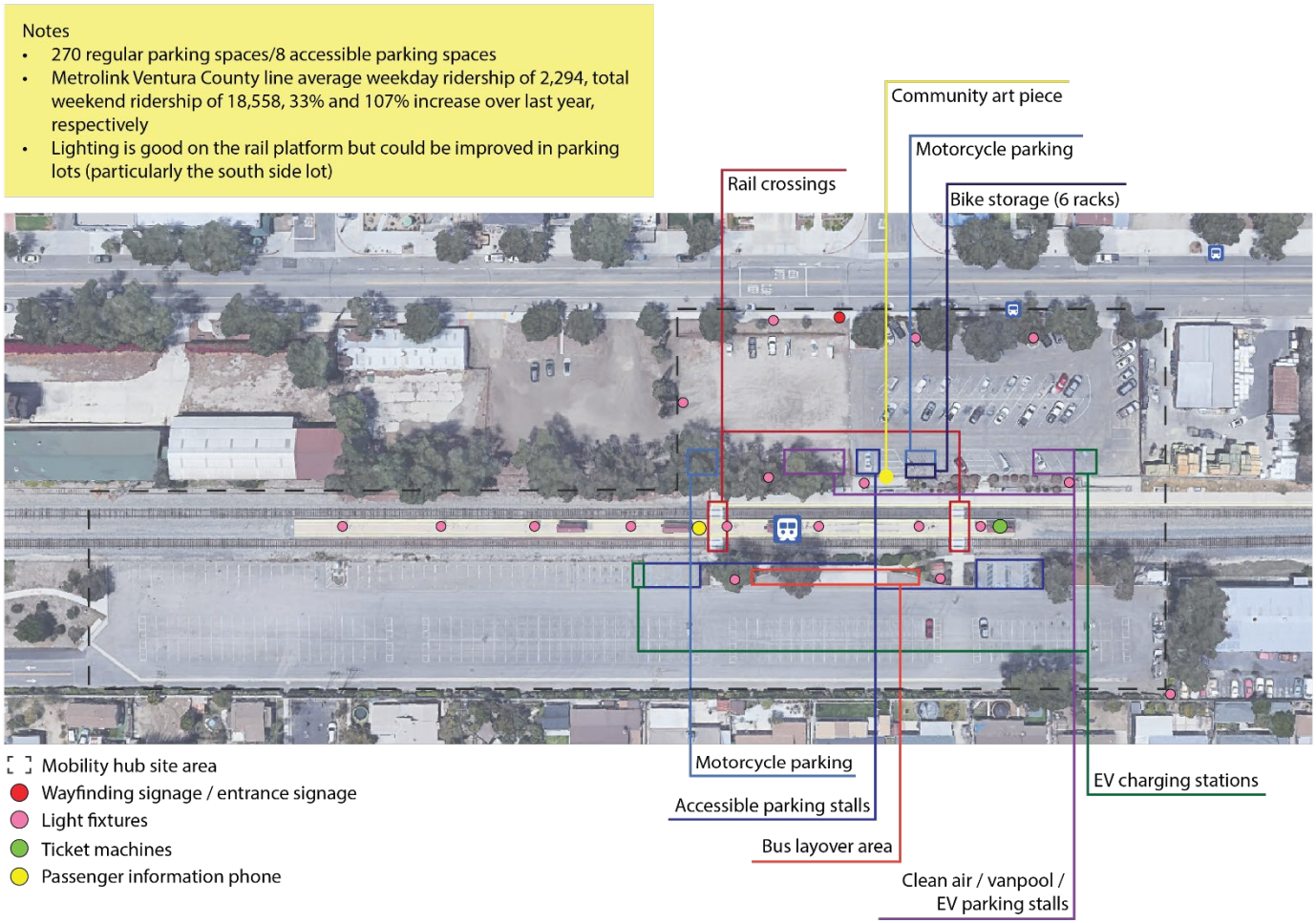


Figure 1 – Existing conditions assessment of Moorpark Downtown mobility hub site

Kit of Parts Analysis

SCAG has developed a kit-of-parts of design elements and amenities that could be included at a mobility hub site, according to the site's typology. The table below summarizes which of these elements exist currently at the Moorpark site, which could be improved, and which are missing.

Category	Element	Downtown Hub	Urban Hub	Emerging Urban Hub	Suburban & Rural Hub	Equity Hub	Institutional Hub
Transit and Active Transportation Facilities	Train/rail	✓	●	●	●	○	●
	Bus stop/station	✓	●	●	○	●	●
	Carshare	◉	●	●	◑	◑	◑
	EV parking	✓	●	◑	◑	◑	◑
	Shared micromobility zone	◉	●	●	◑	◑	◑
	Pick-up and drop-off zone	◉	●	●	●	●	●
	Bike amenities	✓*	●	●	◑	●	●
Access Amenities and Services	Covered bus shelters	✓*	●	◑	◑	●	◑
	Street furniture	✓	●	◑	○	○	○
	Bathrooms	◉	●	●	●	●	●
	Package delivery lockers	◉	●	◑	◑	◑	●
	Water re-filling stations	◉	●	◑	◑	◑	●
Technology, Information, and Wayfinding	Real-time travel information	✓*	●	●	◑	○	●
	Wayfinding signage	✓*	◑	◑	◑	◑	●
	Hub area maps & amenities information	◉	●	◑	◑	◑	●
	Closed-circuit television (CCTV) cameras	✓	●	●	●	●	●
	Public Wi-fi and charging ports for phones	◉	●	◑	○	◑	◑
	Emergency telephone	◉	●	●	●	●	●
Placemaking	Community art themes	✓	●	●	●	●	●
	Lighting	✓*	●	●	●	●	●
	Landscaping	✓	●	●	●	●	●

● Highly recommended ◑ Recommended ○ Not applicable ✓ Existing ✓* Existing but could be improved ◉ Missing

Figure 2 – Kit of parts assessment of Moorpark Downtown mobility hub site

Gaps and Opportunities

Gaps and opportunities on-site and off-site identified in the previous section are described below. They are guided by the following key questions:

- What are the current gaps/need/barriers of the site from a customer-facing perspective?
- What are the current gaps/need/barriers of the site from an operational perspective?
- How might the identified improvements fit within any planned land use development of the area?

On-site

The tables below describe the on-site transportation, information, and placemaking gaps within the site area, alongside opportunities for improvement. The opportunities identified are inclusive, not definitive. As mentioned in the preceding ***Methodology*** section, this initial list will be prioritized to determine which improvements will be implemented with available SCAG funding.

Table 1 – On-site transportation gaps at Moorpark Downtown mobility hub site

Transportation		
Gap	**Opportunity**	**Comments**
Lack of shared/rental transportation options and micromobility (i.e. car share, bike share, scooter share).	Consider collaborating with local car share and micromobility providers to locate a parking/docking station on the site.	Consider this improvement alongside larger-scale off-site improvements to active transportation facilities within the site's walkshed (~1/2 mile) and bikeshed (~1-2 miles).
Minimal bus terminal facilities.	Consider providing more transit stops or bays to accommodate the multiple transit routes serving the Hub.	Consider reorganizing the south parking lot to include a separated transit loop.
Minimal dedicated parking spaces for pick-up/drop-off (PU/DO), taxi queuing, and accessible parking.	Consider allocating short-term parking spots for TNCs and rideshare with signage and pavement markings.	Consider adding PU/DO, taxi and rideshare parking spots to the south parking lot.
	Consider assigning dedicated taxi queuing aisles with signage and pavement markings.	
	Consider allocating a dedicated curbside area for rideshare, taxi, and personal vehicle pick-up/drop-off.	
Bike facilities and amenities on the site are minimal.	Consider allocating space for a direct bicycle connection between off-site facilities and	

Transportation		
Gap	**Opportunity**	**Comments**
	bike storage locations (e.g. elephant's feet cross-ride[1]).	
	Consider expanding bike parking, including a bike room and fix-it station.	Consider adding bike parking facilities to the south parking lot.
	Consider the addition of charging facilities for bikes/scooters.	
No direct pedestrian route connection through the south parking lot.	Consider improving pedestrian connections between off-site facilities and pedestrian rail crossings, e.g. sidewalks, raised crosswalks, etc.	Consider adding a pedestrian pathway connecting the walkway on the western side of the southern parking lot
Faded parking lines in south parking lot.	Consider repainting lines in the south parking lot and take the opportunity to improve dedicated pedestrian walkways through the parking lot.	
Lack of guard rail/fence at pedestrian rail crossings.	Consider installing a guard rail along the rail tracks and providing gates at pedestrian crossing locations.	

Table 2 – On-site information and wayfinding gaps at Moorpark Downtown mobility hub site

Information and wayfinding		
Gap	**Opportunity**	**Comments**
Wayfinding signage on-site is minimal.	Implement wayfinding signage on-site directing people to the services and amenities located within the hub area.	Ensure signage is pedestrian-oriented, clearly visible and understandable (Spanish and English).
	Consider installing neighborhood-specific event/information boards (e.g. popular destinations and approx. distance, notifications of upcoming events, etc.).	Consider installing a board near the train platform or the bus shelter on the north side.

[1] Crosswalk marking that indicate cyclists may ride through the intersection. Source: https://www.cnv.org/streets-transportation/travel-options/look-think-go/elephant-s-feet

Information and wayfinding		
Gap	**Opportunity**	**Comments**
	Consider increasing the size and number of local area transit system map signs and schedules.	
No real-time transit information for buses.	Consider implementing real-time bus arrival signs at bus stops.	Consider also implementing real-time transit information for buses on the rail platform to facilitate transfers between modes, and vice versa.

Table 3 – On-site placemaking gaps at Moorpark Downtown mobility hub site

Placemaking and other services		
Gap	**Opportunity**	**Comments**
No public bathrooms are available on-site.	Consider adding public bathrooms through partnerships or new technology that mitigates associated challenges.	Consider a partnership with Throne Labs to implement public 'smart' bathrooms.
Landscaping is minimal on the south side of the railway.	Consider opportunities for improving landscaping in the south parking lot.	Consider low-impact landscaping such as drought tolerant native plants and minimal lawn areas.
Minimal sense of place and integration with the surrounding neighbourhood.	Consider reallocating some parking spaces to create a parklet/plaza or flex programming space to be used by food trucks, as an outdoor café, etc.	Provide protection from the elements when creating public spaces. Collaborate with local business owners, organizations, and artists to further enhance a sense of place.
Few additional passenger amenities on the site.	Consider installing an emergency phone for use by all hub users.	
	Consider installing public Wi-Fi in the area alongside charging ports.	
	Consider locating package delivery lockers on-site for the convenience of local hub users.	Gauge the anticipated demand for such a service (i.e. how many origin/destination versus transfer trips happen at this location).

Placemaking and other services		
Gap	**Opportunity**	**Comments**
No shelter at WB High Street bus stop.	Consider improving amenities in passenger waiting areas (e.g. shelter, benches, waste receptacles, etc.).	
Lighting is minimal in south parking lot.	Install additional pedestrian-scale light fixtures in the parking lot south of the railway.	Consider the adjacent housing area to not disturb residents with light pollution.

Off-site

This section details the gaps and opportunities pertaining to off-site transportation services, information and wayfinding.

Table 4 – Off-site transportation gaps at Moorpark Downtown mobility hub site

Transportation services		
Gap	**Opportunity**	**Comments**
Connecting bike facilities are currently shared bike routes (i.e. where cyclists must share the road with vehicles)	Consider improvements to the off-site cycling infrastructure within the bikeshed to ensure it is attractive to cyclists of all ages and abilities, including separation from motor vehicles (i.e. class IV facilities).	
	Consider developing a city center cycling facility design guide so that future developments in the area are required to provide these facilities.	
	Consider protected intersection designs for large intersections within the bikeshed, prioritizing from the mobility hub outward.	

Table 5 – Off-site information and wayfinding gaps at Moorpark Downtown mobility hub site

Information and wayfinding		
Gap	**Opportunity**	**Comments**
Limited wayfinding signage directing people to the mobility hub site within the	Install wayfinding at major intersections and along active transportation pathways within the walkshed/bikeshed of the	Ensure signage directs travelers to the site and clearly identifies the transportation

Information and wayfinding		
Gap	**Opportunity**	**Comments**
walkshed/bikeshed of the site.	site. Particularly note this opportunity at the entrance to the south parking lot.	options and services available at the site. Signage should help create a sense of arrival and enable a seamless first/last mile experience. Off-site wayfinding signage can double as directions to the mobility hub as well as other prominent local destinations.

Appendix C

Moorpark Metrolink Station Mobility Hub

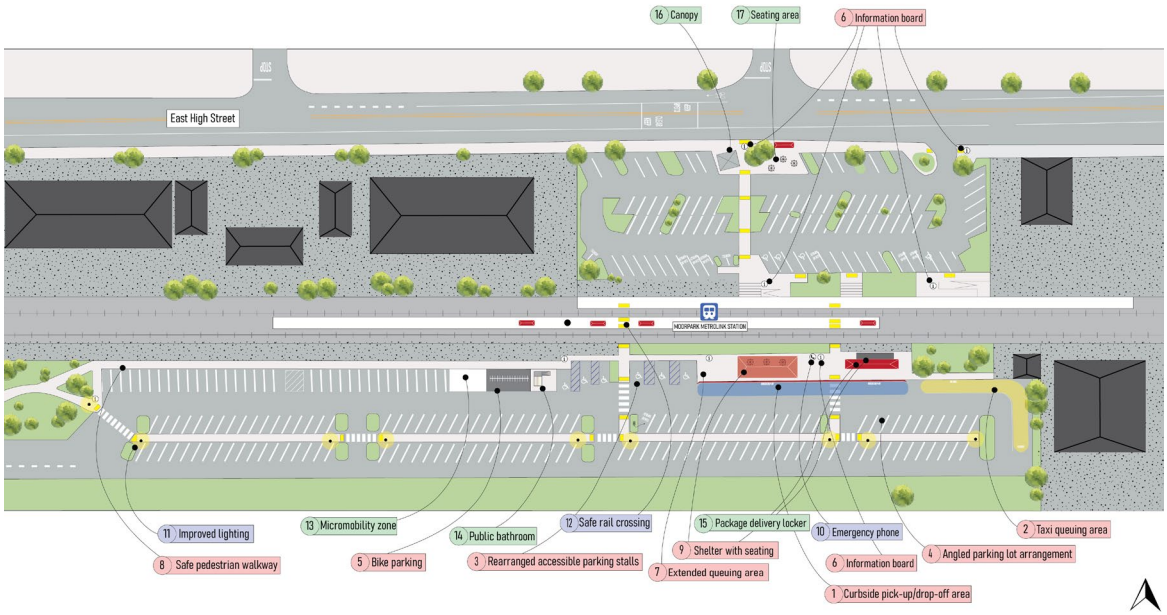
Project Cut Sheet

Moorpark Downtown Mobility Hub Concept Illustration

Project Background & Description

The Moorpark Metrolink station is centrally located in Moorpark, California. The *Downtown Specific Plan* (amended 2024) creates a vision for downtown Moorpark as a diverse, inclusive, and pedestrian-oriented community with mixed land uses that preserve the cultural heritage of the neighborhood. The proposed mobility hub site features a regional rail station and on-street bus stops. The north parking lot has recently been updated and includes ample parking for personal vehicles (including charging stations for electric vehicles). Transforming this site into a mobility hub builds on the strengths of the existing site, services, and surrounding neighborhood (e.g., large dedicated area, accessible facilities, recently improved north parking lot, etc.) and addresses the identified gaps and opportunities in the south parking lot (e.g., pedestrian safety, wayfinding, cycling amenities, etc.).

Conceptual Design



Proposed Improvements

PHASE 1

1) Curbside pick-up / drop-off area
2) Taxi queuing area
3) Rearranged accessible parking
4) Angled parking
5) Bike parking racks
6) Wayfinding and transit information
7) Extended queuing area
8) Pedestrian walkways
9) Weather protected shelters with seats

PHASE 2

10) Emergency phone
11) Improved lighting
12) Improved pedestrian rail crossings

PHASE 3

13) Micromobility zone
14) Public bathroom
15) Package delivery lockers and public Wi-Fi
16) Canopy
17) Seating Area

OFF-SITE RECOMMENDATIONS

Cycling infrastructure and protected intersections

Costs

Phase 1 Capital
- $586,000

Phase 2 Capital
- $39,000

Phase 3 Capital
- $137,000

Off-Site Capital
- $414,000

Benefits (Qualitative)

PHASE 1 creates a more attractive environment for pedestrians and cyclists and enables seamless passenger pick-up and drop-off.
PHASE 2 improves safety for all users of the mobility hub.
PHASE 3 adds additional customer amenities to diversify the use of the space and to make it a more convenient and attractive place to be.

Appendix C

Perris Downtown Mobility Hub

Implementation Plan

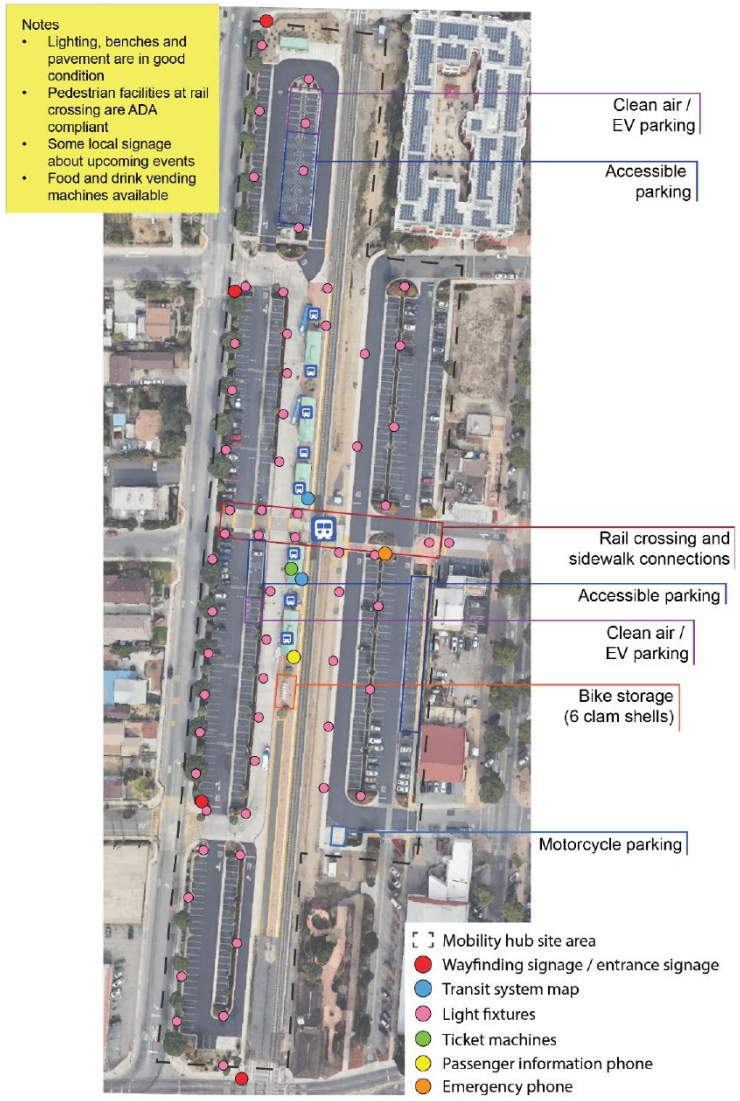
Mobility Hub Implementation Plan: Downtown Perris Station

Background and Site Description

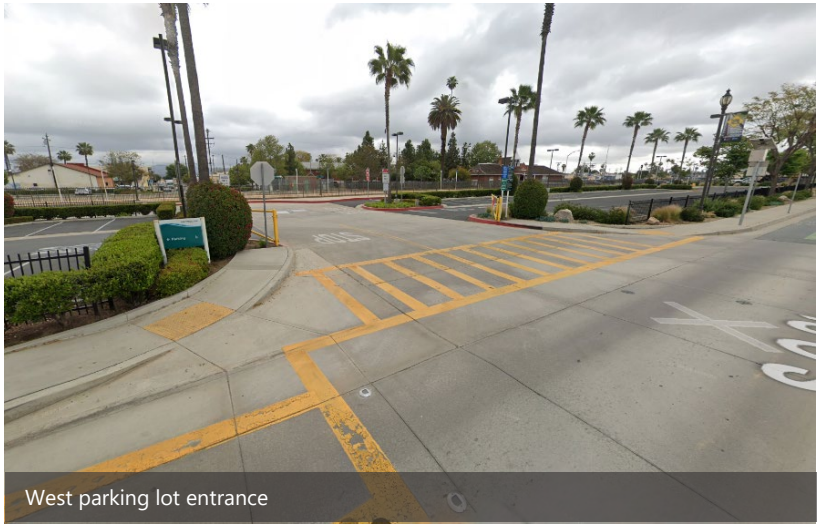
Mobility hubs are strategic locations for travelers to easily connect with multiple modes of transportation suited for their needs in a safe, comfortable, and accessible environment. SCAG's Connect SoCal 2024 identified mobility hubs as a regional strategic investment to increase multimodal connectivity, manage the existing transportation system, and improve the traveler experience. As such, SCAG partnered with local agencies, including the City of Perris, to create implementation plans for potential mobility hubs throughout the SCAG region.

The Perris-Downtown Metrolink station and bus exchange are centrally located in Downtown Perris. Land uses in the area include a mix of civic, cultural, commercial, office, residential, and industrial. The City intends to establish Downtown Perris as a destination that draws locals and visitors to a vibrant, safe, and walkable community. The prospective mobility hub site is anchored by the Perris-Downtown station on Metrolink's 91/Perris Valley line and a bus exchange connecting seven Riverside Transit Agency routes, all of which terminate at this location. Transforming the site into a mobility hub will build on the strengths of the existing site (bike parking, passenger amenities, recent upgrades to pedestrian facilities) and surrounding neighborhood, and will address the identified gaps and opportunities (micromobility, charging infrastructure, wayfinding). The mobility hub is designed to integrate with surrounding land uses and support the development of the downtown vision.

Existing Conditions



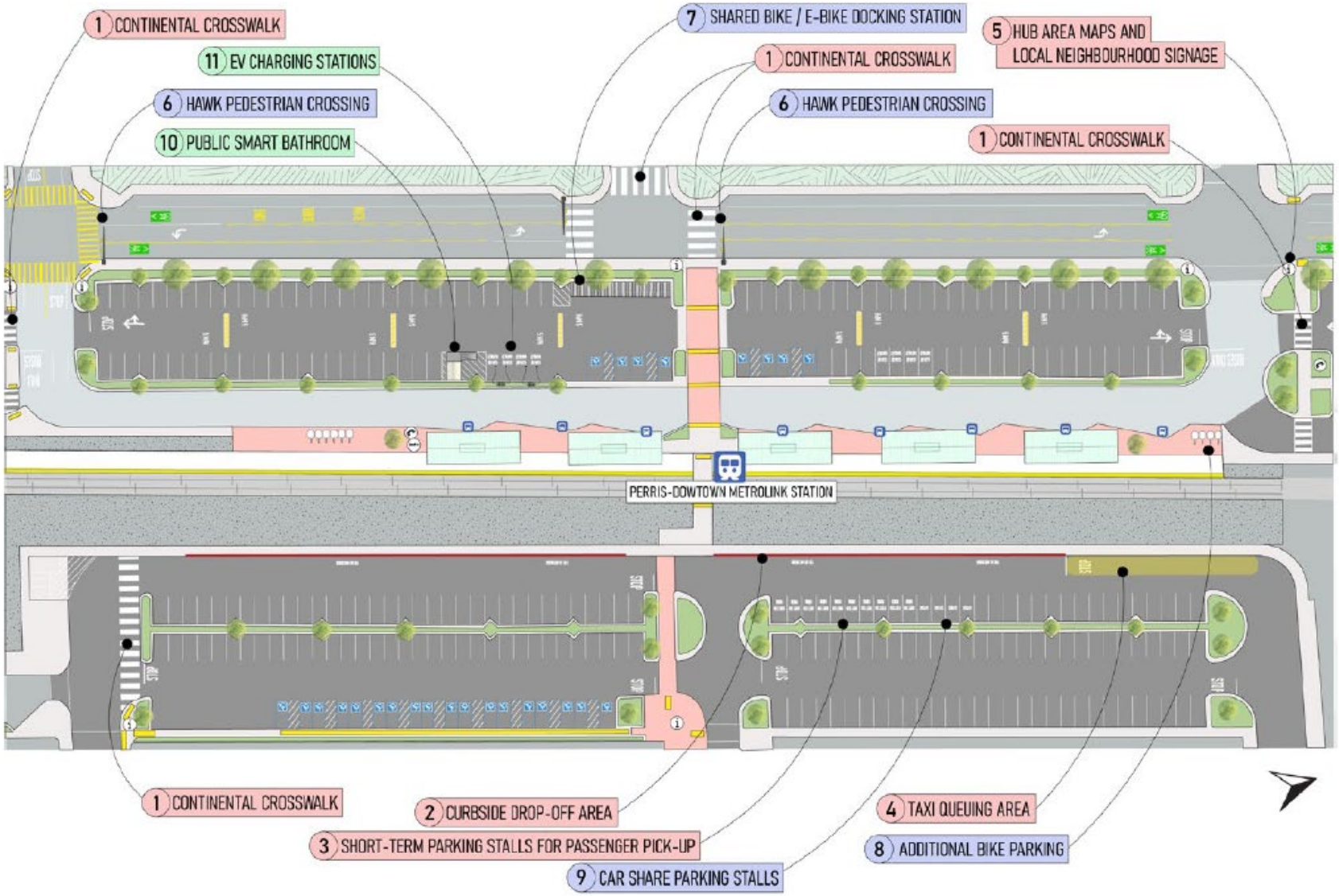
Gap analysis



West parking lot entrance

East parking lot and station access

Conceptual Design



Mobility Hub Elements

Below are the recommended mobility hub amenities for the Downtown Perris Metrolink Station:

Wayfinding Signage Quality signage can help travelers identify modal connections, mobility hub amenities, and major destinations near the mobility hub.

Carshare Partnership with a carsharing service provides mobility hub users with access to shared vehicles, providing a convenient way to connect to longer distance trips from the mobility hub.

Pick-up/Drop-off (PU/DO) Zones Dedicated curbside spaces can help facilitate mobility hub users moving to and from vehicles. Short-term parking is recommended for pick-up.

Wayfinding Signage Quality signage can help travelers identify modal connections, mobility hub amenities, and major destinations near the mobility hub, like city hall.

Bicycle Parking Secure, high-quality bicycle parking can encourage more bicycle trips. This can be achieved through lockers, manned rooms, or secure bicycle racks.

Shared Mobility Bikeshare provides users with access to a bicycle or scooter without having to own one. This can be a useful mode for users accessing further away destinations.

Electric Vehicle (EV) Charging Stations Parking spaces with designated charging equipment provide mobility hub users with convenient stations to fuel EVs.

Bathrooms The station parking lot has ample room for bathrooms. They can be permanent facilities or portable bathrooms with app-enabled access.

Proposed Implementation Schedule

A phased approach to the implementation of the Downtown Perris mobility hub.

Phase 1

1) Continental crosswalks
2) Curbside drop-off area
3) Short-term parking stalls for passenger pick-up
4) Taxi queuing area
5) Hub area maps and local neighborhood signage

Phase 2

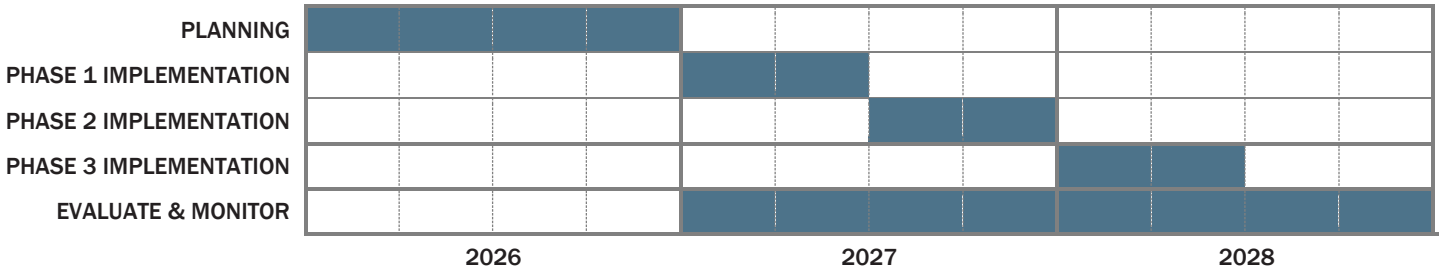
6) HAWK pedestrian crossings
7) Shared bike/e-bike docking station
8) Additional bike parking
9) Car share parking stalls

Phase 3

10) Public smart bathroom
11) EV charging stations
12) Additional rail crossing

Off-site Recommendations

- Wayfinding



Cost Estimate

	Quantity Internal	Quantity Off-Site	Unit Cost	Total Cost
PHASE 1				**$37,000**
1) Continental crosswalks (C/4th St, C/2nd St)	2	5	$500	$3,500
2) Curbside pick-up / drop-off area	1	0	$5,000	$5,000
3) Short-term parking stalls passenger pickup	10	0	$200	$2,000
4) Taxi queuing area	1	0	$2,500	$2,500
5) Hub area maps and local signage	8	0	$3,000	$24,000
PHASE 2				**$412,800**
6) HAWK pedestrian crossing	0	2	$100,000	$200,000
7) Shared bike/e-bike docking station	1	3	$50,000	$200,000
8) Additional bike parking	4	0	$3,000	$12,000
9) Carshare parking stalls	4	0	$200	$800
PHASE 3				**$446,000**
10) Public smart bathroom	1	0	$100,000	$100,000
11) EV parking stalls and chargers	4	0	$70,000	$280,000
12) Additional security measures (CCTV, signs)	LS	0	$66,000	$66,000
OFF-SITE RECOMMENDATIONS				**$28,000**
Wayfinding	0	14	$2,000	$28,000
SUBTOTAL				$923,800
CONTINGENCY				$184,200
TOTAL				**$1,108,000**

Funding and Partnerships

Various funding opportunities are available for mobility hubs or mobility hub elements at the local, state, and federal levels. Below is a list of funding programs that are available for some or all of the mobility hub elements identified in the conceptual design.

Regional Pilot Initiatives Program (RPI), SCAG: SCAG is providing funding for projects that demonstrate innovative, next-generation technologies and models of regional significance. Mobility hubs are included as one of six Program Areas for the RPI program.

Fast and Available Charging for All Californians (FAST 2.0), California Energy Commission (CEC): This state program provides funding to deploy EV charging infrastructure at existing structures and facilities. The EV chargers must be open to the public, in locations and parking areas that are well-lit, and incorporate signage. The maximum grant award per project is up to 50 percent of total project cost or $5 million (whichever is less).

Pilot Program for TOD Planning, Federal Transit Administration (FTA): This program helps support FTA's mission of improving America's communities through public transportation by providing funding to integrate land use and transportation planning.

Clean Mobility Options, California Climate Investments (CCI): This program funds zero-emissions shared mobility projects in disadvantaged and low-income communities, including some tribal and affordable housing communities. Eligible projects include car sharing, bike sharing, and on-demand sharing programs.

Pilot project consideration: Carshare and shared mobility are not widely implemented in Perris or the surrounding region. A pilot program for these services can help provide the community with the opportunity to test carshare and/or shared mobility programs to determine if they are a good fit for the mobility hub site. The City will have the opportunity gather feedback prior to full investment and implementation.

Next Steps

Community Engagement

- ✓ Provide varied opportunities for the surrounding community to give feedback, including residents and local businesses. This can be done through online or in-person surveys, door-to-door outreach, engagement at community events, presenting at or creating a technical advisory committee, or social media. Meaningful engagement is key to building consensus and developing collaborative solutions that incorporate the community's feedback.

Identify Funding Opportunities and Partnerships

- ✓ After or concurrently with the project's community engagement activities, identify funding opportunities to successfully implement the project. This will allow the City to update the conceptual design based on the community's feedback and find the applicable opportunities for their project.
- ✓ Partner with a private operator to pilot a shared mobility service, such as carshare or bikeshare, at the mobility hub site. This will allow for community feedback before full implementation.

Evaluate Connecting Infrastructure

- ✓ Identify pedestrian and bicycle infrastructure that connect the mobility hub site to major destinations and if opportunities for improvement are identified, include the improvements in the next capital improvement plan or active transportation plan.

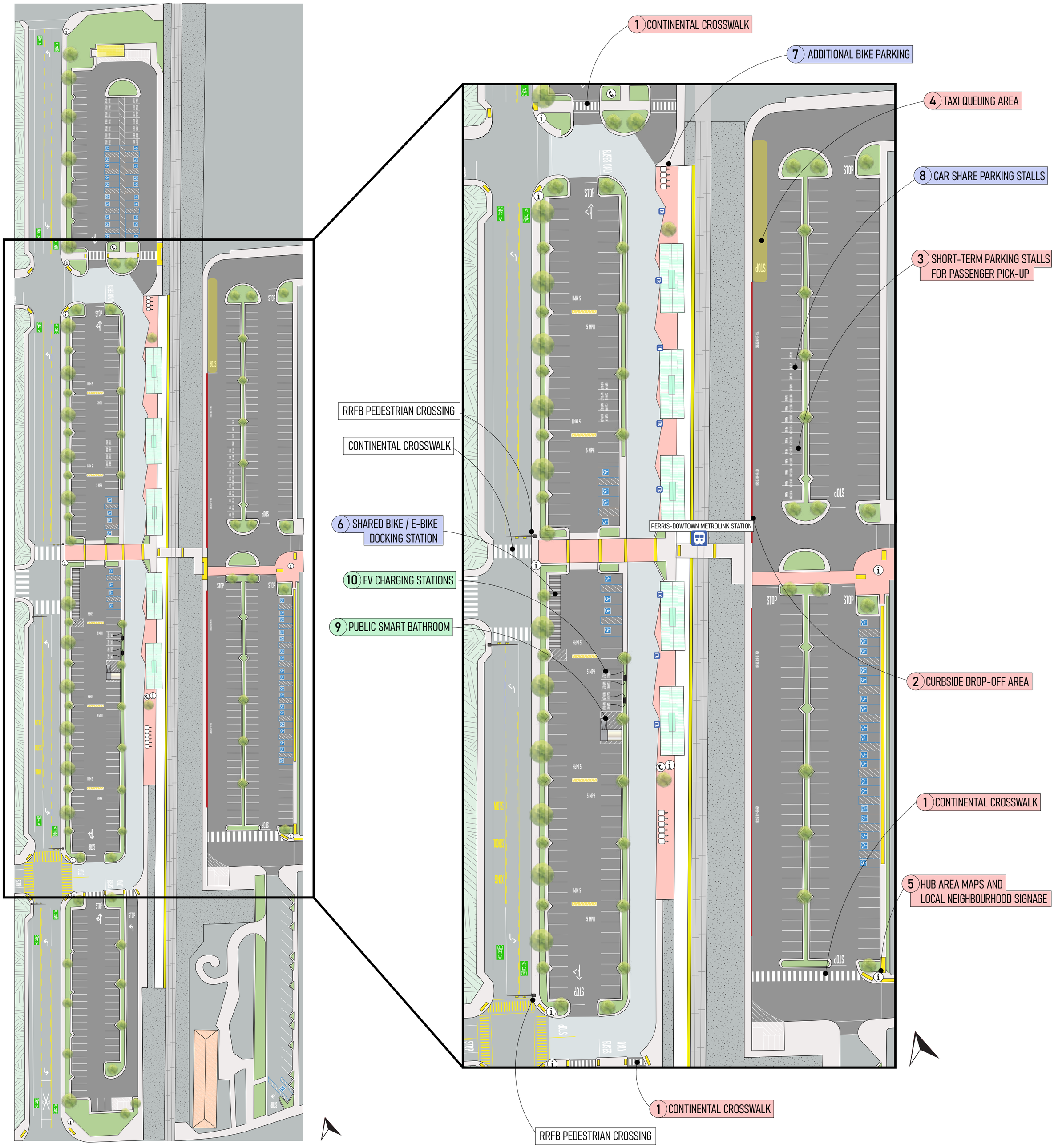
Appendix C

Perris Downtown Mobility Hub

Concept Design

Perris Downtown Mobility Hub Concept Design

Illustrations not to scale and intended for visualization only. Not intended for detailed design.



1

Source: City of Long Beach

5

Source: Mobility Hubs: A Reader's Guide, City of Los Angeles

6

Source: Mobility Hubs: A Reader's Guide, City of Los Angeles

9

Source: Throne Labs

Perris Downtown Mobility Hub Concept Design

EXISTING & PLANNED

- Existing bicycle facilities
- Recommended bicycle facilities in the 2020 Active Transportation Plan
- Destinations
- Cultural landmarks

RECOMMENDED

- Wayfinding signage for mobility hub (pedestrian- and vehicle-scale)

Illustrations not to scale

Appendix C

Perris Downtown Mobility Hub

Gaps and Opportunities Analysis

SCAG Mobility Hubs – Priority Projects Development

Perris-Downtown Mobility Hub

Gaps and Opportunities

February 2025

Perris-Downtown Mobility Hub – Gaps and Opportunities

The Perris-Downtown Metrolink station and bus exchange are centrally located in Perris, California. The Perris Downtown Specific Plan adopted in 2012 pertains to the hub and its surrounding area, outlining the community-based vision and local development framework. The plan's vision statement establishes Downtown Perris as a destination that draws locals and visitors to the vibrant, safe, and walkable community. Land uses in the area include a mix of civic, cultural, commercial, office, residential, and industrial. The area's policy context will inform the development of the Perris-Downtown mobility hub.

The proposed mobility hub site features a regional rail station (Metrolink 91/Perris Valley Line) and a bus exchange connecting seven Riverside Transit Agency bus routes, all of which terminate at this location. Bus service frequency ranges from 15 to 120 minutes on different routes. Trains arrive hourly in the peak hour and peak direction, and every 2 to 3 hours otherwise. Metrolink's 91/Perris Valley line recorded 2,098 average weekday riders between July 2024 and September 2024 and total weekend ridership of 26,839, a 22% and 50% increase from the previous year, respectively.

Transforming this site into a mobility hub builds on the strength of the existing site, services, and surrounding neighbourhood. Considering key opportunities for improvement, additional amenities and design elements are identified to improve the multi-modal accessibility and safety of the site, as well as its sense of place.

According to SCAG's six definitions of mobility hub typology, this site qualifies as a Downtown Hub.

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The proposed mobility hub concept design methodology is as follows:

- Identify gaps and opportunities: all potential improvements/amenities are considered and included in the initial site analysis.
- Prioritize opportunities: the City of Perris and all relevant stakeholders provide feedback and prioritization of the proposed site improvements. The prioritized list of amenities will be used to guide design.
- Develop conceptual designs: mobility hub concept sketches are developed and submitted for review by the City. The concept illustrations are updated to reflect the City's comments.
- Project cut sheets: a project cut sheet is developed to reflect the proposed site improvements and includes pertinent information for funding applications.

This technical memorandum is the output from the first phase — gaps and opportunities.

Existing Conditions

The existing conditions of the Perris-Downtown Mobility Hub site are first summarized spatially in ***Figure 1*** and then by the mobility hub kit-of-parts. The existing conditions described below are a high-level summary; further study and definition will be included in subsequent design phases.

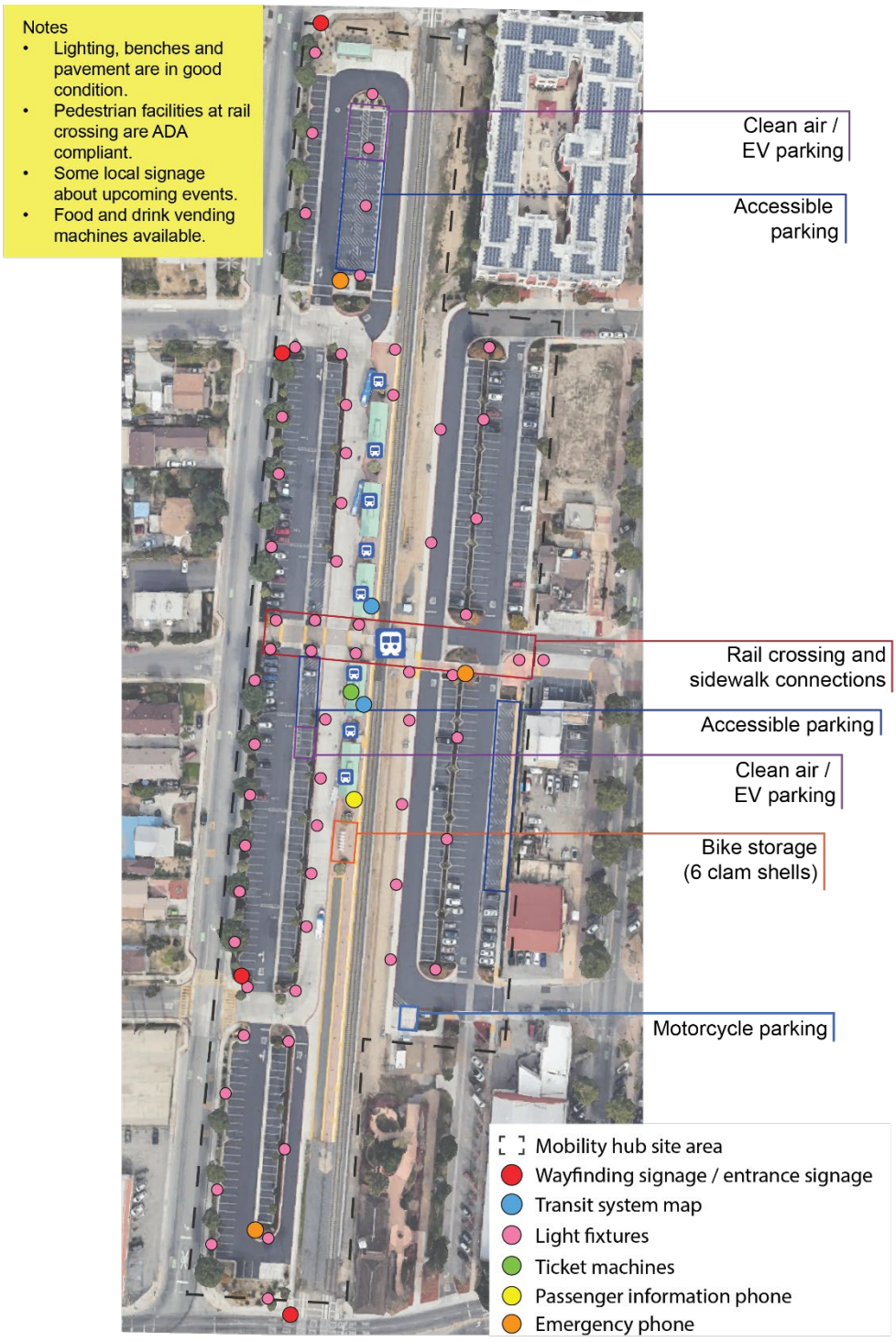


Figure 1 – Existing conditions assessment of Perris-Downtown mobility hub site

Kit of Parts Analysis

SCAG has developed a kit-of-parts of design elements and amenities that could be included at a mobility hub site, according to the site's typology. The table below summarizes which of these elements exist currently at the Perris site, which could be improved, and which are missing.

Category	Element	Downtown Hub	Urban Hub	Emerging Urban Hub	Suburban & Rural Hub	Equity Hub	Institutional Hub
Transit and Active Transportation Facilities	Train/Rail	✓	●	●	●	○	●
	Bus Stop/Station	✓	●	●	○	●	●
	Carshare	◉	●	●	◑	◑	◑
	EV Parking	✓	●	◑	◑	◑	●
	Shared micromobility zone	◉	●	●	◑	◑	◑
	Pick-up and drop-off zone	✓*	●	●	●	●	●
	Bike amenities	✓*	●	●	◑	●	●
Access Amenities and Services	Covered Bus Shelters	✓	●	◑	◑	●	◑
	Street Furniture	✓	●	◑	○	○	○
	Bathrooms	✓	●	●	●	●	●
	Package Delivery lockers	◉	●	◑	◑	◑	●
	Water Re-filling Stations	◉	●	◑	◑	●	●
Technology, Information, Wayfinding	Real-time Travel Information	✓	●	●	◑	○	●
	Wayfinding Signage	✓*	◑	◑	◑	◑	●
	Hub Area Maps & Amenities Information	◉	●	◑	◑	◑	●
	Closed-Circuit Television (CCTV) Cameras	✓	●	●	●	●	●
	Public Wi-fi and Charging Ports for Phones	◉	●	◑	○	◑	◑
	Emergency Telephone	✓	●	●	●	●	●
Placemaking	Community Art Themes	◉	●	●	●	●	●
	Lighting	✓	●	●	●	●	●
	Landscaping	✓	●	●	●	●	●

● Highly recommended ◑ Recommended ○ Not applicable ✓ Existing ✓* Existing but could be improved ◉ Missing

Figure 2 – Kit of parts assessment of Perris-Downtown mobility hub site

Gaps and Opportunities

Gaps and opportunities on-site and off-site identified in the previous section are described below. They are guided by the following key questions:

- Customer: What are the existing gaps, needs, and barriers of the site from a customer-facing perspective?
- Operations: What are the existing gaps, needs, and barriers of the site from an operational perspective?
- Community: How might the identified improvements fit within any planned land use development of the area?

On-site

The tables below describe the on-site transportation, information, and placemaking gaps within the site area, alongside opportunities for improvement. The opportunities identified are inclusive, not definitive. As mentioned in the preceding ***Methodology*** section, this initial list will be prioritized to determine which improvements will be implemented with available SCAG funding.

Table 1 – On-site transportation gaps at Perris-Downtown mobility hub site

Transportation services		
Gap	**Opportunity**	**Comments**
The site is missing shared/rental transportation options and micromobility (i.e. car share, bike share, scooter share).	Consider collaborating with local car share and micromobility providers to locate a parking/docking station on the site.	Consider this improvement alongside larger-scale off-site improvements to active transportation facilities within the site's walkshed (~1/2 mile) and bikeshed (~1-2 miles).
Pick-up/drop-off zones lack curbside drop-off and short-term parking for pickup, as well as signage and/or pavement markings.	Consider allocating curb space for drop-off areas for TNCs, taxis, and ride share, with improved signage. Consider short-term parking for ride share and TNC pick-up activities. Also consider a queuing lane for taxis waiting for passengers.	
Bike facilities and amenities on the site are minimal.	Consider allocating space for a direct bicycle connection between off-site bike facilities and bike storage locations.	
	Consider expanding bike parking, including a bike room and fix-it station.	
	Consider the addition of charging facilities for bikes/scooters.	

Transportation services		
Gap	**Opportunity**	**Comments**
Pedestrian crossings through the parking lot are limited to one central location.	Consider installing a second pedestrian rail crossing.	
	Consider adding more direct connections from the off-site sidewalks to the bus/rail station.	Pedestrian connections should indicate pedestrian priority via raised crosswalks, pavement markings, etc.
	Consider increasing the number of defined pedestrian crossings between the western parking lot and the rail platform over the bus only lane.	Balance bus/pedestrian priority needs and ensure pedestrians have multiple safe routes from parking areas to waiting areas.

Table 2 – On-site information and wayfinding gaps at Perris-Downtown mobility hub site

Information and wayfinding		
Gap	**Opportunity**	**Comments**
Wayfinding signage on-site is minimal.	Consider implementing wayfinding signage on-site directing people to the services and amenities located within the hub area.	Ensure signage is pedestrian-oriented, clearly visible and understandable (Spanish and English). Ensure hub users know of the available services and amenities on both the east and west sides of the rail tracks.
	Consider increasing the presence of neighborhood-specific event/information boards (e.g. notifications of upcoming events, popular destinations and approx. distance, etc.)	

Table 3 – On-site placemaking gaps at Perris-Downtown mobility hub site

Placemaking and other services		
Gap	**Opportunity**	**Comments**
Minimal sense of place and integration with the surrounding neighbourhood.	Consider reallocating some parking spaces to create a parklet/plaza or flex programming space to be used by food trucks, as an outdoor café, etc.	Provide protection from the elements when creating public spaces. Collaborate with local business owners, organizations, and artists to further enhance a sense of place.

Placemaking and other services		
Gap	**Opportunity**	**Comments**
	Consider conducting community outreach to gather community feedback for amenities they would like to see on the site.	Examples could include flea markets, farmer's markets, or weekend events.
	Consider improving pedestrian connections and wayfinding signage to the Perris Valley Historical Museum.	Following the policy of the Downtown Specific Plan, look for opportunities to embrace the culture and heritage of the area and community.
EV parking spaces do not have accompanying charging infrastructure.	Consider adding electric vehicle charging stations at EV parking spaces.	
Lack of landscaping on eastern side of the hub.	Consider improving landscaping along the east side of rail tracks.	Consider landscaping with trees to provide some shade to pedestrians using the eastern sidewalk mirroring the rail tracks. Prioritize low-impact landscaping such as native drought resistant plants.
Bathrooms are currently port-a-potties.	Consider adding public bathrooms through partnerships or new technology that mitigates associated challenges.	Consider a partnership with Throne Labs to implement public 'smart' bathrooms.
Few additional passenger amenities on site.	Consider locating package delivery lockers on-site for convenience of local hub users.	Gauge the anticipated demand for such a service (i.e. how many origin/destination versus transfer trips happen at this location).
	Consider installing public Wi-Fi in the area alongside charging ports.	

Off-site

The tables below detail the gaps and opportunities pertaining to off-site transportation services and wayfinding.

Table 4 – Off-site transportation gaps at Perris-Downtown mobility hub site

Transportation services		
Gap	**Opportunity**	**Comments**
Connecting bike facilities are currently shared bike routes (i.e. where cyclists must share the road with vehicles)	Consider improvements to the off-site cycling infrastructure within the bikeshed to ensure it is attractive to cyclists of all ages and abilities, including separation from motor vehicles (i.e. class IV facilities).	
	Consider developing a city center cycling facility design guide so that future developments in the area are required to provide these facilities.	
	Consider protected intersection designs for large intersections within the bikeshed, prioritizing from the mobility hub outward.	
No pedestrian signals at intersections along S C Street for pedestrian crossings	Install pedestrian signals with standardized white crossing pavement markings along S C Street at the intersections with W 3rd Street, W 2nd Street, and W 1st Street.	Ensure pedestrian crossings are ADA compliant.

Table 5 – Off-site information and wayfinding gaps at Perris-Downtown mobility hub site

Information and wayfinding		
Gap	**Opportunity**	**Comments**
Limited wayfinding signage directing people to the mobility hub site within the walkshed/bikeshed of the site.	Install wayfinding at major intersections and along active transportation pathways within the walkshed/bikeshed of the site.	Ensure signage directs travelers to the site and clearly identifies the transportation options and services available at the site. Signage should help create a sense of arrival and enable a seamless first/last mile experience. Off-site wayfinding signage can double as directions to the

Information and wayfinding		
Gap	**Opportunity**	**Comments**
		mobility hub as well as other prominent local destinations.

Appendix C

Perris Downtown Mobility Hub

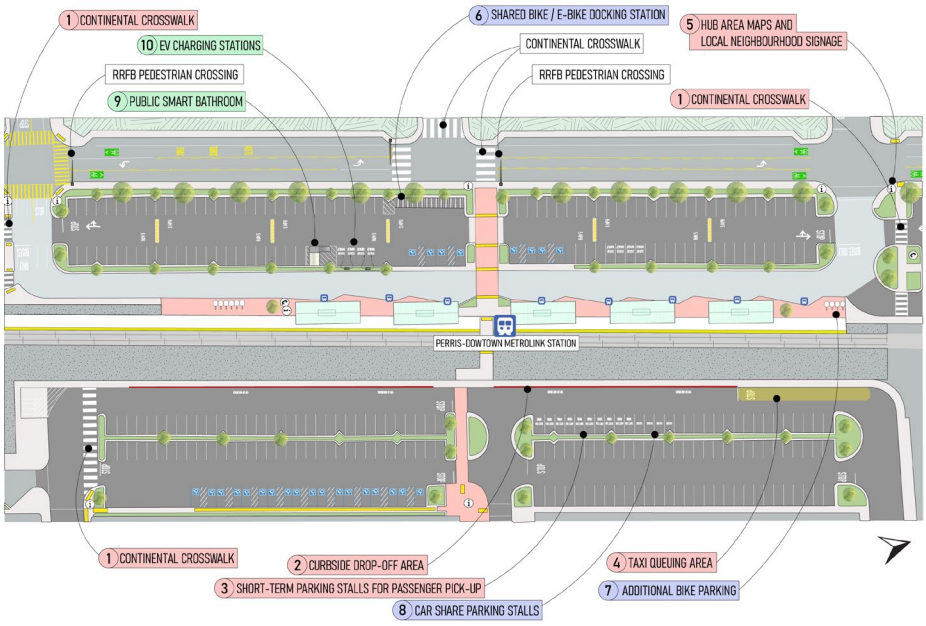
Project Cut Sheet

Perris Downtown Mobility Hub Concept Illustration

Project Background & Description

The Perris-Downtown Metrolink station and bus exchange are centrally located in Downtown Perris. Land uses in the area include a mix of civic, cultural, commercial, office, residential, and industrial. The City intends to establish Downtown Perris as a destination that draws locals and visitors to a vibrant, safe, and walkable community. The prospective mobility hub site is anchored by the Perris-Downtown station on Metrolink's 91/Perris Valley line and a bus exchange connecting seven Riverside Transit Agency routes, all of which terminate at this location. Transforming the site into a mobility hub will build on the strengths of the existing site (bike parking, passenger amenities, recent upgrades to pedestrian facilities) and surrounding neighbourhood, and will address the identified gaps and opportunities (micromobility, charging infrastructure, wayfinding). The mobility hub is designed to integrate with surrounding land uses and support the development of the downtown vision.

Conceptual Design



Proposed Improvements

PHASE 1

1) Continental crosswalks
2) Curbside drop-off area
3) Short-term parking stalls for passenger pick-up
4) Taxi queuing area
5) Hub area maps and local neighbourhood signage

PHASE 2

6) Shared bike / e-bike docking station
7) Additional bike parking
8) Car share parking stalls

PHASE 3

9) Public smart bathroom
10) EV charging stations

OFF-SITE RECOMMENDATIONS

Continental crosswalks
Rectangular Rapid Flashing Beacon (RRFB) pedestrian crossings
Wayfinding signage

Costs

PHASE 1 CAPITAL
- $35,000

PHASE 2 CAPITAL
- $213,000

PHASE 3 CAPITAL
- $446,000

OFF-SITE CAPITAL
- $231,000

Qualitative Benefits

PHASE 1 improves safety and comfort and enables seamless passenger pick-up and drop-off.
PHASE 2 introduces shared micromobility amenities and improves active transportation facilities.
PHASE 3 provides additional services for personal vehicles and all hub users.

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