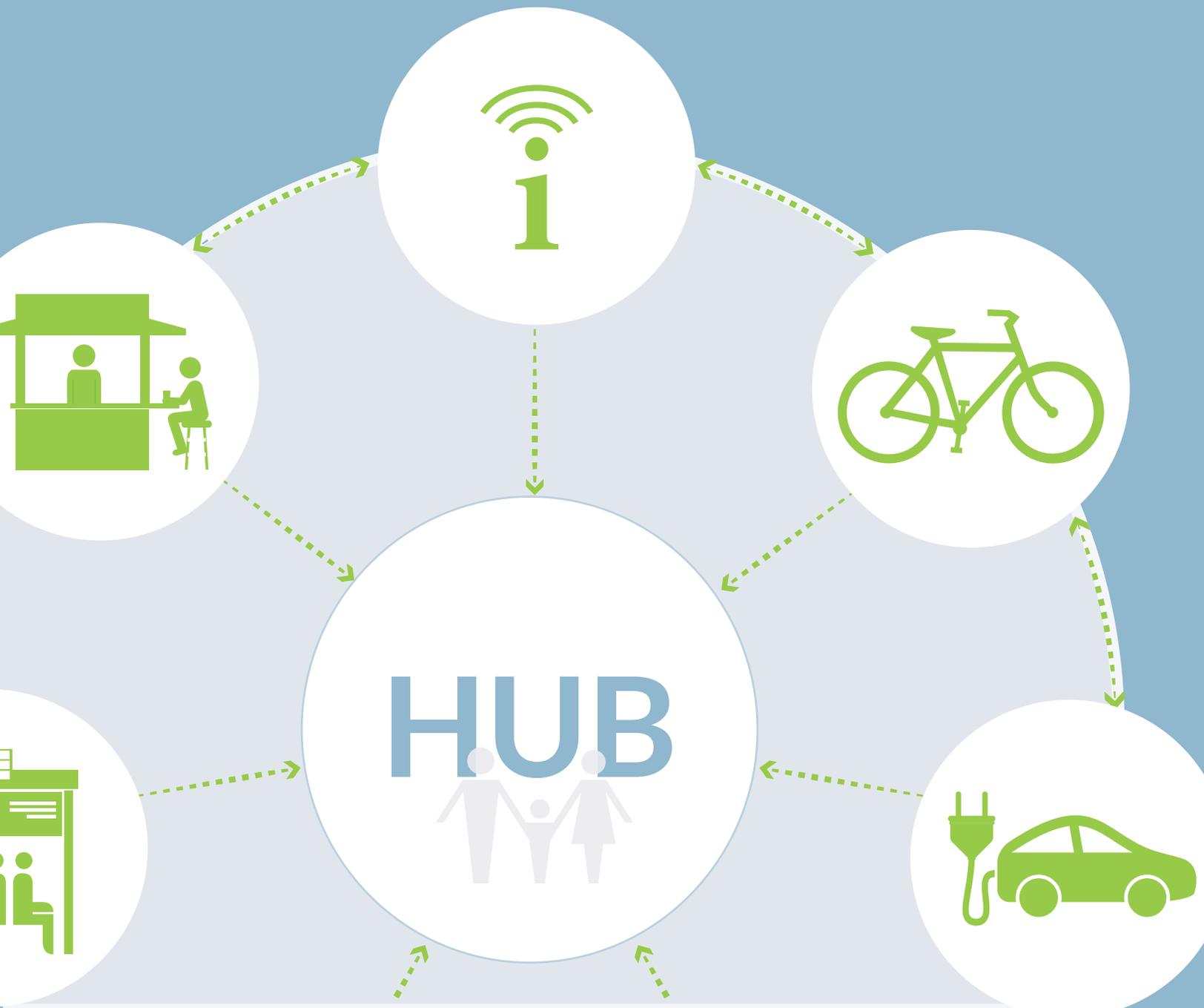


Mobility Hubs

A Reader's Guide



ACKNOWLEDGEMENTS

City Planning Commission

David H. Ambroz, President

Renee Dake Wilson, AIA, Vice President

Robert L. Ahn, Commissioner

Caroline Choe, Commissioner

Richard Katz, Commissioner

John W. Mack, Commissioner

Samantha Millman, Commissioner

Veronica Padilla, Commissioner

Dana Perlman, Commissioner

Planning Department

Executive Office

Vincent P. Bertoni, AICP, Director

Lisa Webber, AICP, Deputy Director

Jan Zatorski, Deputy Director

Kevin P. Keller, AICP, Deputy Director

Urban Design Studio

Simon Pastucha

Elaheh Kerachian (Project Lead)

Connie Chauv

Citywide Planning

Claire Bowin

My La

Graphics

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OVERVIEW

CHAPTER 1

Introduction to Mobility Hub

Mobility Hubs provide a focal point in the transportation network that seamlessly integrates different modes of transportation, multi-modal supportive infrastructure, and place-making strategies to create activity centers that maximize first-mile last mile connectivity.

Supporting first-last mile solutions by providing multi-modal transportation services and activities around transit stations to maximize connectivity and access for transit riders is the main goal of Mobility Hubs. Amenities include but are not limited to adequate bus stop and layover zones, transit shelters with real-time arrival information, bike share stations, car share facilities, taxi-waiting/ call areas, WI-FI service, bicycle storage, repair facilities, retail, and open space. By providing a robust array of options at Mobility Hubs, a variety of different needs can be accommodated, greatly increasing the number of destinations reachable by transit.

The ability of the Hub to function successfully depends on flexibility. It is the interaction and balance between transportation, land use, and placemaking functions. Flexibility for change should be incorporated in developing Mobility Hubs to accommodate possible future growth, expansion, and changes as new technologies evolve.

A city as diverse as Los Angeles requires a transportation system that offers equally diverse and viable mobility choices to accommodate all users. With Mobility Hubs, an integrated suite of mobility services are provided at defined locations around existing and new transit stations, allowing transit riders to seamlessly access other modes of transportation once they arrive at the station. The strategies range from simply enhancing the public realm around the existing or new transit stations to encourage walking (sidewalks, street trees, street lights, wayfinding), to providing racks for bicycles on buses and trains, to supporting bicycle share programs, ride share and car share, as well as high-frequency local shuttle services, and other regional and local transit connections.

Collectively, this integrated suite of mobility services are intended to meet first-last mile needs of transit users.

“First Last Mile Strategic Plan” is a joint effort between Los Angeles County Metropolitan Transportation Authority (Metro) and Southern California Association of Governments (SCAG) to improve transit user experience to and from the station. Public transportation agencies typically provide bus and rail services that may frame the core of the trips, but users must complete the first and last portion on their own. This is referred to as the first-last mile of the user’s trip, even though actual distances vary by users.

The Mobility Hubs program is an extension of the Mobility Plan 2035 of the Los Angeles Department of City Planning in coordination with the Los Angeles Department of Transportation and the Los Angeles County Metropolitan Transportation Authority.

How to use the Reader’s Guide

The Mobility Hub Reader’s Guide is meant to provide 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 multi-modal connectivity and access.

The essence of the Reader’s Guide lies in its seven topic areas and the accompanying amenities that are described under each topic. Each topic area is defined around the City’s high-level mobility priorities and is represented by a chapter: bicycle connections, vehicle connections, bus infrastructure, information/ signage, support services, active uses, and pedestrian connections. Two to four amenities are then described under each topic area.

Each chapter includes a paragraph introducing the topic and lays out specific objectives that would be achieved by enhancing the Mobility Hubs with any number of amenities. Each amenity includes information that guides users in determining the suitability for a particular amenity at a given location. A Best Practices section is also included that provides images and text describing how these amenities have been included in Mobility Hubs in other regions.

Chapter 2: Bike connections focuses on topics related to facilitating and encouraging bikeability such as: bike share, bike parking and bicycle supportive facilities.

Chapter 3: Vehicle connections focuses on topics related to encouraging and developing ride share, car share, and adoption of alternative fuel sources and green technology such as electric vehicles.

Chapter 4: Bus infrastructure focuses on topics related to bus ridership and bus layover zones in particular.

Chapter 5: Information/ signage focuses on topics related to improving wayfinding, real-time information and enabling WI-FI connectivity.

Chapter 6: Support services focuses on topics related to ensuring safe and comfortable environment for users such as ambassadors, waiting areas and improved safety and security.

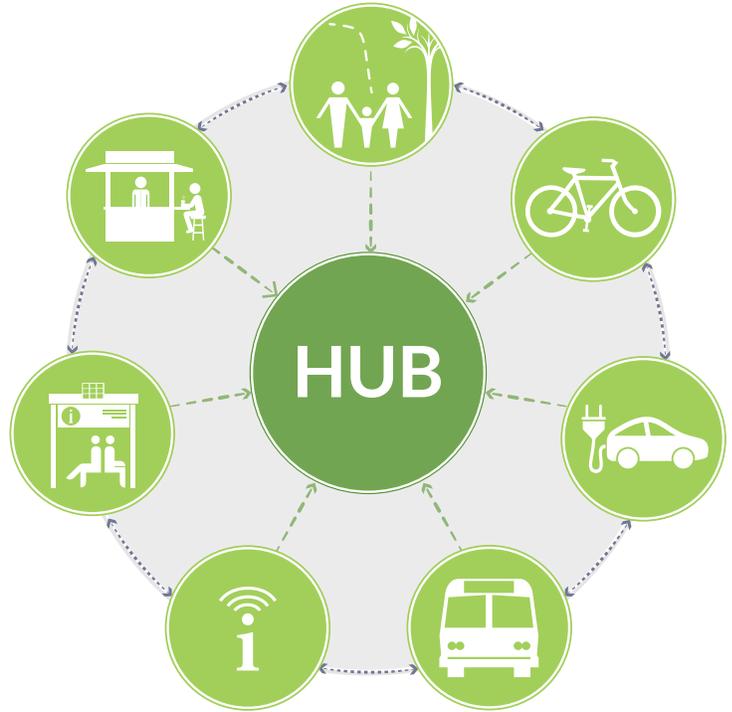
Chapter 7: Active uses focuses on topics related to supporting a vibrant and mixed-use environment such as retail uses and quality public space

Chapter 8: Pedestrian connections focuses on topics related to walkability and pedestrian connections supporting easy access to and at the Mobility Hub.

Mobility Hubs Typologies

With a city as broad and diverse as Los Angeles, transit stations range in size, amenities, and context. Since each location presents unique opportunities and challenges based on its context and transportation functions, there is not a single definition or description for a Mobility Hub. In order to reflect the varying needs of transit users and the realities of the existing built environment, there are three general tiers of Mobility Hubs: Neighborhood, Central, and Regional. The tiers are differentiated by scale, amenities, and context.

Amenities are designated “Vital”, “Recommended”, or “Optional” based on applicability at certain Mobility Hub types.



Mobility Hub Amenities	Bicycle Connections			Vehicle Connections			Bus Infrastructure		Information-Signage			Support Services				Active Uses		Pedestrian Connections	
	2.1. Bike Share	2.2. Bike Parking	2.3. Bicycling Facilities	3.1. Ride Share/Pick up-Drop off	3.2. Car Share	3.3. EV Charging Stations	4.1. Bus Layover Zone	4.2. Bus Shelters	5.1. Wayfinding	5.2. Real-time Information	5.3. Wi-Fi/ Smartphone Connectivity	6.1. Ambassadors	6.2. Waiting Area	6.3. Safety and Security	6.4. Sustainable Approach	7.1. Retail	7.2. Public Space	8.1. To the Mobility Hub	8.2. At the Mobility Hub
(N) Neighborhood	●	●	■	■	○	○	■	○	●	○	○	■	○	○	○	■	■	○	○
(C) Central	●	●	○	●	●	●	○	●	●	●	●	○	○	●	●	○	●	●	●
(R) Regional	●	●	●	●	●	●	●	●	●	●	●	●	○	●	●	●	●	●	●

Legend: Vital: ● Recommended: ○ Optional: ■

Neighborhood Mobility Hub

Neighborhood Mobility Hubs are smaller ancillary station areas generally found in lower density neighborhoods. They offer a few basic amenities essential to every transit area including wayfinding, bike share and bike parking. All these amenities are generally immediately visible from the station stop- generally across the street or within the same block. Examples of the Neighborhood Mobility Hub would be Bagley/ Venice bus stop or Vermont/Venice bus stop.



Bagley/Venice Bus Stop

Photo: Google Map

Central Mobility Hub

Central Mobility Hubs are typically located in a more urban context, and encompass one or more stations/ bus stops. They offer many amenities in addition to the baseline features including car share, bus shelter, and next bus information. The amenities are generally spread throughout the surrounding intersection and integrated into the neighborhood. Generally, these amenities are within easy walking distance from the station itself. Examples of the Central Mobility Hub would be 7th Street/ Figueroa Metro Station or Wilshire/ Vermont Metro Station.



Wilshire/ Vermont Metro Station

Photo: Metro

Regional Mobility Hub

Regional Mobility Hubs are the largest scale station areas in either dense urban areas or end of line stations where they connect to other regional transit providers. The Regional Mobility Hub offers the most amenities including secured bike parking and a bus layover zone along with important amenities and infrastructure built into the station itself. Regional Mobility Hubs can be as large as an acre. Examples of Regional Mobility Hubs include North Hollywood Station and Harbor Gateway Transit Center.



North Hollywood Station

Photo: Wikimedia

BICYCLE CONNECTIONS

CHAPTER 2

Discussion

Encouraging the adoption of bicycling as a viable alternative to private vehicle use is an important goal for the city and region. Bicycles can serve as an appealing mode to access other transit services and stations especially if bike parking and other supportive facilities are available to use. The inclusion of bicycling supportive amenities at Mobility Hubs is one step towards achieving a healthy transportation system and allowing people to make choices that are more environmentally sustainable and physically beneficial. Improving the bicycling experience can incentivize many potential riders to use their bicycles for their daily trips. First-last mile connectivity can be further enhanced through the implementation of a bike sharing program, to be available at all Mobility Hubs, by making bicycles accessible for those whose destination is out of the typical pedestrian range of a ½ mile. Improving connections to the potential or existing bike paths near the Mobility Hub is essential in advocating use of bicycles and public transportation.

Objectives

- Enhance first-last mile connectivity through the implementation of a bike sharing program.
- Increase availability of bike parking and secure bike rooms.
- Provide safe and comfortable bicycling supportive facilities.

Relevant Agencies

- LA Department of Transportation
- LA Department of Public Works
- Metro
- For requesting bike racks: Contact LADOT Bicycle Services to submit Bicycle rack and parking request form online.
- For Metro bike lockers visit <https://www.metro.net/bikes/>



2.1. BIKE SHARE

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Bike sharing is a transportation service typically structured to provide users point-to-point transportation for short trips. Employees, residents, and visitors will be able to hop on a bicycle at one station and return it to any other station in the system. Bike share stations will be located in streets, on sidewalks, and in plazas and parks.

Dense station spacing is critical to creating a convenient system. It is important to strategically locate bike share facilities along transit corridors, existing or proposed bikeways, popular destinations, and retail job centers to ensure that users can easily pick up/drop off bicycles. The vision is to provide new and existing transit users with an accessible, reliable, and efficient mobility option as an integrated part of Los Angeles world class transportation system.

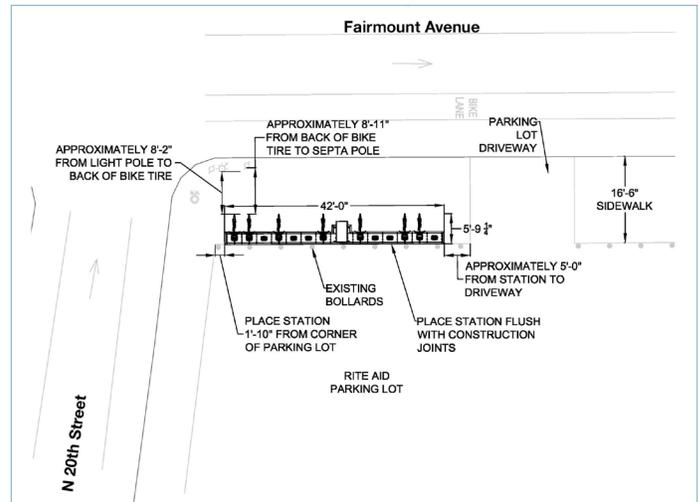
The two most important factors considered when designing a successful bike share system are safety and convenience. Stations must be strategically located to suit people's needs for quick and opportune trips. Proper siting of bike share stations can activate public spaces, boost local businesses, and increase mobility and accessibility. Ultimate station locations will be determined by City of Los Angeles, Metro, and bike share operator based on the following considerations.

Guides

- **Network:** Stations must be adjacent or within walking distance to activity centers, transit stations, places of employment and residences. Ideal station spacing is within ¼- ½ mile of another station. In locations with fewer hubs and destinations, station size should be reduced rather than station spacing.
- **Physical Space:** The physical space must meet the LADOT street design regulations and criteria in addition to the designs and physical dimension requirements.
- **Clearance Requirements:** Stations may not obstruct the pedestrian path of travel and must adhere to all American with Disabilities Act (ADA) requirements.
- **Visibility:** Stations must be visible to passersby and stations shall not interfere with pedestrian sight lines. Station placement on the departure is preferred. Ad panels and kiosks must be strategically placed to maintain sight lines. Bike sharing stations should be located in highly-visible areas at or near Mobility Hubs.
- **Accessibility:** Stations must be well lit at night and accessible 24 hours a day.
- **Demand and Support:** Popular demand and stakeholder support may weigh into bike share station location placement, but shall not be the ultimate deciding factor. Station locations must be sited to enhance safety and connectivity in order to serve the needs of all users.
- **Solar:** Stations run on solar power and must be strategically located to minimize shade cover.
- Major new developments should contribute to the expansion of a bicycle share program, where one exists.
- Co-locating and co-branding (if possible) bike share and car share increases visibility and re-enforces the concept and adoption of shared vehicles.
- The 13 docks, 90 degrees standard flat bike back station is usually 42'0" by 6'0".
- The station should be placed at least approximately 5'0" from the potential adjacent driveway cut.

Sites must comply with the following checklist items

- Meets all LADOT design guidelines
- Does not interfere with or block a driveway or a catch basin
- Does not overlap with maintenance hole, signal box, or utility access
- Is unobstructed by sidewalk furniture, benches, newsstands, or bus shelters
- Is unobstructed by trees, tree wells, or other landscaping
- Is not located in or directly adjacent to a bus zone
- Is not located within 15 feet of a fire hydrant
- Does not block building standpipe or pedestrian sight lines
- Locations on State Highways will be evaluated on a case by case basis
- Streets with a posted speed limit 35mph or more will be evaluated on a case by case basis



Philadelphia Bike share, Site plan configuration for the Standard bike share stations; the equipment is the same as what will be implemented in Downtown Los Angeles.

Photo: Toole Design Group



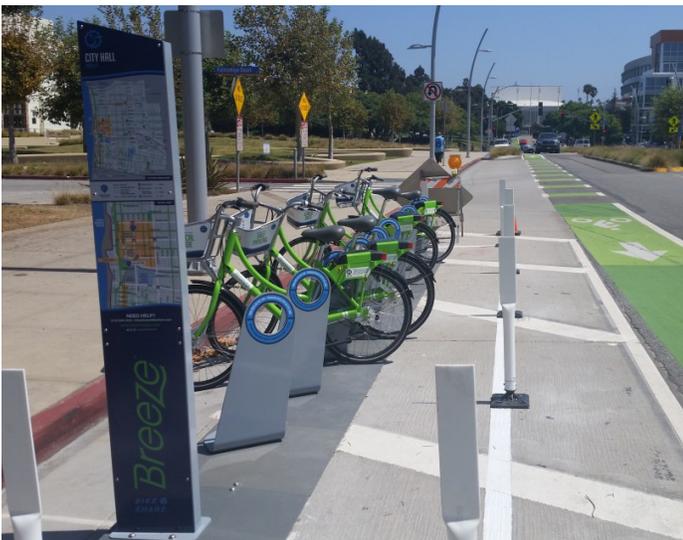
Milwaukee's Bublr Bike share program, *B-cycle Now app* tells you how many bikes and open docks are at each station so it's easy to plan your trip. The app even maps a route from your current location to the chosen station.

Photo: Bublr bikes Website



San Diego Bike share program (Decobike), Stations are solar-powered and automated. They will operate 24 hours a day, 7 days a week. They are modular in design and can be easily expanded to meet demand.

Photo: DecoBike



Santa Monica Bike share program (Breeze), Bikes are equipped with GPS and a fare validator that will handle payment. The bikes can, in theory, be left anywhere in the city - although users will be charged extra if they don't return the bikes to a special Breeze rack.

Photo: Jason Islas/Santa Monica Next



Union Station Metro Bike Share Station - Los Angeles, The program, which will allow users to rent a bike, ride it, and return to any other Metro bike share kiosk, will bring 1,000 bikes to 65 hubs around Downtown, Chinatown, and the Arts District.

Photo: Metro

2.2. BIKE PARKING

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Among the necessary supports for bicycle transportation, bike parking is both vital and relatively easy to implement. Short-term and long-term parking serve different needs. If users will typically be parking for two hours or longer, they are likely to value security and shelter above the convenience and ease that characterizes short-term parking. Still, it requires policies and detail-oriented attention to get it right. Bike parking may go unused, or worse yet result in vandalized bicycles, if it's not designed and placed in highly visible and appealing locations.

Outdoor bicycle racks are the most basic and common “short-term” bike parking option and the installation can be requested from business owners or citizens. The City of Los Angeles Department of Transportation Sidewalk Bike Parking Program installs an inverted-U bicycle rack. It is 36” high constructed of 2 3/8” galvanized pipe and holds two bikes. There is no fee for a LADOT bicycle parking rack installation if your location qualifies for the program. On street Bike Corrals located in the street area adjacent to the curb can be used for areas with limited sidewalk spaces to make use of on-street areas that are unsuitable for auto parking.

Bicycle lockers that are pre-reserved, key operated, or bike rooms are considered the best protection against bicycle theft and are ideally suited for “long-term” bike parking application. A bicycle locker rental program that is low cost and convenient will encourage use by bicycle commuters. Operations and maintenance needs should be enhanced at Mobility Hubs.

Guides

- Bicycle parking should be located as close as possible and visible to the Mobility Hub users, as well as building entrances, without obstructing pedestrian pathways and without any conflict with vehicular traffic.
- When installing sidewalk racks, maintain the pedestrian through zone. Racks should be placed in line with existing sidewalk furniture to maintain a clear line of travel for all sidewalk users.
- Sidewalk racks adjacent to on-street auto parking should be placed between parking stalls to avoid conflicts with opening car doors.
- Parking should be visible and secure, clean, sheltered or covered, and sufficiently illuminated.
- Bicycle racks may be installed near bus stops or loading zones only if they do not interfere with boarding and loading.
- It is important to provide access to common and shared use bike lockers, bike rooms, or storage facilities that offer a greater level of security where long-term bike parking is needed.
- Install bicycle racks and lockers, especially in multi-tenant commercial or mixed-use buildings where bike routes are existing or planned. Ensure bicycle racks are placed in a safe, convenient, and well-lit location to encourage alternative modes of transport for employees and consumers with small purchases.
- It is also important to provide education and information about how best practices for securing one's bike would help prevent theft.
- Areas with high incidence of bicycle theft may justify specific security features such as specialty racks, tamper-proof mounting techniques, or active surveillance.
- Implementing electronic lockers is encouraged. Unlike older generations of keyed lockers, which had one user per locker, the electronic lockers allow multiple users.

Best Practices



Los Angeles, Bike Corrals are an on-street bicycle parking facility that can accommodate up to 16 bicycles in the same area as a single vehicle parking space.

Photo: LADOT Bike Blog



To use the electronic lockers a cyclist needs to purchase a BikeLink card which works like a debit card at retail locations.

Photo: Wikimedia



Santa Monica, Bike room and parking facility is located at the ground floor of the parking structure feature almost 5,300 sf of space and nearly 360 secure bike parking spaces.

Photo: Santa Monica Next-Jason Islas

2.3. BICYCLING SUPPORTIVE FACILITIES



Providing bicycling supportive facilities and amenities, such as personal lockers, changing rooms, and bike repair stations, will encourage bicycling as a viable mode of transportation for users.

In an effort to provide more supportive resources to users Metro began opening “Metro Bike Hubs” in 2015, the first of which is located at El Monte Station. Metro Bike Hubs are facilities which will provide secure indoor parking along with repair stands, air pumps, and other tools and resources. Depending on typology and context, Mobility Hubs will coordinate and may feature either full Bike Hubs or some of the supportive amenities.

The El Monte Station Metro Bike Hub is located in prime ground floor retail space and provides a full suite of bicycle-related services, including controlled entry for 56 bicycles under closed-circuit TV surveillance, peak-hour staff availability, folding bike rentals, same-day repairs, accessory sales, and bike-related classes. Hollywood/Vine Metro Red Line station, Culver City Expo Line station, and Union Station North Arcade are some of the new bike hubs coming soon to Los Angeles.

Guides

- Depending on typology and context, Mobility Hubs will feature either full Bike Hubs or some of the supportive amenities.

Best Practices



Bike repair station - Downtown Los Angeles, Main street, *Bicycle Repair Stations, provide the tools necessary to keep people on their bikes even when they have hiccups like a flat tire*

Photo: LADOT Bike Blog



El Monte Station Bike Hub - Los Angeles, Provides access to secured parking, retail sales, bike repairs, and rentals.

Photo: Metro



Bike Fixtation - Minneapolis, designs and manufactures public work stands, pumps, and vending machines for bicycle infrastructure projects.

Bike Fixtation operates self-service kiosks on an extended-hours basis for bicyclists in the Minneapolis/St. Paul metropolitan area.

Photo: Bike Fixtation Website



Go By Bike PDX - Portland, The bicycle valet at the Portland tram is free and open to the public.

Photo: BikePortland Website, Jonathan Maus

VEHICLE CONNECTIONS

CHAPTER 3

Discussion

Vehicle movement has had a significant impact on the development history of Los Angeles and it will continue to play a critical role in the City's future. Freeway infrastructure built during the 1950s as part of the Federal Highway Act established private vehicles as the dominant mode of transportation in the region. However, current excessive automobile dependency has affected our environment, public health quality, and even our lifestyle. Additionally, the efficient movement of people, goods, and services is strained by traffic congestion.

Providing transportation modes, other than privately owned vehicles, to meet the needs of a thriving growing city will allow users to give up one or more vehicles per household and eventually mitigate some of the negative impacts. Adding car share and ride share opportunities at Mobility Hubs will enhance first-last mile connections and accessibility to public transit. However in order to reduce greenhouse gas emissions and air pollution even further the adoption of low-emissions vehicles should be encouraged by providing supportive infrastructure such as Electric Vehicle (EV) charging stations.

Internal circulation of Mobility Hubs (or any transit station) should be enhanced by providing designated pick up/drop off zones and facilitating access to ride share and car share opportunities. Easy access is critical for encouraging reluctant users to become transit riders. Designated zones make it quick and easy for both passengers and those picking up/dropping off to navigate Mobility Hubs without confusion or congestion.

Objectives:

- Improve accessibility at Mobility Hubs through providing ride share opportunities and designated pick up/drop off zones.
- Provide car share services easy access to improve direct connections to and from transit stations and major destinations.
- Reduce greenhouse gas (GHG) emissions by encouraging the adoption of alternative fuel sources and green technology such as Electric Vehicles



Relevant Agencies:

- LA Department of Transportation
- LA Department of Public Works
- Metro

3.1. RIDE SHARE/ PICK UP-DROP OFF

“Ride share” refers to sharing vehicles or rides or transportation that uses an online enabled platform (such as a smartphone app) to connect passengers with drivers using their personal, non-commercial, vehicles. The convenience of requesting a ride via an app and the competitive pricing for services have made ride sourcing a very common option for many people. Companies like Uber, Lyft, and SideCar are doing a successful job leading ride share possibilities.

One common type of pick up/drop off zone is the “Kiss & Ride”. Kiss & Rides usually have designated time limits and are separated from taxi queues in order to maximize vehicle turnover, facilitate traffic flow, and avoid traffic conflicts. Kiss & Rides that are too congested, remote, or have poor visibility will encourage users to find another location closer to the station for picking up/dropping off which may result in traffic conflicts.

Guides

- Ride share and pick up/drop off zones should be located in a highly visible and convenient location accessible to the Mobility Hub users.
- Providing adequate capacity to prevent taxis and vehicles from blocking roadways and pedestrian paths in designing pick up zone is essential.
- The Kiss & Ride zone should have a direct visual connection with the station so drivers waiting in cars can quickly locate their passengers exiting.
- Where space is limited near station entrances, consider sites in the station vicinity. Pick up/drop off spaces for passengers of transit, ride sharing, and car sharing should be located at clearly marked location within direct sight and at close proximity to station entrances.

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R ●

Best Practices



Utrecht Central Station–Netherlands, is providing Kiss and Ride area at the front of the busy station and is encouraging commuters to fast and smooth goodbye.

Photo: Wikimedia



Schofield Railway Station - Sydney, designated separate spaces for pick up/ drop off of private vehicles, taxis, and ride share.

Photo: Wikimedia

3.2. CAR SHARE



“Car sharing” refers to rental services designed to provide a substitute for vehicle ownership and to expand modal opportunities for those that are transit dependent. It makes the occasional use of a car affordable and allows users to drive less, reduce traffic and rely more on alternative modes of transportation. By providing access to car sharing services at Mobility Hubs, users are better able to complete their daily trips without relying on their private vehicles. Car sharing is proven to reduce congestion and help alleviate parking challenges in cities. Accommodating short term parking for car share users not only make this service more attractive, but also diminishes the need to purchase one’s own car.

LA County Metro, in cooperation with ZipCar, has already introduced car sharing at several transit locations throughout the region. Central and Regional Mobility Hubs would require that car sharing services be available, while it would be a recommended amenity at Neighborhood Mobility Hubs.

Guides

- Whenever possible, car share vehicles should be grouped together into “pods” of at least two or three vehicles per location on site.
- Scattered vehicle pods throughout the Mobility Hubs are preferable; because they make it more likely a vehicle will be available at any given location, simplify parking acquisition, facilitate on-site maintenance, and make it easier for users to find vehicles.
- In order to inform the transit riders of car share option, pick up/drop off zones should be located in highly visible location and wayfinding signage should be incorporated on site directing public to and from the Mobility Hub.

Vehicle Sharing Kiosk Guides

- Major development projects in proximity to the Regional or Central Mobility Hub should provide rent-free space for a certain period of time, not less than three years, to accommodate the vehicle sharing kiosk within the project site.
- Vehicle sharing kiosk should not be less than 250 - 300 square feet and should be placed at the strategic location that is clearly visible to the users.
- The space provided by the project would accommodate bicycle parking, lockers, and sharing bicycles.
- The project should provide up to at least ten parking spaces for a certain year period, not less than three years, to support the car share program.

Best Practices



ZipCar Charging Station - San Francisco, For profit private vehicle rental companies oriented toward local residential use, such as Zipcar, Flexcar, and Car2Go.

Pods make locating car share vehicles easier.

Car sharing and electric vehicle charging infrastructure can be combined.

Photo: Nuenergen Website



City Car share - Berkeley, launched by transportation visionaries as a Bay Area nonprofit with a goal to make its community a more livable place. Car sharing means fewer cars on the road, less congestion, and less pollution plus significant savings for users.

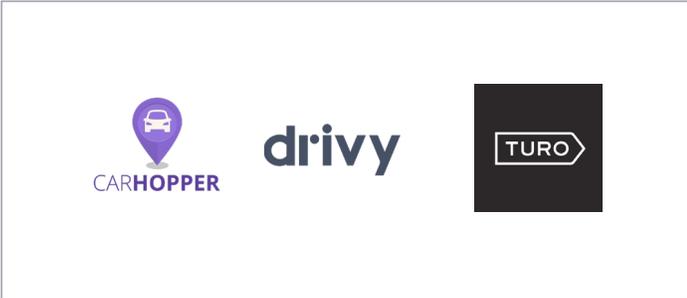
Photo: Wikipedia



Option Zones - Portland, Designated on-street car share parking incorporates public art into wayfinding and signage.

These "option zones" designed as an on-street parking for car share vehicles, with iconic signpost that doubles as a bike rack.

Photo: StreetsBlog LA



Peer-to-peer Carsharing Services, It is a form of person to person lending or collaborative consumption. Car Hopper, Turo, and Drivy are some of these services that allow owners to list their vehicles for short periods, typically using Internet or mobile app.

Photo: Wikipedia

3.3. ELECTRIC VEHICLE INFRASTRUCTURE



Transportation is the largest source of greenhouse gas emissions, the largest consumer of energy, and has significant impacts on air, water, and noise pollution. Encouraging the use of electric vehicles is one step towards mitigating those side effects. A significant hurdle to the adoption of electric vehicles has been the lack of supportive infrastructure available. Currently Union Station, Willow St Station, Universal City/Studio City Station, El Segundo Station, and Sierra Madre Villa Station have EV charging stations already available for riders in Los Angeles. The Mobility Plan outlines a goal to install more than 1,000 new publicly available EV charging stations throughout the City.

Guides

- When locating EV charging stations consider adjacency to accessible parking spaces and accessible route to the Mobility Hub.
- Wayfinding signage should be incorporated to and from the Mobility Hub.
- As with car sharing it is recommended that EV stations be grouped into pods with possible shelters.
- Consider providing EV ready infrastructure for possible future expansion.
- Provide adequate charging station information including maintenance requirements, station status, cost to charge, and signage and provisions of emergency contact information.

Best Practices



Park & Ride Lots - LA County Metro, *The stations were selected because of their proximity to major transportation hubs and busy traffic arteries.*

Use its app to scan the station's QR code. Or, touch the key fob on the reader pad to start charging. Key fobs can be purchased from EV Connect.

Photo: Department of Public Works, Los Angeles



Red/Purple Line Westlake – MacArthur Park, *Los Angeles, Metro is currently developing flywheel energy projects at some of the stations. This flywheel energy storage system is able to capture energy generated by trains as they brake into a station.*

Photo: Metro

BUS INFRASTRUCTURE

CHAPTER 4



Discussion

One of the most important elements of first-last mile connectivity is enhancing access to a variety of transit options. By improving transit access, more users will likely opt into public transportation which in turn will reduce vehicle miles traveled, integrate physical activity into daily commute patterns, and improve economic vitality by connecting people to regional markets. In order to encourage transit use as a viable alternative to private vehicles, it should be reliable, efficient, convenient, and safe. The more that our regional transit system meets this description, the better it will serve its existing customer base as well as new riders.

Though there are several elements that can further facilitate transit ridership, bus infrastructure will vary based on the size and scale of the Mobility Hub. As critical nodes in the transportation system, Regional Mobility Hubs shall be designed as world-class infrastructure with transit supportive infrastructure and amenities including loading/unloading zones, bus layover zones, and restrooms for transit staff.

While smaller scaled Mobility Hubs may not be able to accommodate these infrastructural elements, incorporation of transit supportive amenities can assist in improving performance, convenience, and comfort – key factors in improving the transportation experience for both transit users and transit staff. Integration of these transit infrastructure investments with the identity of the surrounding area will make significant contributions to the region’s Transit Enhanced Network.

Objectives:

- Bus Loading/Unloading Zones that create safe areas for transit ridership.
- Bus Layover Zones that contribute to efficient bus service and reduce congestion.
- Bus Shelter

Relevant Agencies:

- Los Angeles Department of Transportation
- Metro
- Culver City Bus
- Santa Monica Big Blue Bus

4.1. BUS LAYOVER ZONES



Bus Layover Zones are designated areas typically at the end of any bus route where buses may wait on standby between trips. The purpose of Bus Layover Zones is to ensure buses may depart on time for the next trip, and to provide bus drivers a break area before the next trip. Bus Layover Zones should be located near the end or start of any bus route, and be equipped with break areas and restrooms for transit staff.

Though **Off-Street Bus Layover Zones** are preferred, their spatial requirements are typically difficult to implement at project sites in urban centers. However, when incorporated into larger development projects, they become permanent infrastructural elements and may be expanded into full Mobility Hubs. Off-Street Bus Layover Zones should be strategically located to accommodate overlapping bus lines, and accommodate multiple buses. They are typically permanent for use as Layover Zones, and can be expanded into full Mobility Hubs in the future.

On-Street Bus Layover Zones are generally more easily accommodated in urban contexts as they can be accommodated by reclaiming curb space within the public right-of-way near transit stations. Depending on existing constraints within the right-of-way, they typically only accommodate a small number of buses at one time. On-Street Bus Layover Zones should be strategically located to minimize impacts on any sensitive surrounding uses.

Overall, the positioning of a bus layover zone is a critical element of a city's bus system. Strategically-located facilities contribute to efficient bus service and the reduction of congestion and greenhouse gas emissions, accommodate for future increases in buses accessing the city, and meanwhile reduce conflicts between buses and surrounding uses.

Guides

- Centrally located near the end or start of bus lines will minimize 'dead running' and maximize service hours.
- Bus layover zones should be shared between transit agencies and lines.
- The design should depend on the bus size, number of buses overlaying at the same time, and the general turnover. Typically, bus layover zones are required to be twice the length of the bus with an added 10' for maneuvering.
- Damage on the roadway should be prevented by providing concrete bus pads along the length of layover zones. Typically, bus pads are roughly 90' long by 12' deep.
- Bus layover zones should be incorporated into the transit station area with minimal conflicts or impacts on the surrounding area and should accommodate various sizes of buses.
- It should provide adequate space for buses to maneuver and park safely.
- Bathrooms or "comfort zones" for use by transit staff should be located within easy walking distance (no more than one block away) so that staff may easily access the facilities during their allotted layover period. Bathrooms can range from bus-only bathrooms, public restrooms, or neighboring private restrooms with contractual agreements for regular staff use.

Best Practices



ARTIC - Anaheim, Orange County, provided adequate bus layover zones as part of the transit hub design. It links commuter and regional rail service and intercity bus systems including Amtrak, Metrolink, OCTA bus service, Anaheim Resort Transportation (ART), and Greyhound.

Photo: Google Map



Transfer Station of Curitiba, RTL - Brazil, These glass-covered platforms, bus stations, are similar to what would be the metro station under ground elsewhere. They allow the bus company to have the all the passengers ready to board as the bus arrives.

Photo: Google Map



Transit Center - El Monte, Regional bus facility incorporating Off Street bus layover zone, energy-producing photovoltaic panels, use of natural, local resources and materials, and exemplary storm water management system.

Photo: Metro



INFORMATION/ SIGNAGE

CHAPTER 5



Discussion

Enhancing the user experience by providing branding and information for ease of wayfinding is a core objective of the Mobility Hubs. Wayfinding and signage support the efficient movement of users and should be developed as integral components of a Mobility Hub. The importance of signage and information comes from the need to create informed users, which in turn help create a cleaner, smarter, and more efficient transportation system. As the Mobility Plan's wayfinding goals include providing real-time information at all major transit stations by 2020, coordinating wayfinding at all major transit stations by 2035, and coordinating communication with regional transportation agencies and neighboring jurisdictions, Mobility Hubs will play an integral role making this possible.

Information amenities at Mobility Hubs help both first time visitors and long-time residents to depend on navigate to and from the Hub. This is central to enhancing first-last mile connectivity. When designed well, wayfinding can enhance one's surroundings and contribute to a neighborhood's civic pride and unique sense of place. Additionally, smartphones play a significant role in providing real-time transit information enabling users to customize wayfinding and discover local, place-based information at anytime.

Objectives:

- Provide wayfinding information and services at Mobility Hubs.
- Increase the use of technology to provide Real-Time Transit Information.
- Increase smartphone connectivity to create awareness of multi-modal options.

Relevant Agencies:

- LA Department of Transportation
- Metro
- LA Information Technology Agency

5.1. WAYFINDING

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The essential function of wayfinding is to facilitate users reaching their destinations by indicating the direction of and distance to and from a Mobility Hub. Cluttered and inconsistent directional signage can confuse users. The most effective wayfinding also provides information on alternative routes while highlighting additional points of interest along the way. Wayfinding should be a ubiquitous element of the cityscape so as to always be readily accessible; however, it is especially vital in and around key destinations, along major corridors, and at transit stations and Mobility Hubs.

Wayfinding signage can enhance Mobility Hubs and local areas by including public art, lighting, and landscaping, improving the visual environment. One important aspect of wayfinding signage for Mobility Hubs is the inclusion of the Mobility Hub Icon to reinforce branding and placemaking. The Icon will increase visibility and awareness of Mobility Hubs by highlighting their proximity to the users and local attractions.

Guides

- Signage should be placed at and immediately adjacent to Mobility Hubs of all sizes.
- Provide widespread, user-friendly information about mobility options and local destinations, delivered through a variety of channels including traditional signage and digital platforms.
- Implement a minimum standard of wayfinding signage in transit stations, including identification signage, direction signage, and accessible wayfinding features.
- Locate directional signage at junctions along walkways, at station entrances/exits, and at navigational barriers.
- Signage at transit stops should be well marked, provide schedule and service information and area maps.
- Highlight station programs, such as car sharing or bike sharing in station areas and provide information on sustainable transportation amenities and networks.

- Use signage as educational tools to demonstrate innovative design features in stations and station areas, such as environmental or conservation efforts in a facility.

Best Practices



Pantone Black 6 C



Pantone 2291 C



Pantone 2278 C

Metro, Bike, Hub Signage - Los Angeles, *City of Los Angeles is implementing unified branding wayfinding signage across the city.*

Photo: Metro, Los Angeles



Transfer Corridor of Tokyo Metro Fukutoshin Line - Shibuya Station, *Toyoko, Uses public art, lighting, and landscaping to improve the visual environment.*

Photo: Wikimedia



Walk! Philadelphia, simplified, diagrammatic maps of Center City are located mid-block on both sides of the street. They utilize a “heads-up” orientation which always place the direction the viewer is facing at the top of the map.

Photo: Wikimedia



Legible London, A prototype wayfinding system for London that has been initiated in strategic locations in the heart of the city.

Photo: Wikimedia

Raleigh-based Walk [Your City], The main strategy is to tell pedestrians how many minutes of walking it takes to access amenities. Practical initiatives to increase walkability and wayfinding, temporary movement, which can be grown and implemented as a permanent fixture in neighborhoods in time.

Photo: Walk [Your City] website

5.2. REAL-TIME INFORMATION



New technologies will continue to help ease our day-to-day mobility. Real-time information services facilitates transfers between transit modes and allows active transportation users to pick the best transit option in real-time. Real-time information also warns users of expected delays or changes in transit service and can help improve the customer experience, particularly when waiting for transit services. This information affords individuals more flexibility to adjust their travel choices as changes occur in real-time. Based on research, for riders without real-time information, perceived wait time is greater than measured wait time. But having real-time information brings perceived wait time in line with actual wait time.

Guides

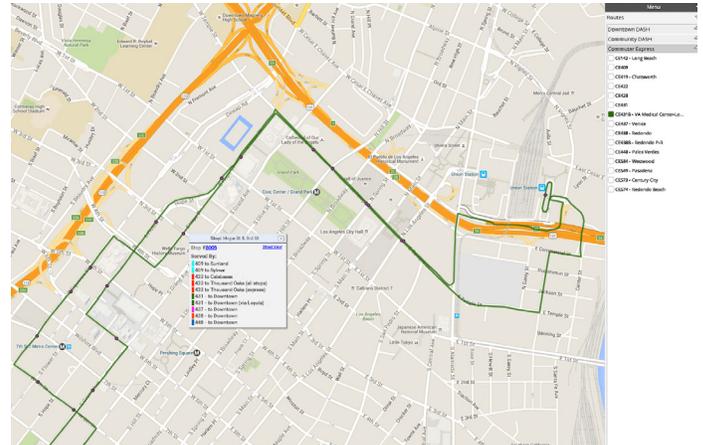
- Provide accessible real-time information on service information, including arrivals, delays and service alternatives, throughout the transit station and at major transit stops and transfer locations in Mobility Hub areas.
- Integrate community information, such as news, event listings, and public service messages into real-time information program.
- Ensure information is provided in accessible formats for persons with disabilities, such as visual and audible platforms.

Best Practices



NYC MTA Real Time Interactive Information Kiosk,
Designed to deliver the most relevant information to the greatest number of people, the kiosks provide countdown to arrival, one-touch visual directions based on real-time train status, neighborhood maps, and context-relevant advertising.

Photo: Intersection Website



LADOT Commuter Express Real Time Bus Information,
Live map, estimated arrival times, mobile maps providing real time information are available for Dash and Commuter Express routes.

Photo: LA DOT Transit map

5.3. WI-FI/ SMARTPHONE CONNECTIVITY



Best Practices

A wide variety of relevant transportation data and information already exist, but for a long time this level of amenity was not easily available and accessible to enhance customer service. The advent of smartphones, however, has created the opportunity for users to have convenient access to information and data via WI-FI anytime they need. Providing free and easy WI-FI connections at Mobility Hubs would make many types of data available and accessible for transit users. Smartphone apps can also provide detailed service advisories for delayed transit, traffic, and safety issues.

New signage and traditional forms of media will continue to play an important role in wayfinding and providing place-based information for different services such as parking availability, bike facilities, and local destinations. Developing a GIS based marker and locator to designate Mobility Hubs for display on such mobile applications will improve safety and accessibility to different programs. A GIS locator would support wayfinding by assisting users in finding stations or their destinations especially in areas where local wayfinding signage is not readily available. Based on research, some of the effects of using such tools are increased satisfaction with public transportation and feeling of safety. The perception of reliability can definitely be shifted.

Guides

- Free public WI-FI access within a specified distance should be incorporated into Mobility Hubs.
- Developing an open platform/app to display where and what Mobility Hub assets are available is essential in inviting people to the Hubs.

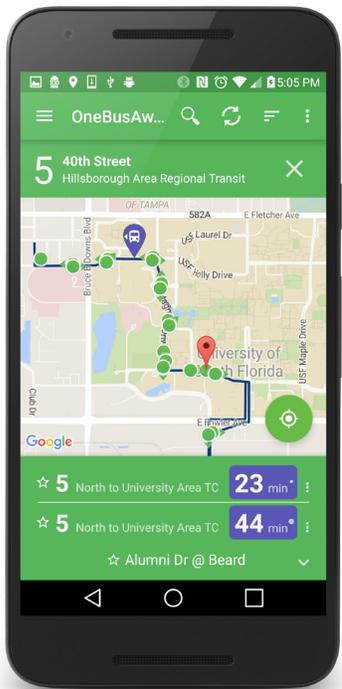
1	UPTOWN	😊 normal	▶
	DOWNTOWN	😊 normal	▶
2	UPTOWN	😊 normal	▶
	DOWNTOWN	😊 normal	▶
3	UPTOWN	😊 normal	▶
	DOWNTOWN	😊 normal	▶
4	UPTOWN	😊 normal	▶
	DOWNTOWN	😊 normal	▶
5	UPTOWN	😊 normal	▶
	DOWNTOWN	😊 normal	▶
6	UPTOWN	😊 normal	▶
	DOWNTOWN	😊 normal	▶
6X	UPTOWN	😞 not running	▶
	DOWNTOWN	😊 normal	▶

1 ◀ back to all trains
DOWNTOWN

- 😊 238 St
normal
- 😊 231 St
normal
- 😞 Marble Hill - 225 St
meh
- 😞 215 St
meh
- 😞 207 St
meh
- 😞 Dyckman St
meh

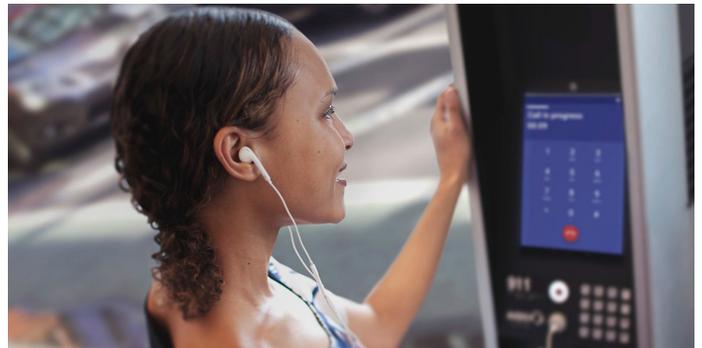
Live Subway Agony Index, According to WNYC, the Live Agony Index attempts to measure “agony” by monitoring times between trains and adding unhappy points for stations typically crowded at rush hour.

Photo: screengrab: WNYC



One Bus Away, is an open source platform for real time transit information. The share of riders frustrated with bus waits fell from 25 percent to 18 percent for those using real-time apps.

Photo: OneBusAway



LinkNYC, New York to start replacing payphones with optic fiber WI-Fi kiosks.

It offers an array of free services including high speed Internet, web browsing, cell phone charging and phone calls to anywhere in the U.S.

Photo: City Bridge

SUPPORT SERVICES

CHAPTER 6

Discussion

Support services should be incorporated, especially in the Central and Regional Mobility Hubs, in order to promote a shift in mobility behavior and to provide an attractive pedestrian environment with a high degree of priority, safety and amenities. For many users, safety is a key factor when deciding whether to walk, bike, drive, or take public transit. Therefore, enhancing customer comfort, safety, assistance and information at Mobility Hubs is essential. Children, seniors and people with disabilities must have the same level of access to Mobility Hubs as any other user.

Increasing the comfort of users, providing shelter and waiting areas, increasing accessibility and visibility at day or night, and providing information are all elements of a well-programmed Mobility Hub and will serve to enhance first-last mile connectivity. All these efforts should prioritize and implement innovative sustainable energy, water and waste management practices.

Objectives:

- Establish ambassador programs to assist transit riders at Mobility Hubs.
- Provide rental lockers, shelters with seating, trash receptacles, restrooms, lighting, and other supportive amenities for waiting areas.
- Ensure safety and security of all Mobility Hubs.
- Prioritize implementation of sustainable approach including solar and other renewable sources of energy.

Relevant Agencies:

- LA Department of Transportation
- Metro
- LA Police Department
- LA Department of Public Works



6.1. AMBASSADORS



Placing ambassadors at Mobility Hubs can have a very positive influence on educating community members about transit and increasing their comfort level. Ambassadors are trained personnel, students, or volunteers, knowledgeable of the local area, amenities, services, and the mobility options. An ambassador's goal is to teach users how to feel confident and safe using Mobility Hubs amenities and the transit system as a whole. Mobility Hub Ambassadors may assist users with reading schedules and routes, wayfinding, planning a trip, fare questions, or other special requests (such as wheelchair assistance).

Ambassadors can also play a helpful role in correcting unsafe behavior along the transit lines. Safety Ambassadors work to encourage the community to adopt safe behaviors; intervening when they observe unsafe behavior; and educating the public about the meaning of warning signs installed at the light rail crossings.

Guides

- Depending on the size and context of a Mobility Hub on-site support staff or Mobility Hub Ambassadors should be established to assist transit customers.
- Ambassadors program is critical to be incorporated as part of the Regional Mobility Hubs.
- Placing ambassadors at Mobility Hubs is encouraged and can be especially helpful during special public/private events, school days and rush hours to broaden awareness and provide safety information.

Best Practices



LA Metro Safety Ambassador Program, along the Blue, Gold, and Expo lines. For the past 10 years, Metro has enlisted the aid of retired bus and rail operators to serve as "Rail Safety Ambassadors".

Photo: Metro

6.2. WAITING AREAS



Comfortable, easily accessible, and well-designed waiting areas should be incorporated into all Mobility Hubs to varying degrees. Waiting areas can be located in the public right of way, or on private property developed privately or publicly.

A Mobility Hub's waiting area may be the first element of the overall network encountered by users and therefore can have significant impacts on their willingness to adopt transit use in place of driving. Amenities available at waiting areas differ depending on Mobility Hub typology and include, but are not limited to, bus shelters, weather protection, seating, trash receptacles, lighting, landscaping, retail, bike amenities, personal lockers, and real-time transit information, charging stations for devices.

Bus shelters are an especially important waiting area amenity. Neighborhood Mobility Hubs are primarily found in areas that do not have rail, but rather several bus and rapid bus services. Neighborhood Hubs generally function as first-last mile connections to Central and Regional Mobility Hubs. Therefore, enhanced bus waiting areas are necessary to improve safety, user comfort, and security at Mobility Hubs. Bus shelters should provide seating, shading, lighting, real-time transit information, charging stations, and wayfinding signage. Additionally, where applicable, introduce transit boarding islands to allocate more space for bus boarding.

Guides

- Waiting areas should be designed to ensure safe access for all users, regardless of age, ability, or transportation mode of choice.
- Waiting areas should not conflict with the main movement areas and should offer clear views and sight lines between them and boarding areas and surrounding neighborhoods.

- Locate vulnerable activities, such as waiting at night, in safe locations with good natural surveillance and street-level activity, such as along mixed-use streets or retail plazas.
- Provide shade in summer; and provide protection from wind, rain with plant screens, walls and canopies.
- Emphasize the use of color, light, street furniture and natural materials to counter dreary effects of winter days and nights.
- Real-time service information should be provided at waiting areas.
- Incorporate coordinated street furniture programs that reflect the vision and character of Mobility Hubs that provide seating, sheltered waiting areas for transit, light standards and waste/recycling receptacles.
- In some cases, building lobbies should be designed as interior waiting areas for transit users. These lobbies should be located within close proximity of the transit and face the service area. For passenger comfort, seating should be provided in the lobby.
- Personal lockers should be provided especially as part of the Regional Mobility Hubs
- Public restrooms should be incorporated especially to the Central and Regional Mobility Hubs.



Rapid Transit - Curitiba, Brazil, Seating and clear sight lines provide a more enjoyable experience to travelers.

Photo: Wikimedia



Union Station - Los Angeles, is providing enough lighting, seating areas, retail, free WI-FI, real-time information, and restaurants nearby.

Photo: Metrolink



Spring/ First Street Enhanced Bus Shelter - Los Angeles, provides various amenities such as real-time next bus information, WI-FI, bus shelter, USB port for charging phones, shelter and seating area.

6.3. SAFETY AND SECURITY

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Safety at Mobility Hubs is enhanced by protected facilities, improved street crossings, strategic lighting, and slower vehicular speeds. Pedestrian infrastructure at Mobility Hubs should be designed to create a barrier-free, accessible pedestrian network. Pedestrian/vehicular conflicts around Mobility Hubs should be identified so that mitigation strategies can be implemented to ensure a safe and comfortable pedestrian experience. Additionally, providing more than one access point will ensure that persons with disabilities have safe and direct access to or from Mobility Hubs.

Finally, depending on typology and area context different security options can be implemented at Mobility Hubs. These can include: on-site security personnel, security cameras, panic button apps for smart phones, etc. Maintaining clear sight lines between waiting areas and the surrounding neighborhood can also facilitate natural surveillance (also known as ‘eyes on the street’) at Mobility Hubs.

6.4. SUSTAINABLE APPROACH

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R ●

Transportation energy use and emissions could be reduced significantly by improving transit service and concentrating people and jobs around transit nodes. There is an opportunity to make Mobility Hubs best practice examples of environmental sustainability by implementing strategies for minimizing their environmental footprint, both in terms of design and operation of facilities.

Implementing innovative strategies for energy efficiency, waste management and storm water run-off management would minimize the Mobility Hub’s environmental footprint. Transit facilities and public buildings should be designed and retrofitted to meet high standards of energy conservation through existing green building standards and strategies. Solar and other renewable sources of energy should be prioritized and implemented.

Guides

- High-performance building envelope systems should be incorporated as part of the building design.
- Operable and controllable systems should be included for user comfort.
- Buildings should be designed “solar ready” including adaptable roof surfaces, effective building orientation and assess solar suitability on site.
- Solar powered lighting and LED lighting should be implemented to optimize energy consumption for building and landscape design.
- Incorporate stormwater management techniques into streetscape and landscape design that encourage infiltration and water reuse, such as bio-retention areas, bioswales to reduce the amount of storm water run-off.
- Provide shade and reduce heat island effects by planting shade mature trees with large canopy.
- Use native and drought tolerant landscaping to minimize irrigation.
- Minimize impermeable surfaces by utilizing permeable pavers and soft landscaped areas.

Best Practices



PV Stop Bus Pole – East Los Angeles, to improve safety and security for Patrons waiting for buses at night over 200 solar light poles at various Metro and Foothill Transit bus stops were installed.

Photo: Department of Public Works



Green Streets stormwater program - Elmer Avenue, Los Angeles, This is a perfect example of how function and form can be accomplished successfully. The function of the streets, sidewalk, and garden is to decrease the urban runoff pollution in California which is the number one source of pollution in southern California.

Photo: Green Streets



Bus Stop - Los Angeles, Great Streets will be getting bus stops with smart benches, bus shelters with free WI-FI, and solar-powered USB phone charges.

Photo: Great Streets

ACTIVE USES

CHAPTER 7

Discussion

As the city continues to expand and invest in its infrastructure, improvements must also be made to enhance the streetscape, creating attractive environments for walking, biking, and transit to create an integrated transportation system. Mobility Hubs provide unique opportunities to inject active uses at transit stations and help transform the street life of the neighborhood.

Mobility Hubs should be designed as attractive and walkable destinations in the private and public realm, providing a suite of active uses and programming to support the core transit infrastructure and facilitate transit ridership. With a vibrant mix of uses including retail, public space, and connections to other active uses, Mobility Hubs make the transit system more attractive to potential users, providing places for residents to gather, congregate, sit, watch, and interact. When clustered together, these active uses make it convenient for transit riders to run errands by walking or biking along their daily commutes to and from work. When done successfully, these practical uses can help contribute to an active street life, ensuring a public area that is safe, attractive, and comfortable. Pedestrian and retail activity along street corridors is vital to the economic health of neighborhoods.

Active uses within Mobility Hubs serve a variety of benefits essential to city life. In addition to promoting transit ridership, they can increase access to healthy food, and encourage small business interaction.

Objectives:

- Retail Uses to activate transit areas and provide convenient shopping and services.
- Public Spaces to activate transit areas and provide opportunities to gather or pause.

Relevant Agencies:

- Department of City Planning
- Department of Building and Safety
- Metro



7.1. RETAIL



Neighborhoods with frequent and reliable transit service are the ideal place to cluster uses and services, enabling residents and/or employees to complete a variety of errands within a single trip. Mobility Hubs enhance the first-last mile connections for users by providing opportunities for incidental shopping and increasing access to needed goods and services. By concentrating a variety of fixed and temporary retail uses near a Mobility Hub, users can pick up dinner, drop off their dry-cleaning, or use the ATM on their way home without additional vehicular trips. Through mobile markets, farmers markets, and food vendors, there are unique opportunities to also inject locally produced, nutritious foods in neighborhoods that may typically have limited easy access to healthy food. Retail can be provided on-site at transit stations or at nearby sites within walking distance, and may range from temporary structures, such as carts, kiosks, or other flexible structures, to fixed permanent retail spaces. Collectively, a healthy mix of uses generates a vibrant assortment of people who go about their business at many hours of the day, while also promoting local economy, creating great destinations, and fostering social gatherings.

Guides

- Activate ground floor uses along sidewalks, plazas, paseos, and station platforms to accommodate vibrant pedestrian activity.
- Ground-floor active uses should be designed with a high level of transparency. Generally, 75 percent of facades of ground floor retail uses should be devoted to pedestrian entrances and display windows.
- On-site carts, kiosks, or other temporary/permanent structures ranging from 1,500 to 7,500 square feet with amenities including convenience store, drug store, coffee shop, newsstand, bookstore, produce or food market should be provided to activate existing transit stations.

- Establish small markets, shops selling healthy foods, and restaurants serving healthy food options.
- Regular farmers' markets should be programmed to provide direct farm-to-plate opportunities where local producers can interact with consumers and provide food options tailored to local customs and cultures.

Best Practices



Famima! was a one-stop-shop convenience store offering food, products, and services for transit users. Most stores are located around transit stations and include a fresh-food deli, magazines, ATMs, greeting cards, alcohol, and TAP cards.

Photo: DTLA Rising website



Metro kiosks - New York, can be leased and adapted into retail spaces. The Zine Newsstand became a popular stop in selling magazines, independent books, records, artwork to transit users.

Photo: Untapped Cities by Michelle Young



Pershing Square Farmers Market - Los Angeles, is located just one block away from the Pershing Square Station and meets weekly to provide food, flowers, baked goods, and crafts to passersby.

Photo: LA Downtown News, Wikipedia



Western / Vermont Metro Station - Los Angeles, incorporates ground-floor retail in a primarily residential building to activate the transit area and street life.

Photo: Wikipedia

7.2. PUBLIC SPACE



A Mobility Hub should plan for a high-quality public realm and incorporate a diversity of public spaces, ranging from plazas, parks, courtyards, and landscaped seating areas that are highly visible, convenient, and accessible from the public street and the transit station. A variety of public spaces encourages social interaction and community participation.

Increasing the availability of, and access to, open space is an important part of the Mobility Plan. Just as with increased access to goods and services through convenient retail access, open spaces within or nearby Mobility Hubs further enhance first-last mile connectivity. Open spaces enhanced with shade trees provide places for users to gather, meet, wait and exercise. Public spaces within Mobility Hubs should be flexible spaces to accommodate a variety of uses ranging from seating, conversing, art walks, vendor fairs, mobile markets, or Farmers Markets.

Guides

- Design attractive and functional public gathering spaces, including parks, plazas, courtyards, forecourts, and sidewalks to create the desired ambience and complement the proposed land uses within Mobility Hub.
- Public spaces should be activated by using water features, pedestrian-level lighting, murals or artwork, benches, landscaping, or special paving so that they are safe and visually interesting places.
- Situate active ground-floor uses on elevations facing plazas and public spaces, such as restaurant seating, reception and waiting areas, lobbies, and retail, where they are visible to passersby.
- Where possible, include overhead architectural features, such as awnings, canopies, trellises, or cornice treatments to provide shade and reduce heat gain.
- Create a sense of enclosure with a mature tree canopy and landscaping.

- Maintain a sense of openness around public spaces with minimal obstructions, fencing, or deterrents. If provided, bollards and fencing should be low in height and movable.
- Streetscape improvements should blend seamlessly from the sidewalk to the public space.
- Art should be integrated into public spaces and around transit stations, especially in neighborhoods of special heritage or community significance.
- Building mass and height should minimize negative environmental effects, such as overshadowing of public spaces.
- Creating temporary or permanent parklets is encouraged close or within the Mobility Hub. A parklet is an expansion of the sidewalk into one or more on-street parking spaces to create people-oriented places. Parklets encourage pedestrian activity by offering human scale amenities which is especially beneficial in areas that lack sufficient sidewalk width or access to public space.

Best Practices



Del Mar Station Transit Village in - Pasadena, links the Gold Line transit platform with residential, retail, and an integrated plaza.

Photo: Wikipedia



Grand Park Station - Los Angeles, is centered in the heart of Grand Park, which provides unique opportunities for passive lounging, eating, playing, and active fitness.

Photo: Wikimedia



Bryant Park Station – New York, The station is located in the heart of the Bryant Park, which provides a comfortable place to relax and have fun with free WI-FI and solar powered charging stations. Bryant Park is one of the busiest public spaces featuring movable chairs, shady and sunny areas, good food, ping pong tables, an outdoor reading room, juggling, knitting, and language classes.

Photo: Wikimedia



Hope Street Parklet - Los Angeles, *People Street program is building a parklet at the southwest corner of Hope and 11th Street, just a few blocks south of the Metro Pico Station, STAPLES Center, and L.A. Live.*

Photo: South Park website



PEDESTRIAN CONNECTIONS

CHAPTER 8



Discussion

Streets infrastructure not only influences our mobility choices, but it also affects the safety and quality of life in our neighborhoods. Pedestrians are at risk within environments surrounding transit stations, primarily from automobile traffic. Whether in a mixed use commercial or residential area, a safe, interesting, and engaging public realm and sidewalks encourage walking or cycling and make the transit system more attractive to potential users. While pedestrian amenities are particularly important in close proximity to the station, an attractive pedestrian environment should be provided throughout the different Mobility Hub zones.

Objectives:

- Enhance pedestrian connections from surrounding to the Mobility Hub.
- Improve pedestrian connections at the Mobility Hub to support a walkable station area and promote the use of transit.

Relevant Agencies:

- LA Department of Transportation
- LA Department of Public Works
- Metro
- Great Streets programs
- Green Streets programs
- People Street programs

8.1. TO THE Mobility Hub

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Federal transit law explicitly recognizes the need to ensure that active transportation networks connect with public transit. Unfortunately in Los Angeles, there are physical constraints that deter pedestrian activity. In some cases sidewalks are physically constrained or literally broken and heaved, or even more surprisingly, discontinuous. Long blocks and large parking lots create circuitous access routes for pedestrians. Lack of adequate lighting, dark freeway underpasses and general neglect all challenge users' sense of personal security. In some areas, the existing right-of-way is severely constrained. Pedestrian movement is often impeded just a few blocks from transit stations due to overlay wide streets and freeway undercrossings that are dimly lit and poorly maintained.

All of these existing conditions represent challenges to transit system access, system efficiency, user experience and safety. A strategy that addresses these issues directly will increase transit ridership, improve user experience, and contribute to meeting Metro, regional and state policy goals relating to sustainability, clean air, and health.

Guides

- Provide enhanced paving materials (colored, stamped, permeable pavers, patterned) to identify proximity to Mobility Hubs, high pedestrian traffic zones or community elements such as commercial areas, schools and parks.
- The choice of paving material and design should minimize uneven surfaces to ensure pedestrian comfort, safety and ease especially for people with physical disabilities.
- Pedestrian connections between the Mobility Hub and the surrounding neighborhoods and communities should be improved. Appropriately locate street crossings in response to the anticipated traffic flow and convenience of the pedestrian.

- Locate private driveways off of main public streets to side streets and alleys whenever feasible to minimize conflicts to pedestrian circulation routes.
- Incorporate such features as white markings, signage and lighting so that pedestrian crossings are visible to moving vehicles during the day and night.
- Improve visibility for pedestrians in crosswalks by installing curb extensions/bump outs and advance stop bars, and eliminating on-street parking spaces adjacent to the crossing.
- Create the shortest possible crossing distance at pedestrian crossings on wide streets. Devices that decrease the crossing distance may include a mid-street crossing island, an area of refuge between a right-turn lane and through lane, a curb extension/bump out and a minimal curb radius.
- Provide angled or parallel on-street parking wherever possible to slow down the traffic.
- Design or maintain clear view corridors along sidewalks connecting to the transit station and important civic buildings and landmarks.

Best Practices



NoHo Plaza - Los Angeles, is located in an underutilized alley west of Lankershim Boulevard and north of Magnolia Boulevard in the heart of the North Hollywood Arts District. This portion of alley has been repurposed as a public plaza space with tables, chairs, and umbrellas for people to enjoy. A colorful surface treatment and perimeter planters define the Plaza bounds.

Photo: People Street Flickr



Hollywood and Highland Crosswalks - Los Angeles, Great Streets program is improving pedestrian realm near the Hollywood/ Highland Metro Station by developing a scramble crosswalk. A 'scramble' is a crossing system that allows everyone to cross from each corner, in all directions, including diagonally, at the same time.

Photo: Great Streets • Photo: Jeremiah Cox

8.2. AT THE Mobility Hub



Providing visual interest at the pedestrian scale through thoughtful landscaping and building design will encourage people to use the Mobility Hub, help contribute an active street life, and support a walkable station area. Placemaking within a Mobility Hub while supporting convenient, safe, and enjoyable pedestrian linkages to and from all transit options should build upon a neighborhood's unique character through context sensitive architecture and landscaping. Although each Mobility Hub will have a unique set of characteristics, it is important that they all promote a well-defined sense of place and provide comfortable, safe, and attractive streets and pedestrian walkways.

The provision of high quality public sidewalks on all streets will help contribute to the liveliness of the Mobility Hub area as they are important spaces for social interaction. On key pedestrian corridors, the sidewalk design should prioritize the pedestrian by providing an attractive, interesting and comfortable walking experience, while accommodating a balance between movement and amenities.

Guides

- Universal design principles should inform station area design to ensure accessibility for all segments of the population.
- Sidewalk width should relate to its function and be designed to accommodate the anticipated amount of pedestrian traffic.
- A well-defined street and a sense of enclosure with a tree canopy and landscaping should be incorporated. Street trees should be placed at uniform intervals in the buffer zone of the sidewalk.
- Provide buffer between pedestrians and moving vehicles by the use of landscape and street furniture (benches, newspaper racks, pedestrian information kiosks, bicycle racks, bus shelters, and pedestrian lighting).
- Street furniture, such as benches, bike racks, waste bins, artwork, signage and information kiosks should be placed in the buffer zone of the sidewalk.

- Signage along primary pedestrian routes should be scaled and located for the pedestrian. Provide direct paths of travel for pedestrian destinations within large developments. Especially near transit lines, create primary entrances for pedestrians that are safe, easily accessible, and a short distance from transit stops.
- Optimize natural surveillance for “eyes-on-the-street” sense of safety. Design strategies include: adequate site lighting; mixed-use development with retail at-grade and residential or office development above; avoiding blank walls; and low level fencing or vegetation that allows visual surveillance of semi-private areas and parking lots.
- Locate buildings close to the street to create a sense of enclosure and comfort for pedestrians. Limit the building setback from the road right of way.
- Building elevations surrounding transit stations should be articulated with different textures, colors, materials, and architectural features to add visual interest and celebrate the transit station presence.
- An appropriate street wall height will help maintain a human scale at the sidewalk, ensuring adequate sunlight, sky view and ventilation.
- Adopt goods movement strategies within Mobility Hubs that support complete streets while ensuring the efficient delivery of goods and services.

Best Practices



Liverpool Street Station - London, *Movement areas within stations should be free of obstacles and provide clear routes between station activity areas. Attractive, efficient, and understandable station spaces are key to a high-quality user experience.*

Photo: Wikimedia

