



Image from Nelson\Nygaard

5 PLACES: ACCESS AND CONNECTIONS

Creating urban village neighborhoods that are more compact, walkable, and accessible to the region by transit is a key goal of the Seattle Comprehensive Plan and the Puget Sound Regional Council's Vision 2040 Plan. Transit-oriented neighborhoods have proven to be more economically and environmentally sustainable and resilient, to produce less automobile travel, and are a core strategy for reducing greenhouse gases. By design, transit-oriented neighborhoods encourage people to walk and bicycle for local trips. They are centered on the Frequent Transit Network that encourages transit mobility for longer trips by providing high-frequency, all-day service and seamless connections. The basic principles of transit-oriented neighborhood design are captured in the "6D" principles that are the focus of this section. These principles guide detailed policies and strategies related to (1) intermodal facility design and (2) station and stop access by foot and bicycle.

TMP recommendations for both policy areas are summarized in this chapter.

TRANSIT-ORIENTED NEIGHBORHOOD DESIGN

The following best practices of transit-oriented neighborhood design (referred to as the 6Ds) are widely accepted by cities and transit providers in North America.¹

The 6Ds of transit-oriented neighborhood design are most effective when applied in concert, as illustrated in Figure 5-1, although various principles apply differently at varying scales of geography. For example, density and diversity must be considered at the neighborhood scale, while design principles can apply to a specific station, stop, or site.

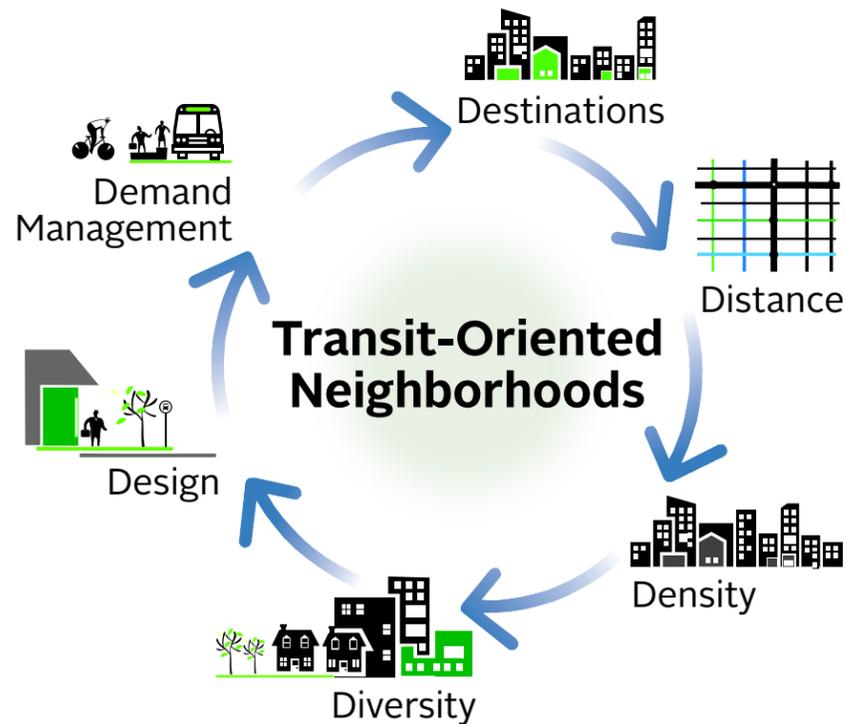
- **Destinations:** Align major destinations along a reasonably direct corridor so that they can be efficiently served by frequent transit.

- **Distance:** Provide an interconnected system of pedestrian routes so that people can walk to transit service quickly and conveniently from the places they live, work, shop, and play.
- **Density:** Concentrate higher densities as close to frequent transit stops and stations as possible to minimize walking distances to more destinations for more people.
- **Diversity:** Provide a rich mix of pedestrian-friendly uses to facilitate street-level activity throughout the day and night, increase affordability, and enliven the public realm.
- **Design:** Design high-quality, pedestrian-friendly spaces that invite walking and bicycling.
- **Demand Management:** Provide attractive transportation alternatives to driving.

An update of the Seattle Comprehensive Plan is underway at the time this plan was published. Comprehensive Plan revisions will define the official land use framework for development of transit-oriented neighborhoods.

¹ The six “D” factors are frequently written about and presented by experts in the Transit-Oriented Development field, including Reid Ewing who has frequently lectured on “Successful Transit-Oriented Developments and the 6Ds”.

FIGURE 5-1 6D’S OF TRANSIT-ORIENTED NEIGHBORHOOD DESIGN



The circle illustration of the D factors emphasizes that they are interrelated and are most effective when applied in coordination and at each applicable scale for each factor.

Source: Nelson\Nygaard



Image from Nelson\Nygaard

Strategy 1

Destination Accessibility: Coordinate land uses and the transit network

People choose to travel by transit more often when transit provides fast and direct access to their destinations. A destination could be work, home, school, a shopping or entertainment center, a civic institution, or anywhere else someone might wish to travel. The key to maximizing transit access to the city’s key destinations is to ensure that most development occurs along the Frequent Transit Network (creating transit “corridors”) and especially in urban villages and at arterial crossings where high frequency transit lines intersect (creating “priority access nodes”).

Policy ToN1.1: Locate transit intensive land uses in urban villages and along priority transit corridors so they can be efficiently served by frequent transit.

- Locate major destinations as anchors at both ends of transit corridors and at priority access nodes.
- Avoid cul-de-sacs by selecting locations that can be accessed from multiple directions.
- Avoid pressure for transit to make time consuming route diversions from main arterial corridors by selecting locations for land uses that generate high travel demand that are within walking distance of Frequent Transit Network (FTN) stations or stops.
- Avoid long gaps between destinations by discouraging “leap frog” development or development far from established developed areas.

Policy ToN1.2: Direct most development within urban villages, urban centers, and along the FTN.

- Use zoning and public investment to encourage development along FTN corridors. Strategies for directing development toward transit corridors may include:
 - Building community centers, schools, courthouses, and other civic buildings along transit corridors
 - Investing in the public realm to help catalyze development along transit corridors. For examples of transit-supportive public realm investments, see the ‘Best Practices for Station and Stop Access’ section on page 5-17

Policy ToN1.3: Design transit nodes, stations, and corridors to maximize their value to neighborhoods.

- Develop standards to define how far a transit corridor extends from the rail or bus line itself.
- Consider the walking network and topography when designing standards for a quarter-mile walkshed from a transit corridor.
- Avoid unnecessary setbacks at major destinations.



Seattle has many areas where the local street grid is disconnected by water, freeways, and other man made barriers. Making most efficient use of the limited connective corridors means moving more people on transit.

Image from SDOT

Strategy 2

Distance: Create a transit-supportive urban structure & street network

A key to making transit, bicycling, and walking more attractive is minimizing distance between destinations by providing direct connections at the neighborhood scale. The relationship between street design and modal network planning defines the quality of the traveler experience and the viability of alternative options that influence where people choose to live, whether they own a car, and how they travel for different types of trips. These policies and strategies directly support the multimodal transit access policies at the end of this chapter (see page 5-19).

Policy ToN2.1: Provide a fine-grained pedestrian and bicycle network that connects to transit.

- Create dense networks of streets and paths so that pedestrians and cyclists have multiple direct paths of travel.
- Minimize walking and cycling distances to transit by creating complete sidewalk networks and encouraging pedestrian “cut-throughs” or alleys where roadways do not exist.
- Encourage midblock connections through superblock developments.
- Provide a connected, efficient transit network.
- Disperse vehicular traffic along multiple routes through station areas rather than concentrating it on a few wide, and typically congested, roadways.

Policy ToN2.2: Orient transit facilities towards the street.

- Locate transit facilities in accessible locations.
- Ensure that transit stops and station entrances are clearly visible from the street and pedestrian and bicycle access is direct and convenient (see the Transit Facility Guidelines on page 5-6 for more information).



The South Lake Union area is growing rapidly and, if upzone proposals are approved, will be set to accommodate much more job and residential growth over the next 20 years.

Image from Nelson\Nygaard

Strategy 3

Density: Concentrate and intensify activities near transit

A sufficient density of residents, jobs, and services helps to establish a market for transit service, and increased density increases ridership, supporting higher frequency of service. While the form of development will vary from neighborhood to neighborhood, having as much development as possible concentrated near frequent transit stops and stations will shorten walking distances to more places for more people.

However, density on its own is not enough. To maximize the usefulness of density for supporting transit, Seattle must pair density with each of the remaining “D” principles highlighted in this section. Combined with density, these strategies not only help to support transit; they also support the development of walkable, low-carbon neighborhoods.

Policy ToN3.1: Use zoning to focus the highest densities closest to transit corridors and nodes.

- Concentrate the highest density of homes, jobs, and services around the immediate station or stop area (less than 1/4 mile) to create shorter walking distances and allow for multiple trip purposes to be served easily on foot and by transit.
- Scale down or “taper” densities farther from the station area to match the character of surrounding neighborhoods.
- Plan for densities that match the type and frequency of transit provided.
- Consider establishing target residential densities for transit nodes and corridors.
- Consider establishing thresholds for commercial, retail, and employment densities.

Policy ToN3.2: Use land near transit nodes and corridors as efficiently as possible.

- Make roadways near transit nodes and corridors only as wide as necessary to meet vehicle and transit circulation needs and provide bicycle access.
- Promote strategies to reduce off-street parking near transit nodes and corridors.
- Prioritize compact development patterns and relatively small housing units near transit nodes and corridors.

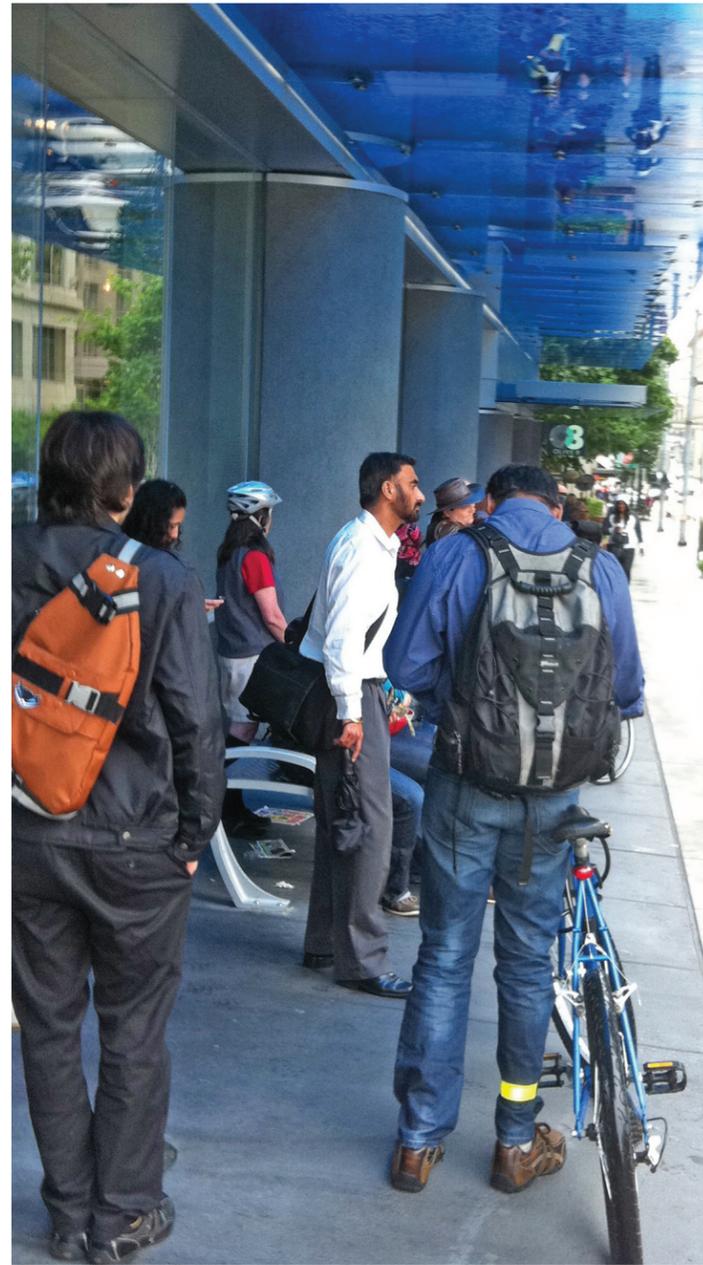
Policy ToN3.3: Plan for density that responds to the character of existing development.

- Plan for buildings of a similar scale and character to existing structures to ensure successful integration of land use intensification.
- Prioritize increased density near existing activity centers, such as schools, shopping centers, job centers, or medical facilities.
- Encourage appropriate transitions between the immediate station and the surrounding neighborhoods through transitional tapering of building heights and use of landscaping and context-appropriate building design.

Policy ToN3.4: Identify opportunity sites for increased densities on the FTN.

- Prioritize the most promising corridors and stations for densification.
- Work with owners of vacant and likely redevelopment parcels in station areas and priority transit corridors to encourage infill development.

- Ensure public agencies do not hold property where redevelopment is feasible.
- Explore the potential of converting existing surface parking lots into future redevelopment sites.
- Focus development at the best-connected transit nodes.
- Encourage development opportunity at modal interchanges and station areas.
- Encourage the location of major destinations at the intersection of transit lines.



The building façade on the Olive 8 building (at Olive and 8th) in downtown Seattle is well designed to provide shelter for waiting transit passengers outside the pedestrian zone and away from main building entrances.

Image from Nelson\Nygaard



Providing pedestrian pathways and stairways as part of superblock developments creates permeability, adds visual interest, puts more eyes on the street, and aids access to transit.

Image from Nelson\Nygaard

Strategy 4 **Diversity: Encourage a mix of uses**

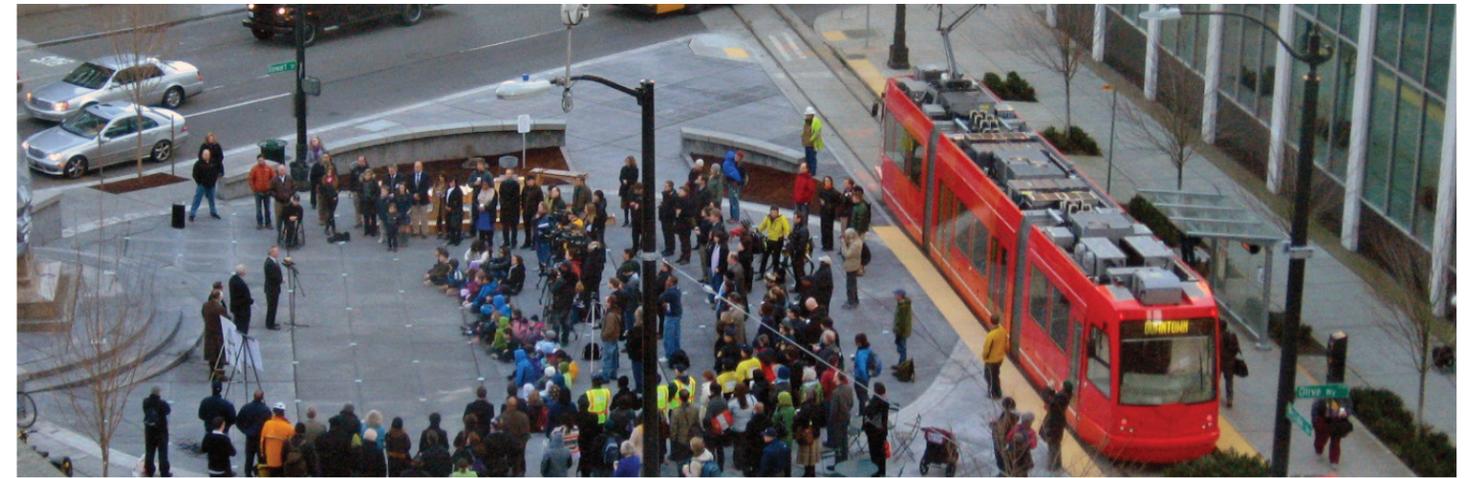
A rich diversity of land uses and high quality places that attract pedestrians are part of any transit-friendly neighborhood. It is equally important that public space and privately-managed space is developed to create diverse uses.

Policy ToN4.1: Mix residential, employment, recreation, and commercial uses in station areas and along the FTN.

- Promote a fine-grained mix of uses with highly active ground-floor uses.
- Encourage a balance of housing and services with a mix of types, tenures, and price points.
- Collaborate with Seattle Parks and Recreation to integrate park and open space development with the FTN.

Policy ToN4.2: Mix employment and residential development within nodes and corridors to spread travel demand throughout the day.

- Provide a mix of residential and commercial land uses along transit corridors and in neighborhoods.
- Combine a variety of everyday uses into high activity employment centers.



Intermodal connection points are excellent foci for public art and public space projects.

Image from Seattle DOT

Strategy 5 **Design: Create great places for people**

Policy ToN5.1: Provide gathering spaces that encourage pedestrians to linger, such as plazas, squares, and parks.

- Include elements such as benches, low walls, and landscaping in large public open spaces to help create human-scale public spaces and improve personal security.
- Encourage uses that activate public spaces around transit facilities, such as food carts, vendors, sidewalk cafes, and plaza spaces with seating.
- Integrate public art into transit neighborhoods to bring a sense of liveliness to public spaces, encourage dialogue, and express the unique culture of Seattle's neighborhoods.
- Provide a range of seating types based on the type of public space and the likely users. Seating types should include long-term seating such as chairs with backs and arms as well as informal elements such benches, steps, fountains, and planter boxes that invite people to enjoy the public realm.

Policy ToN5.2: Use design review to encourage off-street parking garages that minimize the impact of parking on the pedestrian realm.

- Develop design standards for off-street parking along the FTN to ensure parking facilities reflect the human-scaled nature of transit corridors. Design review should be attentive to the following objectives:
 - Locate off-street parking away from the street in the rear of the building or below grade.
 - Screen surface parking lots along the street with landscaping or architectural elements to reduce their visual impact.

- Wrap multi-level parking garages in active retail or commercial uses to screen parking from the street and increase street-level activity.
- Minimize driveway access to off-street parking facilities by focusing access via alleys or side streets.
- Establish maximum curb cut widths for driveways and parking facility entrances.
- Provide sidewalk-level curb cuts to ensure a continuous level walking plane.
- Design surface parking lots to include dedicated provisions for pedestrian circulation, including internal walkways and pedestrian priority paving treatments.
- Encourage development of gridded street and block pattern when existing large parking lots are redeveloped to help enhance pedestrian access and enable streetscape treatments.
- Develop district-wide shared parking facilities and brokerages that minimize the need for excessive parking structures.
- Provide secure bicycle parking in all new structured parking facilities.

Policy ToN5.3: Design on-street parking to complement the pedestrian realm.

- Use on-street parking to buffer pedestrians from traffic, creating a more pleasant walking environment.
- Reduce sidewalk clutter by installing multi-space parking meters.
- Provide an additional 2 feet of width for on-street parking adjacent to bikeways in order to mitigate car door conflicts with cyclists.
- Provide bicycle parking to reduce demand for vehicle access.



Low-cost neighborhood greenways (bicycle boulevards) connecting to transit or running in parallel to major transit arterials provide cyclists safe routes to transit and reduce bicycle and transit conflicts by creating separated facilities.

Image from Nelson\Nygaard

Strategy 6 Demand Management: Provide incentives and disincentives

Success in shifting more trips in Seattle to walking, biking, and transit will require development of high-quality alternatives and educational programs to ensure customers have access to the information needed to change their travel habits. Transportation demand management (TDM) includes positive measures, such as end of trip facilities, educational programs (see page 2-4 in Chapter 2 for examples), and the development of additional modal alternatives (e.g., bike sharing). These measures will need to be coupled with disincentives to private vehicle use.

Policy ToN6.1: Manage parking demand effectively.

- Use restricted parking zones (RPZs) to manage spillover parking at transit stations and major destinations.
- Use demand-based on-street parking pricing to free up space for short-stay visitors in business and retail districts.
- Expand parking wayfinding and real-time parking information (such as e-Park, the City's electronic parking guidance system) to reduce the amount of circling for parking in the Center City and other dense neighborhoods.
- Partner with private parking operators to market the availability of short-term off-street parking opportunities through the expansion of e-Park.
- Prioritize parking at rail stations and multimodal hubs for high-occupancy vehicle (HOV) access, taxis, and drop-off activity.

- Prioritize parking for HOVs in areas where autos are the primary form of transportation.
- Locate drop-off zones as close to transit facility entrances as possible.

Policy ToN6.2: Reduce auto-dependency through car and bike-sharing programs.

- Promote car-sharing to reduce the need for auto ownership in Seattle neighborhoods.
- Promote bike-sharing to improve transit access and extend the range of transit trips.

Policy ToN6.3: Use transit priority measures to increase transit speed and reliability.

- Employ transit priority measures, such as dedicated lanes, queue jumps, signal priority, level boarding, and others included in the TMP toolbox to improve transit reliability.
- Ensure that transit performance (e.g., delay and throughput) is a criterion in evaluating the performance of streets and intersections.

Policy ToN6.4: Consider measures to calm traffic in areas where significant amounts of traffic might be diverted onto residential neighborhood streets due to transit priority treatments.

- Integrate vertical and horizontal deflection treatments like speed humps, chicanes, and choke points to manage vehicle speeds on auto cut-through routes.
- Limit or eliminate neighborhood cut-through traffic by introducing traffic diversion treatments like half-closures and median barrier crossings where community consensus exists. These measures could be coordinated with the design of neighborhood greenways that cross a priority transit corridor.

ENHANCING TRANSIT THROUGH BIKE-SHARING

Bike-sharing is a form of public transportation consisting of public bicycle rental stations located throughout a downtown, city, or region. Bike-sharing is intended to facilitate short, urban trips, make active transportation options more readily available, and enhance urban vitality. Bike share systems naturally supplement all types of transit service. Bike-sharing offers a last-mile connection to and from transit. With bike share stations located within walking distance of most key destinations, residents, employees, and visitors can achieve a car-free existence within Seattle when coupled with high-quality transit options. Successful systems have been deployed in Minneapolis, Denver, and Washington D.C., among many other U.S. cities. Cities like New York City and Portland are moving closer to implementation.

King County Metro is currently conducting a feasibility study and developing a business plan for a regional bike share system centered in Seattle. Initial deployment is slated to occur in South Lake Union, the University District, Center City, Capitol Hill, and Sand Point area, offering direct connections to various transit options along the Frequent Transit Network.

See page 5-15 to see the stop/station location types that could support a bike share station and other end of trip amenities.



Nice Ride in Minneapolis

Image from Nelson\Nygaard



Wayfinding directs passengers to the Downtown Seattle Transit Tunnel
Image from Nelson\Nygaard



Tunnel identification signage could be improved to better direct casual users and visitors to the tunnel
Image from Nelson\Nygaard



Clearly defined queueing and pedestrian waiting areas improve pedestrian flow, user comfort, and boarding efficiency.
Image from Nelson\Nygaard



Recent stop improvements along the 3rd Avenue Transit Mall increased stop capacity for passenger queuing and waiting.
Image from Seattle DOT

FACILITY DESIGN GUIDELINES

IMPORTANCE OF FACILITY DESIGN?

The influence of transit facilities does not stop at a station platform. Systematically integrating facility design guidelines is a critical exercise for improving the quality of transit access and building transit-oriented neighborhoods. Transit facilities represent the public's interface with transit service in Seattle; incorporating elements of thoughtful design to improve the transit experience sends the message that transit is a priority. Likewise, transit facilities are loci of intermodal connections, thus facility design plays a critical role in ensuring transfers are seamless and effortless.

Placemaking should be integrated into every design choice to ensure the transit experience is synonymous with navigating through great places. Seattle's network of transit facilities should create a safe, comfortable, inviting, and interesting space at each trip end. Transit facilities and their surrounding environs should be thought of as urban living rooms that fully integrate land use and urban design, encouraging people to stay.

Design guidelines provide the values and strategic vision for multimodal investment in transit environments. As Seattle's transit network develops and matures, transit facilities must represent the needs of all transit users. Whether it is a transfer to another mode or route, or a last-mile connection on foot or by bicycle, transit facilities must ensure these movements are clear, tactile, and secure. The following sections highlight the key elements of transit facility design.

WAYFINDING AND PASSENGER INFORMATION

An effective transit system ensures that all stages of trip-making are effortless and deliberate. Wayfinding is a powerful tool to integrate convenience and system understanding into the transit experience. In general, wayfinding signs should:

- Link passengers to multimodal connections
- Provide consistency in design and tone
- Effortlessly and predictably deliver information to transit users and those passing by

Signage types range from stop and station identification, destination, amenity, and access routing signage. Integrating intermodal connections such as feeder routes and bike share stations into wayfinding will make last-mile connections seamless and legible.

Visual and audible announcements and passenger information are critical to enhancing comfort and convenience for all users, but are particularly important for users with sight or hearing impairments. Real-time passenger information should be integrated into station and stop design, acting as a supplement to static wayfinding and customer information.

LEGIBLE SPACES: FACILITY IDENTITY AND FUNCTION

Facility design should embody the visual dichotomy of function and form. Great transit facilities create spaces that are deliberate and easy to navigate while incorporating subtle design decisions that can promote the identity of Seattle's diverse neighborhoods, cultural centers, and historic background.

Transit facilities should be designed to limit visual clutter and barriers to pedestrian movement, while preserving permeability. These spaces should also open the visual field by maintaining sightlines and allowing direct and efficient lines of movement. This can be accomplished through architectural techniques such as the use of transparent features and opening up spaces using daylight as an intuitive wayfinding feature. Passenger waiting areas, including street furniture and transit equipment such as ticket vending machines and shelter support beams, should be designed to limit conflicts with pedestrian flows and optimize passenger waiting capacity.

SPATIAL CAPACITY

Transit facility design must carefully balance the needs of unobstructed pedestrian flow and the comfort of waiting passengers. This is especially important along Seattle transit corridors that have limited pedestrian rights-of-way. Bottlenecks and circuitous pedestrian routing should be avoided through thoughtful design and placement of street furniture and transit amenities, like benches, shelters, and ticket vending machines. A potential solution for alleviating impacts of passenger queuing volumes on pedestrian flow is to reclaim street space for transit use. Design interventions include bus bulb outs and extended passenger plazas.



Electronic lift for mobility devices.

Image from Nelson\Nygaard



Public art reinforces a sense of ownership and pride.

Image from Nelson\Nygaard



Station and stop amenities, such as benches, shelters, leaning bars, and pedestrian-scale lighting improve the passenger experience.

Source: Nelson\Nygaard

UNIVERSAL ACCESSIBILITY

Providing transit services that are universally accessible expands personal mobility, independence, and transportation affordability. Discrimination by design must be actively avoided as transit facilities are built or reconstructed. Several considerations should be made as transit facilities are designed, including:

- Minimal level changes in multi-floor facilities and direct access to elevators and escalators, where applicable
- Direct ramp access and blended curb/sidewalk transitions at the street interface
- Deliberate tactility at conflict zones or abrupt edges
- Level boarding
- Obstacle-free connections to dial-a-ride, taxis, pickup and drop-off points, and park-and-ride lots

Information should also be provided in audio, visual, and tactile formats and consider cultural and language differences as well as accommodate those with restricted mobility and visual ability.

SAFETY AND SECURITY

Transit facilities should be open, well-lit, and constantly monitored to ensure the transit experience is comfortable at all hours of the day. Lighting plays a central role in maintaining pleasant transit environments. Natural lighting and illumination factor into passenger safety, transparency, monitoring, and facility legibility. Lighting should be consistently distributed throughout transit spaces and the exterior public realm so that navigating spaces is enjoyable and stress-free. Facility design should allow transit police ease of access and open views of station property.

Defensible design integrates crime prevention into every design decision. Natural surveillance through transparent design and active streetscapes maximizes visibility and deters the threat of crime. Where natural surveillance is infeasible, the use of CCTV (closed circuit TV surveillance) should be considered to reinforce the intolerance of criminal activity at transit stations. Public art should be used to create a sense of pride and a community asset.

PASSENGER COMFORT

A comfortable transit environment in Seattle requires protection from the elements and targeted investment in passenger amenities. Weather protection can be achieved through free-standing shelters, awnings, and overhangs integrated into adjacent building design, and even landscaping and natural canopies. Passive and active cooling and heating systems increase passenger comfort. Nighttime illumination should be evenly distributed under transit shelters to maximize visibility and passenger comfort levels.

The quality of the transit experience is greatly influenced by the level of amenities at waiting areas. Minimum amenities at stops and stations should include comfortable seating and leaning areas, shelters, information kiosks, wayfinding, real-time passenger displays (where appropriate), clocks, trash receptacles, and bike parking. Enhanced amenities at high capacity transit stations should include landscape and streetscape design, retail, restrooms, bike share stations and secure bike parking, and pedestrian-scaled lighting.

FACILITY DESIGN GUIDELINES

LEGIBILITY

- **Policy FD1.1:** Maximize ease of navigation by providing direct travel paths, strengthening pedestrian sightlines, and limiting visual and physical barriers to movement.
- **Policy FD1.2:** Integrate passive lighting design to improve visibility and reinforce that each facility is a transparent space.
- **Policy FD1.3:** Integrate Seattle's history, diverse cultures, and neighborhood identity in the design of all transit facilities. Transit facilities must seamlessly mold into the urban context of their location.
- **Policy FD1.4:** Actively pursue the design of shared spaces that fully integrate an open transit environment into the urban fabric and create great transit neighborhoods.

WAYFINDING AND PASSENGER INFORMATION

- **Policy FD2.1:** Ensure that wayfinding is predictable in design and information dissemination.
- **Policy FD2.2:** Develop consistent sign design aesthetics using distinct sign types, color schemes, fonts, and symbology.
- **Policy FD2.3:** Facilitate multimodal connections by directing passengers between modes.
- **Policy FD2.4:** Expand the scope of transit wayfinding to guide passengers and pedestrians toward station portals, major destinations, bicycle routes, major attractors, and other multimodal connections.
- **Policy FD2.5:** Coordinate with public transit service providers to develop universal transit wayfinding sign guidelines.
- **Policy FD2.6:** Avoid visual conflicts with advertising, commercial, and other informational sign types.

SPATIAL CAPACITY

- **Policy FD3.1:** Ensure sidewalks accommodate enough space for a variety of pedestrian activities, such as sitting/leaning, standing/queuing, and walking.
- **Policy FD3.2:** Encourage building façade designs that allow waiting passengers to step out of the active zone while providing something to lean or sit on and offering protection against the elements.
- **Policy FD3.3:** Consider expanding existing passenger facilities where transit facilities have limited passenger waiting capacity, high boardings, and/or significant pinch points that limit passenger movement.

- **Policy FD3.4:** Eliminate passenger/pedestrian bottlenecks by locating passenger amenities outside of passenger queuing areas and pedestrian walkways.

UNIVERSAL ACCESSIBILITY

- **Policy FD4.1:** Reduce the incidences of barriers and vertical obstructions.
- **Policy FD4.2:** Limit construction of multi-level transit facilities. If unavoidable, provide elevators, ramps with well designed railings, and/or escalators to facilitate fast and efficient movement of persons with disabilities.
- **Policy FD4.3:** Ensure all transit facilities incorporate adequate curb ramp, facility ramp, and tactile surface design, as detailed in the forthcoming Public Right-of-Way Accessibility Guidelines (PROWAG section R308), published by the United States Access Board.
- **Policy FD4.4:** Provide information in a variety of media types to cater to the needs of the visual, hearing, developmental, and mobility-impaired.

SAFETY AND SECURITY

- **Policy FD5.1:** Integrate crime prevention through environmental design (CPTED) principles into all transit facility design processes. These principles include: ensuring spaces are visible to others, delineating public and private space, managing access portals, and ensuring facilities are regularly maintained and cleaned.
- **Policy FD5.2:** Collaborate with law enforcement and emergency response agencies to ensure facilities are effectively monitored. Monitoring should be increased with increased boarding activity.
- **Policy FD5.3:** Use technology such as CCTV to continually monitor transit facilities.
- **Policy FD5.4:** Introduce public art installations, soothing music, and other amenities to signal to transit users that transit facilities are community assets and gathering places.
- **Policy FD5.5:** Ensure transit facilities are well-lit with pedestrian-scaled LED lighting during early morning and evening service.

PASSENGER COMFORT

- **Policy FD6.1:** Balance the provision of station and stop amenities without jeopardizing optimal pedestrian flow and the comfort of waiting passengers.

- **Policy FD6.2:** Provide continuous protection from inclement weather conditions by providing shelters, awnings, overhangs, and canopies.
- **Policy FD6.3:** Offer a variety of seating and leaning amenities located within passenger waiting areas and outside of pedestrian walkways.
- **Policy FD6.4:** Design transit facilities to be pleasant gathering places using verdant landscaping features, public art installations, and cultural/historical influenced design.
- **Policy FD6.5:** Activate transit spaces by introducing auxiliary uses into the design of transit facilities, such as parks and green space, food service (e.g., food carts), or context-appropriate retail establishment



Mt. Baker light rail station and transit center is an example of an important intermodal connection point that has many challenges for pedestrians accessing transit, transit users transferring between modes, and for transit operators that require more space for vehicle layover. The TMP recommends a comprehensive station access and station area design study be conducted.

Image from Nelson\Nygaard

MAKING TRANSIT CONNECTIONS IN SEATTLE

Exchange points, or intermodal connections, are the interface between transit services and the public realm; therefore, ensuring connections are seamless is a key requirement to encourage new ridership. Intermodal exchanges must provide safe, comfortable, and efficient transfers between transportation modes. Based on the facility design policies described earlier in this chapter, passengers should feel comfortable navigating between modes at a transfer facility. The level of integrated facility design depends on the type of transfer facilities.

TYPES OF TRANSFER FACILITIES AND KEY DESIGN ELEMENTS

Seattle has a number of different types of places where passengers transfer; each requires special design features to ensure intermodal connections are seamless. They include:

- Multimodal Hubs:** Regional intermodal transfer centers that are designed to accommodate substantial passenger volumes and facilitate effortless transfer between modes, including Frequent and High Capacity Transit. These facilities are often the termini of several transit lines. Multimodal hubs are primarily located in the Center City and areas with transit-supportive land use and are prime locations for transit-oriented development. These are the city's most significant intermodal connection points. Multimodal hubs typically contain the following design elements:
 - Fully enclosed stations or waiting areas, including real-time information displays, pedestrian-scale lighting, transparent shelters, and ORCA readers
 - On- and/or off-street bus layover space
 - Taxi and pick-up/drop-off zones

- Restricted access for non-transit modes
- Enhanced bicycle and pedestrian access features within 1/2-mile radius of the facility
- Transportation Centers:** Central locations, primarily centered in hub urban villages, where a variety of transportation linkages convene. Transportation centers often concentrate several transit lines with high rates of transfers. These facilities are also supplemented by bikeways, car-sharing and taxi bay facilities, destination amenities for bicyclists making regional trips, and high-quality passenger amenities. Figure 5-2 illustrates such a facility along Aurora between Thomas and Harrison.
- High Capacity Transit Stations:** Standalone rail and bus station facilities designed to facilitate intermodal connections between light rail, rapid streetcar, BRT, and Center City streetcar boarding and alightings. The nature and level of passenger amenities at each station varies.
- Priority Access Nodes:** Crossing points of two or more FTN corridors, many of which are located outside urban villages or urban centers. Many of these locations are currently relatively auto-oriented arterial street crossings and represent opportunities to improve access and connections between transit, pedestrians, and bicycle users. The most vital design

considerations for this type of facility include (numbers correspond to Figure 5-3):

- Strong visual connections between modes and transit facilities supplemented by wayfinding and real-time transit information
- High visibility intersection improvements that ensure safe and prioritized pedestrian crossings
- Active street environments oriented toward the street
- Enhanced shelters with level boarding and high passenger amenities
- Bikeway-transit facility integration, including high visibility bicycle treatments
- Repurposing underutilized street space for design features, such as curb extensions and buffer zones
- Universal design, including tactile/textured design
- Visible, covered bike parking and bike share stations, where appropriate
- Investment in placemaking features, street furniture, and green infrastructure

FIGURE 5-2 THOMAS/HARRISON MOBILITY HUB



T1: Thomas/Harrison Mobility Hub -- This hub would be at the future Aurora Avenue RapidRide Station, between Harrison and Thomas Streets, where regional RapidRide service would meet local transit service. This node also connects with the Lake-to-Bay Loop trail, the Thomas Street Green Street and new east-west bike routes.



INTERIM USE ON WSDOT PROPERTY
Most of the improvements can be implemented ahead of future development; a temporary bike station could be included at the corner to help establish a "Sense of Place"

TRANSIT + TRANSPORTATION

- A1** Enhanced pedestrian/riders amenities at RapidRide and Metro bus stops
- A2** Designated bus lanes and priority signals
- A3** East-west bus service on Harrison Street
- A4** Shuttle bus stop
- A5** Transit and community information kiosk

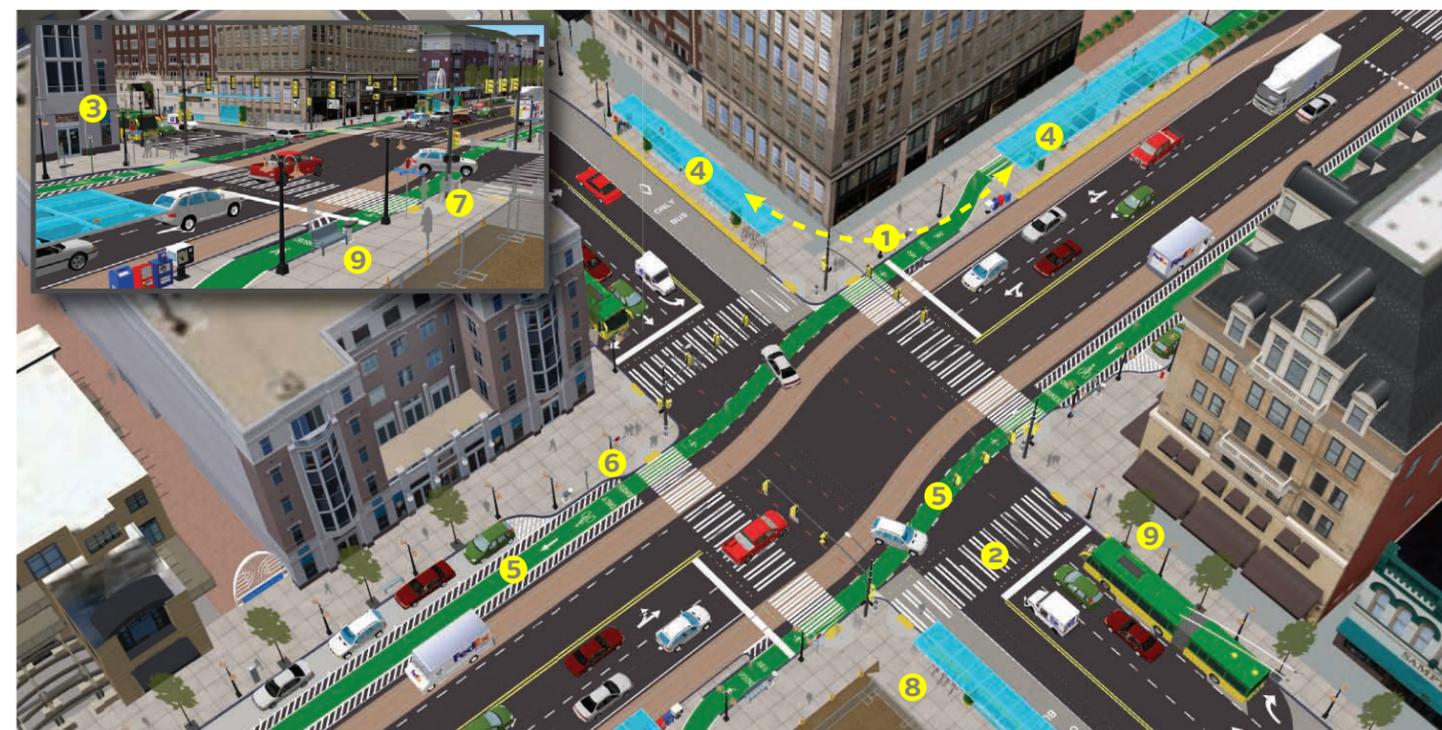
PEDESTRIAN + BICYCLE

- B1** Activated building edges (cafes, shops, etc)
- B2** Safe pedestrian crossing with special intersection paving and treatments
- B3** Wayfinding signs
- B4** Future transit-oriented development
- B5** Bike station
- B6** Thomas Street concept design & Green Street improvements
- B7** Shared bike/vehicle lane
- B8** Pedestrian lighting

A linear east-west connection area is needed to facilitate transfers off of key north-south transit corridors just north and south of the Center City, as is illustrated along Aurora between Thomas and Harrison in the Westlake Transportation Hub Strategy.

Source from Via Architecture and Heffron Transportation

FIGURE 5-3 DESIGN ELEMENTS AT CONCEPTUAL PRIORITY ACCESS NODE



This conceptual view of a priority access node illustrates what an intersection of priority transit corridors might look like. Design elements at priority transit corridors, annotated in the text above, signal to all street users that this is a major transit facility.

Source: Nelson\Nygaard

PRIORITIES FOR TRANSFER AND INTERMODAL FACILITY DEVELOPMENT

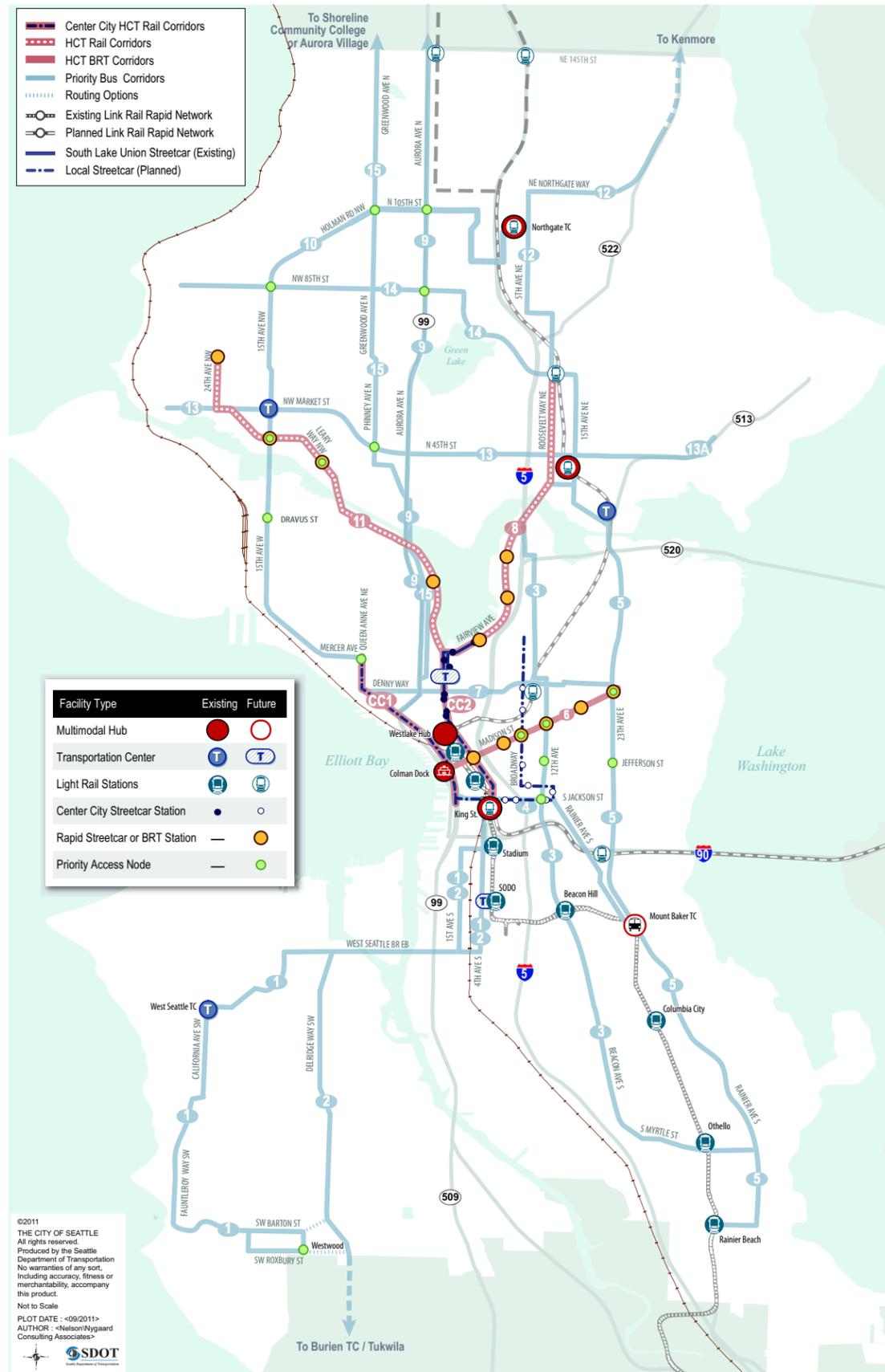
When developing new transfer facilities or improving existing intermodal connections, the City should utilize the Facility Design Guidelines developed earlier in this Chapter. This will ensure connections are made as efficiently and effortlessly as possible. Key priorities to ensure connections are made include:

- Managing traffic flow to prioritize pedestrian, bicycle, and transit movement in the vicinity of intermodal transit facilities
- Ensuring transit facilities are designed to accommodate existing and future passenger and transit vehicle volumes
- Enhancing pedestrian and bicycle connections between transit modes through crossing facilities, priority signals, pedestrian lighting, Universal Design features, and appropriate bicycle parking types for each facility
- Providing clear wayfinding and widely available transit information (preferably real-time) to reinforce intermodal connections

FIGURE 5-4 TRANSIT FACILITY TYPOLOGIES

Facility Type	Existing or Proposed Future (Relates to Figure 5-5)	Facility Location	20-Year Plan Improvements
Multimodal Hub	Existing 	King Street Station/International District	Improve pedestrian connections between King Street and International District Station, to 4th Avenue bus stations, and to CenturyLink Field North Lot development.
		Colman Dock Ferry Terminal	New Madison Street Bus Terminal East of Alaskan Way (or on Western); Improved Pedestrian Crossings of Alaskan Way and overpass to First Avenue. These elements are to be planned and integrated as part of the Central Waterfront design process.
		Westlake	Continue to implement Westlake Hub access, circulation, information, and placemaking improvements. http://www.seattle.gov/transportation/westlakehub.htm
		45th and Brooklyn / University District	Station access study recommended to finalize intermodal design, terminal bus routings, and integration of future surface rail.
		Northgate	Station access and intermodal study recommended; increase terminal capacity to allow for proposed Priority Bus Corridor restructuring; develop pedestrian and bicycle connection to west side of Interstate-5.
	Future 	Mount Baker	Station access and intermodal study recommended as high priority; increase trolley bus terminal capacity to allow for proposed bus corridor restructurings; improve wayfinding.
Transportation Center	Existing 	Ballard (Market & 45th)	Develop design plan that includes fully-featured stations, improved pedestrian and bicycle access, and development of public space to humanize this largely auto-oriented intersection.
		Husky Stadium	This facility is designed and highly space-limited.
		West Seattle Transit Center	Move Alaska Junction Station and transfer function to California to eliminate RapidRide diversion (SW Edmunds/44th Avenue SW/SW Alaska).
		Mount Baker	Upgrade to Multimodal Hub (see recommendations above).
	Future 	SODO Link Station/Lander Street	Develop east-west linear transfer facility that prioritizes pedestrian movements between 4th Avenue, the E-3 Busway Station, and the Lander Street light rail station. Assumes approach to downtown from West Seattle uses 4th Avenue S. at least north of Lander.
		South Lake Union	Develop full urban BRT station for RapidRide and other services using Aurora between Thomas and Harrison; include features described for Primary Access Node; develop linear connections to Westlake/Streetcar with pedestrian improvements and wayfinding.
Light Rail Station	Existing 	Rainier Beach, Othello, Columbia City, Mount Baker, Beacon Hill, SODO, Stadium, International District, Pioneer Square, University, Westlake	Comprehensive light rail station access and wayfinding program to improve visibility of rail station entrances, improve intermodal connections, and increase legibility of pedestrian and bicycle approaches to stations. Promote redevelopment of undeveloped properties in station areas (public and private holdings) to improve pedestrian facilities, walking experience, and placemaking. In the case of Rainier Beach, ensure adequate facilities and pedestrian accommodation for end-of-line operation for Rainier Avenue Corridor FTN service. See other summary recommendations under Multimodal Hub or Transportation Center.
		Capitol Hill, Husky Stadium, Brooklyn Roosevelt, Northgate, North Seattle (TBD); I-90	City should play an active role in facilitating intermodal design at Capitol Hill, University District, Roosevelt, and Northgate Stations.
	Future 		
Rapid Streetcar / BRT Station	Future 	Multiple locations (see Figure 5-5)	Develop to include: High capacity shelters at all stations, level boarding platforms, transit information for all routes serving area, real-time passenger information, off-board fare payment (where route appropriate), stop and area lighting, passenger/disabled waiting beacon (for late night boardings), seating, curb bulbs where appropriate, fully improved intersections including curb ramps, crossing markings, pedestrian signals (sufficient pedestrian crossing time), bicycle parking (covered if possible), pedestrian access improvements within ½-mile radius of station.
Center City Streetcar Station	Existing 		Consolidate stations on Westlake when Rapid Streetcar is constructed (see Figure 5-5).
	Future 	Multiple locations (see Figure 5-5)	Develop to include: Shelters, level boarding platforms, transit information for all routes serving area, real-time passenger information, off-board fare payment (where route appropriate), seating, curb bulbs where appropriate, fully improved intersections including curb ramps, crossing markings, pedestrian signals (sufficient pedestrian crossing time), bicycle parking (covered if possible), pedestrian access improvements within ½-mile radius of stations.
Priority Access Node	Future 	Aurora & 85th Street, Aurora and Northgate, Greenwood and 85th Street, Greenwood and Northgate, 15th Ave NW and 85th Street; 15th Ave NW and Leary, 3rd Ave NW and Leary, 15th Ave NW and Dravus, 1st Ave/Queen Anne and Mercer, Aurora and Denny, Madison and Broadway, Madison and 12th, Madison and 23rd, Jefferson and 12th, Jefferson and 23rd, Jackson and 12th	Develop to include: High capacity shelters at all stations, standard-height curb boarding platforms, transit information for all routes serving area, real-time passenger information, off-board fare payment (where route appropriate), stop and area lighting, passenger/disabled waiting beacon (for late night boardings), seating, curb bulbs where appropriate, fully improved intersections including curb ramps, crossing markings, pedestrian signals (sufficient pedestrian crossing time), bicycle parking (covered if possible). Develop a plan and improvements for ½-mile radius pedestrian access and for intersecting and parallel bicycle facility improvements (pedestrian and bike improvements coordinated through master plans). See Figure 5-3 for Sample Priority Access Node Design Features.

FIGURE 5-5 KEY PROPOSED INTERMODAL FACILITIES



ACCESSING TRANSIT IN SEATTLE

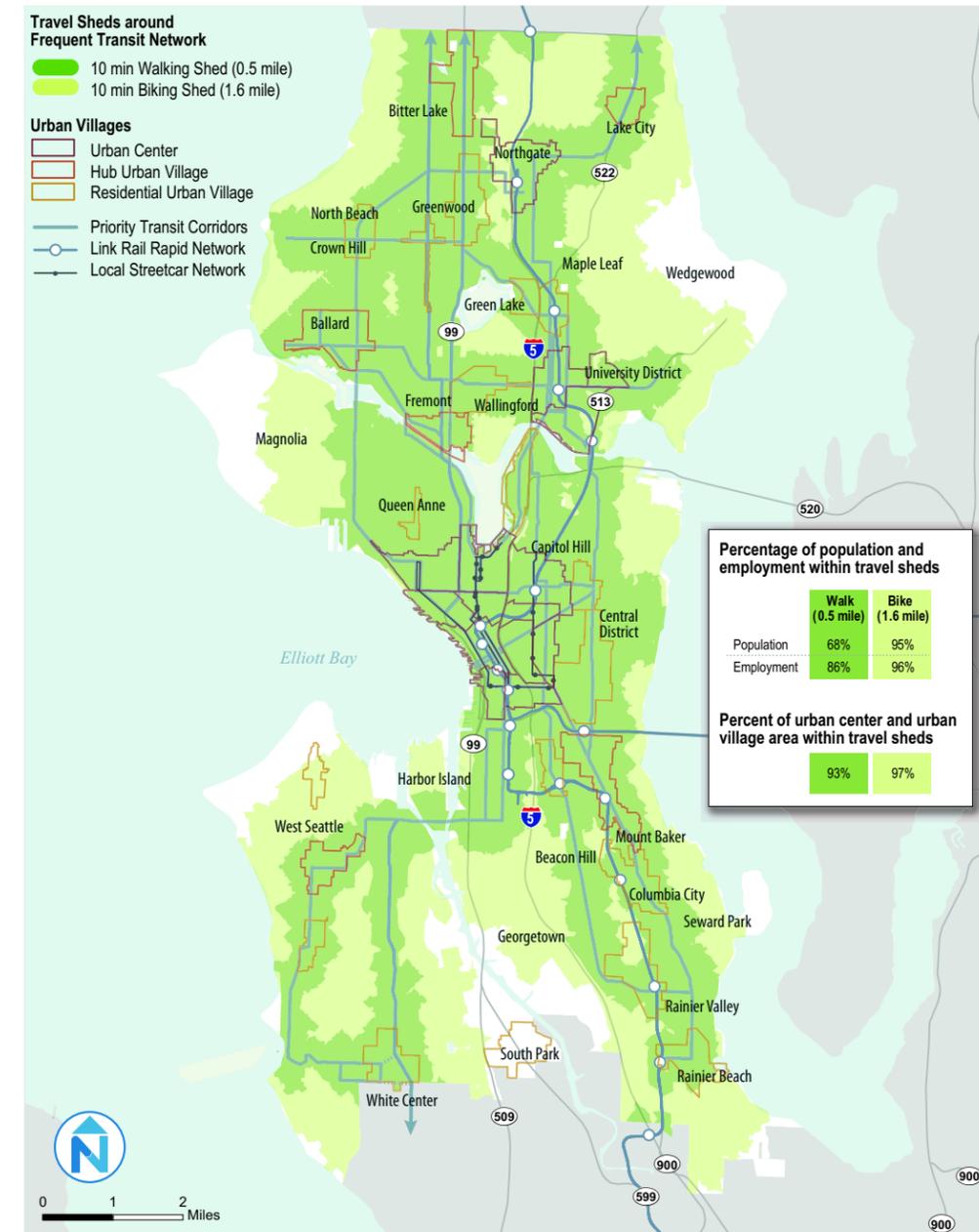
WHY IS ACCESS TO TRANSIT IMPORTANT?

The world's great transit cities ensure access to transit is a central and integrated element of the transportation system and city form. Depending on the trip type and transit mode being accessed, transit customers should be afforded a variety of attractive modal access options ranging from walking, bicycling, urban and neighborhood circulators, and, to a lesser extent, automobiles.

The quality of the overall transit experience and ridership levels greatly depends on whether accessing a transit line is comfortable, direct, and fast. That being said, developing attractive options that support transit use will not only improve the transit experience, but they will also extend the reach of the transit network.

Perhaps, the most critical reason for enhancing connections to transit is that it encourages transit use for a variety of trip types. Providing world-class access to modes that support both inter-neighborhood and regional trips is a critical step in reinforcing the notion that transit is seamless.

FIGURE 5-6 FREQUENT TRANSIT NETWORK AND MULTIMODAL CATCHMENT AREA



The priority Frequent Transit Network corridors detailed for improvement in this plan have an extensive reach. Assuming a 10-minute walk shed (people are willing to walk farther for high-quality transit), 68% of Seattle residents and 86% of employees are within walking distance of a corridor. Extending access to a 10-minute bicycle radius increases access to 95% of residents and 96% of workers. Note: a 10-minute walk and bike shed roughly equates to a ½-mile walk or 1.6 mile bike ride.

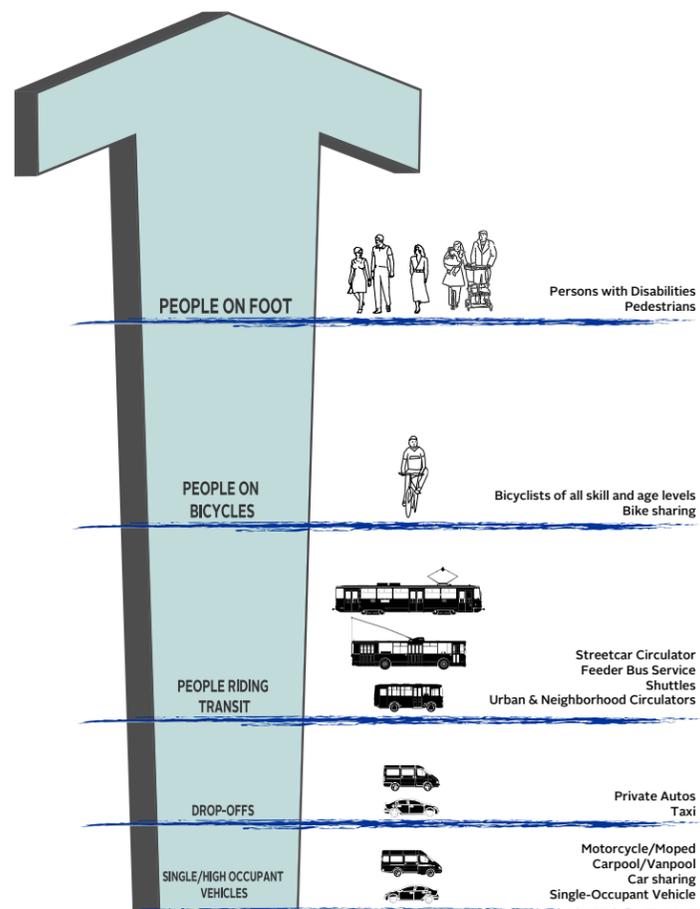
Source: Nelson\Nygaard

ACCESS HIERARCHY

Because almost every transit trip is preceded and followed by a walking or bicycling trip, emphasis should be placed on improving conditions for non-motorized access. The quality of bicycle and pedestrian access to transit is largely dependent on factors controlled by the City of Seattle. The City should develop access principles that prioritize transit access investments as the TMP's recommended priority transit corridors are implemented.

Figure 5-7 illustrates that access modes, such as walking, bicycling, high capacity transit, and feeder/shuttle routes provide the most spatially and cost efficient means to get people to transit. The multimodal access hierarchy provides overarching guidance when making design decisions in transit corridor or station plans. City investments in transit corridors should be based on the general access priorities represented in this graphic. When balancing station area and stop access improvements as well as difficult right-of-way trade-offs, there should be a strong policy reason to deviate from the design principles implied by the hierarchy.

FIGURE 5-7 ACCESS HIERARCHY



MOBILITY CORRIDORS

The TMP's 15 priority corridors represent the most vital transit and general travel corridors for intra-city trips and were developed based on a detailed market analysis of all trip-making in Seattle to and from neighboring cities. Development of each corridor provides a strategic opportunity to make coordinated multimodal investments where the total impact of a holistic corridor redevelopment project will greatly exceed the value of a set of transit capital investments. The TMP recommends the adoption of a *Mobility Corridor* strategy that would work to remove the silo approach of modal planning in favor of coordinated, multimodal investments in the city's most critical travel corridors.

As illustrated in Figure 5-8, a *Mobility Corridor's* sphere of influence consists of:

- The priority FTN corridor's mainline

- All current and unrealized transit access portals
- Any adjacent parallel streets or private redevelopment parcels that could provide alternative routing for bicycle travel
- Intersecting street connections that require focused investment in pedestrian and bicycle facilities

Network connectivity and compact development forms surrounding Center City Link light rail and Sounder commuter rail stations generally support and encourage pedestrian, bicycle, and transit travel. However, transit access along many of the proposed FTN corridors and at light rail station areas in southeast and north Seattle (future) is not mature; higher levels of investment in bicycle and pedestrian infrastructure and directional wayfinding are needed. Finer-grained planning for, and investment in, multimodal

access infrastructure must occur to better connect people to high quality transit service.

As these corridors are further developed, the City is encouraged to conduct fully integrated corridor studies that help balance corridor priorities and trade-offs. Realistically, funding availability may dictate when improvements are made and for what mode. Further, such an approach would come with trade-offs related to implementation of Pedestrian and Bicycle Master Plan (and future Freight Master Plan) projects in other parts of the city. The *Mobility Corridor* designation should help policymakers, planners, and urban designers ensure that priority transit corridor improvements are inclusive of multimodal priorities and consider level of service or quality of service thresholds for alternative transportation modes. The dramatic results of a comprehensive corridor development process will help to build public support for increased funding and shifting right-of-way allocation priorities.

FIGURE 5-8 MOBILITY CORRIDOR SPHERE OF INFLUENCE



The *Mobility Corridor* concept encompasses the priority transit corridor main line, any intersecting transit exchanges (or priority access nodes), and parallel streets that could be used as an alternative route for bicyclists and pedestrians. This graphic represents a conceptual view of a balanced approach to corridor development.

Source: Nelson\Nygaard

A *Mobility Corridor* approach to multimodal investment will more effectively integrate the Pedestrian, Bicycle, Transit, and future Freight Master Plans. Seattle's current Bicycle and Pedestrian Master Plans guide investments in bicycle and pedestrian network development over the next 20 years. This has major implications for improving access to transit as many of the corridor and spot improvements proposed in these plans directly link into the existing and proposed transit network. Although these planning efforts generally support the goals for improved transit access, they are modally focused and may not offer an investment framework that sufficiently considers the trade-offs required when developing bicycle, pedestrian, and transit facilities along intersecting primary *Mobility Corridors*.

A *Mobility Corridor* approach would better coordinate TMP priority corridor development with the Bicycle and Pedestrian Master Plan recommendations as well as the needs of single-occupant vehicles, high-occupancy vehicles, taxis, and freight. The City could expect the following benefits and outcomes should a holistic *Mobility Corridor* approach be fully developed and adopted:

- Clearly establish urban centers and urban villages on the FTN as vital, convenient, and sustainable places to live in Seattle
- Improve the transportation efficiency and throughput of both people and goods, while also improving priority transit corridor access
- Present an opportunity to be substantially more effective in shifting SOV mode share than with a transit-only project

Coordinated planning, joint design, and construction of pedestrian, bicycle, and transit projects will:

- Reduce construction disruptions and costs (one project vs. multiple)
- Create efficiencies in planning, design, and implementation
- Reduce future design complexities of integrating other modal improvements
- Allows for more effective resolution of difficult right-of-way tradeoffs and the inclusion of parallel roadways/routes for consideration in creating key active transportation connections

To realize these benefits, the City should develop a coordinated investment plan that synchronizes recommended investments from the four modal plans (transit, pedestrian, bicycle, and freight). Annual review of five-year updates to other modal plans should consider the *Mobility Corridor* investment framework.

FIGURE 5-9 CONCEPTUAL MOBILITY CORRIDOR EXAMPLE: BIKEWAY AND STREETCAR INTEGRATION



This conceptual graphic illustrates design elements that could be considered in the development of a rapid streetcar corridor. The TMP recommends that SDOT approach bus and HCT corridor transit projects in coordination with pedestrian and bicycle improvement programs. A coordinated set of multimodal projects implemented simultaneously have much greater and immediately noticeable benefit to users than a piecemeal approach to corridor improvements.

Source: Nelson\Nygaard

MOBILITY CORRIDOR DESIGN AND PERFORMANCE

- **Policy MC1.1:** Development of *Mobility Corridors* should integrate principles of context sensitive Complete Street design that are unique to conditions found in each corridor.
- **Policy MC1.2:** *Mobility Corridor* design should not overemphasize operation of any one mode at the significant expense of other modes.
- **Policy MC1.3:** Mobility should be measured in terms of “aggregate person delay” rather than vehicular level of service, which does not distinguish between single-occupant vehicles, a full bus, and a wave of cyclists.
- **Policy MC1.4:** *Mobility Corridor* carrying capacity should be measured in terms of person throughput rather than vehicle throughput.
- **Policy MC1.5:** Perpendicular or off-street layover facilities should be prioritized in *Mobility Corridors* with limited right-of-way.

TRANSIT

- **Policy MC2.1:** Ensure transit priority lane treatments take precedence over general purpose travel lanes and auto storage on priority transit corridors.
- **Policy MC2.2:** Implement Transit Signal Priority (TSP) along transit corridors to provide transit vehicles with precedence at signalized intersections.
- **Policy MC2.3:** Design linear transit facilities that minimize conflicts and pinch points with other roadway users and facilitate in-lane stops.
- **Policy MC2.4:** Corridors with limited right-of-way should not accommodate layover zones along the linear transit facilities.

PEDESTRIAN

- **Policy MC3.1:** Pedestrians should be afforded the highest priority in corridor space allocation to maintain an attractive public realm that connects to transit facilities.
- Mobility Corridor* design should reflect the fact that even if a transit facility is located within a reasonable walking distance of a person’s origin and destination, the walking environment will influence their choice to use transit.
- **Policy MC3.2:** Expand the pedestrian realm and use public space projects to increase pedestrian and waiting passenger capacity at stops and stations.

CYCLISTS

- **Policy MC4.1:** Provide high-quality bikeways along parallel priority transit corridors and on strategic streets that link into the *Mobility Corridor*.

- **Policy MC4.2:** If the right-of-way is too constrained to provide a bikeway along the transit mainline, consider developing high-quality bikeways, like bike boulevards along parallel streets.
- **Policy MC4.3:** Bike-share stations (or the capacity to develop them) should be integrated into the design of transit stops and stations in areas targeted for bike-share implementation. If sidewalk capacity is constrained, consider parking removal to accommodate a bike-share station on the street.

AUTOS, FREIGHT, TAXI

- **Policy MC5.1:** Repurpose on-street parking spaces, where appropriate, for expanded sidewalks and pedestrian spaces, bicycle facilities and on-street bicycle parking corrals, and dedicated transit lanes.

- **Policy MC5.2:** Where a limited pedestrian buffer exists, consider using recessed on-street parking as a pedestrian buffer between the sidewalk and moving traffic.
- **Policy MC5.3:** Space-constrained corridors designated as Major Truck Streets should allow freight to use transit lanes.
- **Policy MC5.4:** To the extent that they would not interfere with transit reliability and travel time, taxis should be allowed access to transit lanes (except on Major Truck Streets).
- **Policy MC5.5:** In neighborhood commercial corridors with transit-only curb lanes and no on-street parking, it might be necessary to provide “cutout” loading bays and allow delivery vehicles to merge into transit lanes in order to access the loading bays. Provision of taxi parking bays should also be

considered near major destinations, transportation centers, and multimodal hubs.

- **Policy MC5.6:** Any trade-offs between on-street parking supply and transit should consider the net change in local business access, measured in terms of person capacity and change in pedestrian volumes.

FIGURE 5-10 CONCEPTUAL BRT CORRIDOR TRADEOFFS



Main transit corridor prioritizes space for transit treatments

Enhanced bicycle access along parallel street

Constrained priority transit corridors, such as this conceptual BRT corridor, require difficult decisions given trade-offs related to pedestrian space, bikeway development, preserving general purpose travel lanes, and parking supply.

Source: Nelson\Nygaard

STATION AND STOP LOCATION TYPES

Seattle's network of transit stops, stations, and major intermodal transfer facilities are characterized within a station/stop location typology. Station and stop location types represent the primary locations where transit facilities are located (see page 5-9 for descriptions of station/stop facility types). The station/stop location typology matrix, summarized in Figure 5-10 and described below, indicates each location's function and provides guidance for the types of access features and amenities that should be provided at each location. These transit facility location types describe street classifications where station and stop types are typically located, nodes where several priority transit corridors intersect, and nodes where local and regional intermodal connections can be made (including Multimodal Hubs, Transportation Centers, and a variety of high capacity transit stations). Representative station and stop location types are included on this page.



Image from Nelson\Nygaard

RESIDENTIAL STREET

Residential streets are loci of basic local bus service stops. Increased investment in stops along residential streets should be based on boarding activity. 32nd Avenue NW is an example of a residential street that carries transit service.



Image from Nelson\Nygaard

TRANSIT ARTERIAL (TRANSIT WAY)

Transit arterials are regional and local service thoroughfares that pass through a variety of land use and traffic environments. Transit arterials accommodate both streetcar stations and/or local and regional bus stops. Arterial conditions and boarding activity varies greatly. Depending on the orientation of adjacent buildings, these stop locations may provide awnings that are integrated into the design of adjoining building frontage.



Image from Nelson\Nygaard

TRANSIT ARTERIAL (NEIGHBORHOOD COMMERCIAL CENTER)

Transit stations and stops located in Neighborhood Commercial Centers are oriented toward retail and commercial office access and accommodate both streetcar stations and local bus stops. Passenger amenities and pedestrian design should be elevated in this location type, including bus bulbouts, more prominent crosswalk markings, and expanded stop capacity due to wider sidewalks.



Image from Nelson\Nygaard

PRIORITY ACCESS NODE

A priority access node is a crossing point of FTN lines that occurs outside an urban village or urban center where a full transportation center is merited. Stop and station design allows for level boardings and provides sleek enhanced shelters with greater emphasis on real-time transit information. Access to priority access nodes is enhanced through high-quality bikeway connections and pedestrian infrastructure.



Image from Nelson\Nygaard

RAIL STATION

Rail stations—including Link light rail, rapid streetcar or street circulator stations—provide local intermodal connections. Due to high levels of passenger activity, rail stations merit very high investment in passenger amenities and placemaking. Stations should be equipped with enhanced transit shelters, real-time passenger displays, information, and payment technology. People can make bike-share connections or even connect to a local bus service from rail station locations.



Image from Nelson\Nygaard

CENTER CITY PRIMARY TRANSIT STREET/TRANSIT MALL

Given the high pedestrian volumes and demand for transit, the 3rd Avenue Transit Mall merits a high level of investment in passenger facilities and information. Given the relatively narrow width of this street, important transit passenger amenities and connections are provided on intersecting streets and are integrated into the Downtown Seattle Transit Tunnel Stations and Multimodal Hubs. Connections to bike-share stations and other multimodal facilities should be provided and supported by high-quality wayfinding.



Image from Nelson\Nygaard

MULTIMODAL HUB

Multimodal hubs are the centerpiece for regional intermodal connections. Regional rail and express bus service terminate at these locations or provide connections to rubber-tired circulators and other local connecting services. Multimodal hubs offer the highest levels of investment in passenger amenities, pedestrian infrastructure, and bicycle access and storage.

FIGURE 5-11 APPROPRIATE ACCESS INVESTMENTS BY TRANSIT ACCESS LOCATION TYPE

Station/Stop Location Type				Station/Stop Access Needs						
Transit Access Location Type	Access Orientation	Pedestrian Volumes	Pedestrian Access Facilities	Shelter Design and Level of Investment	Pedestrian Wayfinding and Passenger Information	Bicycle Access Needs	Bicycle Storage Needs	Local Circulator or Last-Mile Shuttle Needs	Kiss-n-Ride or Auto Drop-Off Needs	Example
Residential Street	Human	Low	Full sidewalk coverage, intersection crossings	<ul style="list-style-type: none"> Basic shelter with benches 	<ul style="list-style-type: none"> Neighborhood wayfinding and stop ID signs Route map Schedule 	<ul style="list-style-type: none"> Sharrows Bike lanes 	<ul style="list-style-type: none"> None/Low Short-term: Inverted-U racks 	None	None	32nd Avenue NW
Transit Arterial(Transit Way)	Human	Low - Med	\$	<ul style="list-style-type: none"> Basic shelter with benches or shelters integrated into building design 	<ul style="list-style-type: none"> Neighborhood and access routing wayfinding and stop ID signs Route map Schedule System information and map 		<ul style="list-style-type: none"> Low - Med Short-term: Inverted-U rack/curb extension integration 	Neighborhood circulators and bike-share stations (only where transit arterials link into major activity centers like Urban Villages)		Madison Street
	Auto	Low - Med				<ul style="list-style-type: none"> Sharrows Bike lanes Bike boulevards (parallel and intersecting) 				
Neighborhood Commercial Center	Human	Med - High	Expanded sidewalks, inter-block connectivity, intersection and mid-block crossings	<ul style="list-style-type: none"> Basic shelter with benches or shelters integrated into building design Bus bulb outs 	<ul style="list-style-type: none"> Destination and access routing wayfinding and stop ID signs Route map Schedule System information and map 		<ul style="list-style-type: none"> Med - High Short-term: Inverted-U rack/curb extension integration and covered oasis at high volume stops/stations 			Queen Anne
	Auto	Med								
Priority Access Node	Human	High	\$ \$	<ul style="list-style-type: none"> Moderate to high investment Enhanced shelter with level-boarding platform design, benches, LED lighting, real-time passenger displays Bus bulb outs 	<ul style="list-style-type: none"> Destination and access routing wayfinding and station/stop ID signs Multimodal connections including rail, bus, and bike-share Route map Schedule System information and map Real-time transit information 	<ul style="list-style-type: none"> Sharrows Bike lanes Bike boulevards Cycle tracks/side paths 		Urban/neighborhood circulators and bike share stations		Madison / Broadway
	Auto	High								
Center City Primary Transit Street / Transit Mall	Human	High		<ul style="list-style-type: none"> Moderate to high investment Enhanced shelter with level-boarding platform design, benches, LED lighting, real-time passenger displays Bus bulb outs 	<ul style="list-style-type: none"> Destination and access routing wayfinding and stop ID signs Multimodal connections including rail, bus, and bike-share Route/schedule/system information kiosks Real-time transit information 	<ul style="list-style-type: none"> Sharrows Bike lanes Cycle tracks 		Taxi and drop-off bays on intersecting streets		3rd Avenue, Olive
	Auto	Med - High		<ul style="list-style-type: none"> Moderate to high investment Enhanced shelter with benches, lighting, real-time passenger displays Bus bulb outs 						
Rail Station	Human	Med - High	Expanded sidewalks, high-visibility crossings, pedestrian priority signals, grade-separated treatments	<ul style="list-style-type: none"> High investment Enhanced shelter with level-boarding platform design, benches, LED lighting, real-time passenger displays Curb extensions 	<ul style="list-style-type: none"> Destination and access routing wayfinding and station ID signs Multimodal connections including rail, bus, bike-share, carshare Route/schedule/system information kiosks Real-time transit information 	<ul style="list-style-type: none"> Sharrows Bike lanes Cycle tracks Shared-use paths Bicycle priority signals Grade-separated crossings 	<ul style="list-style-type: none"> Very High Short-term: Inverted-U rack/curb extension integration and covered oasis at high volume stops/stations Long-term: Bike lockers, remote key access bike storage, and/or bike station 	Urban Circulators and bike share stations	Taxi and drop-off bays on public streets	Mt. Baker Station, Othello, etc.
	Auto	Low - Med								
Multimodal Hub	Human	High - Very High								King Street Station, Westlake

Note: In the Access Orientation column, Human connotes street environments designed for safe, comfortable, low-speed movement by all modal users, buildings generally oriented to the street, and where pedestrian/bicycle crossings and facilities are generally complete. Auto connotes a street environment designed primarily for higher-speed auto conveyance and access, where buildings are generally set back from the street and designed for access from surface parking lots, and where pedestrian/bicycle crossings and facilities may be lacking or incomplete. In addition, Bicycle access needs greatly depend on contextual considerations such as traffic conditions, land use environment, topography, availability of right-of-way, among many others. Actual facility choice should ensure bikeways integrate with the surrounding traffic environment and with the broader mobility corridor function.



Jamison Square in Portland provides a wonderful living room for locals, visitors, and people waiting to catch the streetcar which stops on either side of the square.

Image from Nelson\Nygaard

BEST PRACTICES FOR STATION AND STOP ACCESS

The pedestrian and bicycle environment is the foundation for good access to public transit. Improving its quality can attract new riders, increase ridership among existing passengers, and improve the overall travel experience. Investments in priority FTN corridors should embody principles of complete street design without compromising a street's ability to maintain a high level of transit performance.

Great transit streets feature:

- **Active sidewalks:** Wide sidewalks with engaging street furniture that connect to pedestrian-oriented land uses
- **Parallel and connecting bicycle facilities:** Low stress, comfortable bikeways that feed directly into priority transit corridors
- **Transit imprint/permanence:** Reinforcing the idea that high-quality transit options are available on a particular street through visual cues, like rail tracks and other physical elements of linear transit facilities, as well as station, stop, and kiosk branding
- **Visible crossings:** Pedestrians should feel comfortable crossing the street to access stations/stops and land uses that line a transit street

- **Managed speeds:** Features such as signal progressions, raised medians, and pedestrian refuges limit speeding
- **Clear linkages to destinations:** Wayfinding and clear sightlines direct pedestrians to transit streets, stations, and stops
- **Universal design applications:** Measures that ensure travel along transit streets is effortless for people of all ages and abilities
- **Verdant landscaping and stormwater design:** Using green features to soften hardscapes and provide an incentive for people to stay in a location

Transit streets will only be effective in attracting ridership if access to transit is easy and comfortable. Figure 5-12 provides a toolbox of best practices in bicycle and pedestrian access to transit. Treatments and facilities represent street design elements that could be used to implement *Mobility Corridors*, multimodal transit access, and transit-oriented neighborhood design policies.

FIGURE 5-12 BEST PRACTICES IN BICYCLE AND PEDESTRIAN ACCESS TO TRANSIT

Feature	Elements
Pedestrian Access	
Active Sidewalks and Frontage	
 <p>Minneapolis Nicollet Mall Image from Nelson\Nygaard</p>	<p>An active transit environment includes:</p> <ul style="list-style-type: none"> • Buildings and streetscapes that activate the environment, such as sidewalk cafes and parks • Transparent building facades with windows at street level • Removal of imposing blank walls • Land uses that attract pedestrians include pubs, grocery stores, and parks
Visual Interest and Route Diversity	
 <p>An activated alley connection in Pasadena, CA Image from City of Pasadena</p>	<p>Attract people on foot through:</p> <ul style="list-style-type: none"> • Engaging pedestrian access routes • Diversity in land use and shop types, architecture styles, landscape designs, and people
Distinctive Sidewalk Treatments	
 <p>Pearl District in Portland, OR Image from Nelson\Nygaard</p>	<ul style="list-style-type: none"> • Provide unique sidewalk surfaces that act as placemaking elements and add interest to the walking environment • Direct foot traffic to ground floor entrances and extend the pedestrian realm from the sidewalk to the building
Enhanced Crossings	
 <p>Intersection improved through NYC Safe Routes to Transit program Image from NYC DOT</p>	<p>Provide a variety of crossing treatments at intersections and at mid-block locations to improve perceived safety and motorist yield compliance. Effective countermeasures and crossing improvements at transit stations include:</p> <ul style="list-style-type: none"> • Priority signal phases for pedestrians • Protected crossings, like raised median refuges • High visibility crosswalk markings • Tactile/textured crosswalk design

Feature	Elements
<p>Placemaking and Street Furniture</p>  <p>Portland Transit Mall Image from Nelson\Nygaard</p>	<p>The intent of placemaking is to create places where you want to stay with clear connections to transit. This can be accomplished by:</p> <ul style="list-style-type: none"> • Providing a sense of order to the pedestrian realm • Clearly delineating pedestrian and furniture zones • Integrating street furniture, including benches, landscaping, planters, trees, and public art, among other features • Creating usable places for people to rest, to reflect, to have a sense of refuge, to meet and greet, and to see and be seen

<p>Pedestrian Wayfinding</p>  <p>Distinctive pedestrian wayfinding and branding in Minneapolis, MN Image from Nelson\Nygaard</p>	<p>Transit streetscapes should be inherently easy to navigate on foot. Pedestrian wayfinding in transit corridors should orient pedestrians toward transit, neighborhood context, and other destinations through:</p> <ul style="list-style-type: none"> • Street signs • Maps • Unique treatments, such as historical displays and public art
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Bicycle Access	
<p>Direct, Low Stress Bikeways</p>  <p>A neighborhood greenway parallel to a frequent service bus line corridor in Portland, OR Image from Nelson\Nygaard</p>	<p>A variety of parallel and connecting bicycle facilities should be offered to appeal to cyclists of all skill levels. These include:</p> <ul style="list-style-type: none"> • Bicycle boulevards • Cycle tracks • Separated off-street bike paths and multi-use trails • Colored and buffered bike lanes

<p>Bike/Transit Integration</p>  <p>Cycle track/bus stop facility in Vancouver BC Image from Flickr user Paul Krueger</p>	<p>The transit-bicycle interface is being improved using:</p> <ul style="list-style-type: none"> • Colored pavement markings at key junctures, such as intersections and turn zones where cars need to cross a bike lane • Bike boxes, which allow bicyclists to wait ahead of vehicular traffic and increase awareness of bicyclists' presence along a corridor, have been implemented extensively in Portland, Oregon • Integrating bikeways, including conventional bike lanes, cycle tracks, and sidepaths into rail corridor design • Supporting cycle track development with bicycle signalization • Bikeway development alongside rail tracks must be carefully designed bikeways along rail corridors to mitigate the potential for wheel-in-track accidents. Bike lanes are commonly striped to direct bicyclists' wheel path perpendicular to a rail track crossing
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Feature	Elements
<p>On-board Amenities</p>  <p>An on-board rack on a Community Transit bus Image from Flickr user Oran Viriyincy</p>	<p>On-board accommodations for bicyclists are becoming better integrated into vehicle design. The following are leading examples of opportunities to better accommodate bicycle commuters:</p> <ul style="list-style-type: none"> • Bus vehicles can be equipped with up to three front-loading racks • BRT and light rail vehicles can accommodate bike hangers and a variety of other on-board bicycle rack applications • Full commuter rail cars are being dedicated to bicycle access (as is the case with Massachusetts Bay Transportation Authority's commuter rail Bike Coach)

<p>Destination Amenities</p>  <p>A key access Bike & Ride facility in Portland, OR Image from TriMet</p>	<p>Developing facilities that allow people to store bikes out of the weather and to shower and change at workplaces can help overcome this barrier. A good way to encourage commuting in rainy areas is to provide spaces where cyclists have access to facilities at the end of their commute where they can dry off, store clothes, and shower. Ideally, such facilities will provide secure bike parking and be protected from the weather. Using regulations or incentive programs, cities can play a part in encouraging or mandating the inclusion of these resources in all new office buildings.</p> <p>Other innovative trip end amenities include::</p> <ul style="list-style-type: none"> • Secure key access bike parking • Full service bike stations • Bike-share stations oriented toward short last-mile connections • TDM districts that encourage bicycling by providing changing rooms, showers, and lockers
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<p>Bicycle Wayfinding</p>  <p>Bicycle wayfinding in Chicago, IL Image from Flickr user Joel Mann</p>	<p>Wayfinding signs are an important strategy for linking bikeways to transit. Wayfinding is moving beyond orientation toward destinations and districts by integrating transit hubs and other intermodal transit facilities into the broader wayfinding system.</p>
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<p>Bicycle Station Access to Transit</p>  <p>Wheel troughs installed on rail station stairways in Malmo, Sweden Image from Nelson\Nygaard</p>	<p>Bicycle access is increasingly being integrated into transit facility and stairway design. Bicycle enhancements at stations include wheel troughs or ramps. Seattle's topography requires stairs to be used for cyclists to access various transit facilities. Many stairways in the Center City need to be retrofitted for bicycles to facilitate east-west connections to the 3rd Avenue Transit Mall.</p>
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MULTIMODAL TRANSIT ACCESS POLICIES AND STRATEGIES

The previous sections set the framework for enhancing transit access throughout Seattle’s transit system—most notably along the TMP’s priority FTN corridors. The *Mobility Corridor* framework will integrate bicycle and pedestrian facilities and spot improvements into each corridor’s initial planning and design phase, which will vastly improve transit access. The following short list of strategy areas and policies links into the *Mobility Corridor* concept by guiding network and facility design decisions throughout the full extent of each vital travel corridor.

Strategy 1

Enhance pedestrian connections within station areas and along priority transit corridors

Ridership is shown to increase where sidewalk networks are complete and pedestrians are afforded with high visibility crossings. When a strong pedestrian network is in place, people are typically willing to walk a half-mile, or roughly 10 minutes, to access transit.

Policy TA1.1: Build out the sidewalk network within each *Mobility Corridor’s* sphere of influence.

- Identify gaps in sidewalk connectivity, informed by the Pedestrian Master Plan, to reprioritize programmed sidewalk development and maintenance.
- Develop a program to focus investment in sidewalk maintenance and reconstruction where pedestrian facilities have degraded.

Policy TA1.2: Expand pedestrian sidewalk capacity along corridors with high existing or anticipated pedestrian demand.

- Use treatments like curb extensions, bus bulb outs, or even road diets to expand the width of pedestrian facilities.
- Develop a transit placemaking program that converts underutilized parking spaces into urban living room spaces or parklets fully furnished with benches, tables, landscaped planters, and barriers. This could be modeled after San Francisco’s popular Pavement to Parks Program.

Policy TA1.3: Install high visibility crosswalk treatments to ensure safe and comfortable crossings within *Mobility Corridors*.

- Focus higher levels of investment in crossing facilities at multimodal hubs, rail stations, and priority access nodes.
- Identify locations where existing crossings do not influence optimal stop and yield compliance by motorists.

Policy TA1.4: Reduce travel distances for pedestrians connecting into transit facilities.

- Strategically locate bus stops to minimize walking distances between intermodal connections.
- Develop mid-block crossings with curb extensions, where appropriate.

Policy TA1.5: Prioritize pedestrian movements at intersections using priority signal treatments.

- Install leading pedestrian intervals and pedestrian-only scramble phases at locations with high pedestrian volumes and high auto turn volumes. Pedestrian scramble phases force a red phase for motorized traffic at each intersection leg while pedestrians at each crossing may advance in any direction—including diagonally.
- Extend pedestrian phases to provide enough crossing time for pedestrians of all ages and abilities.

Policy TA1.6: Integrate the highest level of Universal Design principles into all pedestrian design decisions to improve access for the visually, acoustically, and mobility-impaired.

- Design curb ramps to facilitate, not hinder, wheelchair movement.
- Carefully select tactile pavement treatments to ensure persons with disabilities are not burdened by vertical friction.
- Utilize blended transitions where possible.
- Make sidewalks safer and more comfortable for all walkway users by limiting driveway cuts, leveling grades, and reducing cross-slopes at driveway interfaces.

Policy TA1.7: Create usable places for a variety of activities, including rest, refuge, social exchanges, and viewing the urban environment.

- Invite foot traffic by installing pedestrian furnishings, such as seating, weather protection, water fountains, trash receptacles, street trees, and other landscaping and stormwater design elements.
- To the greatest extent possible, locate pedestrian furnishings in the sidewalk’s furniture zone to reduce sidewalk clutter and facilitate a barrier-free walking environment.

Policy TA1.8: Provide clearly visible and consistent wayfinding signage between transit facilities and all pedestrian access approaches.

- Wayfinding signage should identify key destinations and districts or neighborhoods of interest.
- Wayfinding signage should direct pedestrians between intermodal connections.



Pedestrian facilities, such as high visibility crossings, innovative lighting features, curb extensions, and pedestrian short cuts can enhance access to transit.

Source: Nelson\Nygaard



Where there is no sight line connection between modes, clear wayfinding is critical.

Image from Nelson\Nygaard



Seattle BikePort provides a convenient resource for bike/transit commuters arriving via the King Street/International District Station.

Image from Nelson\Nygaard



Many transit providers are replacing single-bicycle lockers, such as these, with card-accessed lockers that are transparent and less likely to be abused. (Page 7-55 of the TMP Briefing Book provides a description of such facilities).

Image from Nelson\Nygaard



Good bicycle wayfinding directs cyclists to major intermodal transfer locations.

Image from Nelson\Nygaard

Strategy 2

Develop high-quality bikeways and supplemental bicycle facilities that link into and along transit corridors and station areas

Networks of low stress and highly visible bicycle facilities, such as separated bicycle paths, bicycle boulevards, cycle tracks, and buffered bike lanes are a critical component for bike/transit integration. Such investment in the bicycle environment will vastly extend transit's reach. The bicycle catchment area for transit access is far more extensive than walking or even some connecting transit service networks. Bicyclists are typically willing to travel between 3 and 4 miles to transit—roughly a 20-minute ride when accounting for intersection delay.

Policy TA2.1: Integrate high-quality, low-stress bikeways into linear Mobility Corridor design.

- Develop cycle tracks, buffered bike lanes, and conventional bike lanes alongside linear transit facilities, as determined feasible by SDOT.
- If a priority transit facility cannot safely accommodate a dedicated bikeway or other on-street bicycle facility due to right-of-way constraints, a parallel bikeway, preferably a bike boulevard (also referred to as neighborhood greenways), should be developed as an alternative transit access route.
- Integrate bikeways into station and stop design to limit conflicts with transit vehicles and boarding and alighting passengers.

Policy TA2.2: Develop high-quality, low-stress bikeway connections that parallel and/or intersect priority transit corridors.

- The City should develop low-stress bike boulevards that intersect priority transit corridors at major destinations or adjacent to priority access nodes.

Policy TA2.3: Install bike-share stations at all multimodal hubs, rail stations, priority access nodes, and major neighborhood transit destinations to facilitate the last-mile connection to employment sites, retail centers, and residences.

- Develop bike-share stations at existing and proposed light rail and streetcar stations, respective of demand, as well as at major frequent bus stops.

Policy TA2.4: Supplement each priority transit corridor with supporting bicycle infrastructure and end-of-trip facilities at priority access nodes.

- Establish bicycle parking guidelines for station and stop locations based on boarding activity, transit passenger facility usage, and the local land use environment.
- Provide well-lit, secure long-term bicycle parking, such as bike lockers, key access parking rooms, and full service bike stations at multimodal hubs and rail stations.
- Install covered, well-lit, and highly visible short-term bicycle parking at stations and bus stops.
- Shower, changing, and locker facilities should be located at or near major multimodal hubs.

Policy TA2.5: Provide clearly visible and consistent wayfinding signage between transit facilities and all bicycle access approaches.

- Wayfinding signage should identify key bikeways, destinations, and districts or neighborhoods of interest.
- Wayfinding signage should carry cyclists between transit alighting areas and bicycle parking facilities.

Policy TA2.6: Integrate bicycles on transit vehicles using exterior front-loading racks and on-board bike hangers.

- Encourage Sound Transit and King County Metro to invest in front-loading bike racks that hold up to three bicycles on all bus vehicles.
- Encourage Sound Transit and King County Metro to redesign Sounder, Link, and RapidRide vehicles to increase on-board bicycle carrying capacity.

Strategy 3

Facilitate connections to high-quality and frequent transit service through local bus routes and highly visible transit information and branding

Feeder and shuttle service provides an attractive last-mile option for those that live beyond a comfortable walking distance. Although feeder service significantly increases transit's catchment area, it must be reasonably competitive with auto travel times in order to be successful. Connections between transit modes must be seamless; this is a key function of transit facilities in Seattle. Transit information, wayfinding, and branding will make intermodal connections user-friendly and legible, while offering a more appealing transit experience.

Policy TA3.1: Ensure that transfers are efficient and seamless.

- Develop east-west linear connection hubs in SODO at Lander Street and in South Lake Union at Aurora between Harrison and Thomas to facilitate transfer movements. Closely locate major transfer pair stops to facilitate and further reinforce the ease of making transfers.
- Clearly market the benefits of priority transit corridors as efficient transit options for Center City and inter-neighborhood circulation to and from multimodal hubs.
- Lay out intermodal transit facilities in such a way that allows alighting passengers to quickly orient themselves toward intermodal connections.

Policy TA3.2: Provide a wealth of transit information to reinforce system legibility and user comprehension for new and existing customers.

- Install real-time information displays along the Center City Transit Mall and at rail stations and multimodal hubs.
- Develop consistent intermodal wayfinding to ensure legible and effortless connections.