

BELLEVUE EXCEPTIONAL LIGHT RAIL ACCESS STUDY

CITY OF BELLEVUE

Prepared by:
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BELLEVUE LIGHT RAIL ACCESS

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EXECUTIVE SUMMARY

The city of Bellevue is prioritizing economic growth and housing in downtown Bellevue. The Downtown Livability Initiative raises the bar for urban design and the Downtown Transportation Plan has defined a suite of mobility options. Together, these plans will align the land use and transportation strategies and policies in the Bellevue Comprehensive Plan and the Land Use Code with the intent of enhancing Downtown livability and mobility.

Light rail is a new transportation service coming to Bellevue. Sound Transit is planning to build and operate a light rail transit system (East Link) that will connect Downtown Bellevue with downtown Seattle and urban centers on the east side of Lake Washington. The 14 mile long East Link extension to the existing "Central Link" line is projected to carry 50,000 passengers per day in 2030 (8,000 daily boardings at the Bellevue Downtown Station) and will include 11 new stations, 7 of which are within the city of Bellevue. This document focuses on the pedestrian and bicycle access to the Downtown Station.

In consideration of providing exceptional pedestrian access to the Downtown Station, Bellevue City Council has authorized the expenditure of up to \$5 million to design and construct pedestrian and bicycle system projects and other transportation system and streetscape enhancements to maximize ease of connection between the light rail station and the existing Bellevue Transit Center (BTC).

This document presents design strategies for installing pedestrian and bicycle facilities that support exceptional access to the Downtown Bellevue Station. Individual design components are compiled in a graphical toolbox. These components range from pavement markings to weather protection along the sidewalks and at the intersections. All of the toolbox elements with the exception of the BTC upgrades may be used throughout the Downtown.

Renderings of an Enhanced Intersection/Crosswalk, an Exceptional Intersection/Crosswalk and a Midblock Crossing show comprehensive and integrated deployments of toolbox components. Planning level costs are included with the three renderings so that the city of Bellevue may estimate the funding and resources needed to implement these tools.

LEGEND

- Downtown Bellevue
- Limit of scope

TRANSIT STATIONS

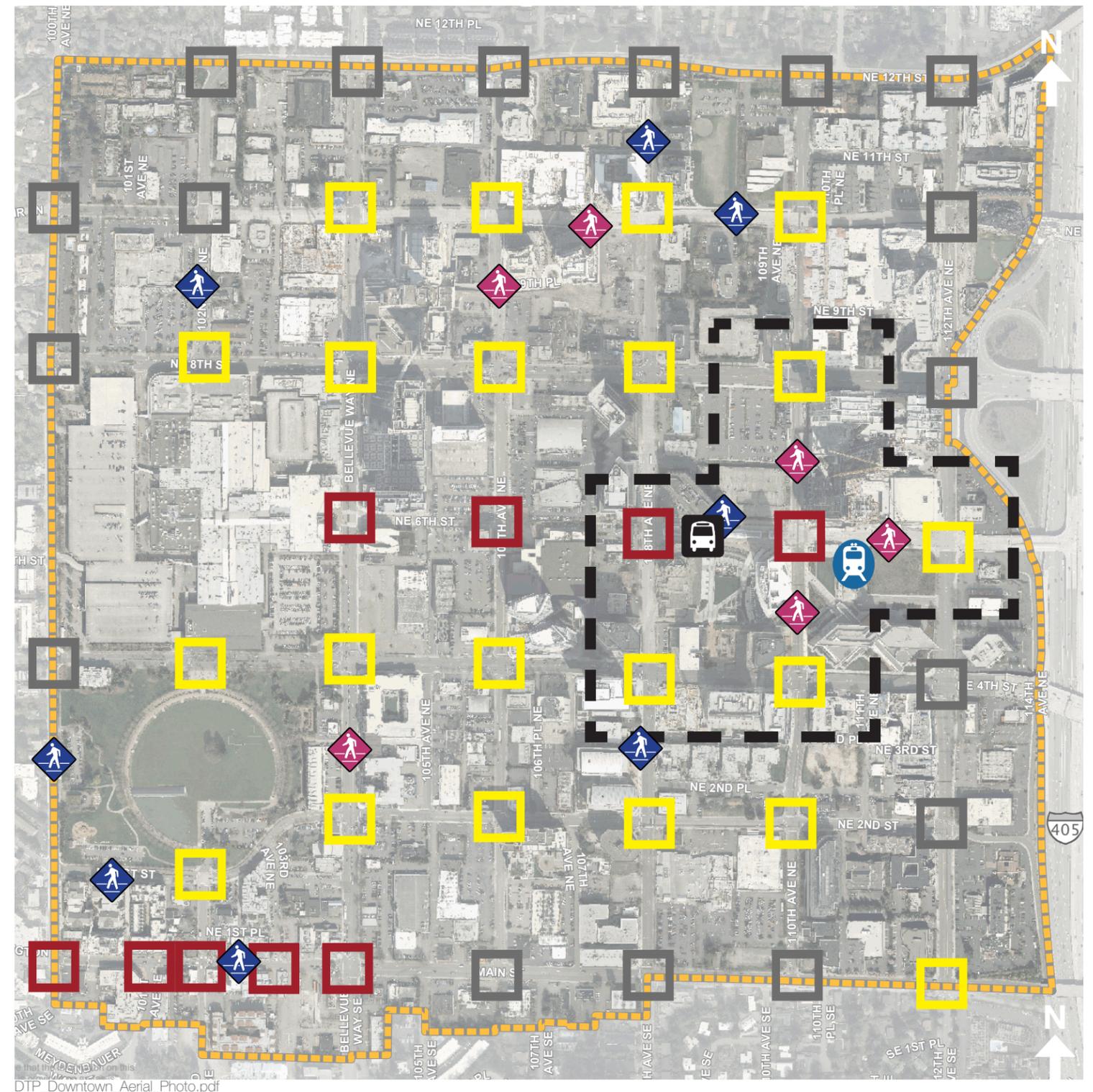
-  Proposed Light Rail Station
-  Existing Bellevue Transit Center

CROSSWALK TYPES

- Exceptional
- Enhanced
- Standard

MIDBLOCK CROSSINGS

-  At-Grade Existing
-  At-Grade Near-Term Priority



DTP_Downtown_Aerial_Photo.pdf

INTRODUCTION



Aerial_Bellevue_Washington_November_2011 - wikimedia.com.jpg

The Downtown Bellevue Transportation Plan includes a multimodal strategy to accommodate motorized and non-motorized travel. The Plan recommends improvements to roadways, transit, pedestrian and bicycle facilities, and traffic signal operations. This document presents specific design strategies for pedestrian and bicycle facilities that can be applied in proximity to the Bellevue Downtown Station and throughout the Downtown to maximize the ease of non-motorized travel. These design strategies are broken down into individual components and compiled within a graphical toolbox.

The toolbox is organized into the following categories:

- Enhanced Intersections/Crosswalks
- Exceptional Intersections/Crosswalks
- Midblock Crossings
- Bellevue Transit Center and Platform
- Wayfinding
- Pedestrian Weather Protection

Enhanced and Exceptional Intersections/Crosswalks

Several features of intersections/crosswalks significantly affect the pedestrian environment: crossing times, crosswalk design and intersection

geometry. With respect to crosswalk design, three types of treatments are planned, each intended to fit the urban context: standard; enhanced; and exceptional. These types are defined in the Downtown Bellevue Transportation Plan.

In Downtown Bellevue the current standard crosswalk design consists of 2 parallel white bars spaced 8 feet apart. A standard crosswalk also has a pedestrian actuated signal at each corner that provides both audible and countdown indicators – these are being installed throughout the Downtown as older signal heads are replaced. This is the minimum standard applied at signalized intersections.

This document provides recommendations for treatments at enhanced and exceptional crosswalks. The Downtown Transportation Plan has designated intersections across the Downtown, as shown on the map on page iii, and this document focuses on those located within close proximity to Downtown Station.

Enhanced Crosswalk locations are:

- 108th Avenue NE at NE 4th Street
- 110th Avenue NE at NE 4th Street
- 110th Avenue NE at NE 8th Street
- 112th Avenue NE at NE 6th Street

Exceptional Crosswalk locations are:

- 108th Avenue NE/NE 6th Street
- 110th Avenue NE/NE 6th Street

Enhanced Intersections/Crosswalks

Enhanced Intersections/ Crosswalks are located at intersections where high numbers of both pedestrians and vehicles are expected, and where the urban design treatment along the street may be carried through the intersection. Toolbox components that may be considered to create an Enhanced Intersection/Crosswalk include:

- Wider than standard crosswalks to accommodate a large number of pedestrians and provide a buffer from vehicles
- Vehicle stop bars

- Wayfinding at corners
- Weather protection at corners
- Alternative striping, such as piano key or “continental” striping
- Stamped or embedded pavement treatment in the crosswalks
- Curb bump outs or tighter curb radius to shorten crossing distance, calm traffic and provide pedestrian queuing areas.
- Wider ADA-standard curb ramps to match wider crosswalks
- “Smart Crosswalk” card readers for longer crossing times

Exceptional Intersections/Crosswalks

Exceptional Intersections/Crosswalks highlighted in this document are located along the NE 6th Street Pedestrian Corridor. These are intended to accommodate high volumes of pedestrians in a manner that clearly prioritizes the pedestrian movement across the street. Exceptional Intersections/Crosswalks may incorporate similar design components as an Enhanced Intersection/Crosswalk but will deploy these components more intensively and/or extensively to further emphasize pedestrian and bicycle priority. In addition to the Enhanced Intersection/Crosswalk Toolbox, components that may be considered to create an Exceptional Intersection/Crosswalk include:

- Pedestrian scramble signal phase
- Raised intersection
- Stamped or embedded pavement design treatment or other special paving treatment across the entire intersection
- Significant/landmark wayfinding to Downtown destinations.

Midblock Crossings

Midblock crossings help reduce the scale of Downtown Bellevue “superblocks” to be more manageable for pedestrians. These crossings can support entrances and access points for buildings at the mid-block and may lead to through-block connections. The Downtown Subarea Plan specifically addresses midblock crossings in Policy S-DT-47, which reads: “Reinforce the importance of the pedestrian in Downtown Bellevue with the use of a series of signalized midblock crossings. Consideration should be given to the design of adjacent superblocks, consideration of traffic

flow, and the quality of the pedestrian environment when implementing midblock crossings.”

Existing midblock crossings in Downtown Bellevue exhibit a variety of treatments, including signalization, special paving and median islands and landscaping. This document includes at-grade design components for improvements at two locations:

- **110th Avenue NE at approximately NE 5th Street**
This midblock crossing would extend the through block pedestrian connection that exists across City Center Plaza between 108th Avenue NE and 110th Avenue NE. It would cross 110th Avenue NE near the main entrance to City Hall. The crossing would occur between the base of the stairs on the City Center Plaza site and a planned new pedestrian access to City Hall. A midblock crossing at this location would serve an existing and demonstrated need and will provide a useful route option to access the Downtown Station from the south and west.
- **110th Avenue NE at approximately NE 7th Street**
This midblock crossing would extend the through-block pedestrian connection between 108th Avenue NE and 110th Avenue NE to cross the street near the main entrance to the Bravern complex. A midblock crossing at this location would serve an existing and demonstrated need and will provide a useful route option to access the Downtown Station from the north and west.

Bellevue Transit Center

The Bellevue Transit Center (BTC) has been observed to be cluttered with assorted site furnishings and to suffer from deferred maintenance. There may be options to rearrange, upgrade and remove existing features to meet the anticipated increased transit demand, to better accommodate transfers between bus and light rail and to provide a weather protected passage between 108th Avenue NE and 110th Avenue NE. Bellevue will coordinate with King County Metro and/or Sound Transit to provide maintenance for the elements within the Bellevue Transit Center. This document provides recommendations for improvements to the BTC platform and to integrate bicycle facilities.

Bellevue Transit Center Platform

The number of transit passengers using and passing through the Bellevue Transit Center will grow substantially due to more passengers on buses and light rail and the growing number of Downtown pedestrians who use the BTC as covered sidewalk. Based on transit industry standards, the overall amount of space on the BTC platform appears to be adequate to accommodate the anticipated passenger volume, however the arrangement of space and furnishings on the platform restricts the flow of transit passengers and pedestrians and limits the passenger queuing space. The function and flow of the platform area could be improved by removing and/or rearranging minor components such as benches, wind screens, wayfinding, telephone booths and kiosks. Maintenance upgrades to the BTC infrastructure would contribute greatly to the quality and safety of pedestrian access.

Bellevue Transit Center Bicycle Facilities

The segment of the NE 6th Street Pedestrian Corridor between 108th Avenue NE and 110th Avenue NE, known as the Transit Central segment, provides a direct off-street bicycle connection to the planned light rail station and the BTC bus service. A design for this segment of the Pedestrian Corridor should indicate the preferred two-way bicycle route

and incorporate “traffic calming techniques” for bicyclists along the north side of the BTC to make this route accommodating to all users. Design components would consist of elements such as special paving treatments and wayfinding. Bicycle parking and future bike station accommodations are included.

Wayfinding

Downtown wayfinding has been installed by the city throughout the Downtown in accordance with the 2005 Downtown Wayfinding Design Guidelines and by transit agencies according to their own standards. This document identifies ways in which the existing wayfinding guidance could be refreshed and upgraded to improve clarity, consistency, accuracy and legibility to a range of users with a focus on transit riders.

Pedestrian Weather Protection

Weather protection is essential for pedestrian comfort along the sidewalks and at street corners. This document provides recommendations for weather protection that would be attached to an existing building and as freestanding structures along a sidewalk and at a street corner.



LightRailStationRendering.psd - Proposed East-Link Extension, Bellevue Transit Center Station, downtown Bellevue

COMPOSITE RENDERINGS: SUMMARY

This map shows the location and approximate view of the photos used in the three composite renderings on page 4. Each rendering shows how an integrated and aggregated application of selected toolbox design components can dramatically delineate the zones where pedestrians and bicyclists should move while also providing information about how they should reach destinations in Downtown Bellevue.

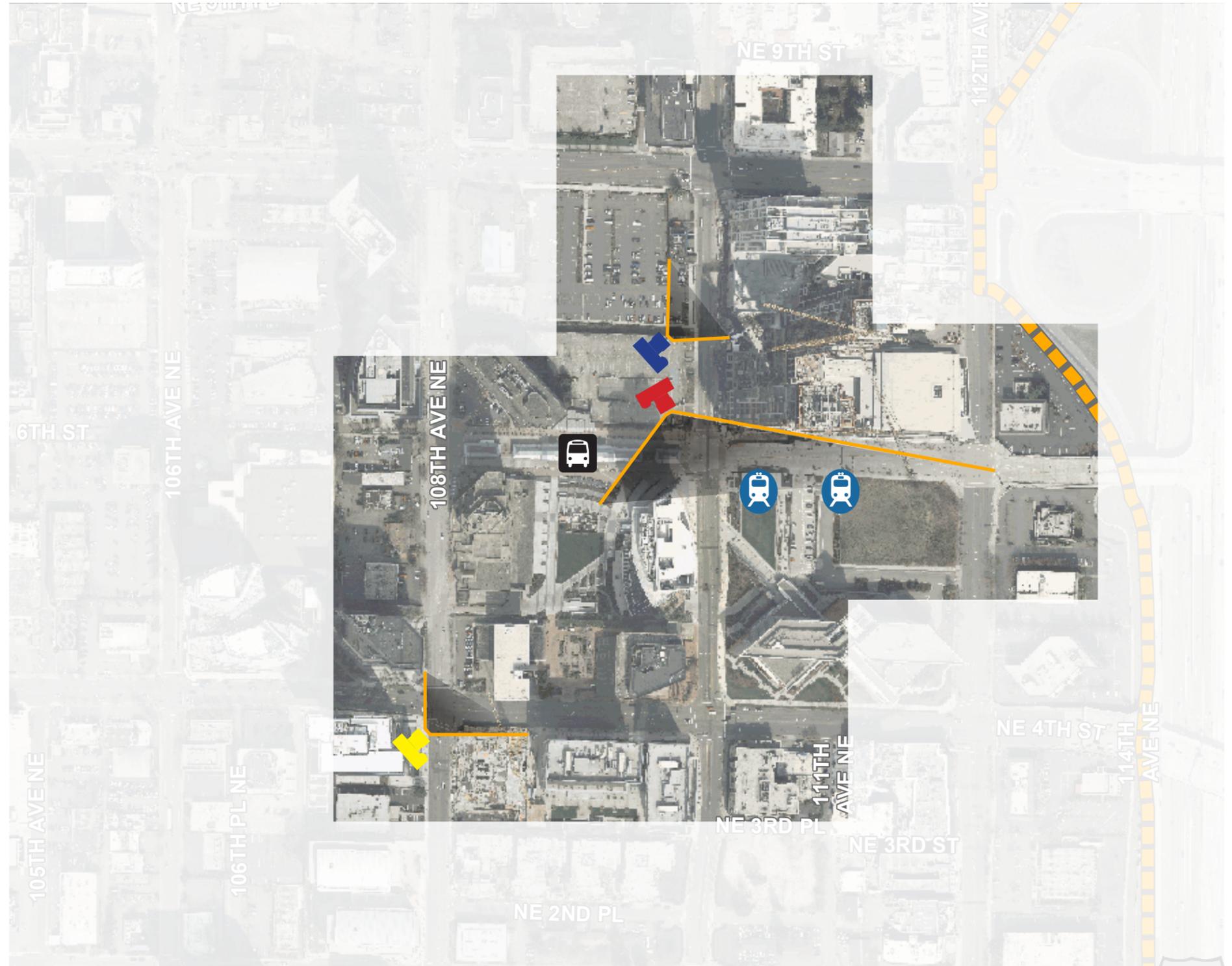
The three renderings in this document are at the following locations:

-  Enhanced Intersection/Crosswalk: 108th Avenue NE at NE 4th Street
-  Exceptional Intersection/Crosswalk: 110th Avenue NE/NE 6th Street
-  Midblock Crossing: 110th Avenue NE at approximately NE 7th Street.

Pages 5-10 show the existing conditions on the left page and the proposed improvements after applying the selected toolbox design components on the right page.

LEGEND

	Proposed Light Rail Station Entrance		Approximate Cone of Vision
	Existing Bellevue Transit Center		



ENHANCED INTERSECTION



Conceptual Cost Estimate Range Enhanced Intersection:
 \$47,000 - \$70,000 per intersection
 \$200,000 for sidewalk weather protection and \$36,000 for wayfinding.

At an ENHANCED INTERSECTION/CROSSWALK the pedestrian volume and traffic speed and volume dictate additional measures beyond standard treatment that are needed to enhance crosswalk function and to improve the conditions for pedestrians including visibility and safety. The recommended components emphasize pedestrian movements by delineating crossing and waiting locations at the intersection.

The estimated costs for the toolbox components for the recommended for enhanced intersection/crosswalk shown in the rendering include the following:

- Wider than standard crosswalks and curb ramps to accommodate a large number of pedestrians and provide a buffer from vehicles
- Alternative striping to emphasize crosswalk.
- Wayfinding to nearby destinations
- Weather protection at corners

Before and after images of the enhanced intersection/crosswalk are provided on pages 5 and 6.

EXCEPTIONAL INTERSECTION



Conceptual Cost Estimate Range Exceptional Intersection:
 \$565,000 - \$900,000 per intersection
 \$300,000 for sidewalk weather protection and \$54,000 for wayfinding.

At an EXCEPTIONAL INTERSECTION/CROSSWALK pedestrian volume is high due to the adjacent transit facilities and other downtown attractions. Exceptional intersections/crosswalks may provide a pedestrian scramble or all-walk signal phase with minimal adjustment to existing signals. Pedestrians and bicyclists will cross the intersection with vehicle movement stopped in all directions. Specific tools are recommended to carry an intended urban design treatment through the intersection and emphasize non-motorized use along the corridor.

The estimated total costs for the toolbox components recommended to create the Exceptional Intersection/Crosswalk shown in the rendering include:

- Raised intersection
- Stamped or embedded pavement design treatment or other special paving treatment across the entire intersection
- Significant/landmark wayfinding to nearby Downtown destinations.

Before and after images of the exceptional intersection/crosswalk are provided on pages 7 and 8.

MIDBLOCK CROSSING



Conceptual Cost Estimate Range Midblock Crossing:
 \$170,000 - \$256,000 per crossing
 \$200,000 for pedestrian weather protection and \$36,000 for wayfinding.

A MIDBLOCK CROSSING provides a safe, accessible crossing at mid-block locations along a Downtown “superblock” and can be integrated with medians to improve Downtown livability and mobility.

The costs for applying the recommended toolbox components for the midblock crossing assume the following:

- Wider than standard crosswalks and curb ramps
- Special painting or paving (stamped or embedded design)
- Vehicle stop bars
- Pedestrian crossing signage
- Signalization as warranted, including full signalization and rectangular rapidly flashing beacons with pedestrian actuators at the curb and in the median
- Pedestrian refuge within a paved or planted median
- Vehicle turn lane revisions as needed
- Wayfinding to nearby destinations

Before and after images of the midblock crossing are provided on pages 9 and 10. Note that the midblock crossing shown in the rendering would be located proximate to driveways that may create unique design challenges.

ENHANCED INTERSECTION/CROSSWALK: **BEFORE**



NE 4th St and 108th Ave NE

ENHANCED INTERSECTION/CROSSWALK: AFTER



NE 4th St and 108th Ave NE

EXCEPTIONAL INTERSECTION/CROSSWALK: BEFORE



NE 6th St and 110th Ave NE

EXCEPTIONAL INTERSECTION/CROSSWALK: AFTER



NE 6th St and 110th Ave NE

MID-BLOCK CROSSING: BEFORE



110th Ave NE and NE 7th St

MID-BLOCK CROSSING: AFTER



110th Ave NE and NE 7th St

TOOLBOX: SUMMARY

A variety of toolbox components were evaluated as part of this study. These components are commonly used in urban environments to improve the visibility and safety for all modes of transportation. These components are typically adjustments of national standards and guidelines provided for urban arterials.

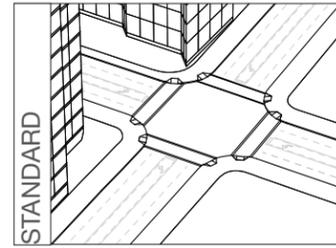
Toolbox components are provided in the following categories:

- Enhanced Intersections
- Exceptional Intersections
- Midblock Crossings
- Transit Station
- Transit Platform
- Wayfinding
- Sidewalk Weather Protection.

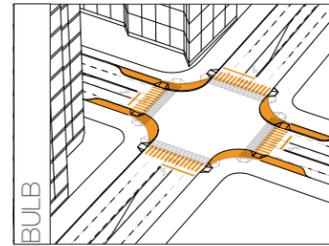
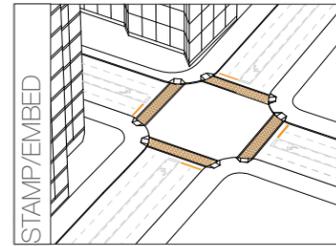
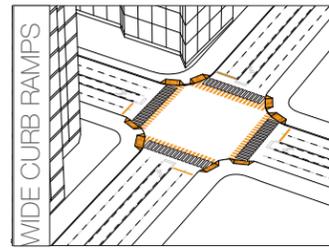
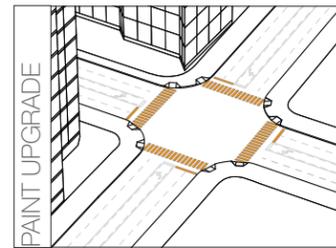
No singular toolbox component will by itself meet the goals and policies of the Downtown Transportation Plan Update. The components are intended to be combined and aggregated to improve the visibility and access of pedestrians and cyclists in Downtown Bellevue. Each toolbox category is indexed with a generalized existing standard condition and progresses on to increasingly intensive or extensive components. Generally speaking, the sequences within each category conceptually builds upon each successive component. In actuality, however, it may or may not be desirable to widen the crosswalks and raise them as well, though the latter certainly requires a greater deal of effort than the former.

Following the Toolbox Index, each toolbox component is individually considered through a brief description of the component and images of the component applied in other locations. Planning level costs are provided in Appendix 1, Cost Estimates.

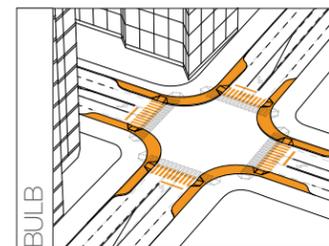
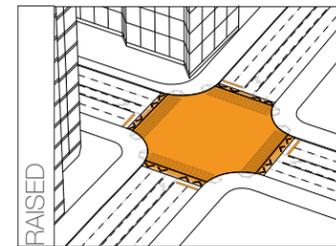
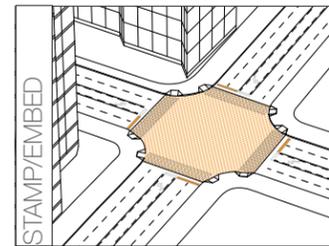
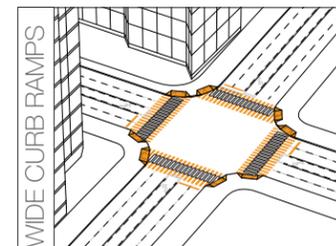
TOOLBOX INDEX: STANDARD INTERSECTIONS



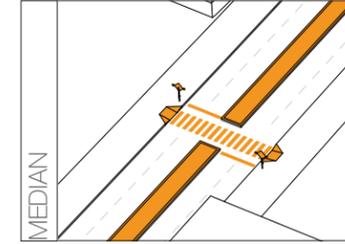
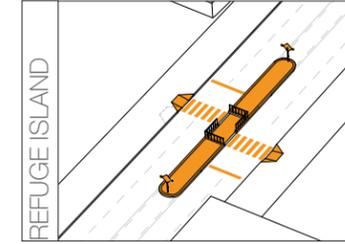
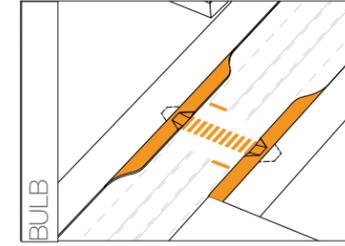
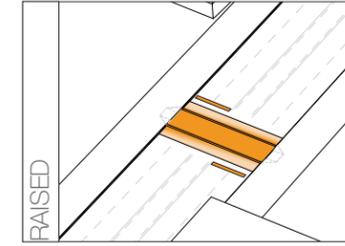
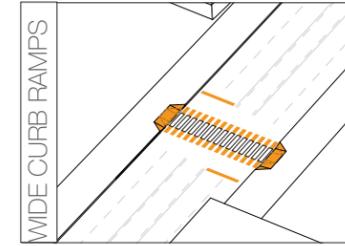
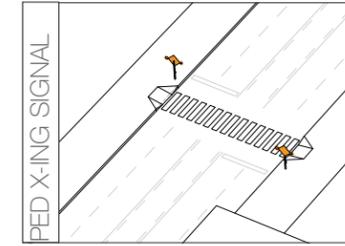
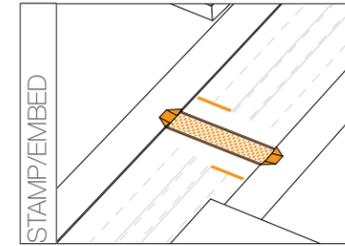
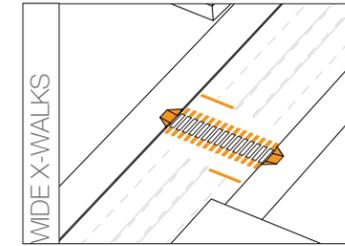
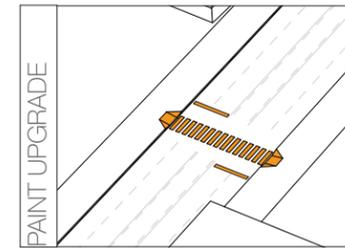
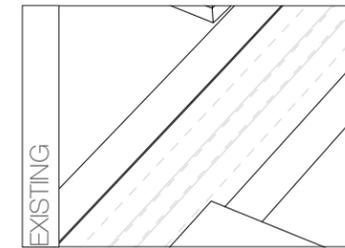
TOOLBOX INDEX: ENHANCED INTERSECTIONS



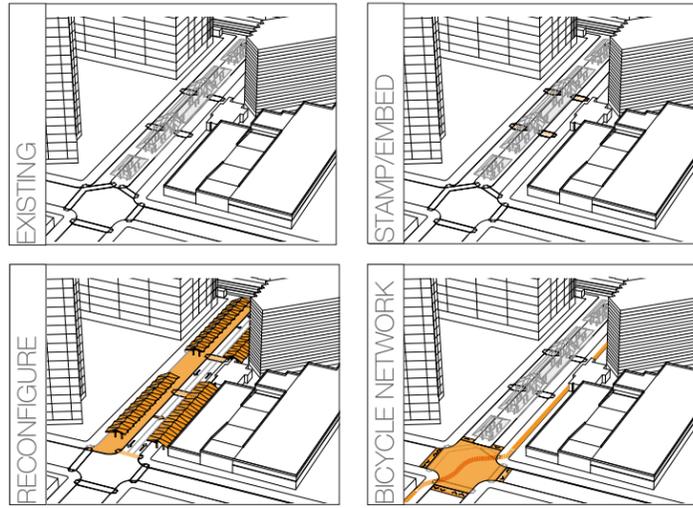
TOOLBOX INDEX: EXCEPTIONAL INTERSECTIONS



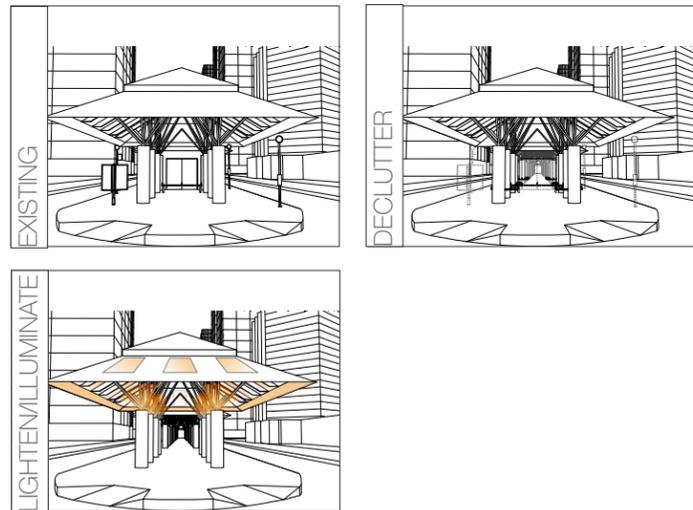
TOOLBOX INDEX: MIDBLOCK CROSSINGS



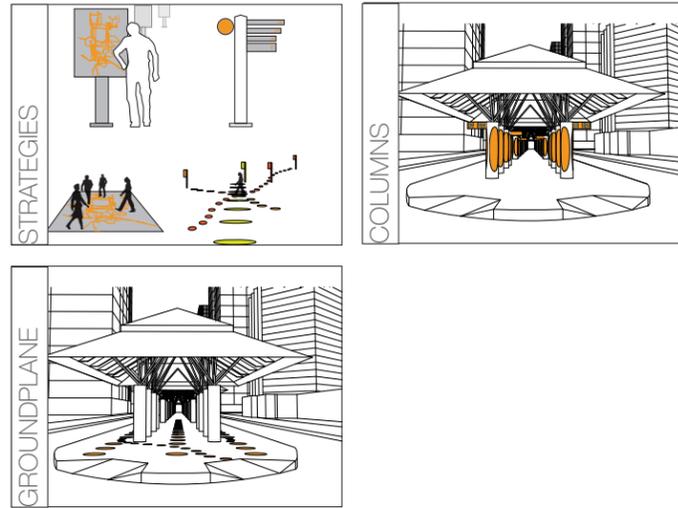
TOOLBOX INDEX: TRANSIT STATION



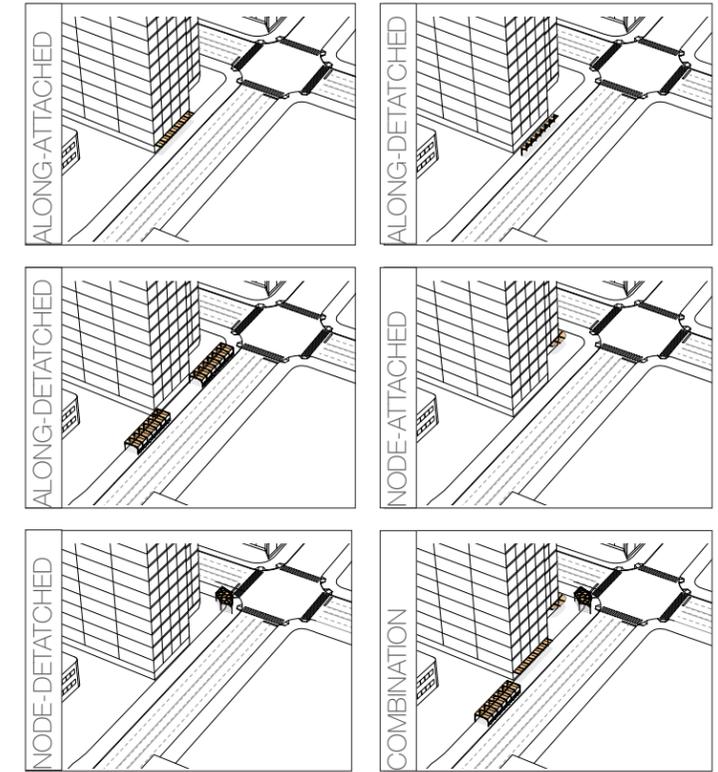
TOOLBOX INDEX: TRANSIT PLATFORM



TOOLBOX INDEX: WAYFINDING



TOOLBOX INDEX: SIDEWALK WEATHER PROTECTION



STANDARD INTERSECTION: STANDARD



StdXwalk.jpg - City of Bellevue

Standard downtown crosswalk, with 8-foot stripe spacing.



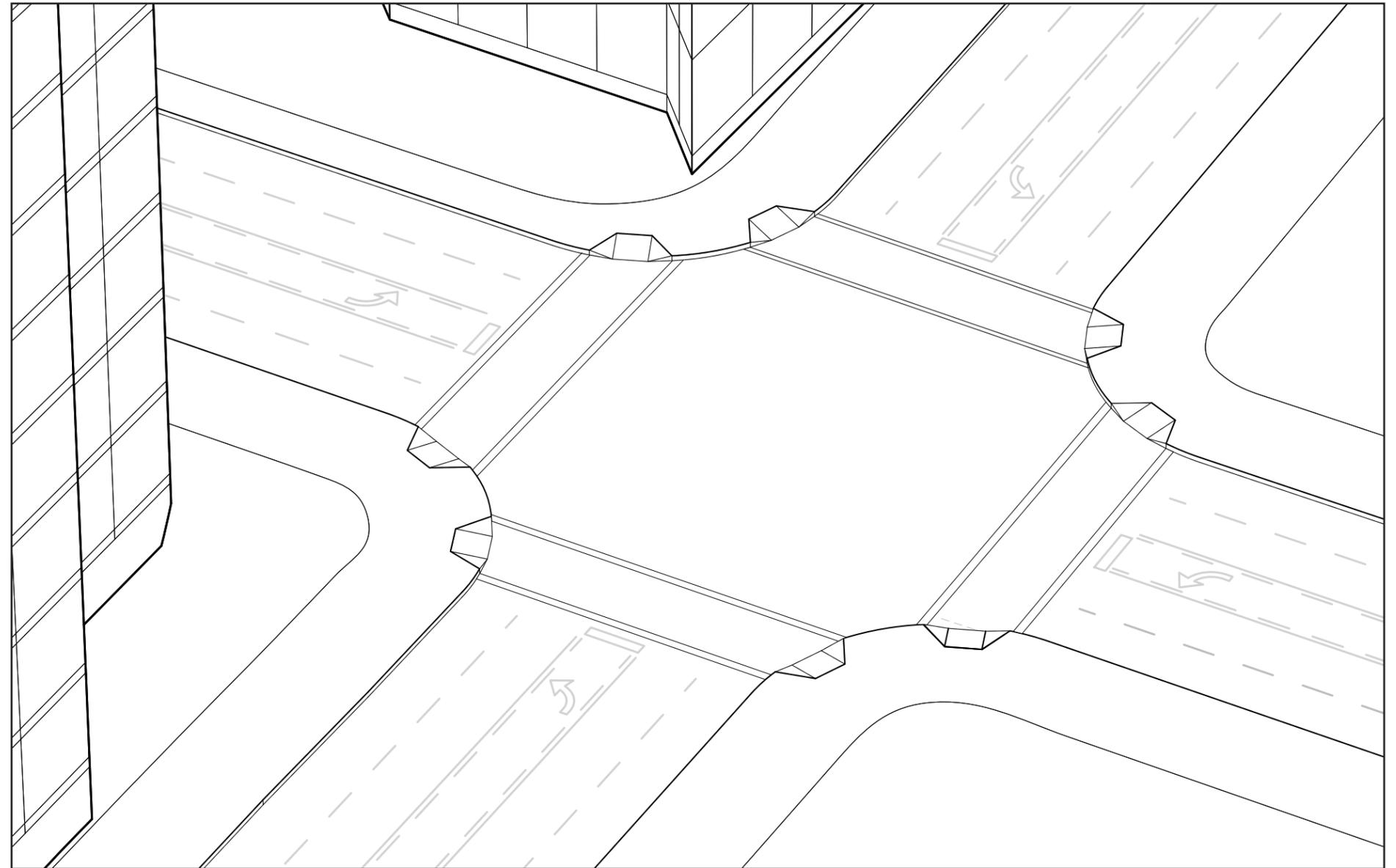
Standard Crosswalk 1.JPG - City of Bellevue

A standard crosswalk in downtown Bellevue.



P1200558.JPG - SvR

NE 8th St & 110th Ave NE, with two ramps per corner.

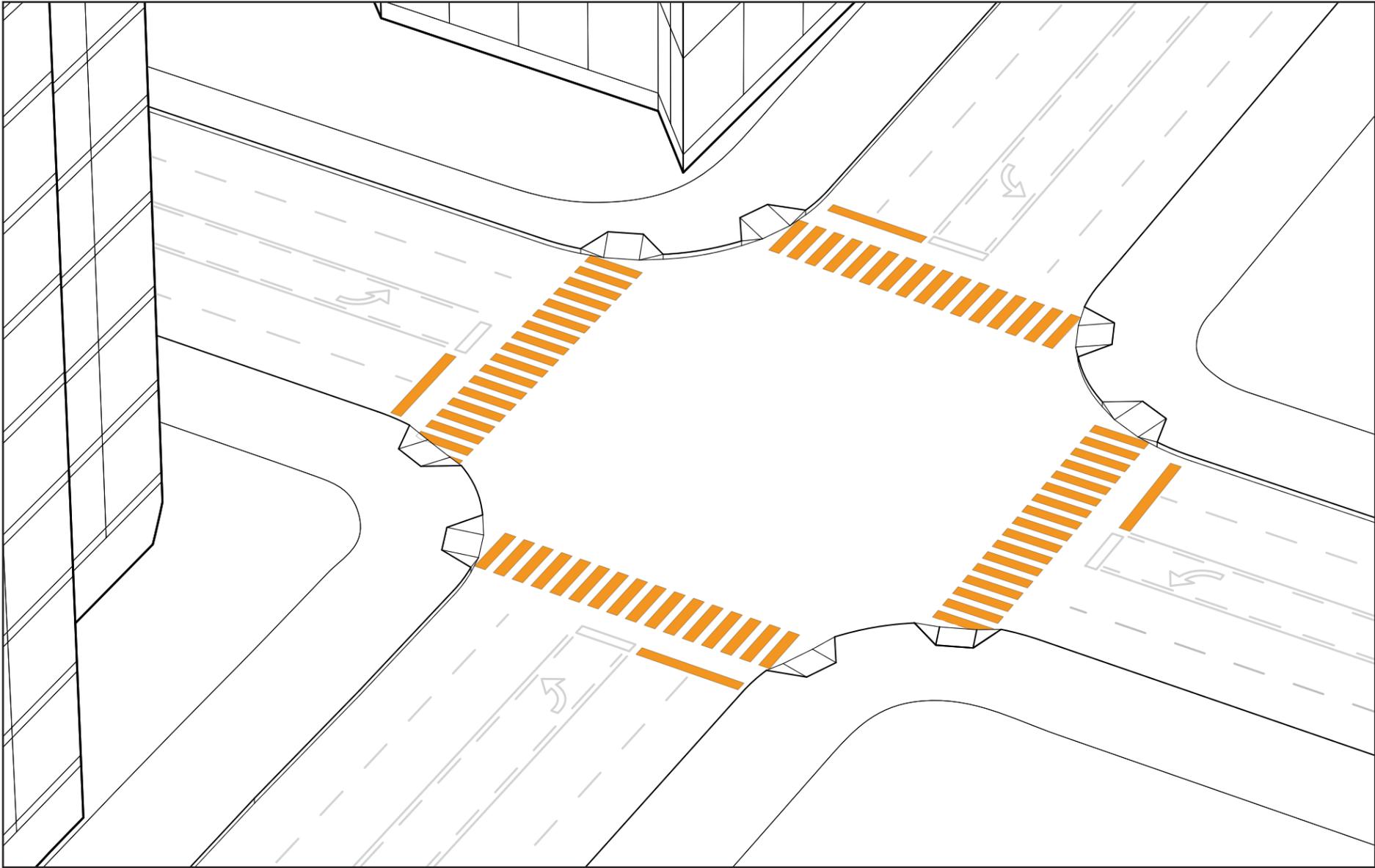


Many of the intersections identified as ENHANCED INTERSECTIONS in Downtown Bellevue offer pedestrian facilities that meet minimum design standards and accessibility guidelines. Crosswalks are delineated with two white bars and there are no stop bars indicating where vehicles should stop at a red light.

With increased residential and commercial land uses in Downtown Bellevue, these facilities do not provide enough capacity for the pulses of people using them at peak periods in the morning, lunch time and evening.

Tools recommended for enhanced intersections support increased pedestrian safety, capacity and visibility at these key intersections.

ENHANCED INTERSECTION: PAINT UPGRADE



“Zebra” or “piano” schemes produce a dense, high-contrast patterned crosswalk that is visible to drivers and clearly differentiated from the surrounding pavement as a distinct pedestrian crossing zone.



AbbeyRoad - area.autodesk.com.jpg

Thermoplastic striping may be more resilient than road paint, and typically contains reflective beads that increase visibility.



crosswalkstrips - ljworld.com.jpg

More intricate crosswalk schemes may serve to integrate an intersection thematically, differentiating it from the urban milieu of standardization.



ZipperXWalk - changingmediagroup.org.jpg

Painting crosswalks through the intersections will increase the visibility of the crosswalks for both the pedestrians and the vehicles. Stop bars should be added at all legs of the intersection to delineate where the vehicles should stop at the red light or before turning right. Stop bars should be placed so that the stopped vehicle can see the full width of the crosswalk marking to prevent the stopped vehicle from overhanging into the crosswalk.

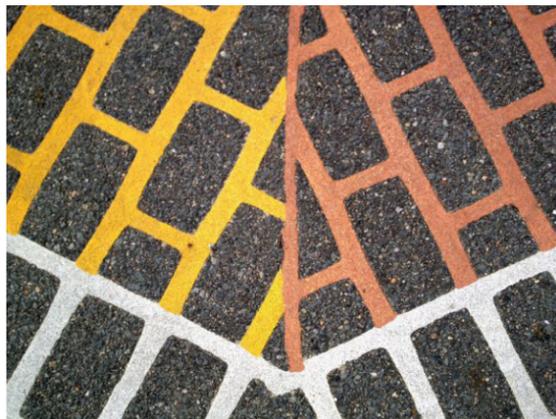
Crosswalks markings can be done in paint or thermoplastic striping depending on the desired maintenance cycle. In high volume intersections, such as the ones in Bellevue, maintenance of the intersection paint should be performed about every three years.

ENHANCED INTERSECTION: STAMP/EMBED



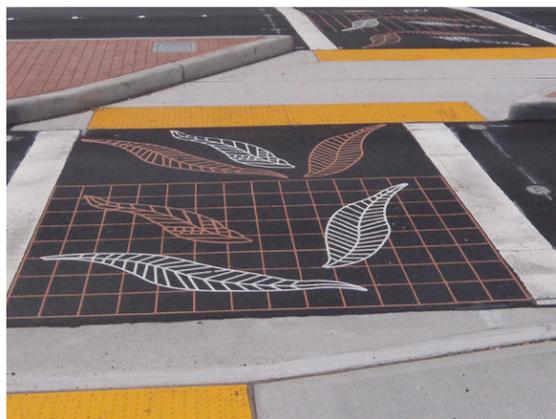
Enhanced crosswalk.JPG - City of Bellevue

This crosswalk employs a stamped pattern to accentuate the crossing zone.



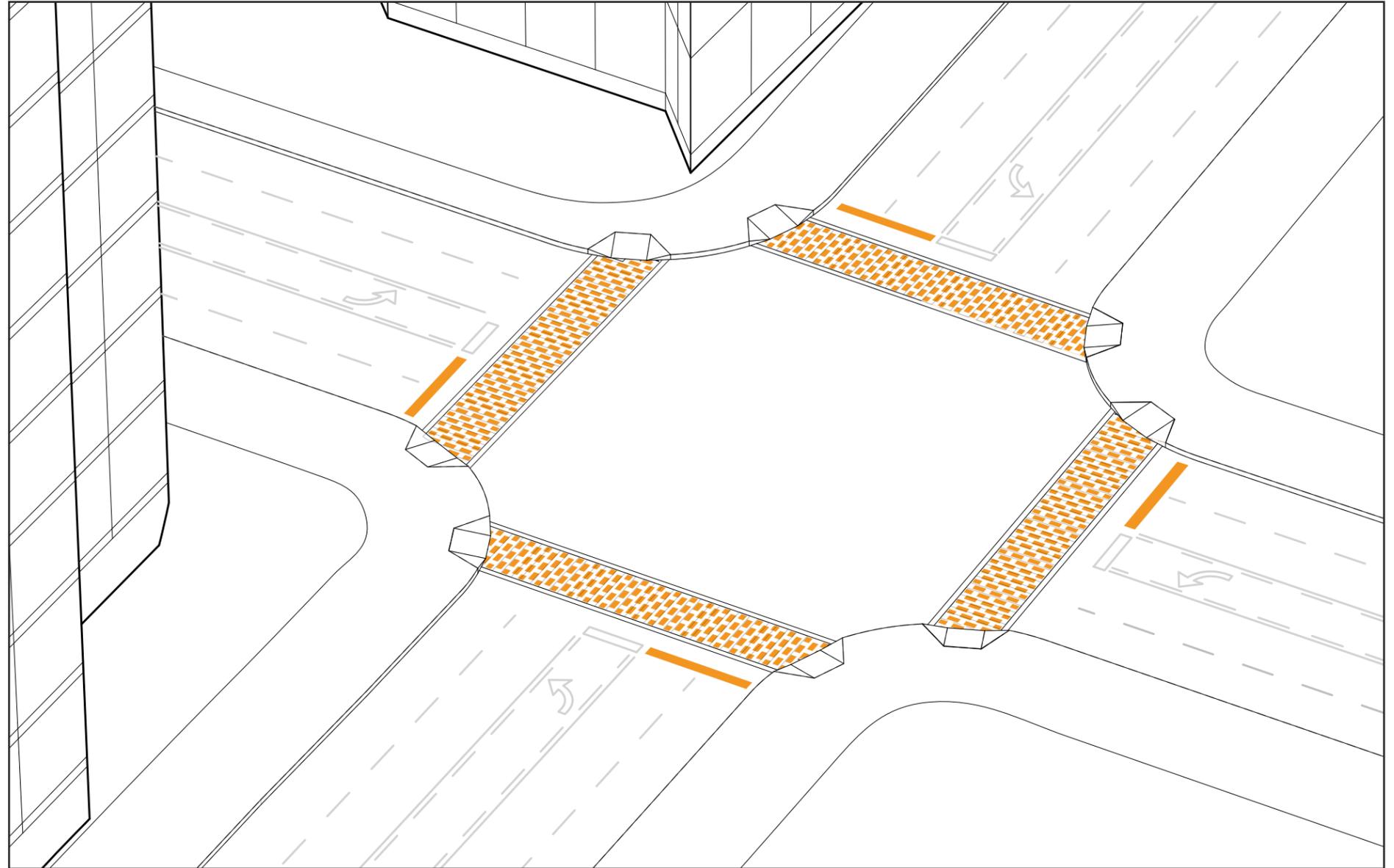
PaintedBrickXWalk - jeannewilliamson,blogspot.com.jpg

Crosswalks may be treated to enhance visibility and user experience or to reinforce a design theme relevant to the locality. Bricks may be painted to “dress up” an average crossing.



Midblock 1.JPG - City of Bellevue

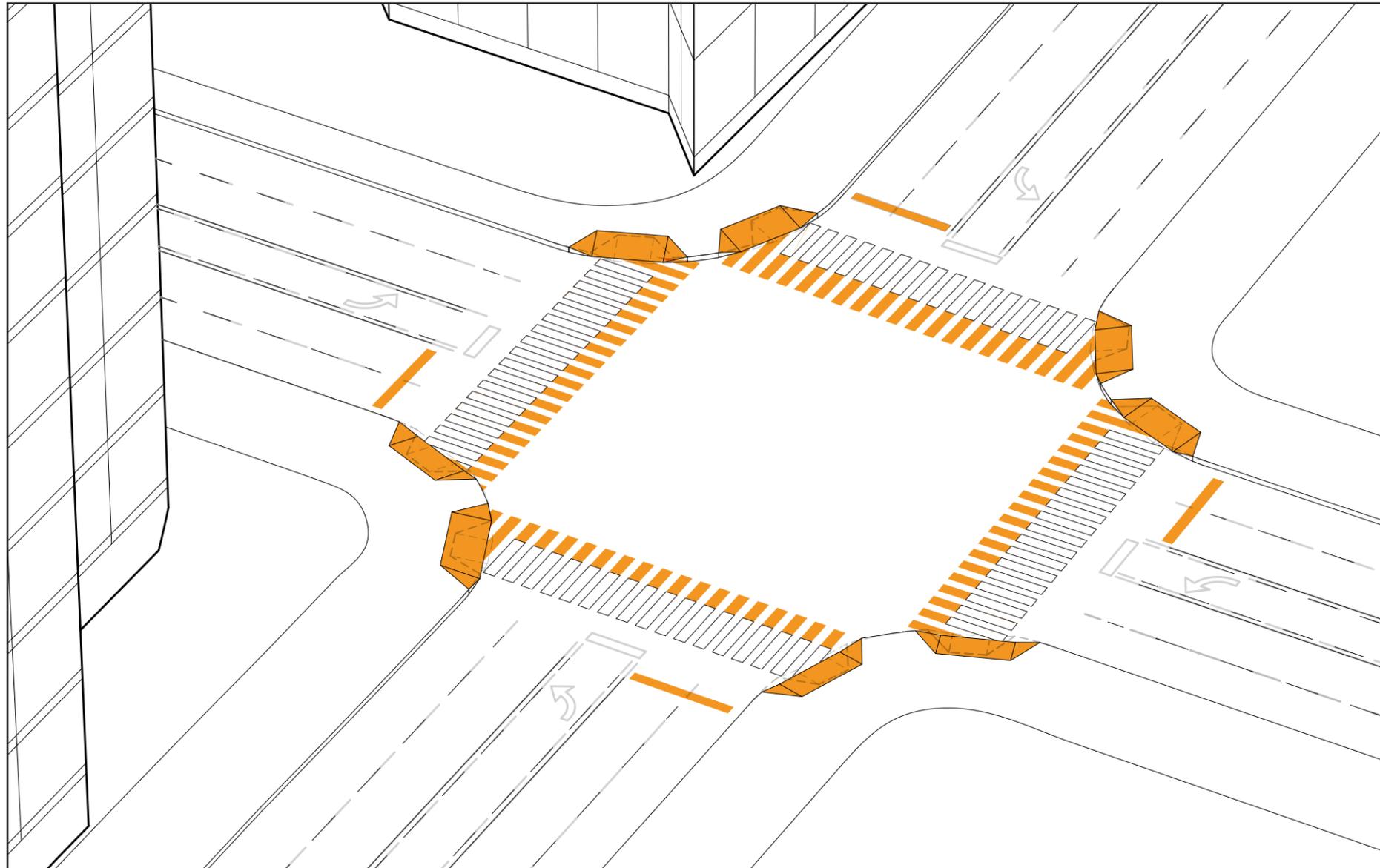
The stamp/embed process may combine patterns or symbols to create a variable palette



Some communities get creative with crosswalk markings and incorporate wayfinding and/or art into the crosswalk. Crosswalks can also be delineated with special paving as long as there is a contrast of color between the travel lane pavement and the crosswalk pavement.

ENHANCED INTERSECTION:

WIDE CURB RAMPS + WIDE CROSSWALKS



The minimum width of a curb ramp is 4 feet. This width is to accommodate wheel chairs and other devices that assist with mobility. In locations where a high volume of pedestrians are anticipated, increasing the width of the curb ramp increases access for more users.

Wide curb ramps increase the usability of wide crosswalks, allowing more users easy access to the sidewalk and permitting a broader range of pedestrian trajectories.



WideCurbRamp - cowindrea,byus.net.jpg

While this simple crosswalk designates a pedestrian crossing, the wide ramp increases its usability and directs pedestrians towards the crosswalk area rather than curbside jaywalking.



WideCurbRamp - ite.org.jpg

Wider ramps and crosswalks combined with high contrast markings increase accessible routes between high-traffic destinations



WideCurbRamp - fhwa.dot.gov.png

ENHANCED INTERSECTION: BULB



CurbBulbOne - Redmond.gov.jpg

Curb bulbs decrease the crossing distance for pedestrians, control vehicular flow and offer opportunities for planting, paving and other enhancements.



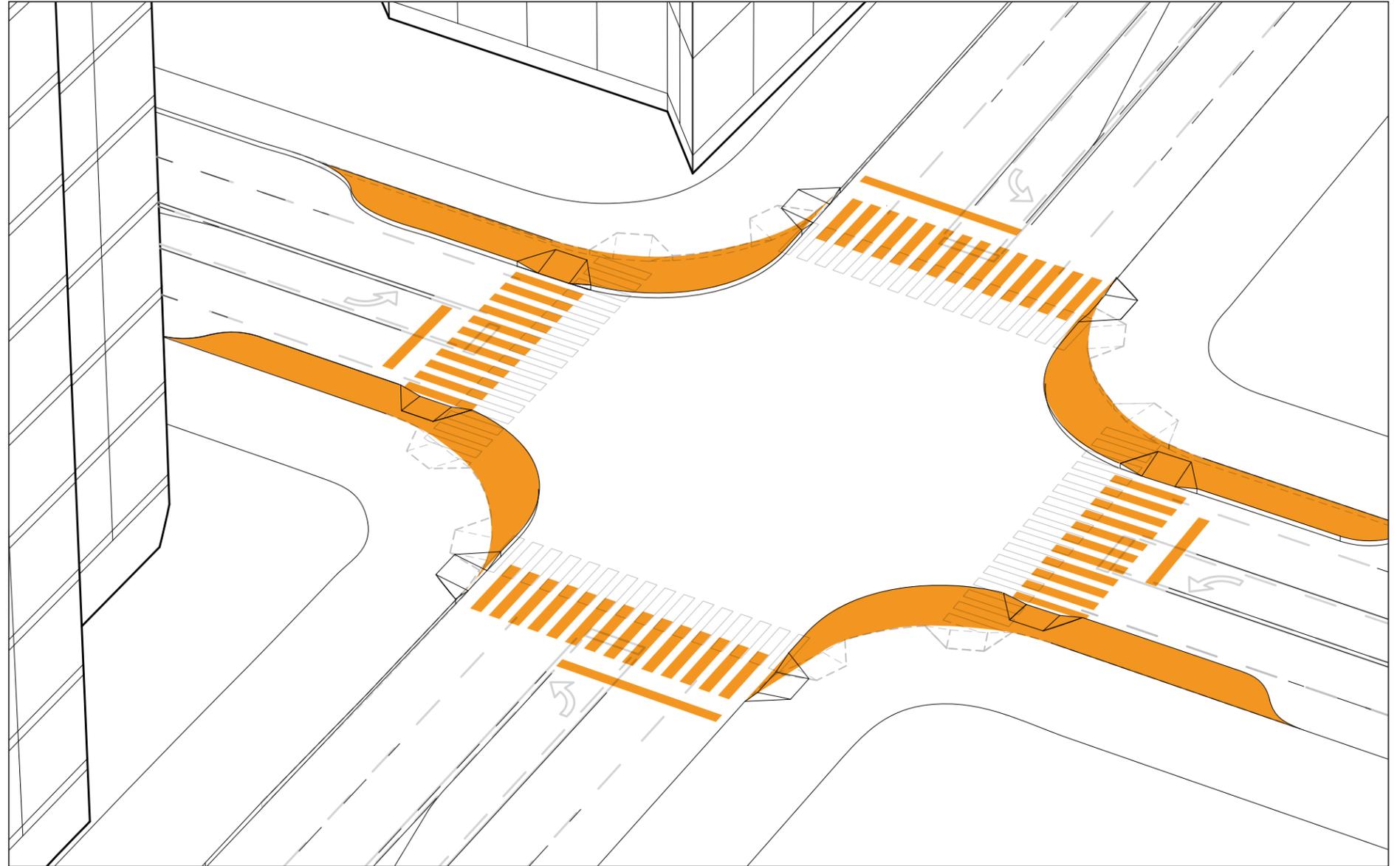
CurbBulb, BelmontSF - biophilicities.org.jpg

This curb bulb was retrofitted into an existing intersection to increase pedestrian safety and provide for a green stormwater facility.



CurbBulb, SantaFe NM - nacto.org.jpg

This curb bulb serves as a stormwater facility and keeps the corner free of parking.

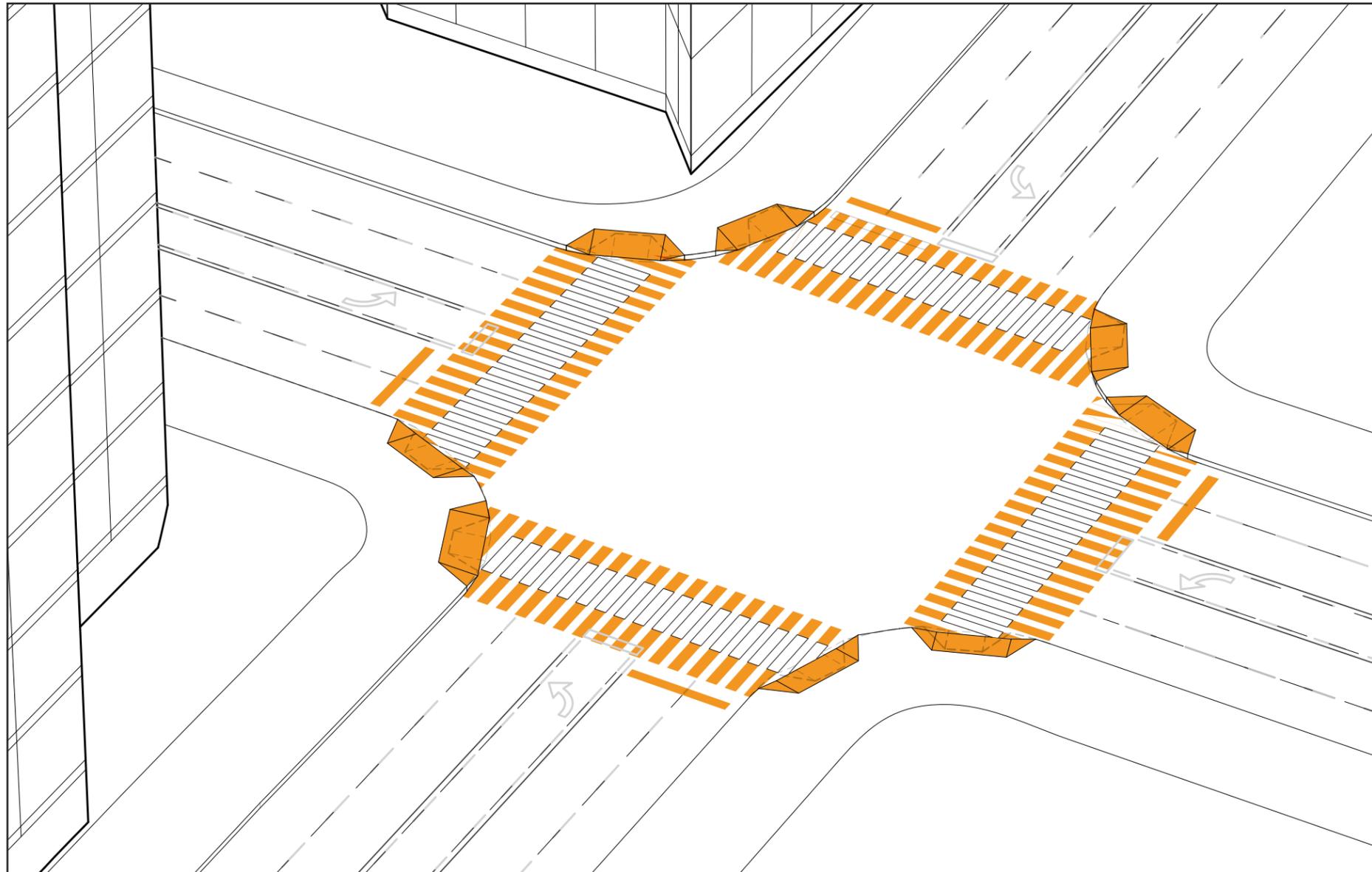


Curb bulbs can increase the visibility of pedestrians at intersections and provide more capacity for pedestrian queueing. Curb bulbs reduce the crossing distance for the pedestrians and can delineate parking setbacks from the crosswalks.

Curb bulbs also provide more space to grade in accessible ramps.

EXCEPTIONAL INTERSECTION:

WIDE CURB RAMPS + WIDE CROSSWALKS



Due to the high volumes of pedestrians and cyclists at the exceptional intersections around the transit stations, wide crosswalks can delineate the space needed to direct the users across the intersection.

Wide curb ramps should accompany the wide crosswalks to provide capacity for users that are not able to step over a curb.

This Miami crosswalk not only increases the visibility of the pedestrian zone, but generates an image of identity for the nearby blocks. Its width provides a wider buffer from halting traffic as well as indicating a gradation between the vehicular and pedestrian spaces.



PaintedXWalk, CarlosCruzDiez - popupcity.net.jpg

Wide ramps can also be provided at raised intersections.



WideCrosswalk - portlandtransport.com.jpg

The wide curb ramp provides access for multiple types of users to simultaneously traverse the sidewalk-street divide.



WideXWalkRamp - wrower.pl.jpg

EXCEPTIONAL INTERSECTION: STAMP/EMBED



ColoradoEsplanade, Santamonica CA.jpg

This intersection design by Peter Walker Partners employs typical materials and markings to signify a pedestrian zone. The traditional materials represent a known quantity while their deployment represents a novel space.



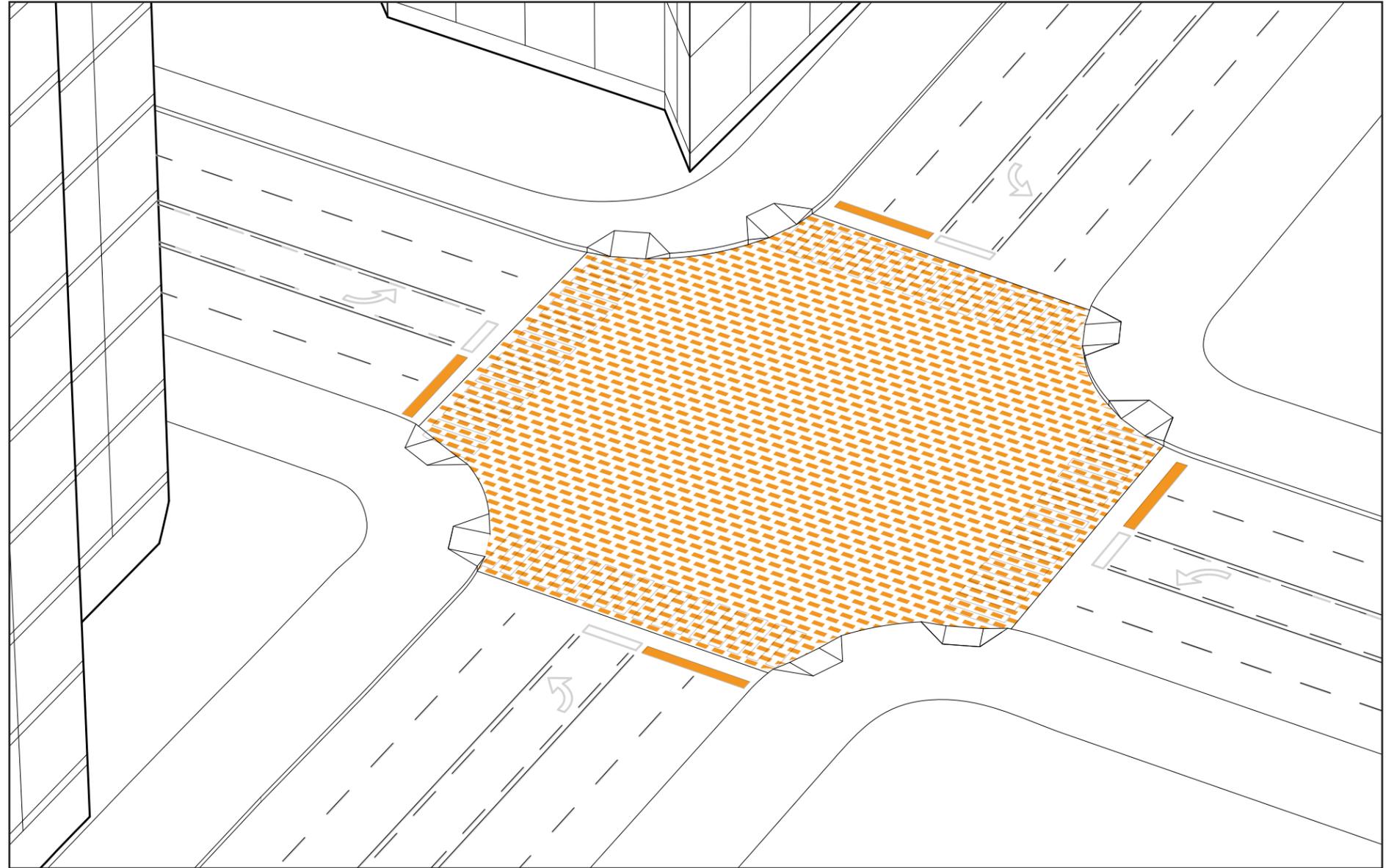
HexagonIntersection, George&HunterSt, Sydney - brickpave.com.au.jpg

In Sydney, a more refined painting pattern is used to signify a pedestrian zone and bring a heightened attention to an intersection.



oxford-circus, UK - media.timeout.com.jpg

While painting may be a cost-effective approach to differentiating intersections and pedestrian zones, paving materials may also be used to designate vehicular caution as well as pedestrian movements.



The two exceptional intersections within the study area will operate as pedestrian scrambles. A pedestrian scramble occurs when the traffic signals stop all vehicular traffic and allow the pedestrians and cyclists cross through the intersection in all directions including diagonally. Painting and/or paving the entire intersection can provide additional direction to the users.

EXCEPTIONAL INTERSECTION: RAISED INTERSECTION

A raised intersection slows vehicular traffic as it approaches the intersection, creating a safer environment for pedestrians crossing the roadway. Eliminating ramps may provide for a more continuous and accessible pedestrian route.



raised-intersection-portland.jpg

The use of color increases the visibility of the raised pedestrian crossing and further differentiates the intersection from the roadway surface.

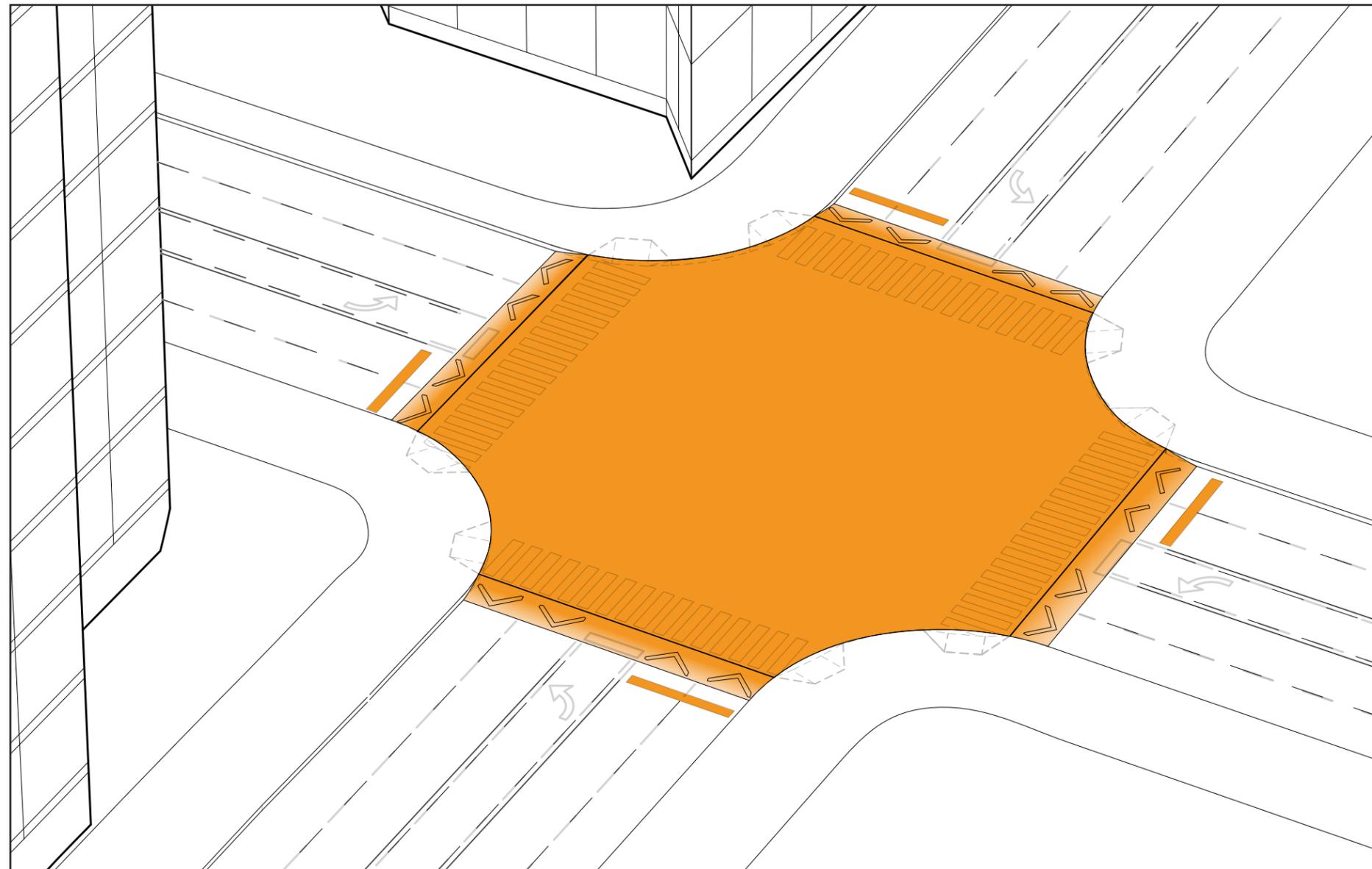


RaisedIntersection, MainStSpeedway - yargerengineering.com.jpg

Pavers may also serve to decrease overall vehicular speed through the raised intersection and during turning movements.



portland_unknown.jpg



Raising the intersection to meet the curb height is an intervention that highlights pedestrian priority. Raised intersections work well with pedestrian scrambles because pedestrians are not limited by the width of curb ramps.

The width of the ramps to the raised intersection vary depending on the height of the curbs.

Truncated domes must be placed around the entire curb return to indicate that pedestrians are entering the roadway.

EXCEPTIONAL INTERSECTION: BULBS



CurvBulb - techtransfer,berkeley.edu.jpg

Curb bulbs decrease the crossing distance for pedestrians, control vehicular flow and offer opportunities for planting, paving and other enhancements.



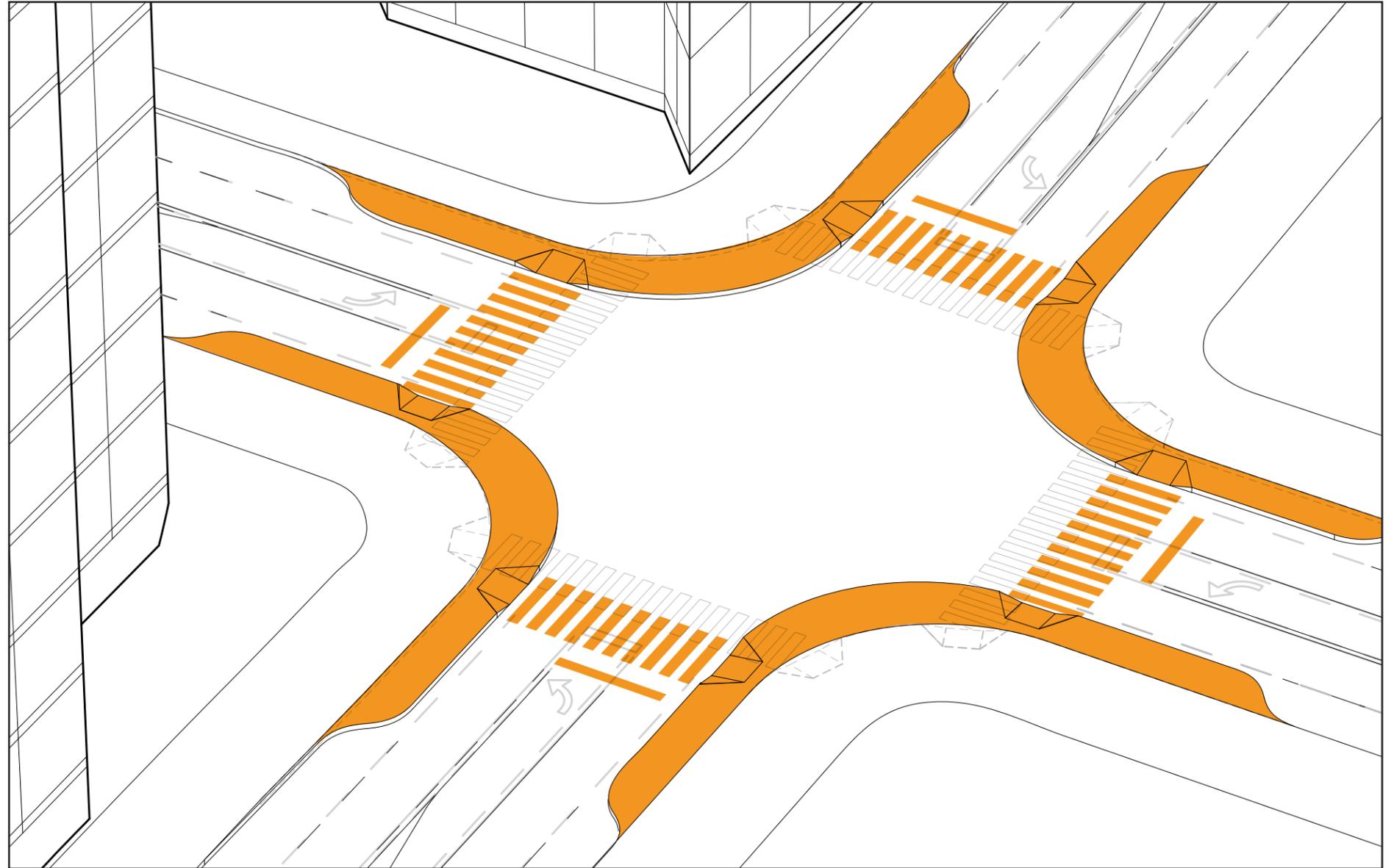
CurvBulb - sf,streetsblog.org.jpg

This curb bulb in San Francisco helps control traffic, indicates parking areas, and shortens pedestrian crossing distances across the street.



CurvBulb - kingcounty.gov.jpg

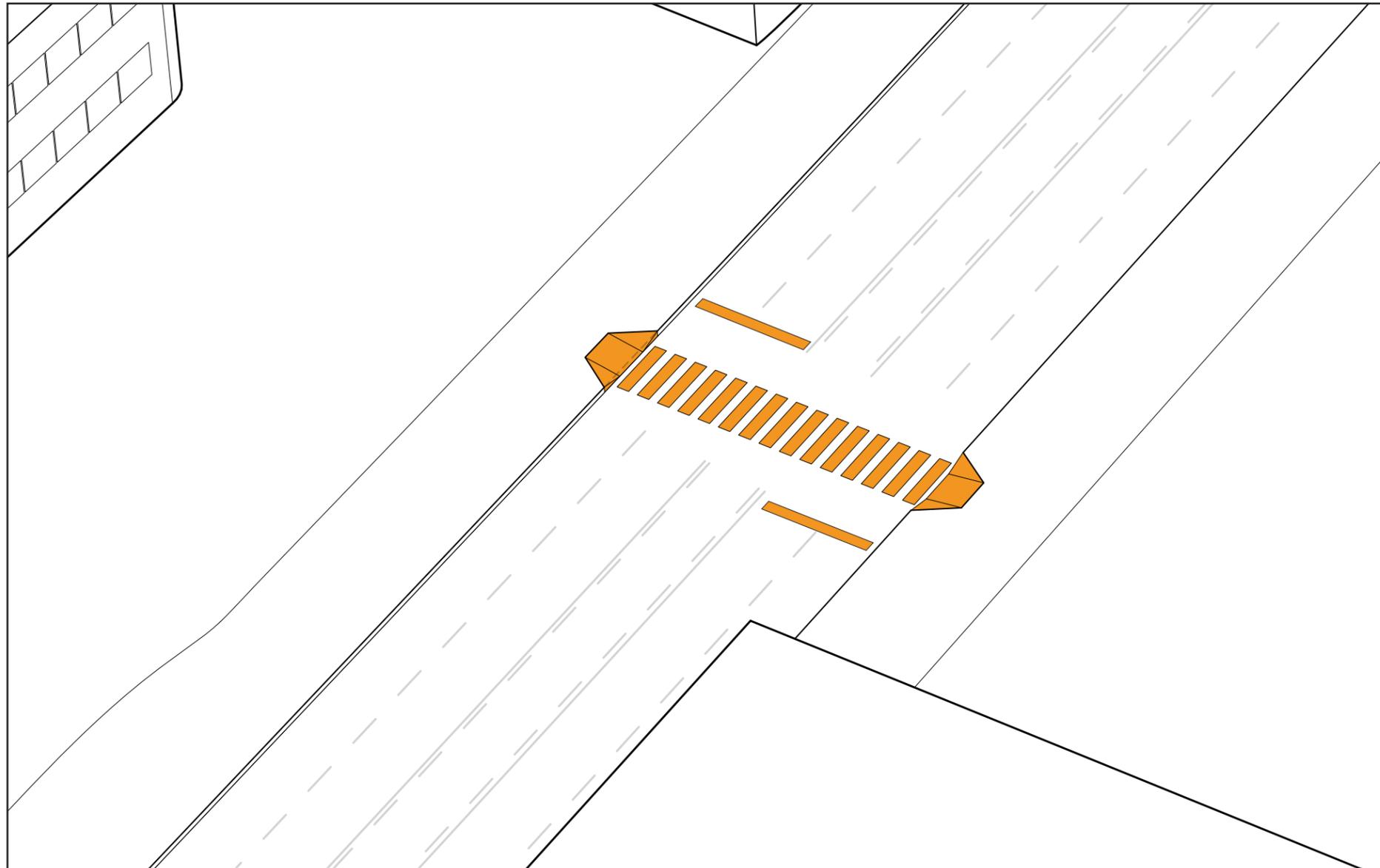
Curb bulbs can delineate parking areas.



Curb bulbs can increase the visibility of pedestrians at intersections and provide more capacity for pedestrian queueing. Curb bulbs reduce the crossing distance for the pedestrians and can delineate parking setbacks from the crosswalks.

Curb bulbs also provide more space to grade in accessible ramps.

MIDBLOCK CROSSINGS: CROSSWALK



Crosswalks should be installed to indicate where a safe, legal crossing is allowed. Crosswalks indicate both to pedestrians and driver that crossings are allowed at these locations. Stop bars at midblock crossings should be a minimum of 20 feet back from the cross walk. Adjustment to this width must conform to current edition of the Manual of Uniform Traffic Control Devices (MUTCD).

Midblock crossings help to shift the large blocks from a vehicular scale to a more pedestrian-friendly scale.



NACTO1.jpg

Delineating the midblock crossings make pedestrian crossings safer by curtailing the desire to jaywalk across wide roads rather than walk hundreds of feet to the nearest intersection before crossing, only to double back to reach a destination.



MidblockCrossingsPaintPave - carlisleiowa.org.jpg

Midblock crossings can benefit from the same marking and signification techniques as intersection crossings.



Crosswalk - urbanreviewstl.com.jpg

MIDBLOCK CROSSINGS: WIDE CROSSWALKS



WideCrosswalk, carlos_cruz-diez - blogs.miaminewtimes.com.jpg

Wide crosswalks at midblock crossings provide similar benefits as at intersections, including enhanced visibility, increased buffer from halting traffic, thematic identity and zone differentiation.



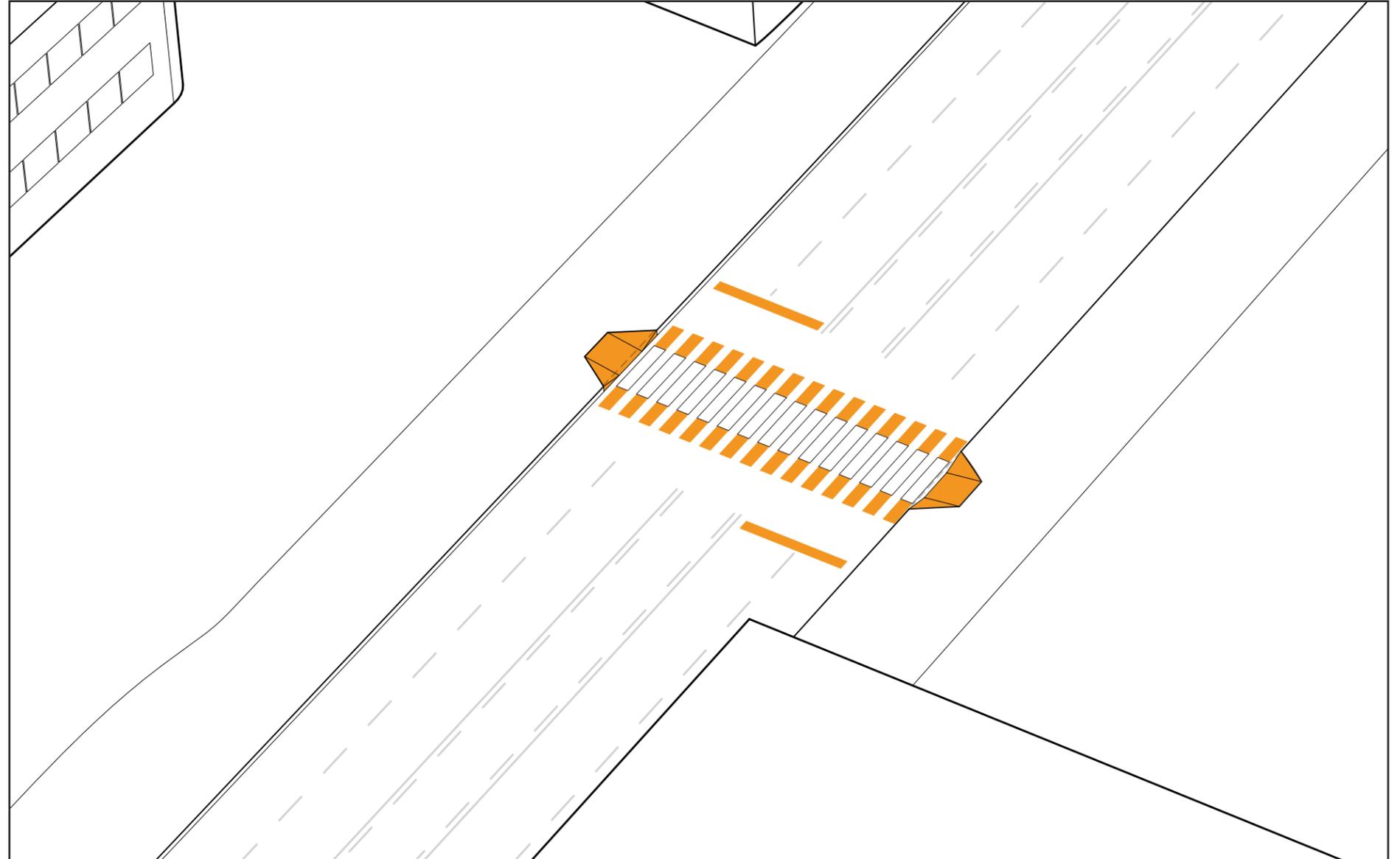
WideCrosswalk, EchoPark - theeastsidela.com.JPG

While straight forward in its approach, this crosswalk provides a well marked stop-bar as well as a wide crossing zone.



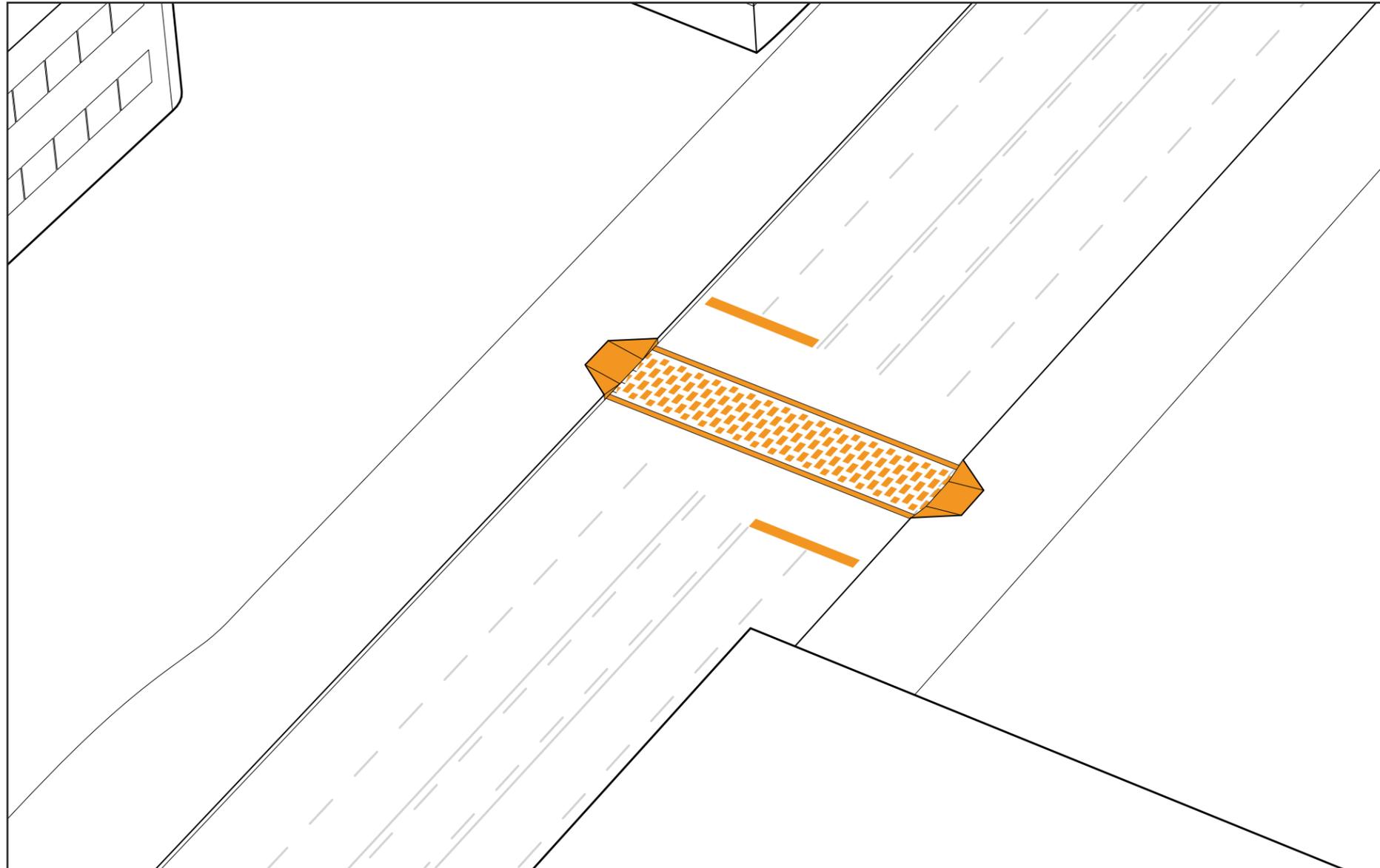
Midblock-WideXwalk - northfilednomo.jpg

Wide crosswalks allow for multiple simultaneous crossings. This crosswalk provides for multi-modal crossings for bicycles as well.



Increasing the width of the crosswalk at midblock crossings provide more capacity for pedestrians and make the crosswalk more visible to vehicles.

MIDBLOCK CROSSINGS: STAMP/EMBED



Differentiating the limits of midblock crossing with paint and/or pavement will delineate where pedestrians can cross the roadway.

Paint or pavers can be used to enhance the visual presence and appearance of crossings as well as improve the overall pedestrian experience. This crosswalk includes a friendly safety tip.



Midblock 5.JPG - City of Bellevue

This crosswalk employs a regular pattern that simulates pavers, honeycomb, or an abstract hexagonal matrix. The fresh paint provides a high contrast against the new asphalt.



HexagonXWalk - startribune.com.jpg

Reflective pavement markings can help during low-light or twilight conditions.



MidBlockPaintPave - landscapeonline.com.jpg

MIDBLOCK CROSSINGS:

WIDE CURB RAMPS + WIDE CROSSWALKS



WideCurbRamp - archiexpo.com.jpg

Wide curb ramps and crosswalks allow multiple types of users to safely cross the roadway simultaneously. Textured paving surfaces such as truncated domes allow for the detection of thresholds by the visual impaired.



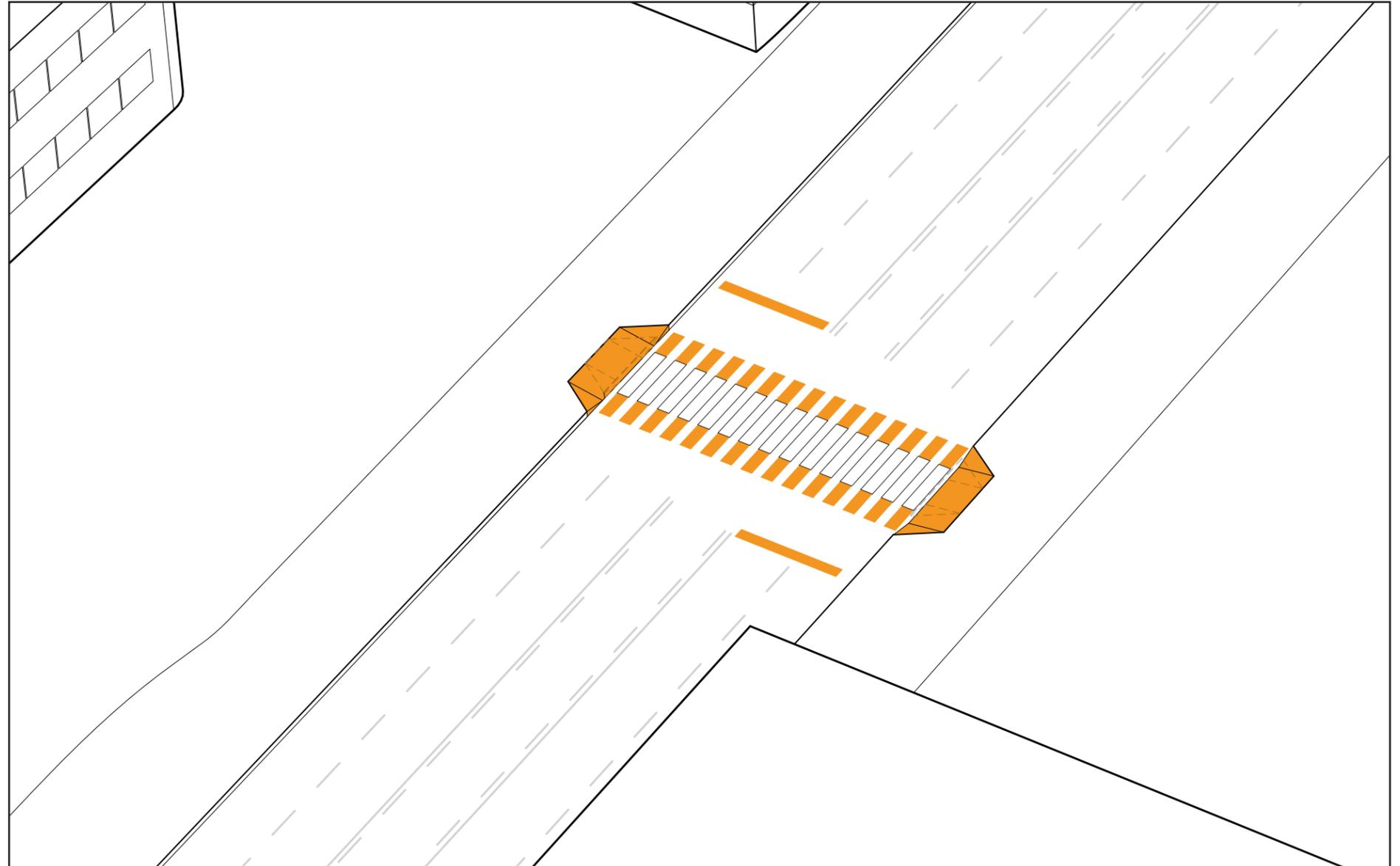
WideXWalkRamp - wrower.pl.jpg

The ramp at this intersection ensures a wide, accessible route for all users.

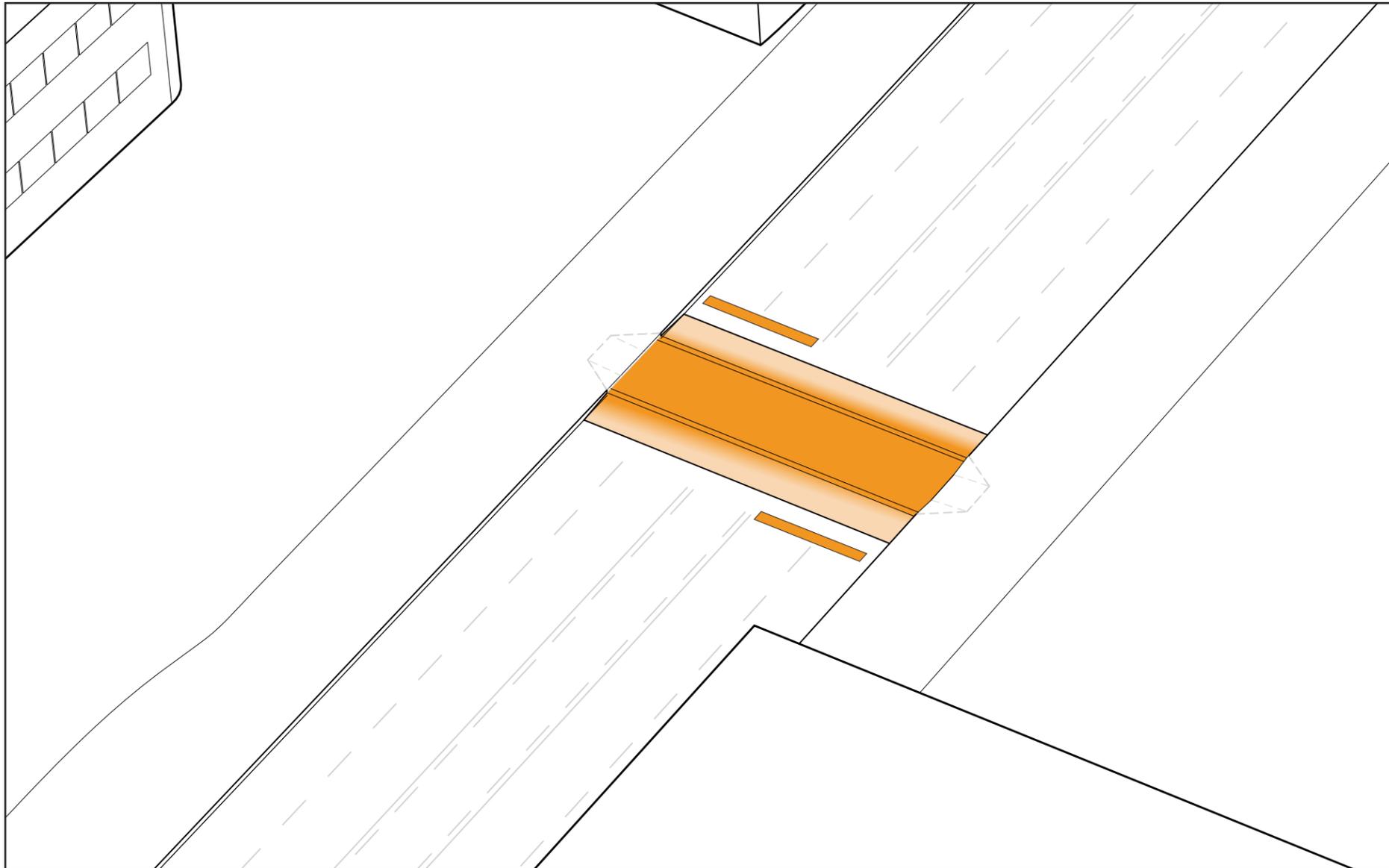


Midblock-WideXwalk - northfiledromo.jpg

Wide ramps should be carried through the median.



Increasing the width of the crosswalk provides more capacity and space for the pedestrian to cross. Stop bars provide an indication of where vehicles should stop to keep the crosswalk clear for pedestrians.



Raised crosswalks provide a delineated place for the pedestrians to cross. They also provide traffic calming along the street. Most vehicles need to reduce speed to safely drive over the raised intersection similar to a speed bump.

MIDBLOCK CROSSINGS: RAISED CROSSWALK

Raised crosswalks encourage traffic to slow down and increases driver awareness, permitting a safer pedestrian crossing experience.



RaisedXwalk-MidBlk.jpg

This rendering of a raised crosswalk in Leesburg, VA, employs brick to create a continuous pedestrian path between opposite sides of Main Street.



RaisedXwalk, Leesburg, VA .jpg

In Port Townsend, the sidewalk gently ramps down to meet the raised crosswalk, which is paved in brick to signify its pedestrian use. The concrete ramping visually distinguishes the facility from the asphalt roadway.



F-StBrickXing, SvR, PT - flickriver.com.JPG

MIDBLOCK CROSSINGS: BULBS



Midblock 6.JPG - City of Bellevue

While decreasing the crossing distance (and hence time in the roadway), bulbs can also designate parking areas. These curb bulbs are planted with street trees as well as shrubs.



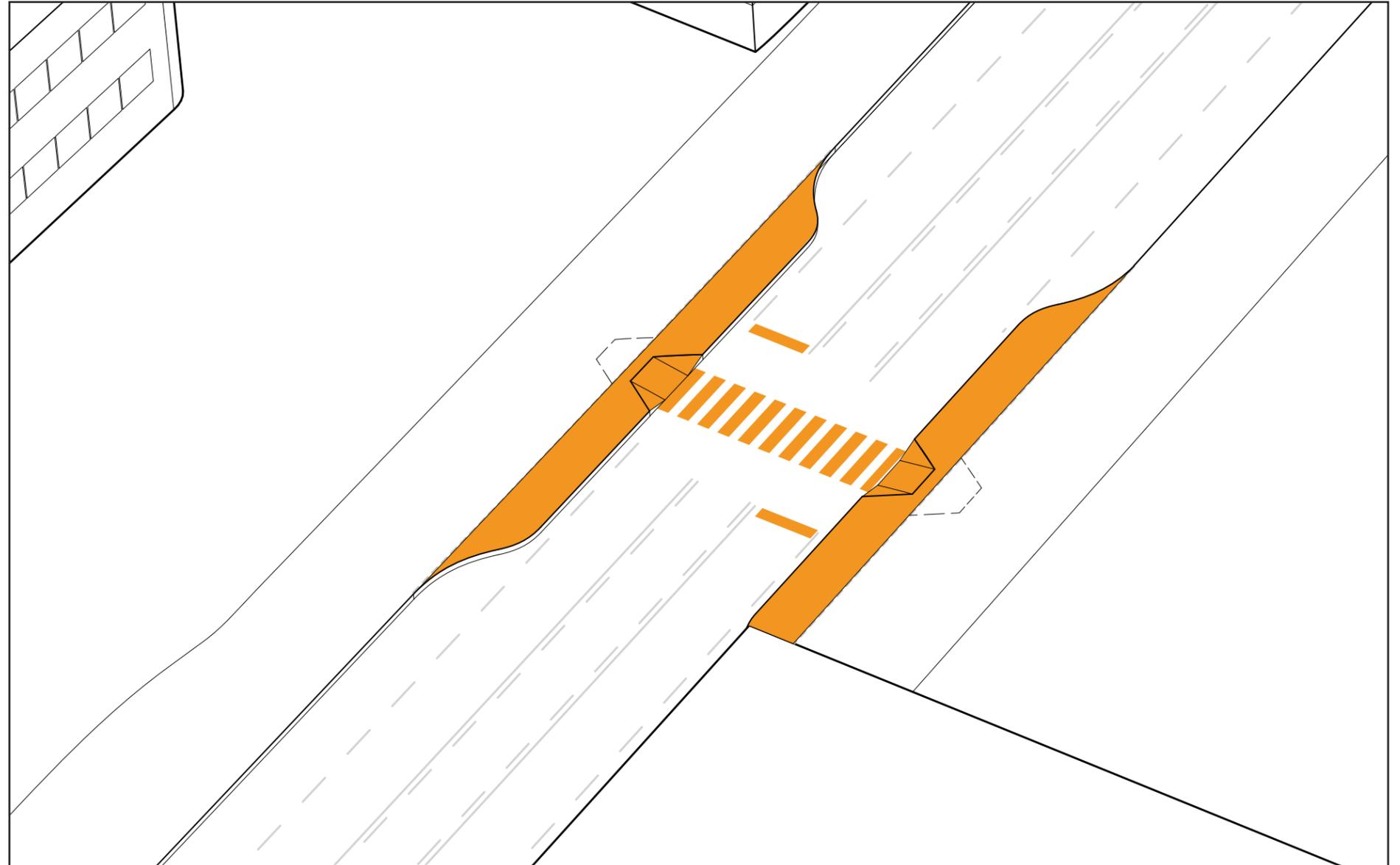
GuerrillaBulbOut, Ft.Lauderdale, BetterBlkProj - usa,streetsblog.org.jpg

Curb bulbs decrease crossing distances, control traffic flow, and provide opportunities for street enhancements. This temporary parklet in Ft. Lauderdale, FL, employs straw wattles to designate a pedestrian zone while allowing for intermixed parking between bulbs.



nyc_nycdot.jpg

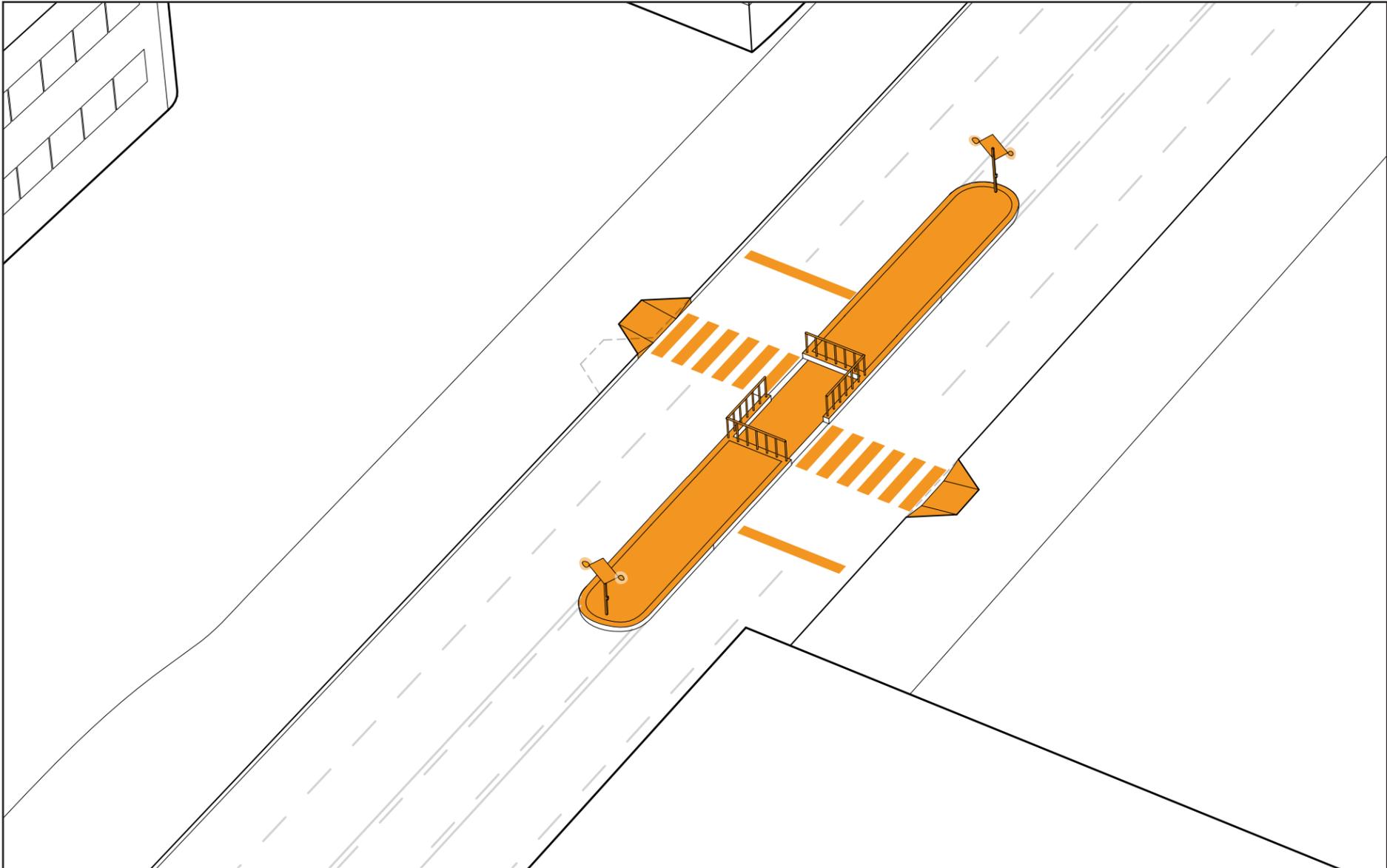
This proposal for a midblock crossing retrofit at an alley in Manhattan, NYC, employs flush-set paving (rather than new curbs) to differentiate the new pedestrian zone from the existing roadway. This bulb is incorporated into other pedestrian improvements, perhaps in the experimental phase.



Curb bulbs at midblock locations reduce the crossing distance for pedestrians. A pedestrian waiting in the curb bulb area is more visible to the vehicles in the roadway that have to stop to let them cross.

Curb bulbs also provide more space to grade in accessible ramps.

MIDBLOCK CROSSINGS: REFUGE ISLAND



A refuge island allows for increased capacity in the median. A refuge island also helps to align the crossing at safe locations when matching to existing conditions along the sidewalks.

Refuge islands provide an intermediary resting place for pedestrians that may need more time to cross the street. They may also be configured to orient the pedestrian's view towards on-coming traffic. Pedestrian activated signalization of the island ensures pedestrians do not become stranded.



Midblock 2.JPG - City of Bellevue

This refuge island provides a protected pedestrian space while also providing a venue for urban greening.



Midblock 4.JPG - City of Bellevue

This refuge island along 108th Ave NE in Bellevue provides for safer pedestrian crossing and roadway greening opportunities.



Midblock-Refugelsland - StView.jpg

MIDBLOCK CROSSINGS: MEDIAN



RaisedXwalkMedian - techtransfer,berkeley.edu.jpg

Medians provide many of the same benefits as refuge islands such as a safe resting place for pedestrians at mid-crossing as well as greater planting area and separation of opposing traffic, but medians extend the physical division along the entire block. In this crossing, a raised crosswalk traverses the planted boulevard.



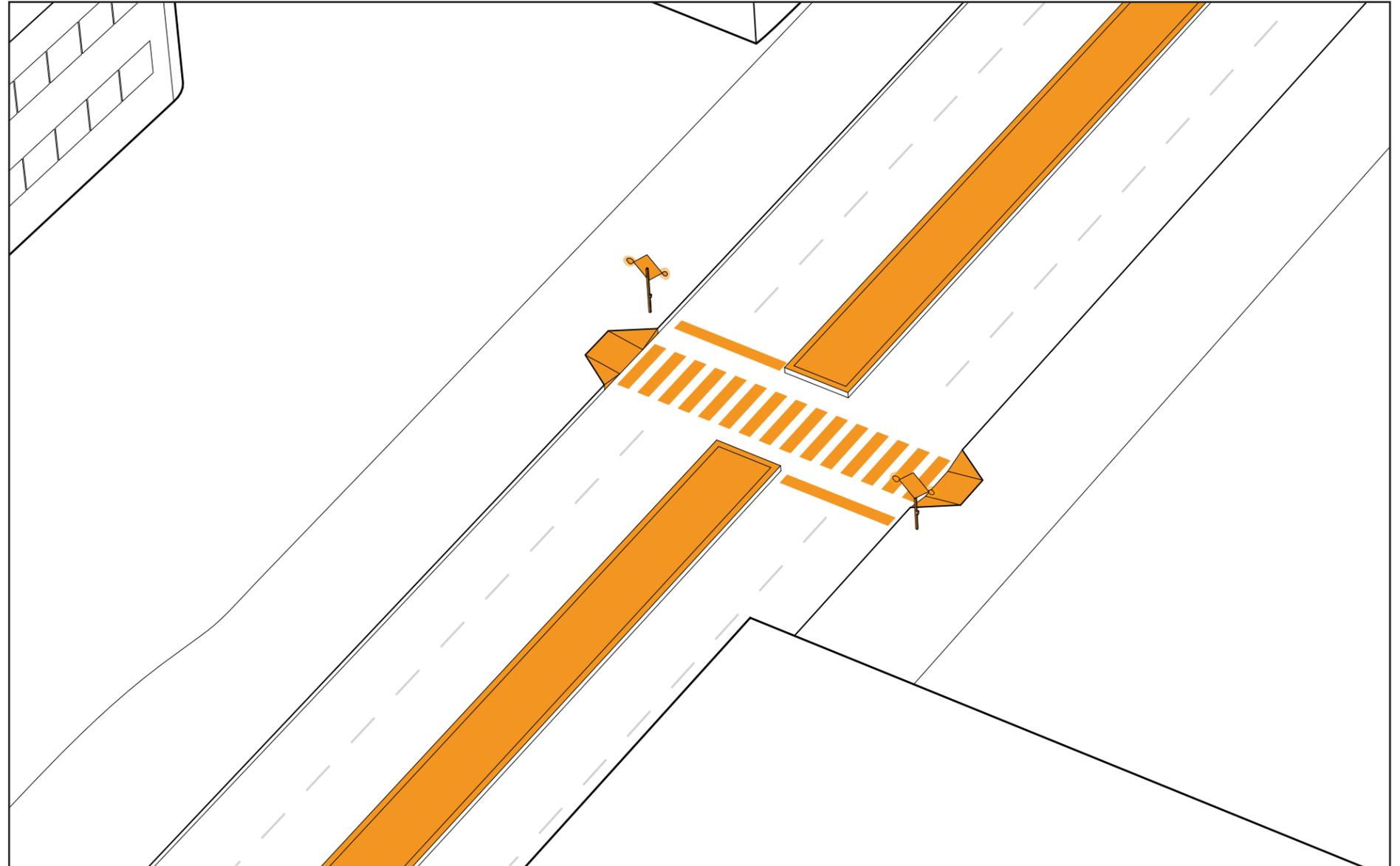
Asheville_PedCrossingIsland_CollegeSt_2011.jpg

This median crossing turns the pedestrian's view toward on-coming traffic by employing an irregularly shaped cut-through. This cut also keeps the pedestrian at the same grade until the curb ramp at the sidewalk.



XWalkMedian, WHollywood,CA - bikewalktwincities.org.jpg

This West Hollywood midblock crossing exemplifies many of the components of midblock crossings including signage, wide curb ramps and crosswalks, refuge, vegetation, and vehicular yield markings. Pedestrian activated signalization could be added for enhanced safety.



Medians allow for pedestrians to only focus on crossing one direction of traffic at a time. Providing a refuge for the pedestrian in the middle of the streets allows the pedestrian to be visible to the on-coming traffic in the other lane.

MIDBLOCK CROSSINGS: PEDESTRIAN CROSSING SIGNAL

Pedestrian-activated crossing beacons can aid in alerting oncoming traffic to the presence of a pedestrian. Since this type of signal is pedestrian-activated, the signal-to-noise ratio is maximized, providing notification only when an actual pedestrian is present and desiring to cross.



PedXwalkSignals, Chicago - billpeduto.com.jpg

Small crosswalk signs may serve to alert traffic at midblock crossings in lightly driven or low-speed areas.



Midblock crosswalk-sign - positivelynaperville.com.jpg

Low-profile or inlaid LED lights may help identify crossings at night without the light pollution of overhead lights.



PavementLight-Lowpro - itemtd.com.jpg



At midblock crossings, pedestrian signals and cautionary signage should be used to indicate that pedestrian crossings are allowed and that vehicles need to stop. Many cities use pedestrian-activated signals so that cars only need to stop when pedestrians are present. This is a more cost effective way to give pedestrian priority than to provide a full signal where it is not warranted.

At some wide crossings, cities including New York, Phoenix, London and Singapore are using emerging technologies such as sensors and card

readers to extend the pedestrian signal for users who need more time to get to the median refuge or the other side of the street.

Certain midblock crossing signals can be provided without costly infrastructure upgrades when they are coupled with properly oriented solar panels and battery arrays that can power the bright flashers.

TRANSIT CENTER: EXISTING



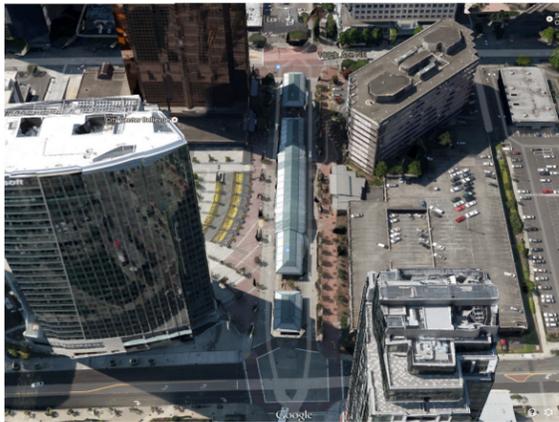
NE 6th St & 110th Ave NE

IMG_0456.JPG - SvR



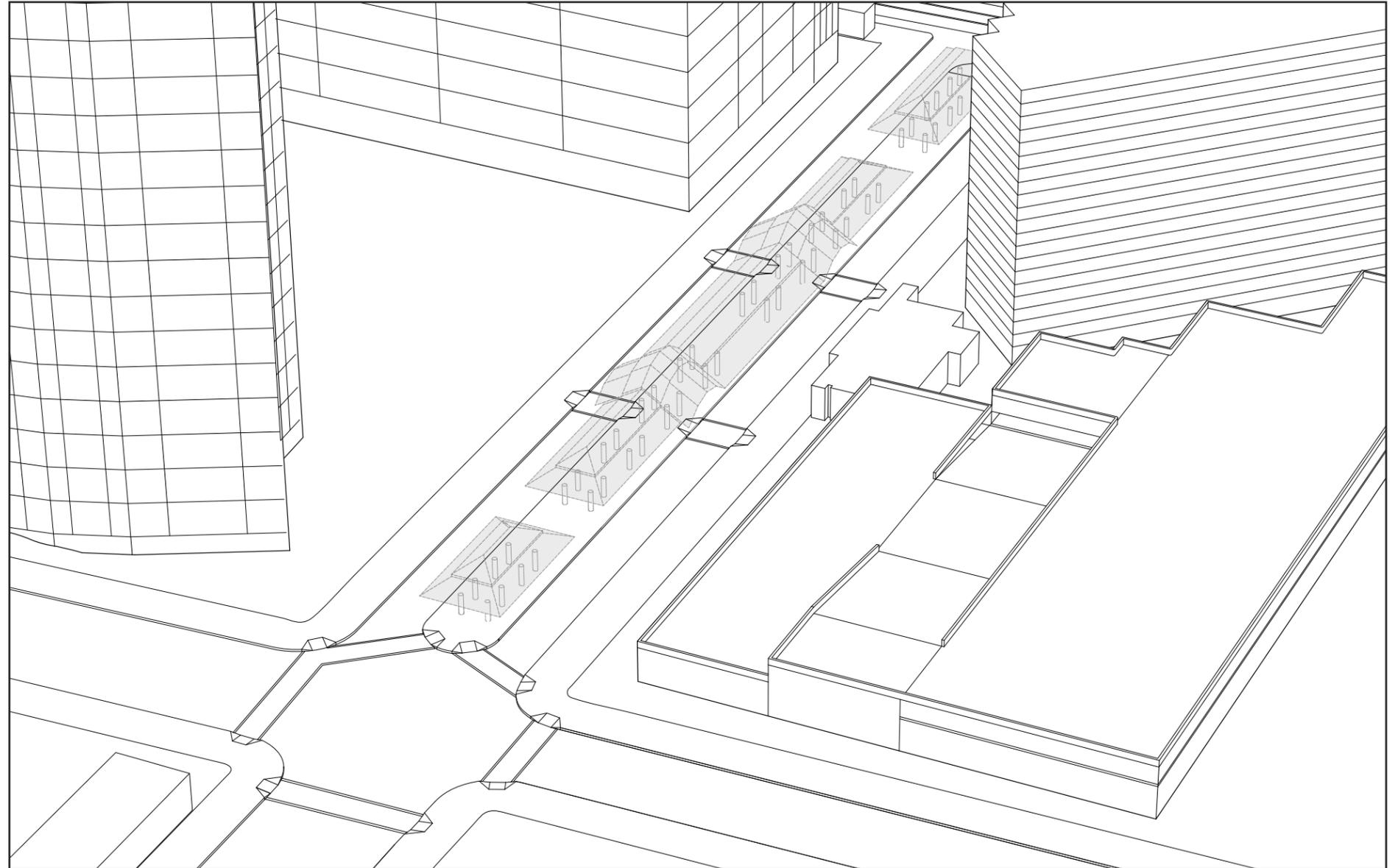
NE 6th St & 108th Ave NE

P1210156.JPG - SvR



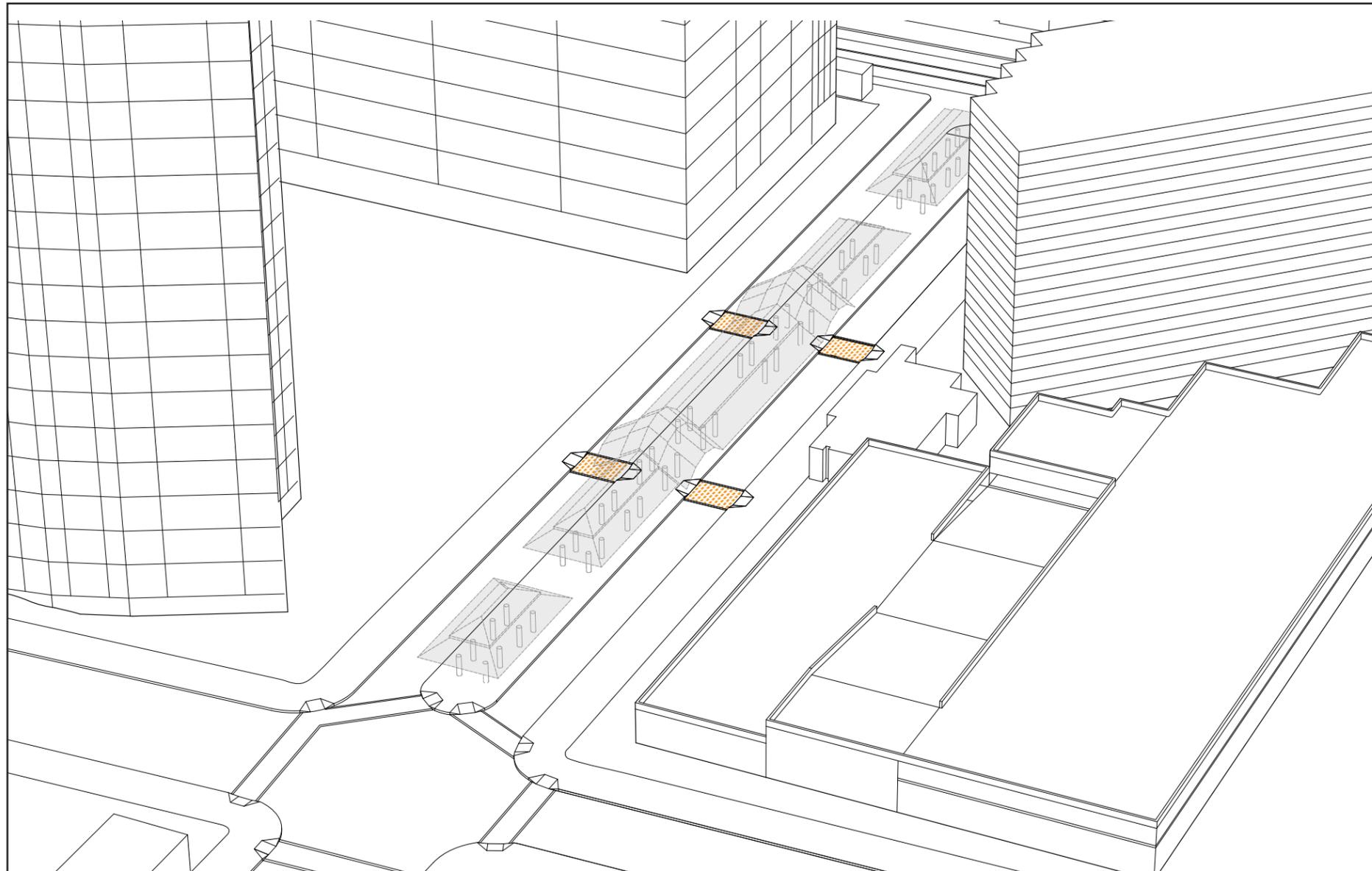
Aerial photo of existing Transit Center.

BellevueTransitCenter-Existing.psd - GoogleEarth



The existing Transit Center is located one block west of the proposed East Link Extension light rail station. Ridership and bus service are forecast to increase at the Transit Center, and connectivity between the two stations will become critical to navigating the extended urban network. Many of the same tools for intersection and street crossings may be applied to the Transit Center block.

TRANSIT CENTER: STAMP/EMBED



The current crosswalks have dyed concrete between the crossing lines. An upgrade of the Transit Center may involve augmenting or enhancing this color scheme to match either the surrounding sidewalks or the exceptional intersections at the ends of the block.

The pavers at this transit stop in Denver, CO, indicate that the street belongs to a larger pedestrian environment. The narrow two-way street is separated by pedestrian-scale street lighting fixtures set within a flush-set "median."



TransitStop, DenverCO - forum.skyscraperpage.com.jpg

This proposal for a pedestrian crossing at a possible future Pioneer Square location employs pavers among other tools (wide curb ramps and crosswalks, raised crosswalks), to differentiate the pedestrian zone and add to pedestrian safety.



TransitMalXing, PioneerSq, Seattle - seattletransitblog.com.jpg

A stamp/embed pattern can approximate these pavers used in Portland, OR.

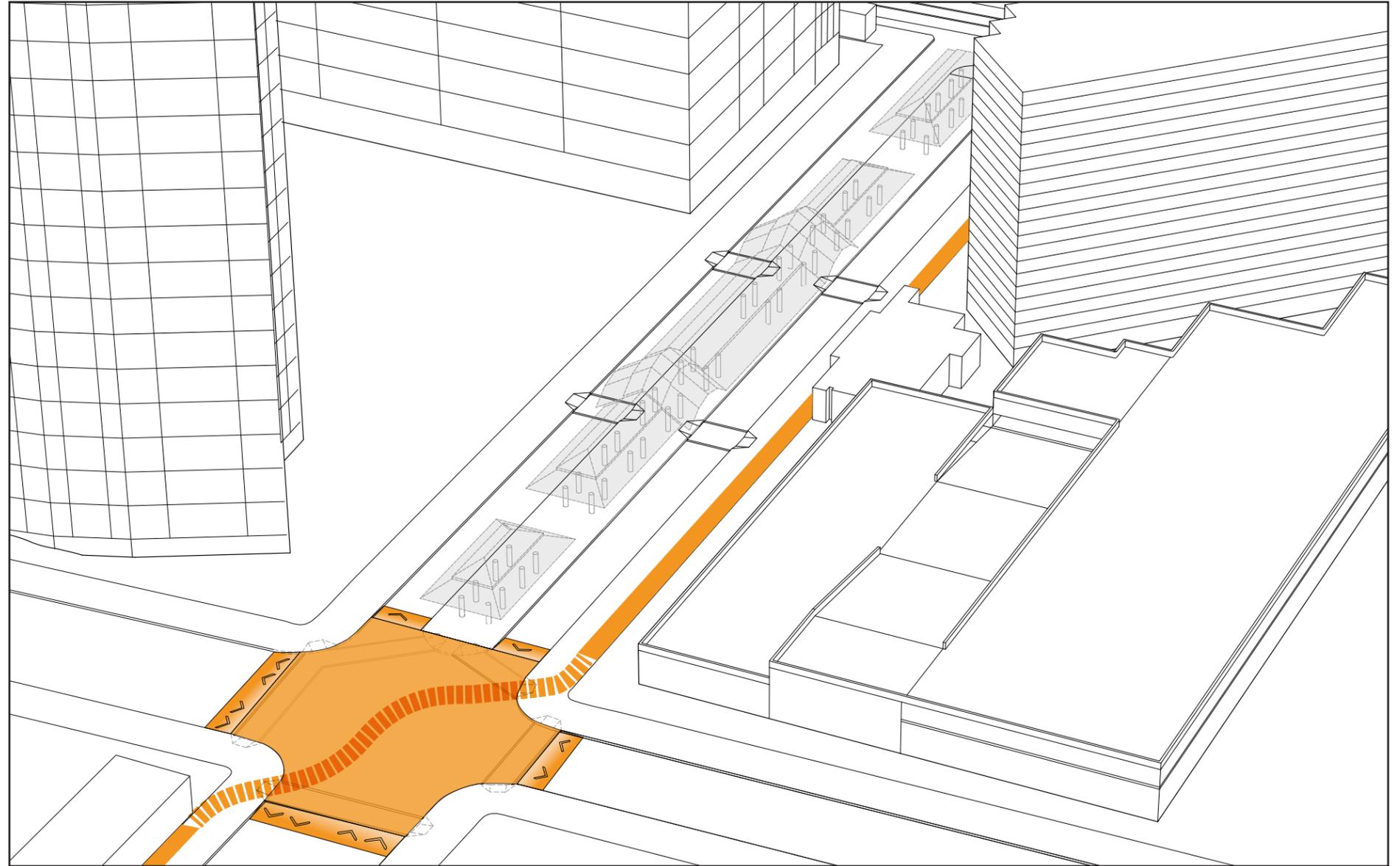


TransitMall, PortlandOR9 - actsofminortreason.blogspot.com.jpg

TRANSIT CENTER: BICYCLE NETWORK



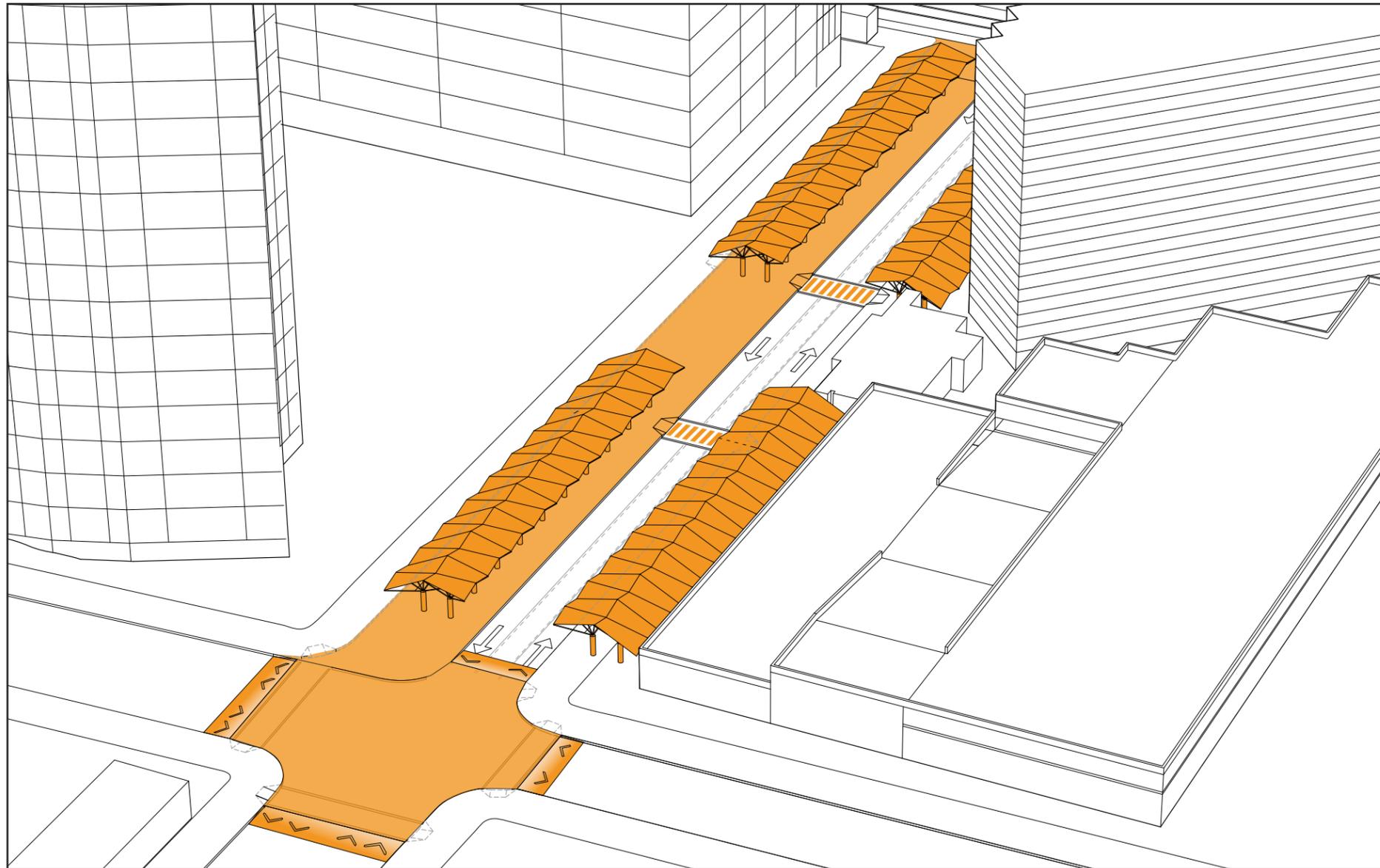
The City of Bellevue Bicycle Facilities Network Plan call for an Off-Street Path for bicycles along the NE 6th Street, connecting the pedestrian mall west of the existing transit center, at 108th Ave NE to the planned light rail station at 110th Ave NE.



The main east-west bike connection through Downtown is the NE 6th Street Corridor. This connection is the multi-modal spine connecting cyclists to the transit center. This corridor operates as a shared use path for non-motorized users. Pavement markings, wayfinding and lighting along this corridor and at the intersections needs to support these modes.

transit-09-BikeFacility.ai - SvR

TRANSIT CENTER: RECONFIGURE



While curb bulbs reduce crossing distances across roadways, they also control traffic flow. These undulating transit platforms designate bus arrival locations.



CitiLinkTransitCtr2, FtWayneIN - fwcitilink.com.jpg

In this rendering by JFCO, a bulb form is used to differentiate pedestrian pause places from pedestrian circulation.



NicolletMall - startribure.com, JFCO, nicredesign3.jpg

The continuity of the roadway through Nicolett Mall is unbroken, indicating a privileged, vehicular condition. Compare this condition to the proposal above.



NicolletMall, GrantStMinneapolis - city-data.com.jpg

The existing Bellevue Transit Center (BTC) has been observed to be “outdated and cluttered,” and the number of transit passengers using the facility is forecast to increase. While there are opportunities for modest platform improvements, the question of enlarging the entire Transit Center facility is considered here.

In this scheme there are several major moves: the central platform is eliminated; the southern curb is “bulbed” out to increase pedestrian space and connect the transit mall to the pedestrian plaza to the south; covered queuing areas are increased through the deployment of two new

open-air shelters on opposite sides of the roadway; new channelization favors typical right-hand-side traffic patterns; a central lane permits bus shuffling; the enlarged Transit Center incorporates bicycle parking; pedestrian crossings are aligned at the block ends.

The two-way bicycle facility could be located to the south side of the street, along the midblock pedestrian mall.

TRANSIT CENTER PLATFORM: EXISTING



NE 6th St & 108th Ave NE

IMG_0458.JPG - SvR



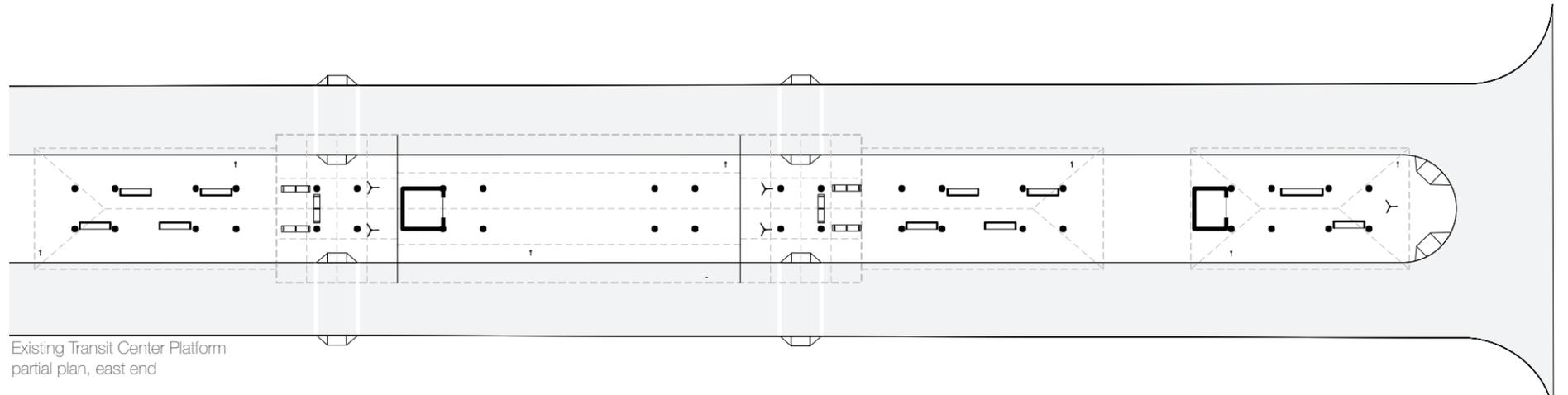
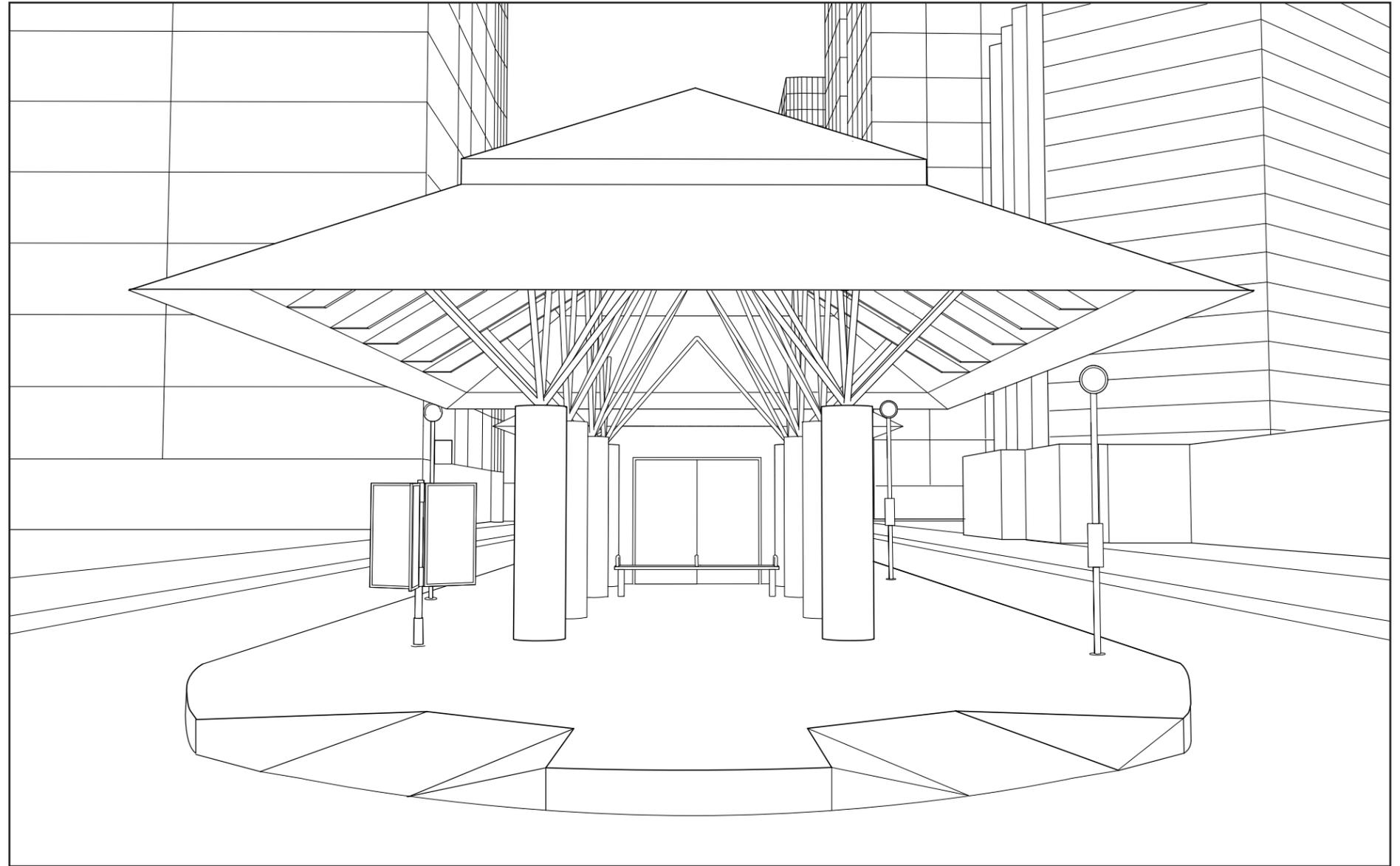
Transit Center Clerestory

2014-04-03 10.56.13.jpg - SvR



NE 6th St & 110th Ave NE

P1210385.JPG - SvR



Existing Transit Center Platform
partial plan, east end

TRANSIT CENTER PLATFORM: DECLUTTER (1)

Continuous visibility provides for spatial legibility, signage opportunities and enhances rider safety.



RailStation, Cologne, GRMNY, dreamstime.com.jpg

This transit stop in Portland, OR, provides shelter while maintaining clear lines-of-sight in and out of the shelter.

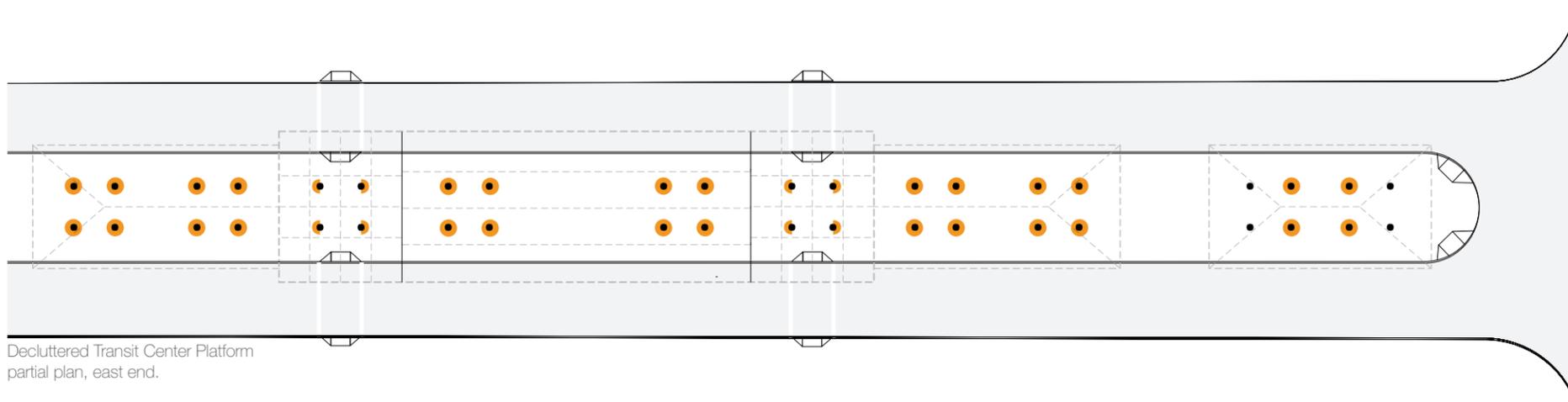
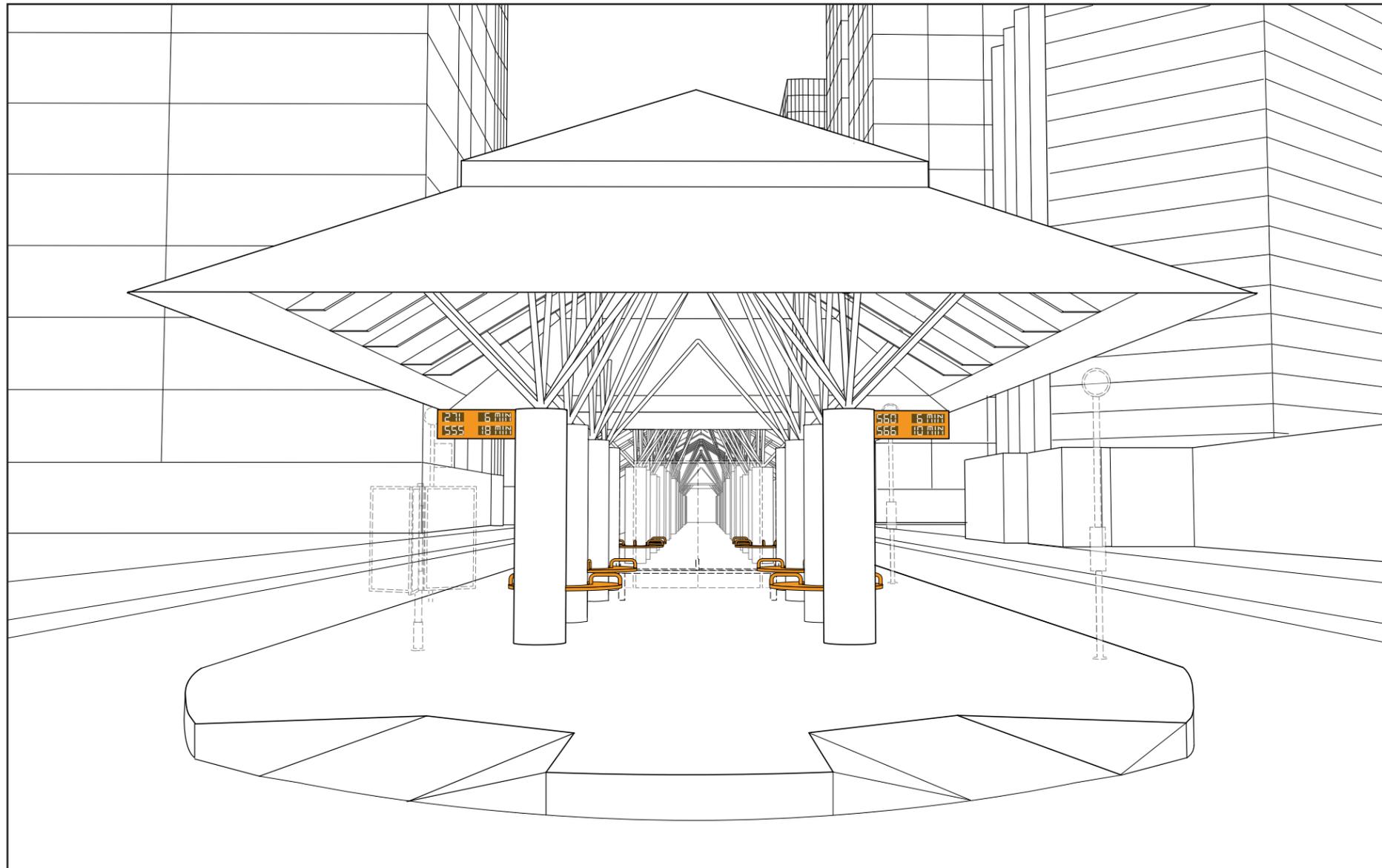


TransitMall, PortlandOR3 - bobrichardson.jpg

An updated transit stop shelter echoes the curved glass of its elder incarnation while increasing visibility and decreasing the over all visual massing of the structure.



TransitMall, PortlandOR7 - asla.com.jpg



Decluttered Transit Center Platform
partial plan, east end.

TRANSIT CENTER PLATFORM: DECLUTTER (2)



BEFORE: sim_108th_looking_east_OPEN_before.jpg - City of Bellevue



AFTER: sim_108th_looking_east_OPEN.psd - City of Bellevue

The existing Bellevue Transit Center (BTC) has been observed to be “outdated and cluttered,” and the number of transit passengers using the facility is forecast to increase. However, there are opportunities for simple modifications within the existing structure that will improve the user-experience and aid in wayfinding, both around downtown and between bus routes.

The current conditions of the Transit Platform are characterized by a utility structure at each end of the platform, benches oriented perpendicular to the longitudinal axis of the platform, and an assortment of ground-mounted sign posts and kiosks hosting transit schedules. The combination of these elements forces circulation to the periphery of the platform, at curbside, where riders are loading and off-loading and close to where busses are traveling.

The removal of the unstaffed ticket booth and/or utility room(s) will increase on-platform visibility, daylight transmittance and overall sense of safety.

The transit center platform is cluttered by multiple other objects that impede the overall usage of the platform. The orientation of furnishings may be changed to increase space for circulation and queueing.

Circular benches (pg 38) may be more conducive to along-platform-travel, reducing passenger congestion along the outer edges of the platform.

The removal of ground-mounted signage will increase waiting area space and allow for easier informal queueing.

TRANSIT CENTER PLATFORM: LIGHTEN/ILLUMINATE

Illumination performs multiple roles at transit stops. It provides a sense of safety; it acts as a beacon for approaching pedestrians and busses; it illuminates pedestrians waiting to board a bus. A well designed illumination system can generate an ephemeral sense of space with minimal use of building materials.



TransitMall, PortlandOR1 - media.orgonlive.com, ZGFarchitects.jpg

The lighting on the roof of this transit shelter emphasizes its sense of uplift and openness in Vancouver, WA.

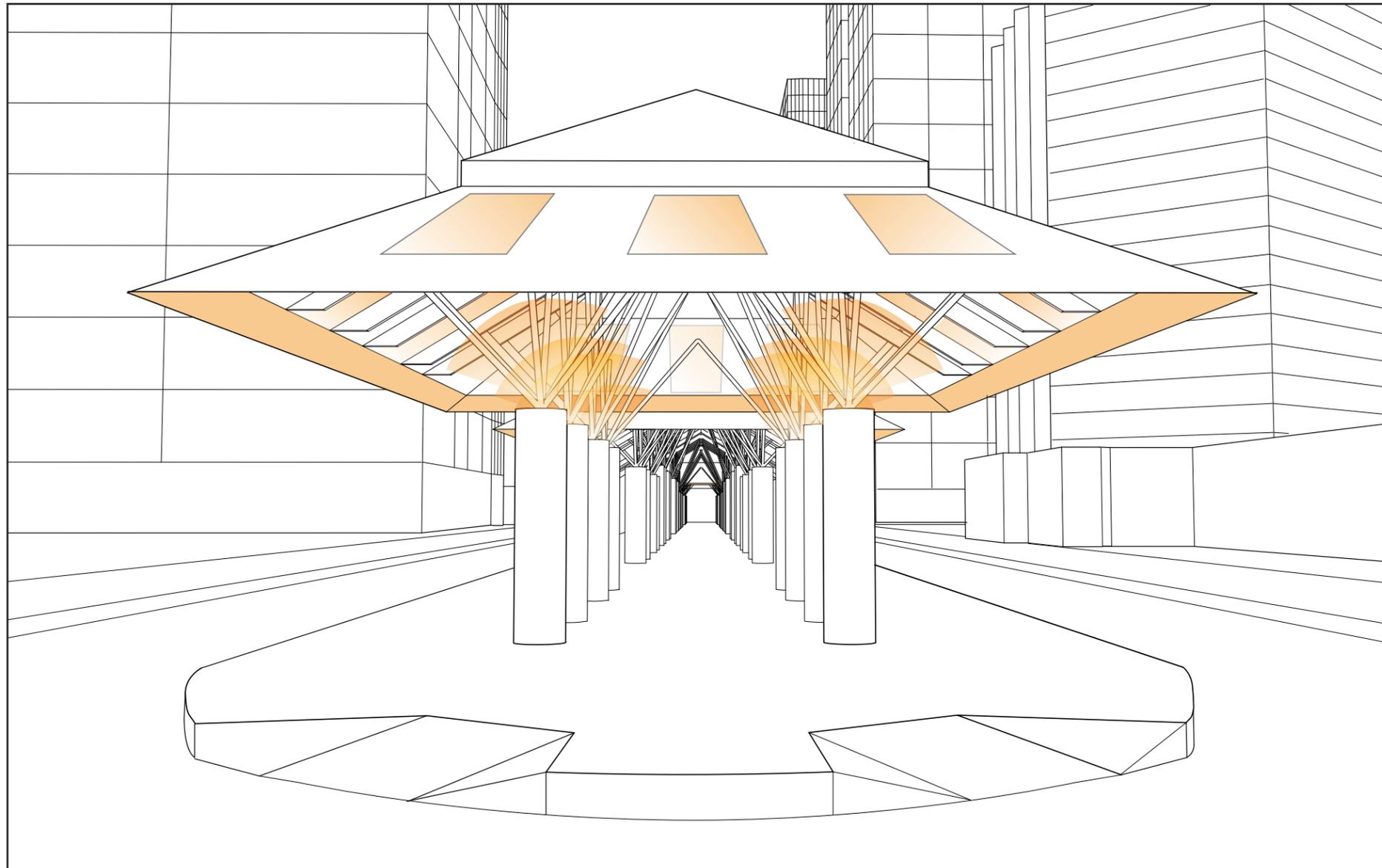


TransitCenter, 99th St VancouverWA, thelightingquotient.com.jpg

Lateral illumination projected through glass generates a sense of mass larger than the actual physical materials.



TransitStop-Illuminated - colubiapikeva.us.jpg

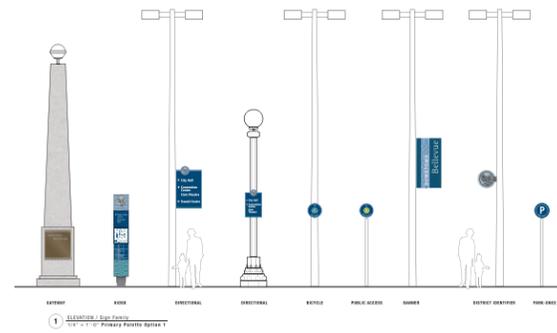


The current transit center platform provides for overhead weather protection, but the scale and structure of the roof generates a large shadow over the platform. Several toolbox elements may be strategically deployed to alleviate this shadow.

The long metal eaves of the roof may be painted with a lighter-hued or reflective paint in order to increase the reflected light along the platform's outer edges. Installing up-lighting on top of the existing columns can aid in illuminating the volume of the roof cavity, warming up the space by accenting the wood paneling above and generating indirect lighting

on the platform below. Lastly, additional skylights could be installed into the existing roof above the metal eaves and between the wooden rafters in order to provide passive, diffused lighting over the platform during daylight hours, as the existing upper clerestory skylights are elevated at such a height above the platform that they tend to generate a darker shadow by back-lighting the roof's volume.

WAYFINDING: STRATEGIES



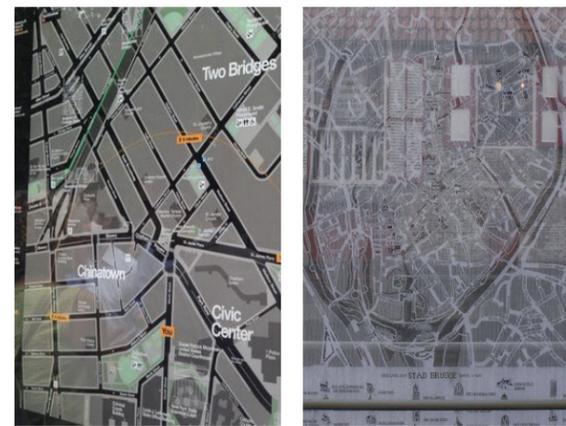
Wayfinding families, Bellevue Wayfinding Manual.

City of Bellevue Wayfinding Guide, Sign Family - City of Bellevue



RapidRideStation - djc.com.jpg

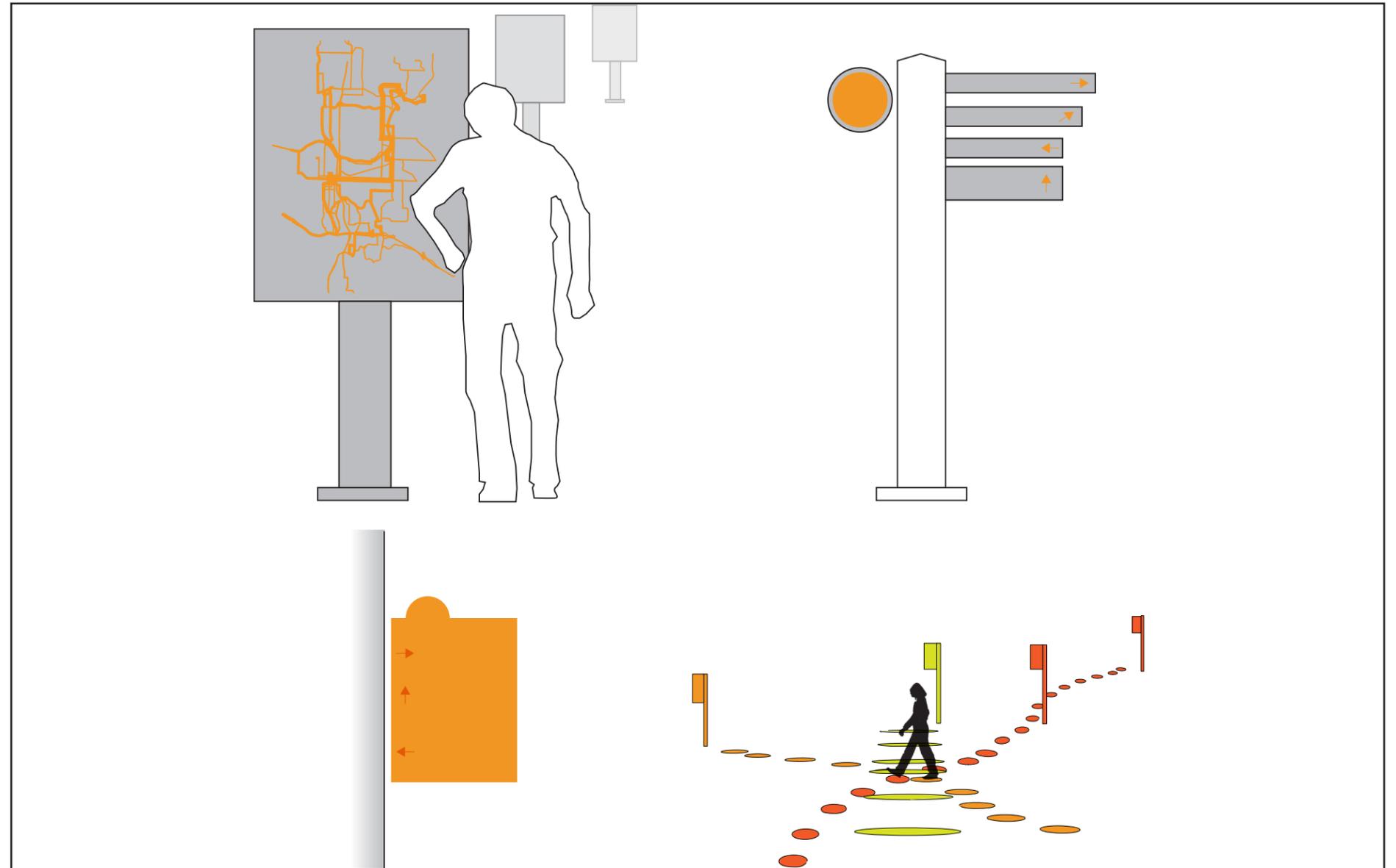
Wayfinding signage may also display real-time data to increase its utility and provide for augmented wireless access to a larger network.



A screen printed map on glass provides for a contemporary, graffiti proof map (left), while a hand-woven lace map shows the town of Bruges, Belgium.

Wayfinding, NYC - wnyc.org.JPG

LaceMap, Bruges, BE - static.panoramio.com.jpg



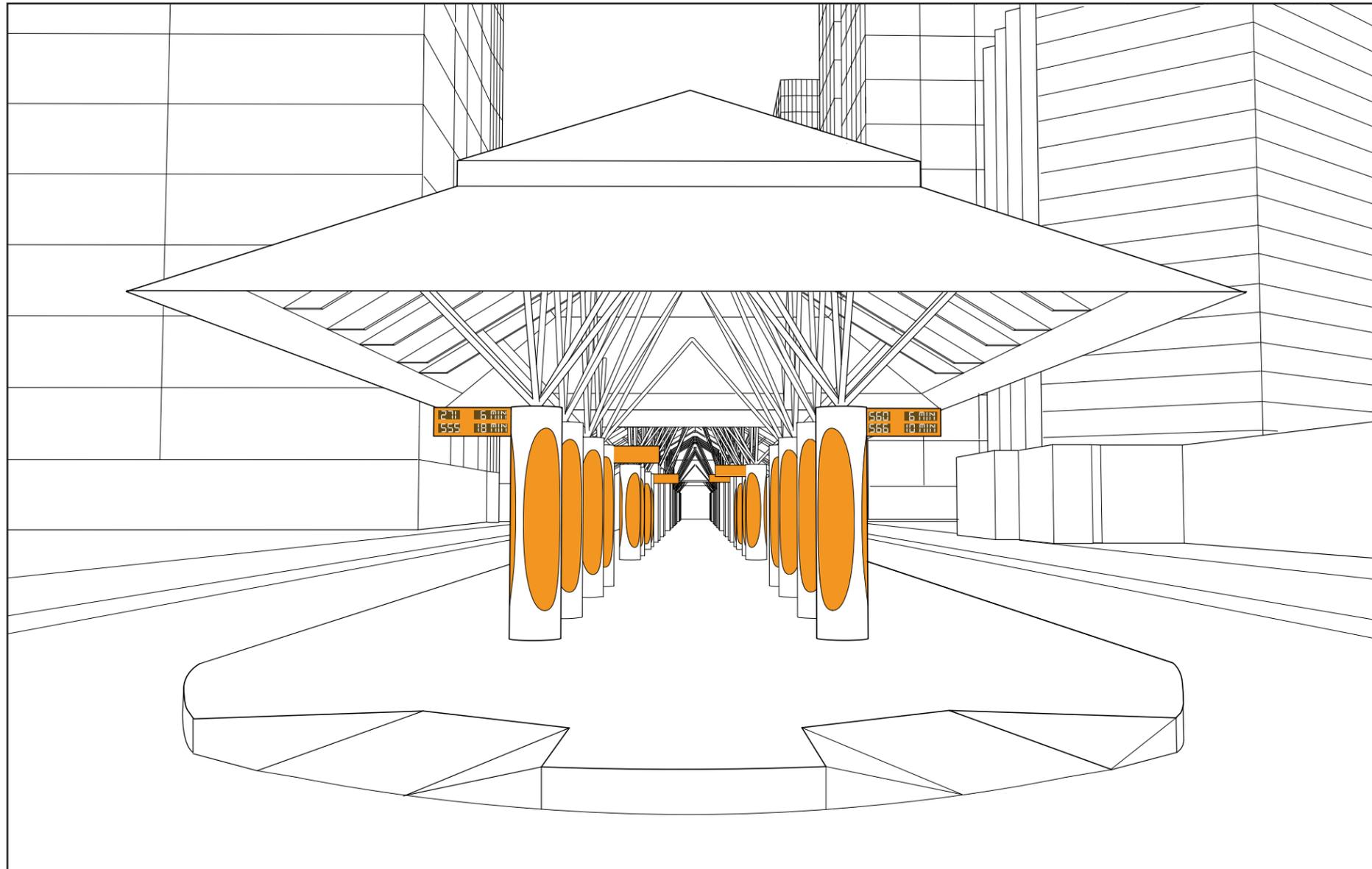
Wayfinding is a critical component of contemporary urban planning. It allows users to navigate an unfamiliar network, locate needed services and understand the spatial and social relationships between various nodes and paths-of-travel.

Wayfinding is composed of several components, including directional indicators, color, pattern, regulated intervals, cross-referenced information and coded correlation. Often these components may be embodied in simple iconography. Many existing surfaces are available and often overlooked in the implementation of wayfinding systems.

The current wayfinding in Downtown Bellevue is often characterized by multiple, unrelated families of signs within the same spatial context. This visual clutter is exacerbated by the small text size on some of the signage as well. The Bellevue Wayfinding Manual describes a limited series of wayfinding families that are closely related graphically and configured for several different applications.

At the time the Wayfinding Manual gets updated, the revised wayfinding should support the multi-modal users and network in Downtown. New technologies including real time about transit information and current city events should be incorporated to support Downtown livability.

WAYFINDING: COLUMNS



While decluttering the platform permits for greater circulation, it removes the majority of existing signage. However, there are several opportunities for less conventional wayfinding on the Transit Center Platform.

The Platform's columns provide a suitable, uniform surface for wayfinding. Color-coding columns by route or stenciling time-insensitive information are strategies that could be explored. Cell-phone scannable icons that link to more detailed, real-time information are another option to consider for column iconography and wayfinding.

The Transit Center Platform's columns may also serve as mountings for new signage. Located above passengers' heads, the signage may convey real-time information on arrivals and departures, boarding and queuing locations, and other up-to-date information that static kiosks and schedules cannot relay. By using the columns as sign posts, the platform remains unencumbered by additional signage that hinders circulation.

Sheila Klein's monolithic graphical alteration of the I-5 overpass columns in the Roosevelt neighborhood.



ColumnsI-5 - sheilaklein.com.jpg

In Seattle's Fremont neighborhood, columns provide a surface for a more embellished approach.



ColumnMural, Fremont - fremontuniverse.com.jpg

Existing wayfinding, Bellevue, WA.



Wayfinding-Column.jpg

Wayfinding-Column2.jpg

WAYFINDING: GROUNDPLANE



GroundplaneFootprints - signcitydetroit.com.jpg

The groundplane is an overlooked location for navigational aids. These temporary big-foot stickers announce a storefront, just down the walkway...



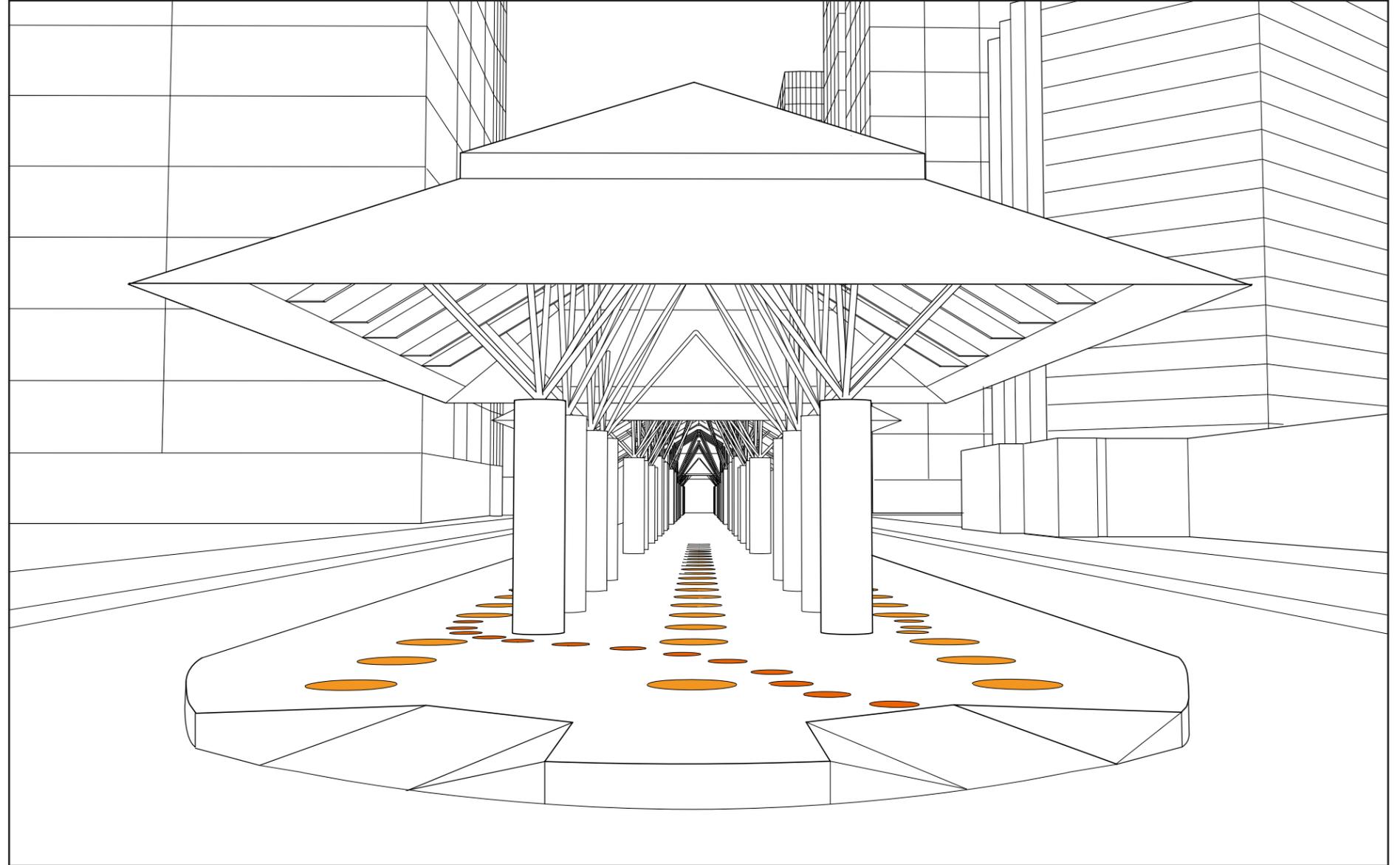
LED pavers - xcitefun.net.jpg

LED pavers can playfully indicate a pathway or zone in pedestrian circulation.



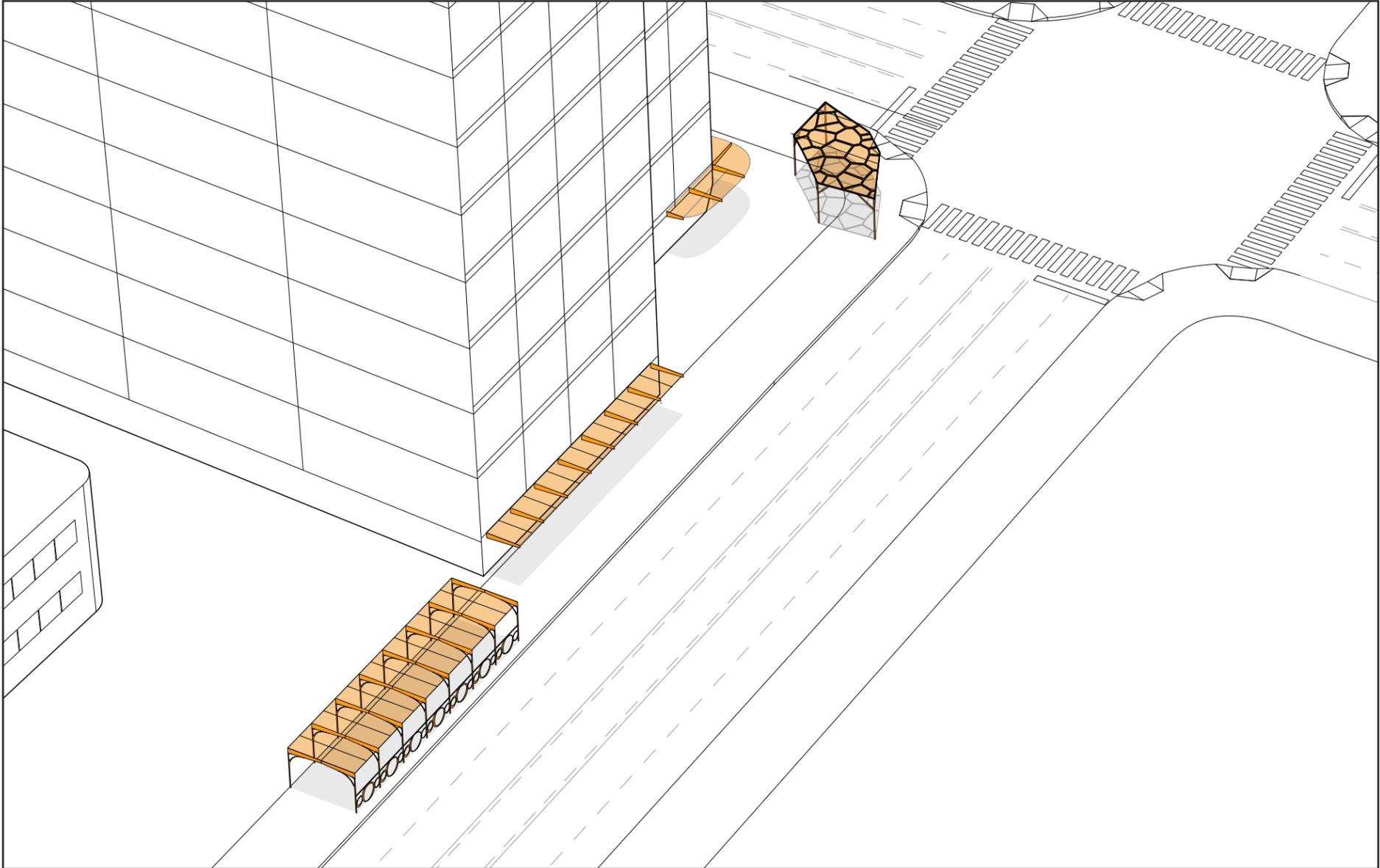
Embedded lights.JPG - City of Bellevue

These embedded lights suggest a technique for ground-plane based wayfinding and node activation.



A de-cluttered transit station platform may also serve as a wayfinding device. Simple groundplane markers may convey preferential circulation routes, queuing areas, or optimal transfer options. The ground plane markings may continue off-platform into the surrounding blocks to visually link the Transit Center to other destinations such as the Light Rail Station.

**SIDEWALK WEATHER PROTECTION: MULTIPLE INSTANCES:
ALONG/DETACHED + NODE-ATTACHED/DETACHED**



Bellevue receives an average of 155 days of sunshine per year. The other 210 days bring some form of precipitation. Sidewalk weather protection helps improve the pedestrian experience during these periods of precipitation and of extraordinary sunshine as well. Successful weather protection is capable of providing a sheltered ambient space that is partially protected from the elements. The orientation of the weather protection derives from its intended use: whether pedestrians will be walking or standing beneath it, or both.

Building facades that front along sidewalks provide an optimal mounting location for sidewalk weather protection along circulatory routes. Many municipalities work the inclusion of sidewalk weather protection into their development code. Retrofit situations are also possible but depend on building cladding system adjustments that may be difficult or expensive.

A glass awning over the sidewalk in Bellevue, WA.



P1200613.JPG - SVR

Existing nodal weather protection in Bellevue, WA.



Weather protection 1.JPG - City of Bellevue

Existing nodal weather protection in Portland, OR.



2011 Portland 060.jpg - City of Bellevue

APPENDIX 1: COST ESTIMATES

Items	Description	Unit Cost -		Unit	Qty	Total Cost - LOW	Total Cost - HIGH
		LOW	Unit Cost - HIGH				
ENHANCED INTERSECTION							
SPECIAL CROSS WALK PAINTING	8 FT WIDE PAINTING INCLUDE STOP BAR	\$60.00	\$90.00	LF	240	\$14,400.00	\$21,600.00
SPECIAL CROSS WALK STAMP/EMBED	8 FT WIDE STAMPED CROSS WALK	\$50.00	\$75.00	SF	0	\$0.00	\$0.00
WIDE CURB RAMPS	8 FT WIDE RAMPS	\$4,000.00	\$6,000.00	EA	8	\$32,000.00	\$48,000.00
BULBS	ASSUME 40 LF x 8 FT WIDE	\$40.00	\$60.00	SF	0	\$0.00	\$0.00
						\$46,400.00	\$69,600.00
EXCEPTIONAL INTERSECTION							
SPECIAL CROSS WALK PAINTING	12 FT WIDE PAINTING INCLUDE STOP BAR	\$60.00	\$90.00	LF	235	\$14,100.00	\$21,150.00
SPECIAL CROSS WALK STAMP/EMBED	12 FT WIDE CONCRETE PAVERS	\$50.00	\$75.00	SF	0	\$0.00	\$0.00
WIDE CURB RAMPS	8 FT WIDE RAMPS	\$4,000.00	\$6,000.00	EA	0	\$0.00	\$0.00
RAISED INTERSECTION	STAMPED CONCRETE	\$50.00	\$80.00	SF	11000	\$550,000.00	\$880,000.00
BULBS	ASSUME 40 LF x 8 FT WIDE	\$40.00	\$60.00	SF	0	\$0.00	\$0.00
						\$564,100.00	\$901,150.00
MIDBLOCK CROSSINGS							
SPECIAL CROSS WALK PAINTING	12 FT WIDE PAINTING INCLUDE STOP BAR	\$60.00	\$90.00	LF	45	\$2,700.00	\$4,050.00
SPECIAL CROSS WALK STAMP/EMBED	12 FT WIDE CONCRETE PAVERS	\$50.00	\$75.00	SF	0	\$0.00	\$0.00
WIDE CURB RAMPS	8 FT WIDE RAMPS	\$4,000.00	\$6,000.00	EA	2	\$8,000.00	\$12,000.00
PEDESTRIAN ACTIVATED BEACON	TYPICALLY NEED A MINIMUM OF 2	\$10,000.00	\$15,000.00	EA	4	\$40,000.00	\$60,000.00
PEDESTRIAN SIGNAL EXTENDER	ASSUME PEDESTRIAN DETECTION	\$20,000.00	\$30,000.00	EA	0	\$0.00	\$0.00
PEDESTRIAN SIGNAL	ASSUME AN OVERHEAD SIGNAL	\$200,000.00	\$300,000.00	EA	0	\$0.00	\$0.00
RAISED CROSSWALK	10 FT WIDE - 6" THICK TO MATCH CURB	\$200.00	\$300.00	LF	0	\$0.00	\$0.00
BULBS	ASSUME 40 LF x 8 FT WIDE	\$40.00	\$60.00	SF	0	\$0.00	\$0.00
REFUGE ISLAND	ASSUME 9 FT WIDE	\$480.00	\$720.00	LF	0	\$0.00	\$0.00
MEDIAN	ASSUME 9 FT WIDE	\$240.00	\$360.00	LF	500	\$120,000.00	\$180,000.00
						\$170,700.00	\$256,050.00
TRANSIT STATION GROUNDPLANE							
SPECIAL CROSS WALK PAINTING	12 FT WIDE PAINTING INCLUDE STOP BAR	\$60.00	\$90.00	LF	100	\$6,000.00	\$9,000.00
SPECIAL CROSS WALK STAMP/EMBED	12 FT WIDE CONCRETE PAVERS	\$50.00	\$75.00	SF	0	\$0.00	\$0.00
						\$6,000.00	\$9,000.00
TRANSIT STATION STRUCTURE AND LAYOUT							
DECLUTTER AND ILLUMINATE		\$100,000.00	\$150,000.00	ALLOW	1	\$100,000.00	\$150,000.00
WAY FINDING							
CIVIC TRANSPORTATION WAYFINDING PROGRAM AND BRANDING		\$80,000.00	\$120,000.00	ALLOW	1	\$80,000.00	\$120,000.00
WAYFINDING - INTERSECTIONS		\$6,000.00	\$9,000.00	ALLOW	6	\$36,000.00	\$54,000.00
WAYFINDING - MIDBLOCK		\$3,000.00	\$4,500.00	ALLOW	2	\$6,000.00	\$9,000.00
						\$0.00	\$0.00
SIDEWALK WEATHER PROTECTION							
PEDESTRIAN SCALE - CUSTOM		\$ 200,000	\$ 300,000	ALLOW	1	\$200,000.00	\$300,000.00

Notes:

These itemized planning level costs are rounded to the nearest \$1,000 when presented as a conceptual cost estimate on page 4.

Projects will need to include all soft costs and applicable contingencies.

Costs for bike share facilities are not included. Bike share facilities are shown for reference in the conceptual renderings.



