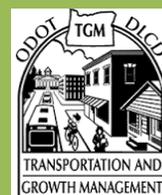




Island Station Neighborhood Greenway Milwaukie, Oregon

January 2016

Prepared for:



ODOT/DLCD
Transportation Growth
Management Program



“This project is partially funded by a grant from the Transportation and Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. This TGM grant is financed, in part, by federal Moving Ahead for Progress in the 21st Century (MAP-21), local government, and the State of Oregon funds.”



Otak Inc.
808 SW Third Avenue, Suite 300
Portland, OR 97204
Otak Project No. 17671
February 9, 2016

Glen Bolen, AICP, Jackie Davis,
Ben Bortolazzo Intl. Assoc. AIA and Andy Kutansky, PE

The City of Milwaukie's (City) Transportation System Plan (TSP) identifies four different neighborhood greenway routes. Neighborhood greenways are low-volume, low-speed routes that provide a safe, quiet streetscape for bicycles and pedestrians.



Drivers and pedestrians share 19th Avenue which is often narrower than 15'

The Island Station neighborhood is home to the 19th Avenue and Sparrow Street neighborhood greenway. Both 19th Avenue and Sparrow Street provide a popular route for local neighbors and visitors to or from Riverfront Park and Spring Park. And 19th Avenue functions like a shared street, where motor vehicles, bicycles, and pedestrians are all equal users of the public roadway. But this is more of a result of circumstance than of deliberate design.

The City's TSP does not have an overall plan or common design standard for greenways. As a result, if and when new development projects are proposed, they will trigger the same requirements for street improvements as on any other local street, which include wider lanes, traditional curbs, and sidewalks.

Looking for new, more appropriate, context-sensitive solutions, the City and the Island Station neighbors engaged in a process to develop a design concept for the 19th and Sparrow greenway. The concept depicts a shared vision of the future for this neighborhood greenway and provides direction for future improvements.

Existing Greenway Conditions

SE 19th Avenue

Southeast 19th Avenue travels in a north and south direction for four city blocks. The roadway is narrow, averaging around 15 feet, with gravel shoulders at the edges. The City's right-of-way is considerably wider, but much of the land slopes steeply toward the Willamette River. The paved surface is predominately located east of the right-of-way center line.



SE 19th Avenue: Looking north Unpaved shoulders are often landscaped or used for parking. Also note the rapid drop-off toward the river (left side of photo) that constrains the right of way



SE Sparrow Street: Looking east

SE Sparrow Street

Southeast Sparrow Street travels east and west for three city blocks. The western terminus is at Spring Park where it intersects with SE 19th Avenue. The street span from SE 19th Avenue to SE 20th Avenue is similar to that of SE 19th Avenue, with a roughly 15 foot width of pavement; a railroad trestle constricts this street span. East of SE 20th Avenue the roadway widens to 20 feet with gravel and planted shoulders.



The elevation increases rapidly on the east side of the street (right side of photo) limiting the ability to widen the roadway



Some locations have wide shoulders that can be used for parking, benches, landscaping or stormwater planters. Note the free library box on the left side of the photo



Both 19th Avenue and Sparrow Street lead walkers toward Spring Park.



Neighborhood Greenway Design

The design concept for the Island Station neighborhood greenway is customized for the unique conditions presented by these two streets. As a design concept, it should be noted that it conveys potential solutions, but specific details regarding the individual elements will be determined at the time of final design. The concept allows for flexibility in both timing and costs.

19th Avenue – In the short-term, the existing pavement width will be retained. As a first phase, a textured, tactile warning strip will be added to the road surface to provide a guideway for visually impaired users along with signage, pavement painting to be added. Gravel shoulders will continue to serve as clear space for emergency vehicles.

In the long-term, the entire street, 19th and west of 20th on Sparrow, should be constructed to a width of 15 feet with 6-inch wide flush-mount curbs at the edge. Similar to short-term solution, a load-bearing shoulder of at least 3 feet would extend beyond the curb. Stormwater planters can be added over time, as funding becomes available.

Sparrow Street – Roadway width, east of the intersection with SE 20th Avenue will remain at 20 feet wide. A sidewalk will be programmed for the southern side of the street from SE 20th Avenue, eastward up the hill. Speed humps, redesigned corners, and signs will slow traffic. A series of raised pedestrian improvements will slow traffic turning westward onto SE Sparrow Street and provide safety for people walking in the area.

Design Concept Summary

Roadway Section	Pavement Width	Shoulder	Sidewalk
19 th Ave. 1 st Phase	15 feet wide with tactile warning strip, signs & pavement painting	3 foot load bearing (typ. gravel)	NA
19 th Ave. Design Standard	15 feet wide with tactile warning strip, signs & pavement painting	6-inch flush-mount curb and 3 foot load bearing (typ. gravel) with flexible zone	NA
Sparrow Street	20 feet	3 foot load bearing (typ. gravel) flexible zone on north side	5 foot sidewalk on south side

Island Station - 19th Ave & Sparrow St.
Greenway Concept Design

1" = 40'



January 25th 2016

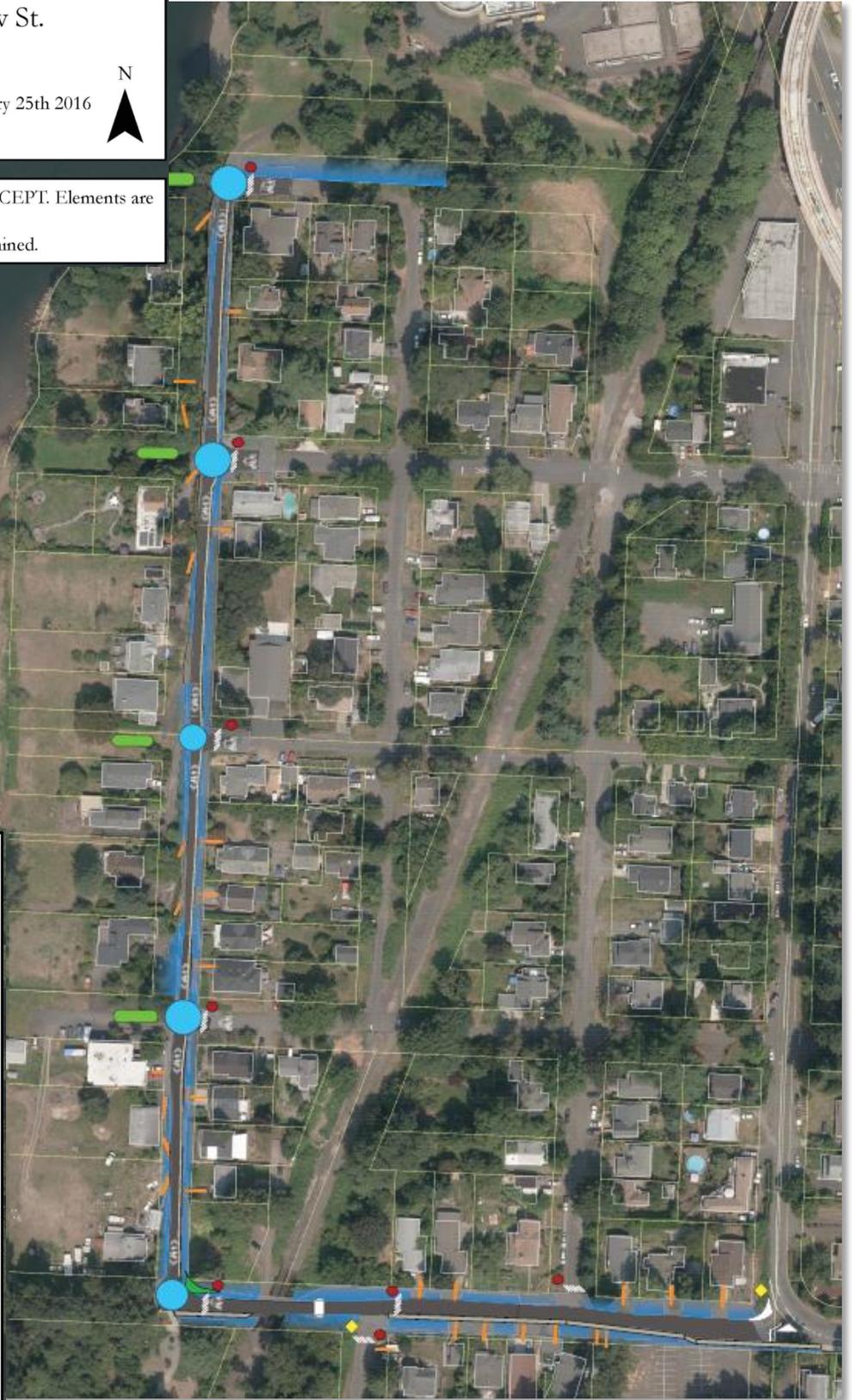


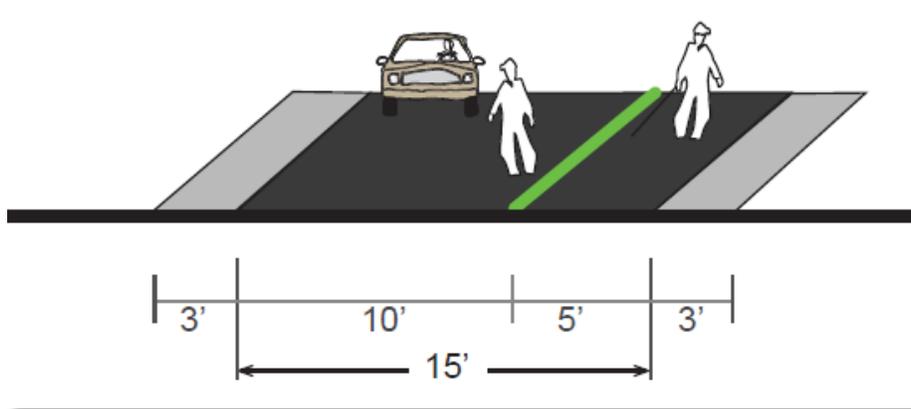
Note: This is a PLANNING LEVEL DESIGN CONCEPT. Elements are subject to change during final design and review.

* Water quality & conveyance facilities yet to be determined.

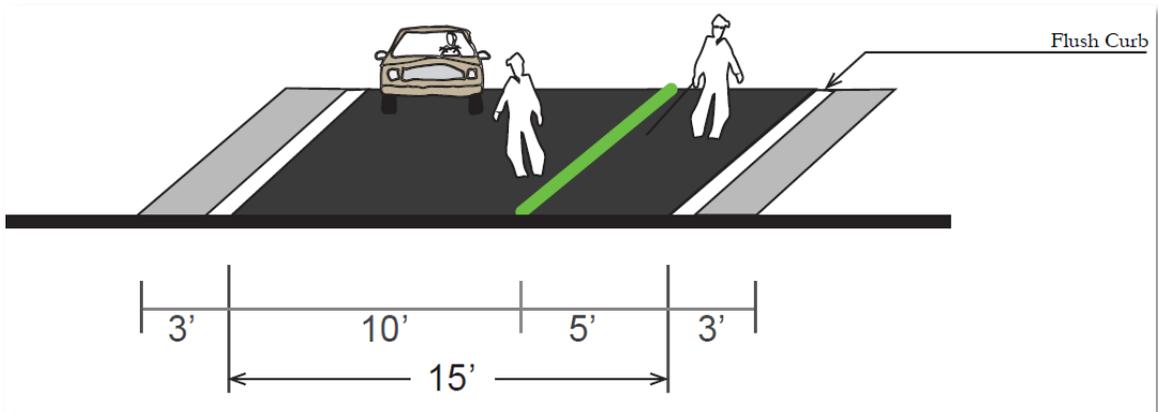
Legend

- Property Lines
- Existing Paved Surface
- Existing Gravel Shoulders
- Signage
- Sharrows
- Sidewalk
- Tactile Guidance Strip
- Flexible Zone
- Painted Intersection
- Bioswale
- Existing Driveway
- Raised Table
- Bulb Out





SE 19th Avenue in the interim would be modified by adding a tactile warning strip to help guide visually impaired pedestrians.



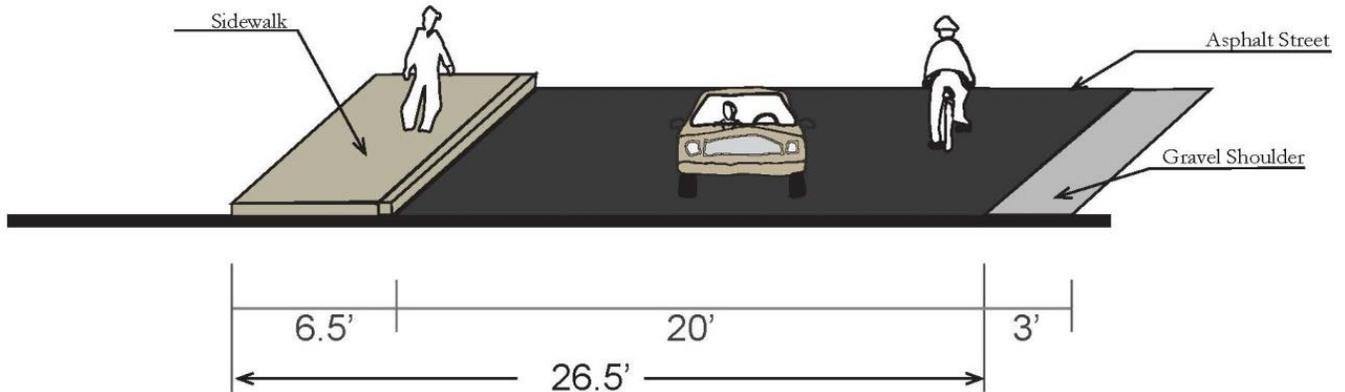
The long-term concept for SE 19th Avenue would introduce narrow, 6-inch flush mount curbs at the pavement edge to further delineate the roadway and stabilize the shoulder



Examples of tactile warning strips that can be adhered to road surface



Sparrow Street Concept



SE Sparrow Street would get a curb and sidewalk on the south side for pedestrians and managing stormwater

Flexible Shoulder Zones

For both of 19th and Sparrow, the improved area is narrower than the public right-of-way. These areas beyond the travel way (including road, load-bearing shoulder, and curb/sidewalk) can be used for a number of purposes. Use of these shoulder zones helps the road to continue feeling narrow to discourage cars from driving above the speed limit. Currently these areas are used informally, predominantly as landscaping and parking. The design concept includes new uses such as:

- Bioswales for stormwater treatment
- Formalized parking with paint, pavers, or curbs
- Furnishings such as benches, lights, and signage
- Trees and other landscape treatments



Bioswales can treat stormwater and look great at the same time



Painted areas can formalize on-street parking

Trees in the flexible zone can create visual pinch points to slow traffic



Street Treatments

The design concept on page 5 also highlights a number of other roadway treatments. Intersections are treated with signage, including traffic control (stop), directional, and simple graphics to denote the shared space. Other popular treatments for greenways are painted or raised intersections. Painting of the roadway is often done as a community building activity. Adding art to the street communicates the treasured nature of the space to visitors and show that the community is active in planning and managing traffic in the area.

Signage can also be used along the facilities to communicate with drivers, and sharrows, affixed to the roadway surface, remind users that the roadway is for everyone.



Signage; traffic control, directional and graphic

Raised intersections also have the benefit of forcing vehicles to slow as they mount the devices. Some intersections, such as the connection from SE 22nd Avenue to SE Sparrow Street also include raised pedestrian tables to direct walkers safely, provide a barrier from autos, and tighten the radius of the corner to slow vehicles.



Raised intersections force vehicles to slow as they mount the devices

Together, these treatments will signal to motorists that they are entering a special place. The visual triggers will lead them to slow down, look around, and make sure that they are indeed sharing the road.



Painted intersections are great ways for neighborhoods to express their unique character

Potential Costs

Following are planning level cost estimates for the improvements portrayed by the design concept for Island Station's greenways.

Estimated Construction Costs for Proposed Design Concepts

Design Concept	Estimated Construction Cost
19 th Ave. Interim	\$126,000
19 th Ave. Long-Term	\$1,081,000
Sparrow Street	\$922,000

The table above describes complete replacement of the entire roadways for both SE 19th Avenue and SE Sparrow Street. If incremental investments are considered, the standalone estimates can be extracted to provide general guidance regarding scale of investment to anticipate.

Funding Mechanisms

Construction of local streets is conventionally either built by developers to serve their projects, or paid for incrementally as development occurs. The Island Station neighborhood is what many describe as “built out” and has only a limited few development opportunities. Accordingly, building the greenways described in the design concept using only development generated funds would not be possible. However, Milwaukie’s Transportation System Plan lists ten funding sources currently in use. The following is a listing of those that appear most applicable to a greenway project such as this:

Grant/Competitive Programs

Metropolitan Transportation Improvement Program (MTIP) identifies how all federal transportation money is to be spent in the region in two-year increments. MTIP "regional flexible funds" can be used for most aspects of the local transportation system.

City Share of State Highway Trust Fund

The primary sources of the State High Trust Fund are the state motor vehicle fuel tax, a weight-mile charge on heavy trucks, and vehicle registration fees. The Oregon Department of Transportation (ODOT) requires that cities set aside 1 percent (1.0%) of the local share of State Highway Trust Fund proceeds for the construction and maintenance of bicycle facilities. The shared street could potentially be eligible for this funding.

Local Funding Sources

- **Local Gas Taxes** are separate and apart from the state gasoline tax. Milwaukie gas stations pay a tax on fuel sold in Milwaukie, which is sent to the city for street maintenance use only.
- **Local Improvement Districts (LIDs)** are special assessment districts in which property owners benefiting from a transportation improvement pay for that

improvement. These special assessment districts have not been frequently used by the city, but are available to interested property owners.

- **Fee In Lieu of Construction** is collected when required street frontage improvements, typically associated with residential construction, are impractical to build. These funds are limited in both how and where they can be spent, but would be expected to be directly applicable to the greenways for properties with direct adjacency.

Appendix

Project Activities

Site Visit

To initiate the project, the City’s design and engineering team visited the site, walking, talking, measuring, and photo documenting the greenway. On the warm early September day the area was alive with people walking, biking, and driving. Some were passing through the area, while others were simply using the street for recreation. Southeast 19th Avenue stood out as it acts very much as a shared street.



Cars, trucks, and people on foot: Looking west



SE 19th Avenue on a typical September day on SE 19th Avenue

Traffic Speed Study

The Milwaukie Police Department conducted a traffic speed study for SE 19th Avenue in October 2014. The speed study results confirmed the low volumes described by neighbors and the lower than average speeds compared to similar streets.

SE 19th Avenue Speed Study Results – October 2014

Total Volume	Average 125 cars per day
Busiest time	2 –7 pm
Average Vehicle Speed	8.93 mph / Fastest recorded speed: (35 mph)
Posted Speed Limit	15 mph

Urban Design Assessment

The urban design assessment below shows that the 19th and Sparrow neighborhood greenway is in a unique situation. This section of the Island Station neighborhood is enclosed between the natural barrier of the Willamette River on the west side and the major thoroughfare SE River Road or SE 22nd Avenue on the east side. Capped on the north and south by parks and larger lots, this somewhat isolated cove has just five access points for cars, four from SE River Road and one from SE 20th Avenue. The area is divided, secluded by the interruption of a train rail line. There are several areas used for on-street parking and houses have driveways accessing the streets.



Urban Design Assessment

Goals and Objectives

Participants were passionate about the neighborhood and its shared streets. They were mostly in favor of relatively simple and cost effective design solutions.

The primary concern of the workshop attendees was that elaborate design solutions could be out of place with the area's quiet setting. Secondly, people were worried that homeowners would be required to pay for the improvements.



Weighing in on project goals and objectives

Top Neighborhood Participants Priority Goals and Objectives

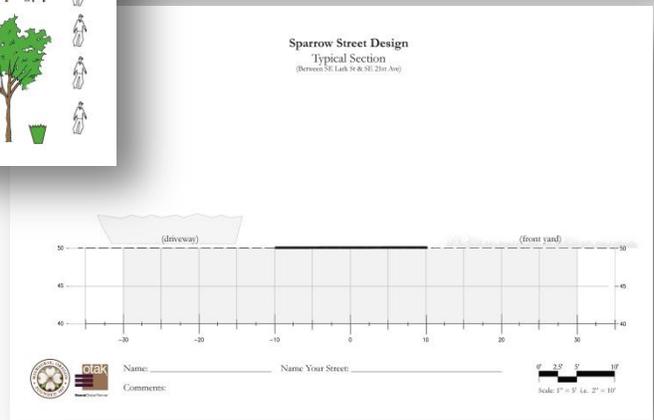
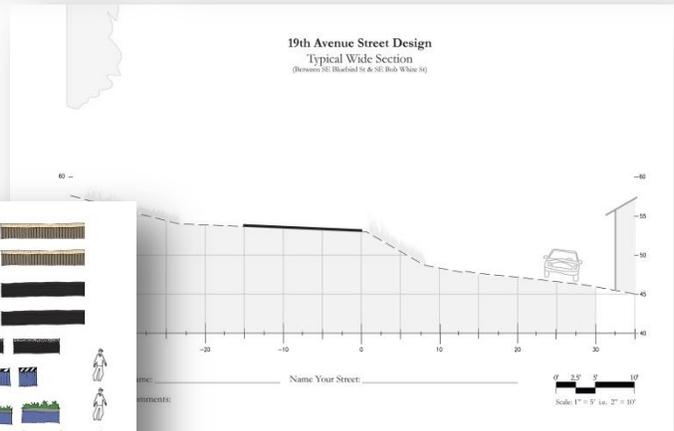
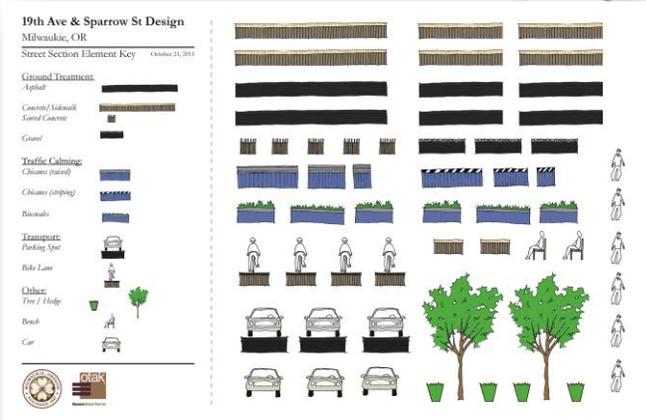
- A pleasant and safe walking and biking connection between Riverfront Park and Spring Park is an important asset for all residents of Milwaukie
- Neighborhood Greenways should be shared by drivers, walkers, and cyclists
- Guidelines for neighborhood greenways should be flexible, allowing for designs to be influenced by local neighborhood conditions and values
- Design solutions should be simple; use low technology / low cost techniques where possible
- Design standards should include components that help clean and treat stormwater runoff
- Improvement costs should be shared among all of the City's taxpayers

Cross Sections

Participants developed a number of design ideas, from keeping things “as-is” to more elaborate programs. All of the ideas resulted in a street section that is narrower than either the right-of-way or the current Local Street standard.



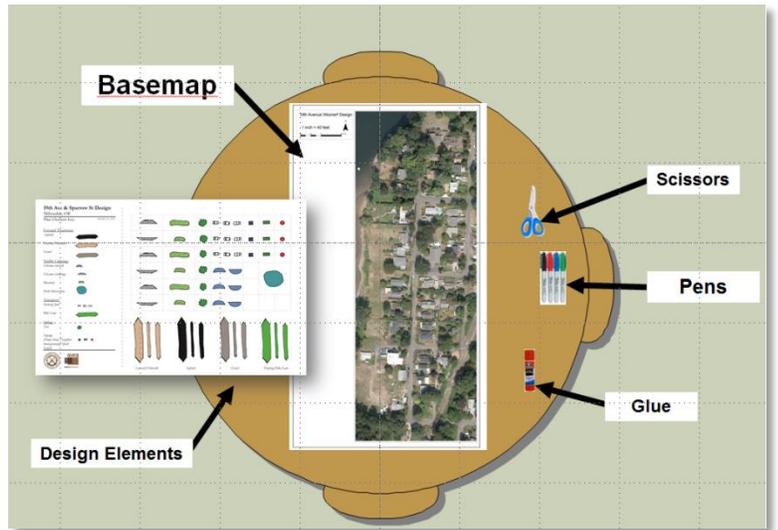
Participants applied scale drawn icons, representing streetscape elements, to cross-section images



Map Design Activity

Participants worked together in groups to develop maps of how the greenway should be designed. As with the cross-section activity, pavement widths were narrow with the shoulders hosting a range of uses, from landscaping and benches to bioswales or parking.

Designs were shared aloud and discussions continued.



Participants groups designed their ideal versions of Island Station's greenway



Sharing ideas with a group discussion at the end of evening



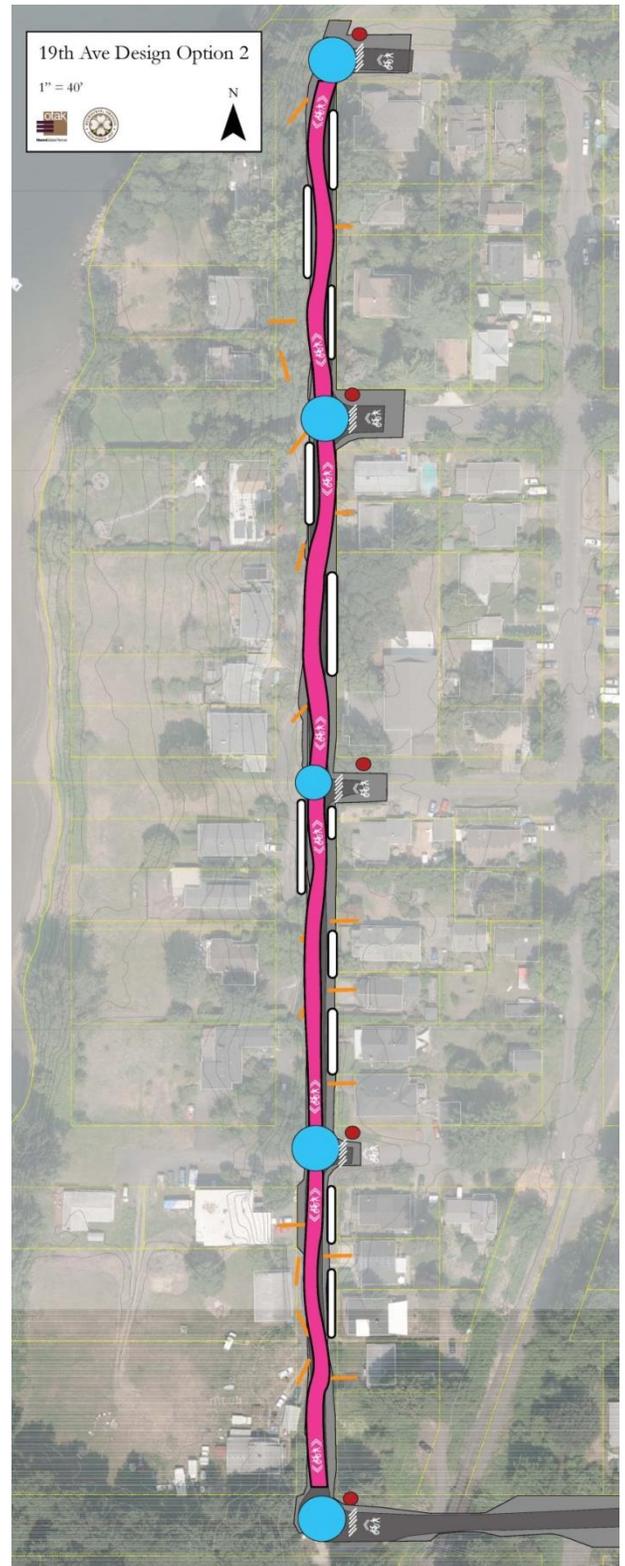
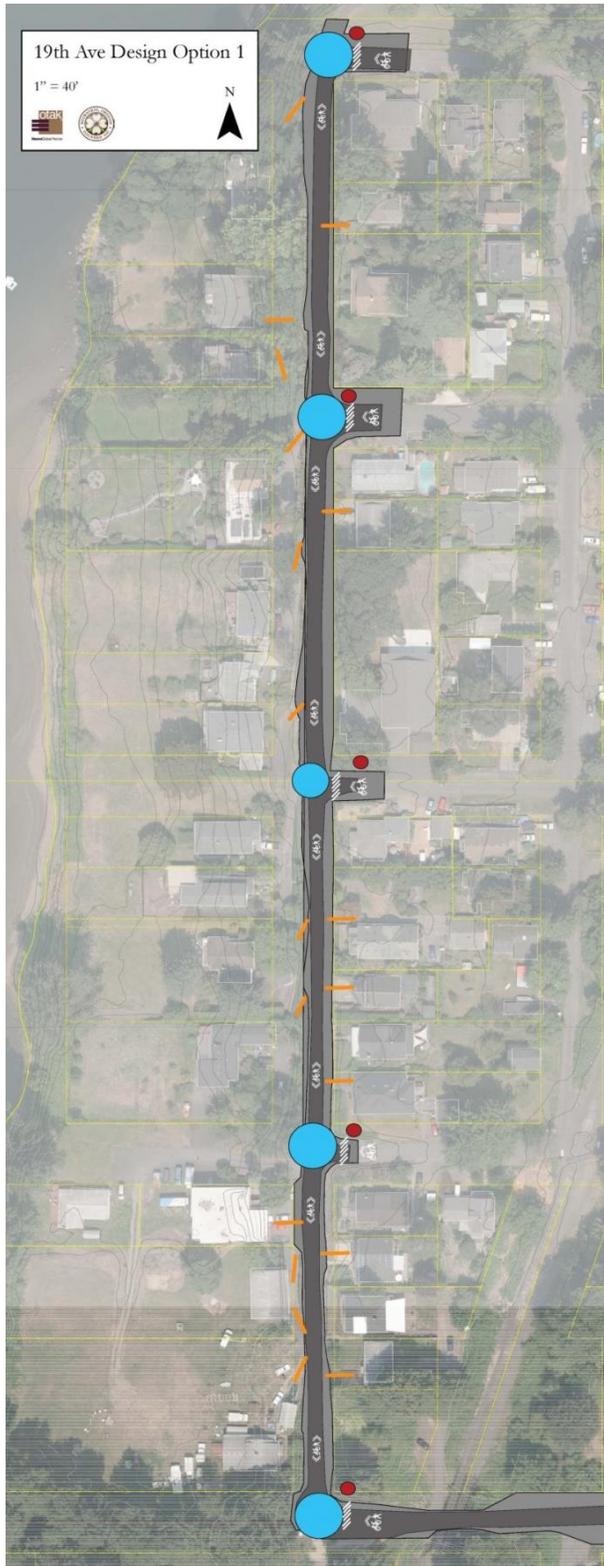
Neighborhood Greenway Design Options

The design team distilled the workshop participant’s ideas into a series of options for presentation at a joint meeting with stakeholders and the Milwaukie City Council.

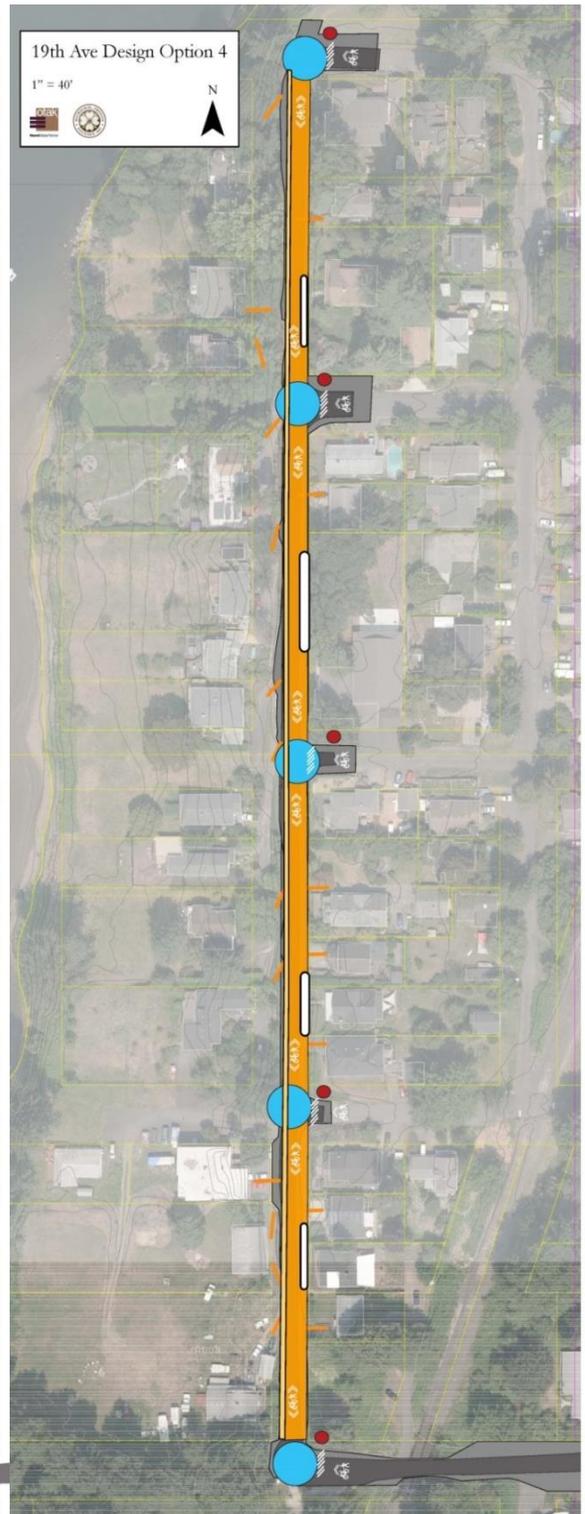
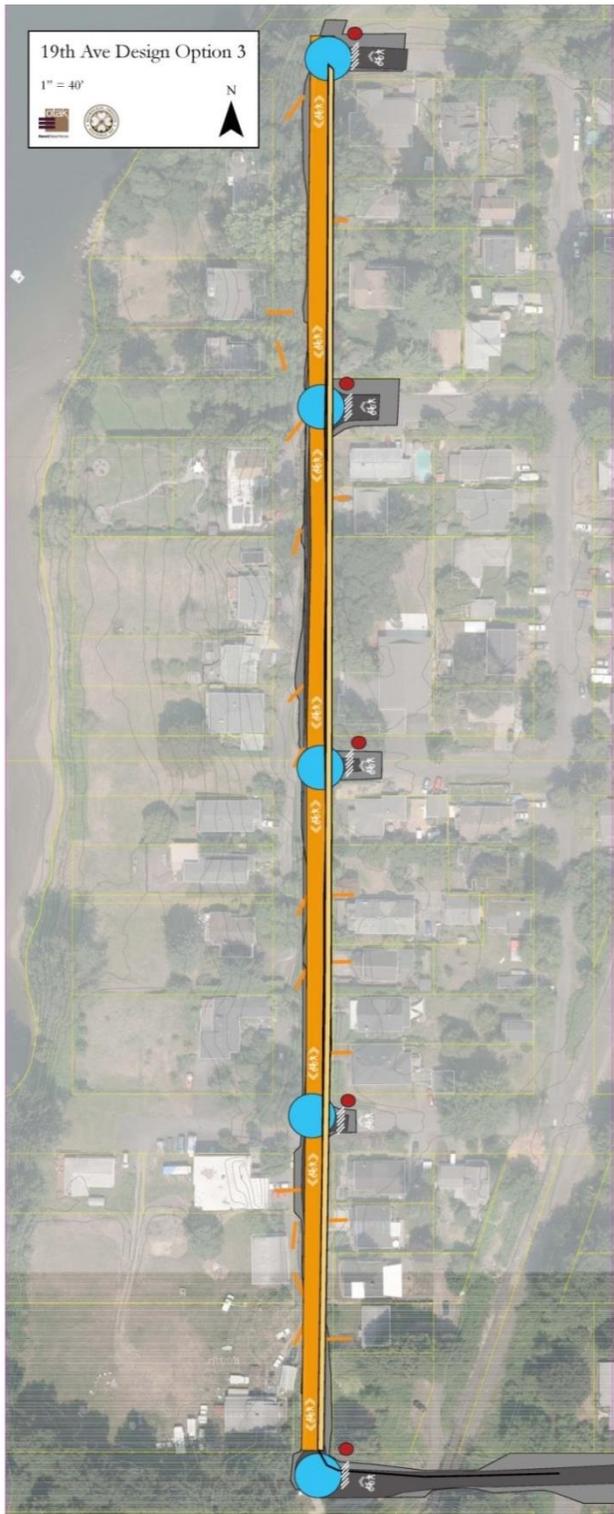
Three design options were prepared for SE 19th Avenue ranging from the low cost / low tech to more elaborate designs. Input for Sparrow Street was less varied; two options were prepared.

Design Option	Features
SE 19th Avenue #1	<ul style="list-style-type: none"> • Retain 15-foot wide roadway • Add painted intersections and sharrows • Retain gravel shoulder for parking
SE 19th Avenue #2	<ul style="list-style-type: none"> • Meandering street (to slow traffic) • Striped parking, swales, planter boxes at pavement edge • Paint intersections, sharrows, and signage
SE 19th Avenue #3	<ul style="list-style-type: none"> • 20-foot wide paved street • Paint or textured separation of travel modes on one side
SE 19th Avenue #4	<ul style="list-style-type: none"> • 20-foot wide paved street • Paint or textured separation of travel modes on one side • Parking or bioswales constructed to create pinch points
Sparrow #1	<ul style="list-style-type: none"> • Maintain existing pavement pattern • Separated walking area along south edge of SE Sparrow Street via green planting strip • Define and add designated parking/swale areas along edges • Vegetated bulb outs on corners to manage stormwater and slow traffic • Signage at major intersections to slow traffic
Sparrow #2	<ul style="list-style-type: none"> • Create meandering asphalt road to signal to cars to be cautious • Designated parking/swale areas along edges • Separated walking area along south edge of SE Sparrow Street separated by (parking/swale) chicanes • Paint at intersections • Signage at major intersections to slow traffic

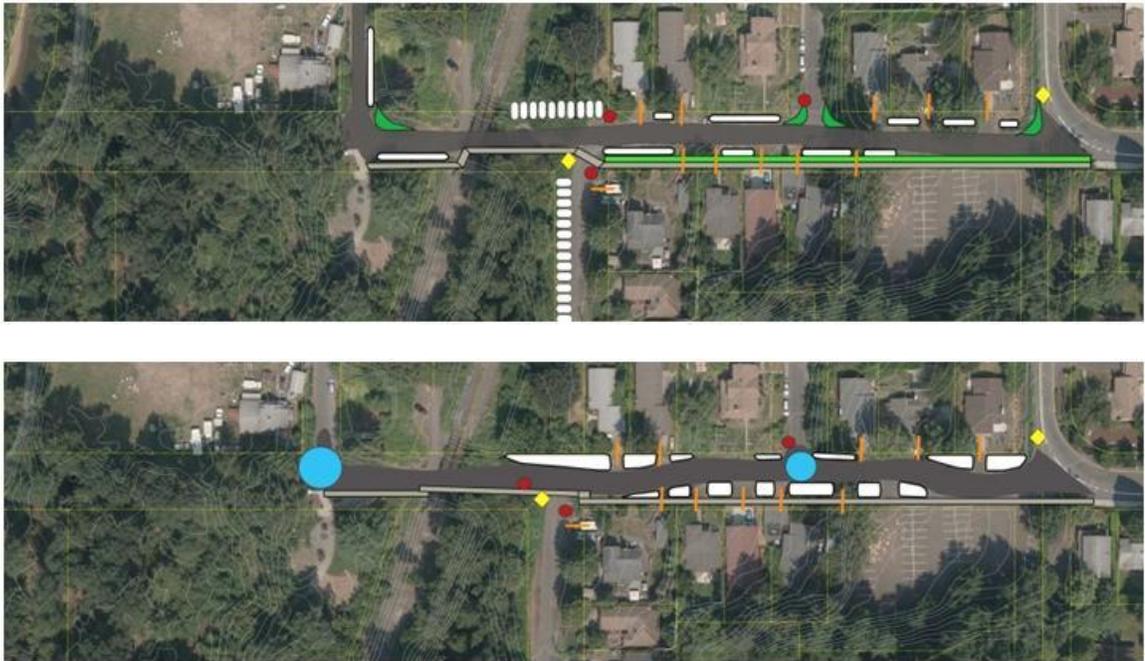
Images of the four design options for SE 19th Avenue and the two design options for SE Sparrow Street are presented on the follow pages.



SE 19th Avenue Design Options #1 and #2



SE 19th Avenue Design Options #3 and #4



SE Sparrow Street Design Option #1 (top) and #2 (bottom)

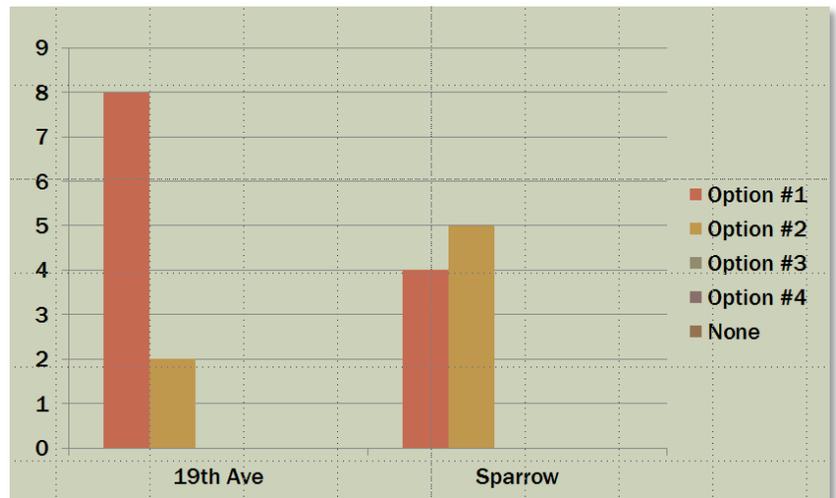


Stakeholders joined with the City Council to review, discuss and provide refinements to the design concepts

Stakeholder and City Council Design Option Review

Stakeholders and city council members reviewed the public engagement workshop results, inspected the designs, and provided input toward refinement of the design concepts. In general, options #3 and #4 of the SE 19th Avenue were quickly rejected. Most stakeholder and city council members liked the minimal approach of option #1, with some embracing the additional elements in option #2. The SE Sparrow Street options found roughly similar favor, with neither option jumping to the front. Participants noted that SE Sparrow Street residents were not able to attend the work session.

When asked about which option people preferred and found most attractive, people aligned heavily with the simpler design options for SE 19th Avenue but were divided on the design for SE Sparrow Street



To ensure quality input, a follow-up meeting was scheduled to meet with residents living along SE Sparrow Street. Messages from that event addressed the impacts from cut-through traffic, the differing nature of Sparrow Street's east and west portions, and problems with stormwater drainage.

Neighbors worked with the design team to mark up a map to address desires and concerns.

