

S 32ND STREET INTERSECTION SIMULATION (FACING SOUTH)

CHAPTER TWO

# Draft Final Design Concept

This is a concept only. Detailed engineering design leading up to construction has yet to be completed. Design elements that will be further developed include wayfinding to and from key locations including:

- Mill Race Path
- Middle Fork Path
- Main Street
- Future Booth Kelly Road Path
- Future Weyerhaeuser Haul Road Path
- McKenzie Levee Path
- Thurston Hills Natural Area
- Clearwater Park
- Willamalane Center for Sports and Recreation

## Virginia Avenue:

### S 32nd Street to S 41st Place



The preferred bikeway type on Virginia Avenue to S 41st Place is a bicycle boulevard with shared lanes. Roadway markings throughout this section of the corridor would consist of frequent shared lane markings. These markings indicate to all users to expect people on bikes in the roadway, and help instruct people bicycling to ride in the center of the roadway to increase visibility and

avoid car doors. No centerline would be provided to encourage people driving to give extra distance while passing people on bikes.

### S 32nd Street Intersection Design

Rapid flashing beacons facing S 32nd Avenue would promote yielding to people crossing the street.

People on bicycles on Virginia Avenue would take the ramp up to a shared-use path at the crossing and cross adjacent to pedestrians in the crosswalk. People on bicycles would also have the option to navigate the intersection as a vehicle in the travel lanes.

Median safety islands would provide added safety and comfort for people walking and biking across the street.

Mixing zones would be created on all four corners of the intersection. These are areas where people biking and walking would be able to navigate around the intersection separated from motor vehicle traffic. These areas are delineated with specialty pavement to indicate that these areas are for slow and safe travel.

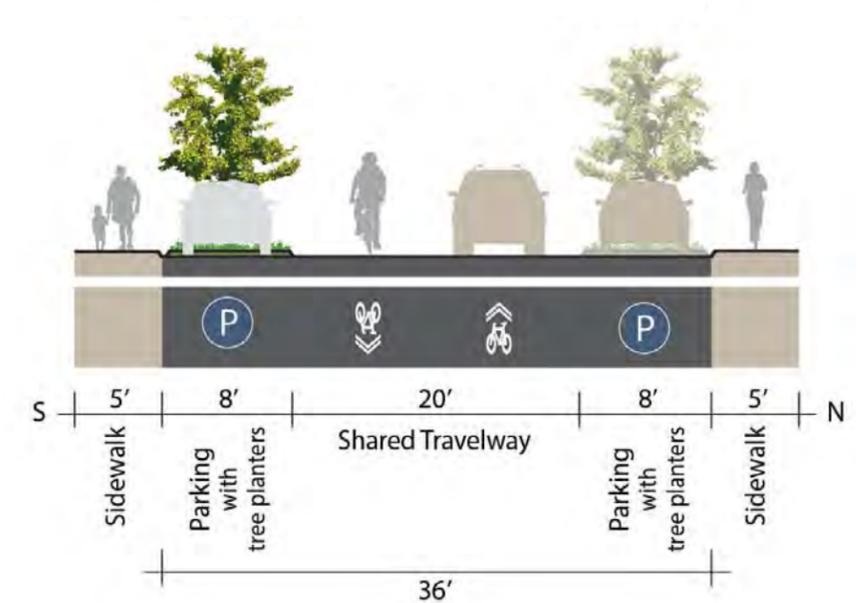
See Appendix 3 for the 32nd St and Virginia Ave Gap Analysis Memo.

### Additional Safety Features

Other elements along the corridor designed to create a safer operating environment by slowing speeds, increasing the drivers' field of vision and opportunity to yield, and shortening stopping distances include:

- Curb extensions (shorten the pedestrian crossing distance and visually narrow the roadway to slow traffic)
- On-street planters (capture and treat stormwater runoff and visually narrow the roadway to slow traffic)
- Mini-roundabouts (slow traffic)
- Raised crosswalk (improve driver visibility of pedestrians and slow traffic)
- Pedestrian refuge islands (provide physical protection form motorists and slow traffic)

### Recommended Cross Section



### Conceptual On-Street Planter





**At S 32nd Avenue:**

The crossing would be enhanced with high visibility markings and rapid flash beacons to create a low-stress crossing with a high rate of yielding.

*See next sheet for intersection design concept.*

**Added Tree Canopy:**

Within the parking lane, tree planting areas would be added to increase canopy and define the edges of the street. Locations are schematic only, but based on existing parking needs and lack of existing tree canopy. Coordination and agreement from fronting property owner will be required prior to implementation. Locations shown are conceptual only.

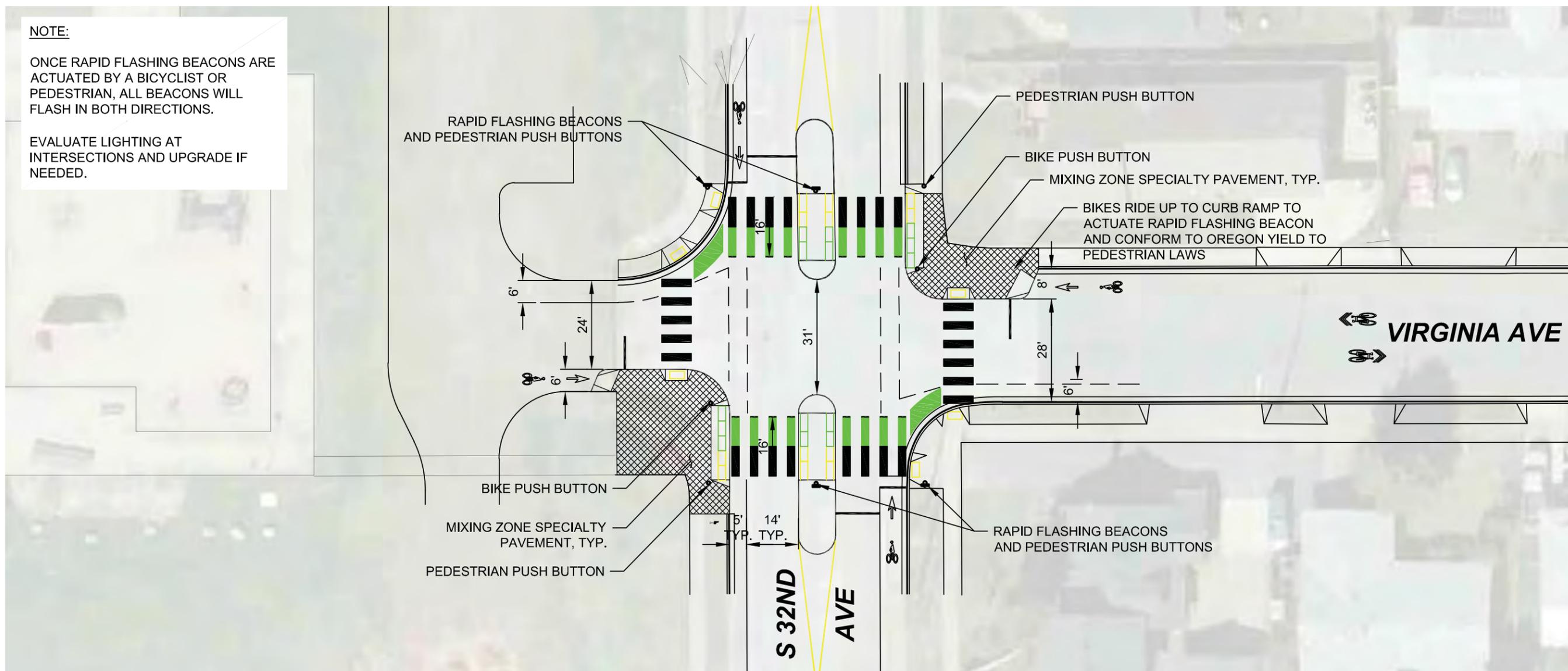
**ADA Accessibility:**

All curb ramps along the corridor will be evaluated and upgraded for ADA accessibility.

**NOTE:**

ONCE RAPID FLASHING BEACONS ARE ACTUATED BY A BICYCLIST OR PEDESTRIAN, ALL BEACONS WILL FLASH IN BOTH DIRECTIONS.

EVALUATE LIGHTING AT INTERSECTIONS AND UPGRADE IF NEEDED.



S 32nd Street Intersection Concept Enlargement

## Mini Roundabout

Mini-roundabouts provide traffic calming. Low profile mini-roundabouts would not include center landscaping and they would accommodate emergency vehicles and other typical neighborhood oversized vehicles.



## Pedestrian Refuge Island

Pedestrian refuge islands provide a two-stage crossing for people walking and shorten crossing distances. Depending on the location, they may or may not include low profile landscaping.



**Added Tree Canopy:**

Within the parking lane, tree planting areas would be added to increase canopy and define the edges of the street. Locations are schematic only, but based on existing parking needs and lack of existing tree canopy. Coordination and agreement from fronting property owner will be required prior to implementation. Locations shown are conceptual only.

**At S 35th Street:**

A mini roundabout would be added as traffic calming to create bicycle-compatible travel speeds.

**At S 37th Street:**

The stop sign would be flipped to favor Virginia Ave.



**At S 38th Street:**

The stop sign would be flipped to favor Virginia Ave.

A narrowed raised crossing with curb extensions would be added to promote yielding to crossing pedestrians and to help deter speeding through the neighborhood.

Curb extensions may also function as stormwater planters to capture and treat water before entering channels on S 38th.

**Added Speed Cushion:**

Where additional tree plantings are less desired, traffic calming would include asphalt cushions to reduce traffic speeds.

**At S 40th Street:**

Mini median islands would be added to slow traffic and provide refuge for pedestrians crossing the street.



**Added Tree Canopy:**

Within the parking lane, tree planting areas would be added to increase canopy and define the edges of the street. Locations are schematic only, but based on existing parking needs and lack of existing tree canopy. Coordination and agreement from fronting property owner will be required prior to implementation. Locations shown are conceptual only.

**At S 41st Street:**

A mini roundabout would be added to create bicycle-compatible travel speeds.

**Sidewalk Infill:**

New concrete sidewalk added to fill in gaps along corridor.



S 42ND STREET INTERSECTION SIMULATION (FACING NORTH)

## Daisy Street:

### S 42nd Street to S Weyerhaeuser Haul Road



The preferred bikeway type on Daisy Street to S Weyerhaeuser Haul Road is bicycle lanes. Due to higher traffic volumes, a separated bicycling facility is necessary. Roadway markings throughout this section of the corridor would consist of one consolidated parking lane, bike lane stripes, and bike lane markings to distinguish bike lanes from the general purpose travel lanes. No center line would be provided to encourage motor vehicles to give extra distance while passing people biking. Identification of consolidated parking lane is based on existing parking utilization levels combined with gaps in tree canopy. See the Parking Considerations in Relation to Bikeway Implementation section on pages 30-31 for additional information.

### S 42nd Street Intersection Design

A single-lane roundabout would create slow circulation speeds through the intersection for all street approaches and greatly improve the safety of the intersection compared to existing conditions.

People bicycling would be permitted to travel within the roundabout with motor vehicles, or to enter into a shared space with pedestrians and use the crosswalk.

Mixing zones for people walking and biking would be created on all four corners of the roundabout. These are areas where people biking and walking would be able to navigate around the intersection separated from motor vehicle traffic. These areas are delineated with specialty pavement to indicate that these areas are for slow and safe travel.

The roundabout could also incorporate stormwater treatment to aid in controlling flooding, treat stormwater, and recharging ground water.

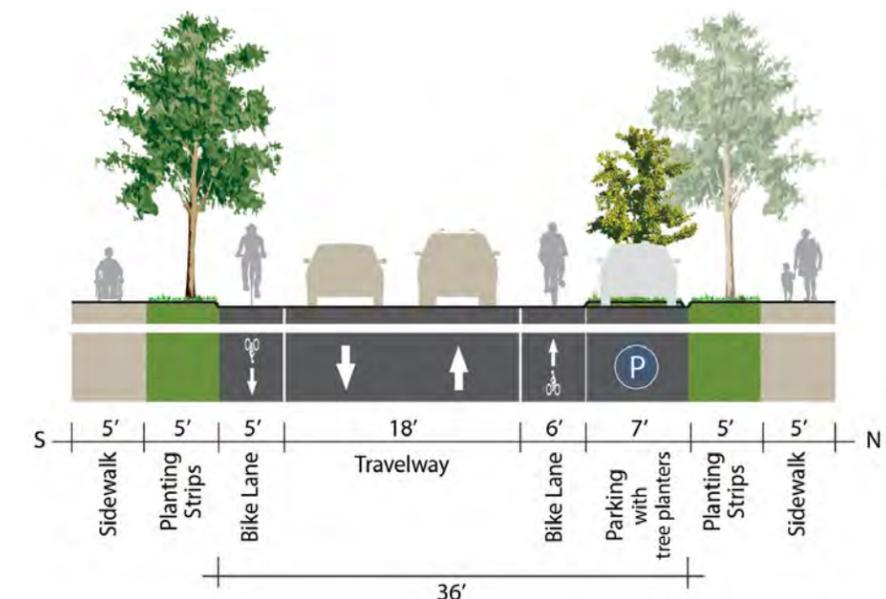
The roundabout proposed for implementation at S 42nd and Daisy St as a part of the Virginia-Daisy Bikeway Project is designed to be uniquely optimized for pedestrian and bicycle circulation, comfort and safety. This is achieved by designing for slow, 15 mph motor vehicle travel speed throughout the roundabout.<sup>1</sup> This slow speed creates low speed differentials for cyclists choosing to travel in-lane, and a high degree of yielding to people walking and bicycling within the crosswalk and slower approach speeds through the reversing curve to the south.

### Additional Safety Features

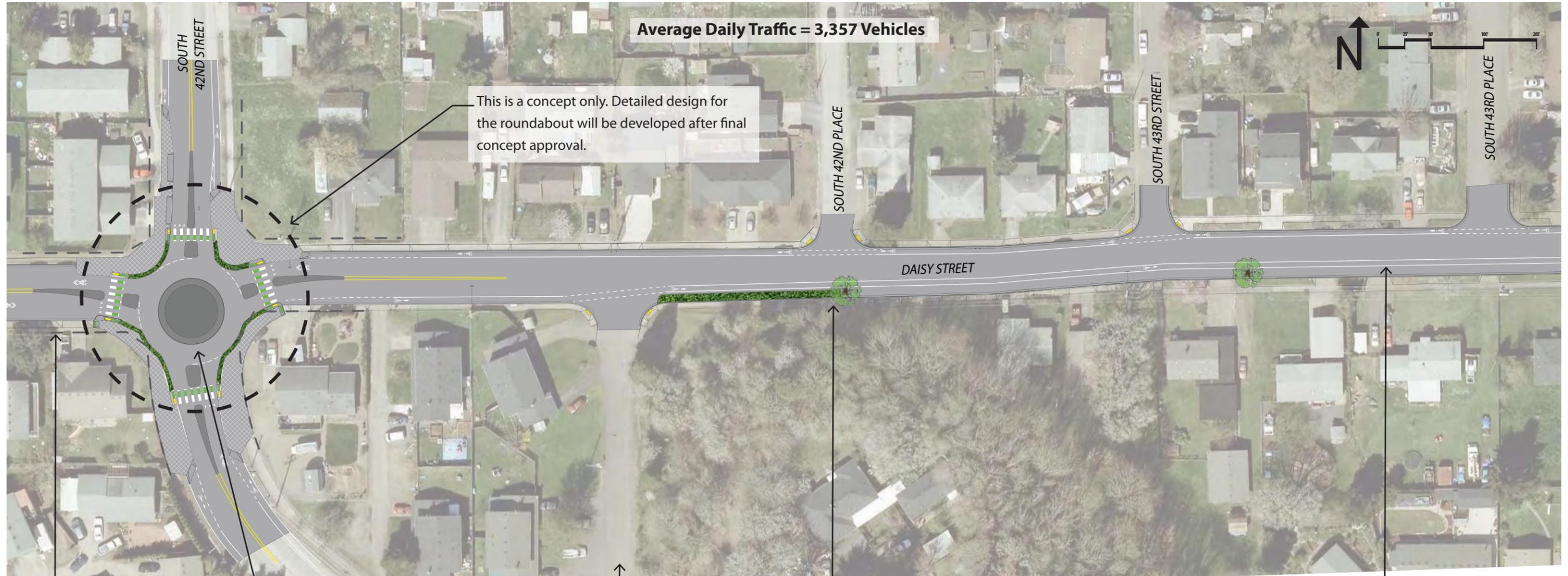
Other elements along the corridor designed to create a safer operating environment by slowing speeds, increasing the drivers' field of vision and opportunity to yield, and shortening stopping distances include:

- Curb extensions (shorten the pedestrian crossing distance and visually narrow the roadway to slow traffic)
- On-street planters (capture and treat stormwater runoff and visually narrow the roadway to slow traffic)
- Raised crosswalk (improve driver visibility of pedestrians and slow traffic)
- Pedestrian refuge islands (provide physical protection form motorists and slow traffic)
- Mini-median islands (slow traffic)

### Recommended Cross Section



<sup>1</sup> FHWA, Roundabouts: An Informational Guide, 2000. This guide has largely been superseded by NCHRP Report 672, but the compact urban roundabout type illustrated in the earlier guide is more appropriate for this use.



Property Line

At S 42nd Street:

Intersection design options are proposed to improve safety, yielding and crossing comfort for users.  
See enlarged design concept of intersection on the following page.

Accessway:

Possible bike accessway improvement for people biking north on S 42nd heading east on Daisy.

Street modification:

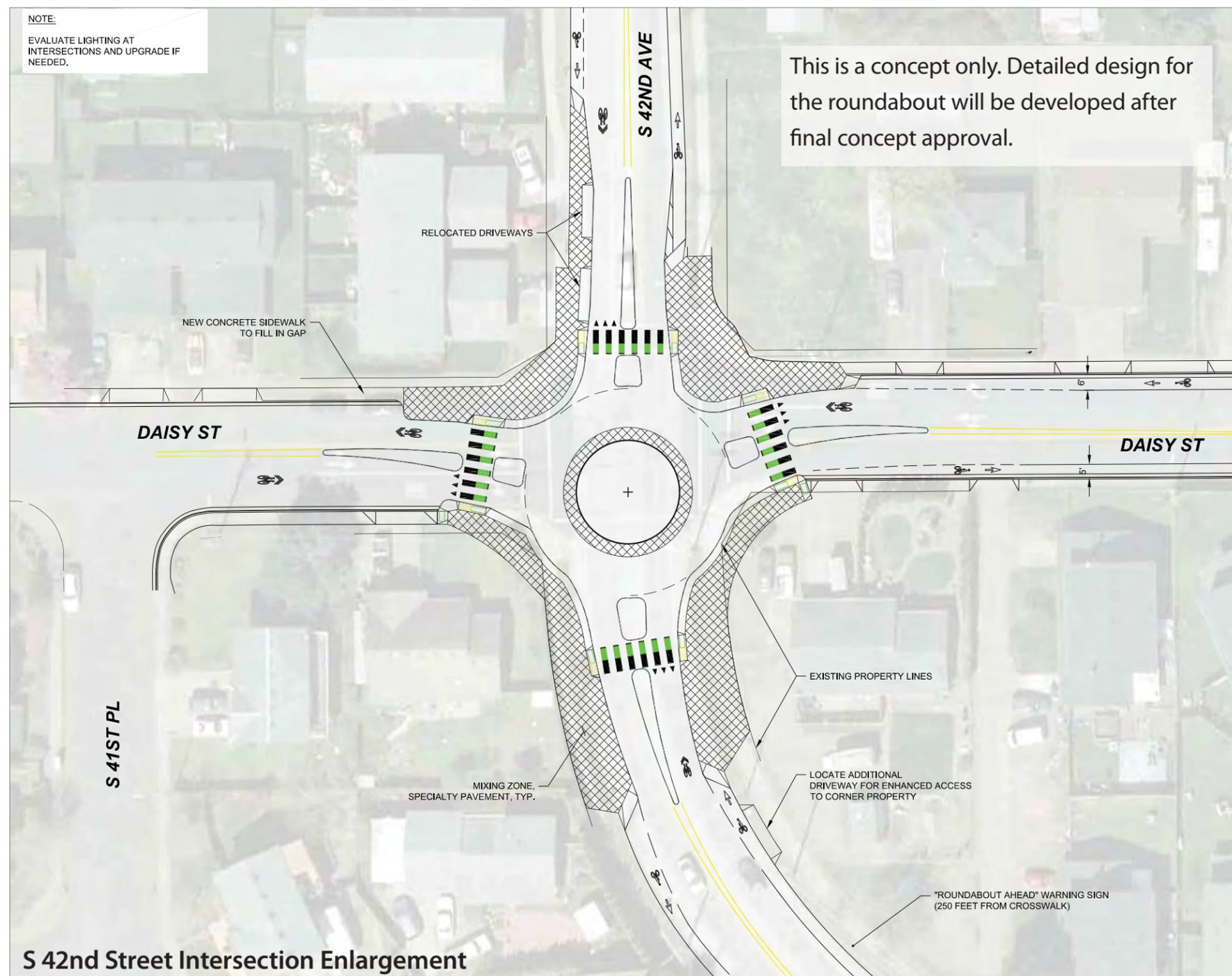
Curb extension with stormwater treatment.  
See photo of potential treatment on next page.

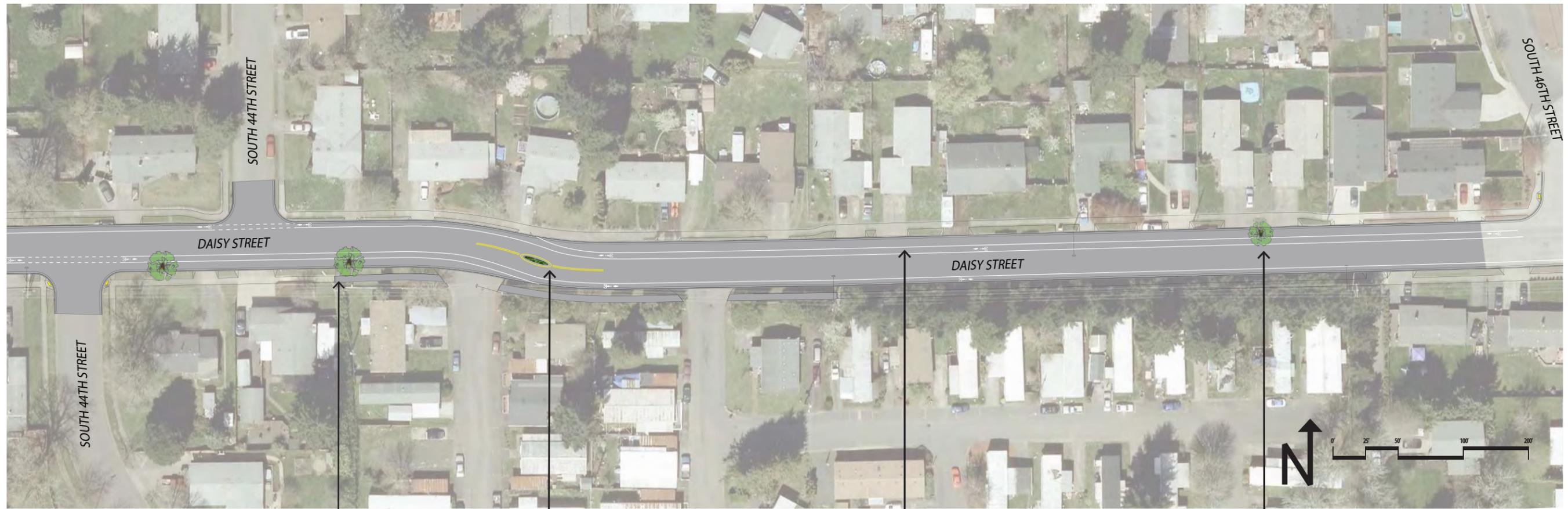
Street modification:

Parking would be consolidated to the south side of the street.  
Bicycle lanes would be added for the safety and comfort of people bicycling.



Typical Stormwater Treatment





**Sidewalk Infill:**

New concrete sidewalk added to fill in gaps along corridor.

**Street modification:**

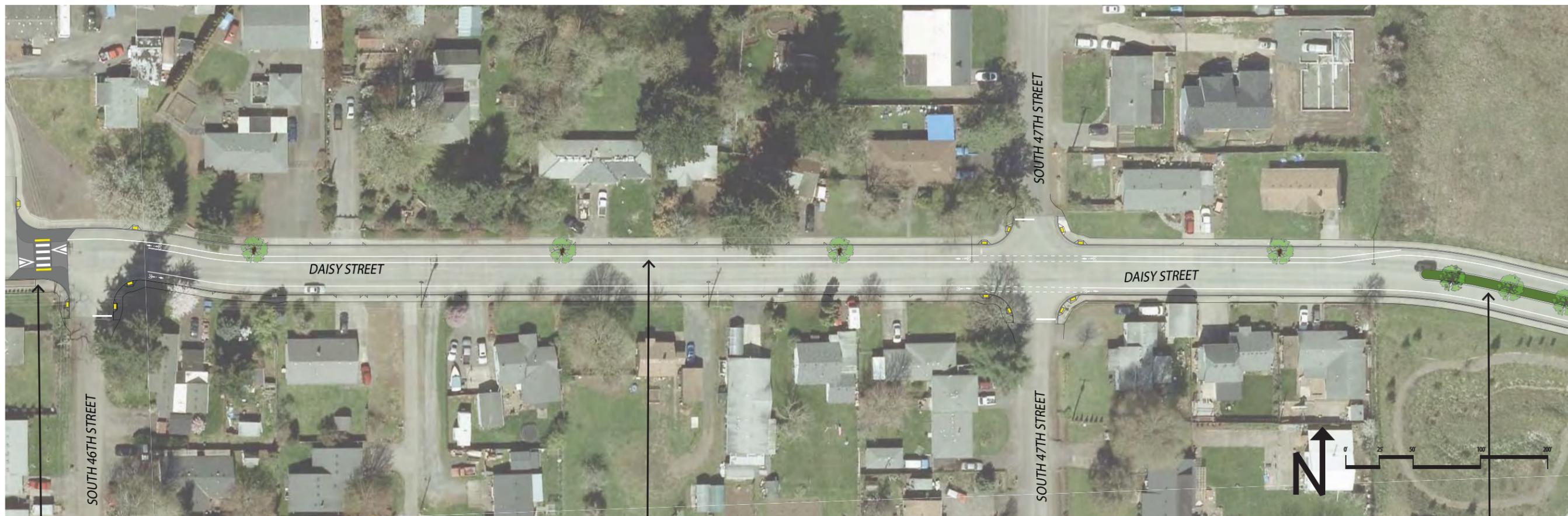
A mini-median island would be added to slow traffic and keep cars in the proper lane through the bend in the roadway.

**Street modification:**

Parking would be consolidated to the higher-demand side of the street.  
  
Bicycle lanes would be added for the safety and comfort of people bicycling.

**Added Tree Canopy:**

Within the parking lane, tree planting areas would be added to increase canopy and define the edges of the street. Locations are schematic only, but based on existing parking needs and lack of existing tree canopy. Coordination and agreement from fronting property owner will be required prior to implementation. Locations shown are conceptual only.



**At S 46th Street:**

A narrowed raised crossing would be added to promote yielding to crossing pedestrians, as well as reduce speeding along the corridor.

**Street modification:**

Parking would be consolidated to the higher-demand side of the street.

Bicycle lanes would be added for the safety and comfort of people bicycling.

**Street modification:**

A landscaped center median would be added to slow traffic. Landscaping would be low maintenance and drought tolerant.



## Daisy Street:

### S Weyerhaeuser Haul Road to S 54th Street Connector Path



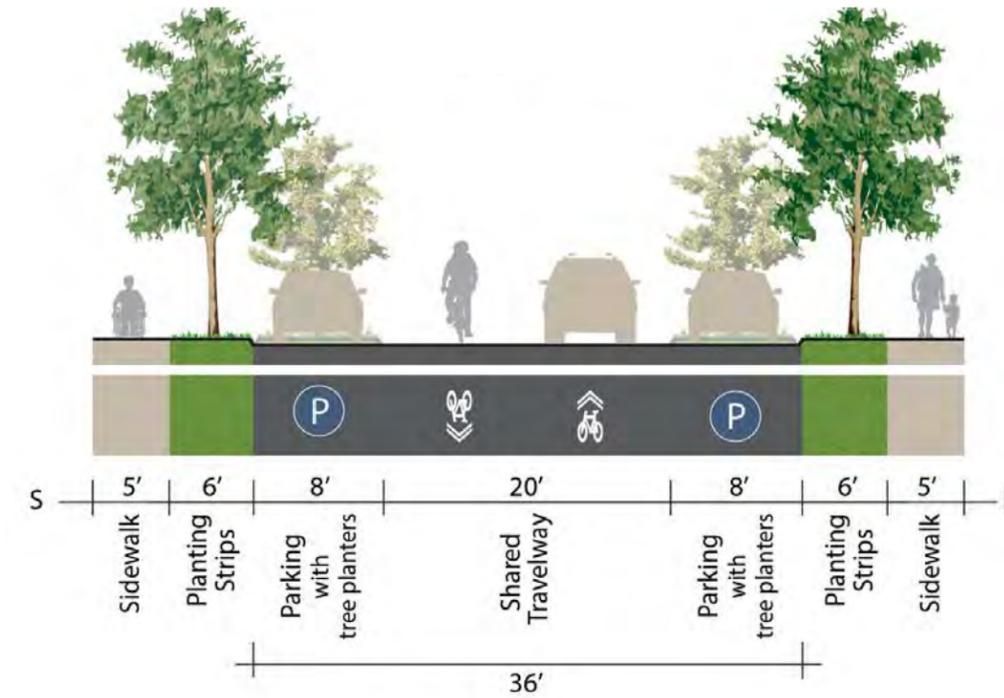
Roadway markings throughout this section of the corridor would consist of frequent shared lane markings. These markings indicate to all users to expect people on bikes in the roadway, and help instruct people bicycling to ride in the center of the roadway to increase visibility and avoid car doors. No centerline would be provided to encourage people driving to give extra distance while passing people on bikes.

### Additional Safety Features

Other elements along the corridor designed to create a safer operating environment by slowing speeds, increasing the drivers' field of vision and opportunity to yield, and shortening stopping distances include:

- Curb extensions (shorten the pedestrian crossing distance and visually narrow the roadway to slow traffic)
- On-street planters (capture and treat stormwater runoff and visually narrow the roadway to slow traffic)
- Mini-roundabouts (slow traffic)
- Raised crosswalk (improve driver visibility of pedestrians and slow traffic)

### Recommended Cross Section





**At S Weyerhaeuser Haul Rd:**

Additional coordination and area development required in relation to future 48th St extension to Main St and Willamalane path development.

**At S Weyerhaeuser Haul Rd:**

A narrowed raised crossing would be added to promote yielding to people on foot and people biking, as well as reduce speeding along the corridor.

**Added Speed Cushion:**

Where additional tree plantings are less desired, traffic calming would include asphalt cushions to reduce traffic speeds.



**Added Tree Canopy:**

Within the parking lane, tree planting areas would be added to increase canopy and define the edges of the street. Locations are schematic only, but based on existing parking needs and lack of existing tree canopy. Coordination and agreement from fronting property owner will be required prior to implementation. Locations shown are conceptual only.

**At S 49th Place:**

A narrowed raised crossing would be added to promote yielding to crossing pedestrians and encourage neighborhood appropriate traffic speeds.



**At S 51st Place:**

A mini roundabout would be added to encourage drivers to travel at bicycle-compatible speeds.

Curb ramps and concrete sidewalk added to the north east corner.

**At S 52nd Street:**

Signs would be provided to show existing no parking in narrow area of street.

**At S 52nd Street:**

Sidewalks would be added to the north side of Daisy St.

**At S 53rd Street:**

A narrowed raised crossing would be added to promote yielding to crossing pedestrians. This replaces the existing crosswalk to the east.



S 53RD STREET RAISED CROSSING SIMULATION (FACING WEST)



## Daisy Street:

### S 54th Street Connector Path to Bob Straub Pkwy



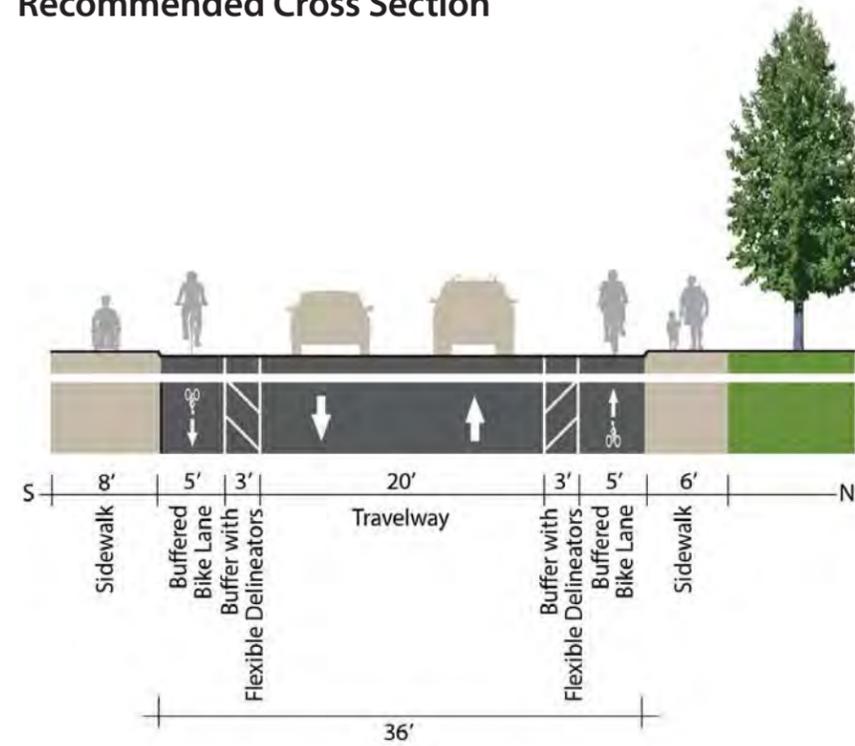
Roadway markings throughout this section of the corridor would consist of buffered bike lane stripes, and bike lane markings to distinguish protected bike lanes from the general purpose travel lanes. No center lane would be provided to encourage people driving to give extra distance while passing people on bikes. Extremely low parking utilization in the block between the S 54th Street Connector Path and 5660 Daisy Street would allow conversion to buffered bike lanes. The block between the 5660 Daisy Street loop would be unbuffered bike lanes to allow on-street parking to remain on the north side of the street.

### Additional Safety Features

Other elements along the corridor designed to create a safer operating environment by slowing speeds, increasing the drivers' field of vision and opportunity to yield, and shortening stopping distances include:

- Curb extensions (shorten the pedestrian crossing distance and visually narrow the roadway to slow traffic)
- On-street planters (capture and treat stormwater runoff and visually narrow the roadway to slow traffic)
- Raised crosswalk (improve driver visibility of pedestrians and slow traffic)

### Recommended Cross Section





**At Future Trail Crossing:**

A raised crossing would be added to promote yielding to crossing pedestrians. Additionally, this treatment will enhance safety for all users by reducing speed along this section of the corridor.

**Street modification:**

Buffered bike lanes would be used to provide a gateway treatment and to slow traffic coming off of Bob Straub Parkway.



**At 5660 Daisy Street:**

A raised crossing would be added to promote yielding to crossing pedestrians.

**Street modification:**

Buffered bike lanes would be used to provide a gateway treatment and to slow traffic coming off of Bob Straub Parkway.

**Bob Straub Pkwy:**

Design will be part of a future project.