



At S 32nd Ave:

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.

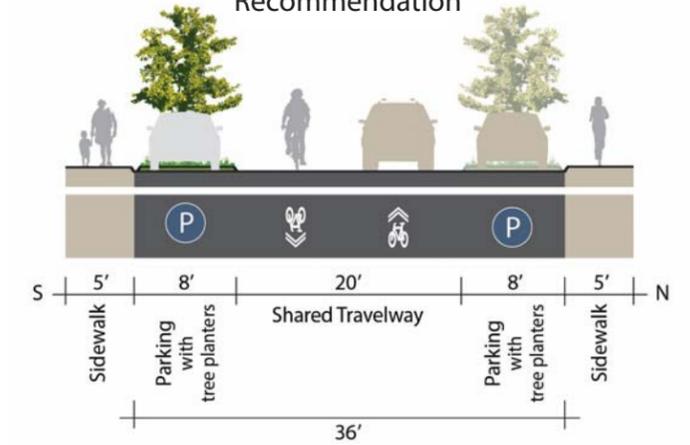
Added Tree Canopy:

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.

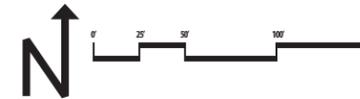
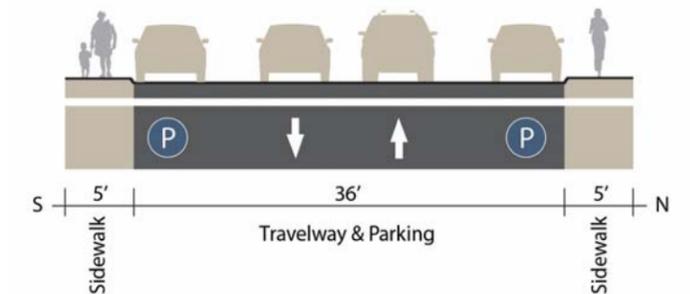
ADA Accessibility:

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

**Virginia Ave, 32nd St - 41st Pl
Recommendation**



**Virginia Ave, 32nd St - 41st Pl
Existing Conditions**

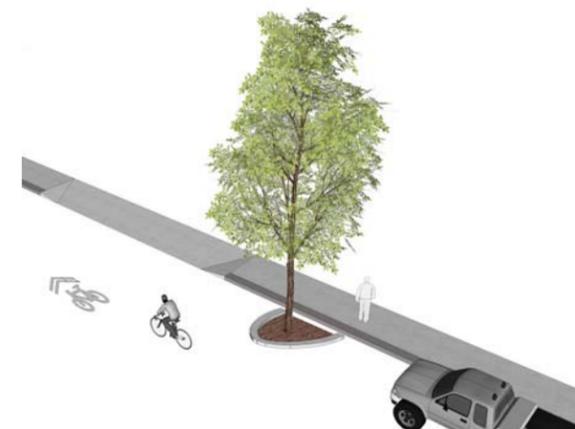


KEY FEATURES

The preferred bikeway type on Virginia Avenue to 34th St 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.

Other elements include curb extensions and on-street planters to create a dynamic operating environment and increase safety by raising user awareness.



On-Street Tree Planters

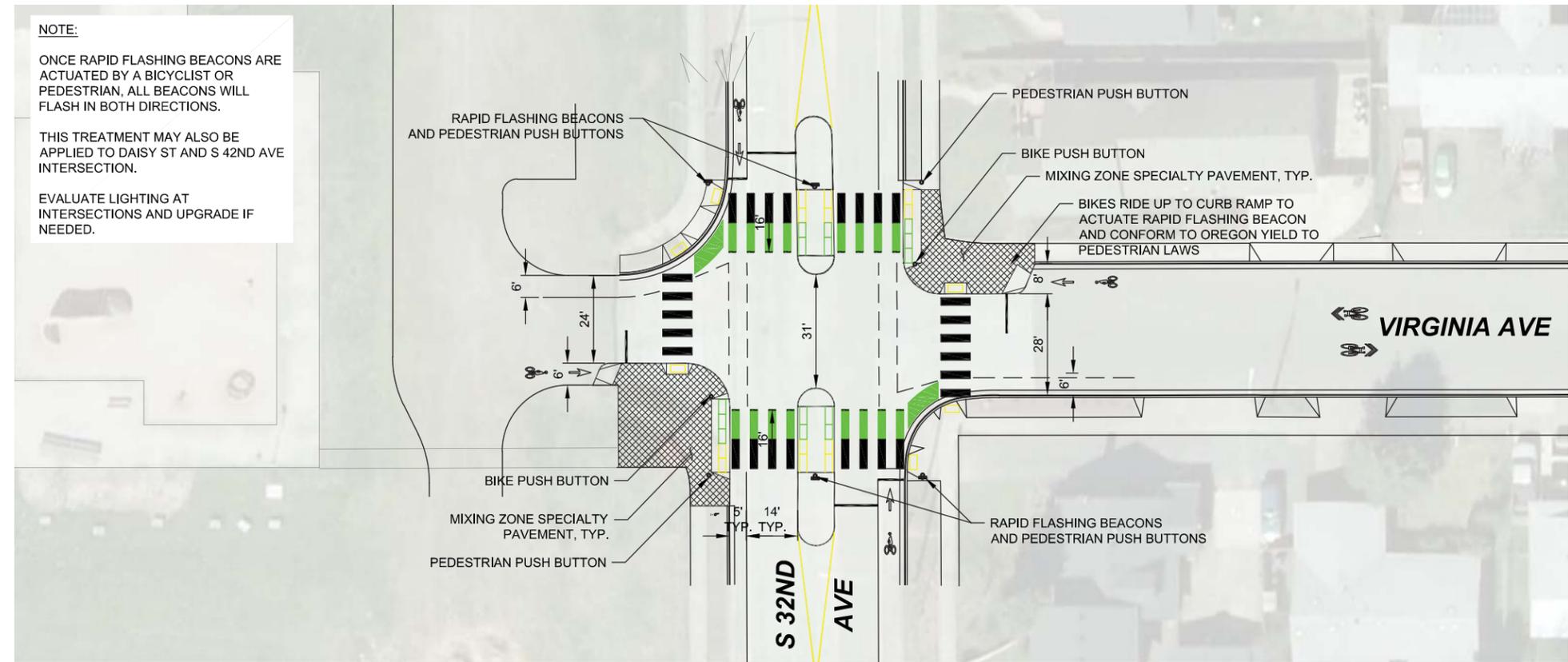
32ND STREET INTERSECTION DESIGN

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

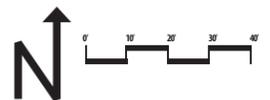
People on bicycles on Virginia Ave would ramp up to a shared-use path at the crossing, and cross adjacent to pedestrians in the crosswalk. People on bicycles would also have the option to navigate the intersection as a vehicle in the travel lanes.

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.



32ND STREET INTERSECTION SIMULATION (FACING SOUTH)

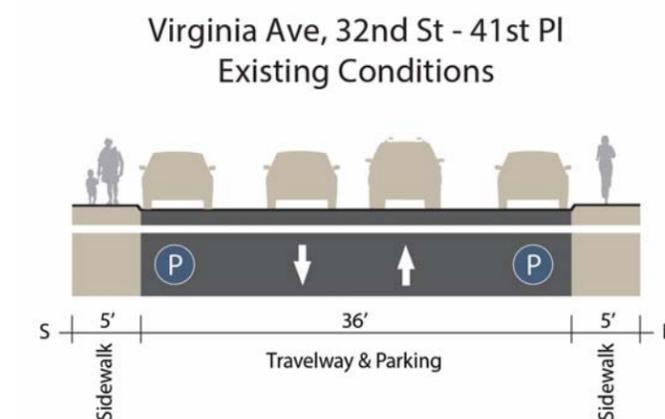
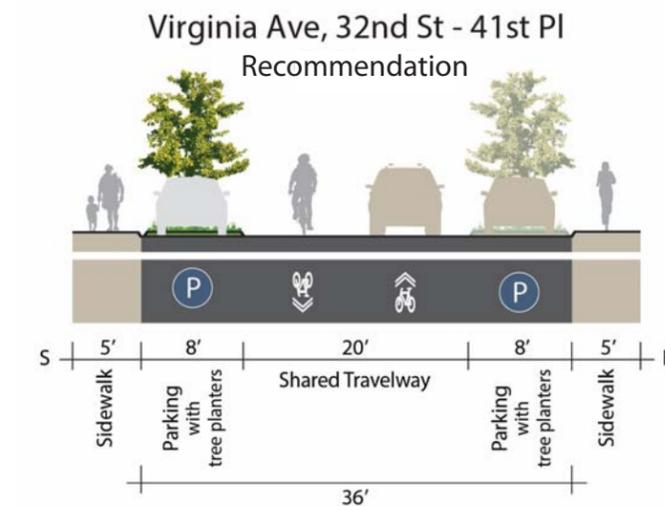
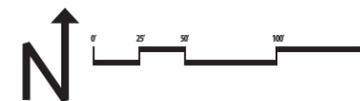




Added Tree Canopy:
 Within the parking lane, tree planting areas would be added to increase canopy and define the edges of the street. Locations are schematic only, but on existing parking needs and lack of existing tree canopy.

At S 35th St:
 A mini roundabout would be added to create bicycle-compatible travel speeds.

At S 37th St:
 The stop sign would be flipped to favor Virginia Ave.



KEY FEATURES

The preferred bikeway type on Virginia Avenue to 37th St 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.

Other elements include a mini-roundabout and on-street planters to create a dynamic operating environment and increase safety by raising user awareness.

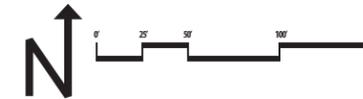




At S 38th St:
 The stop sign would be flipped to favor Virginia Ave. A narrowed raised crossing with curb extensions would be added to promote yielding to crossing pedestrians and to help deter speeding through the neighborhood. Curb extensions also function as stormwater planters to capture and treat water before entering channels on 38th.

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.

At S 40th St:
 Mini median islands would be added to slow traffic and provide refuge for pedestrians crossing the street.



KEY FEATURES

The preferred bikeway type on Virginia Avenue to 40th St 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.

Other elements include curb extensions, a raised crosswalk, a pedestrian refuge island, and on-street planters to create a dynamic operating environment and increase safety by raising user awareness.

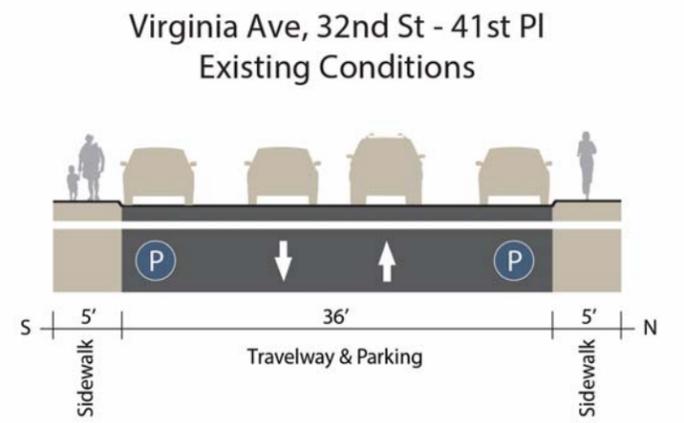
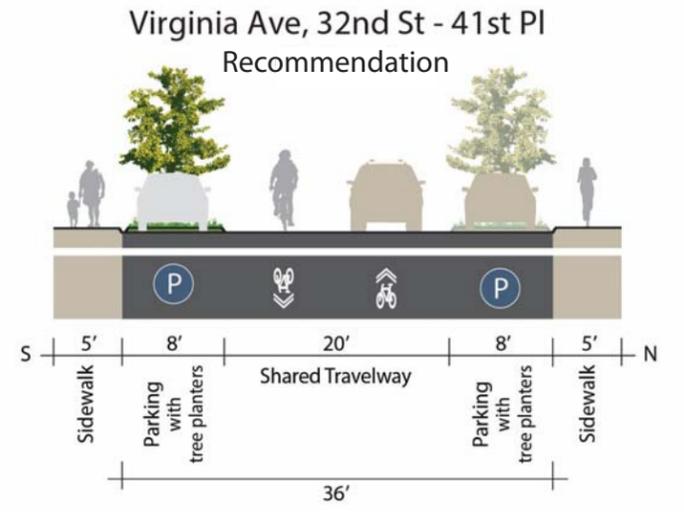




Added Tree Canopy:
 Within the parking lane, tree planting areas would be added to increase canopy and define the edges of the street. Locations are schematic only, but based on existing parking needs and lack of existing tree canopy.

At S 41St:
 A mini roundabout would be added to create bicycle-compatible travel speeds.

Sidewalk Infill:
 New concrete sidewalk added to fill in gaps along corridor.



KEY FEATURES

The preferred bikeway type on Virginia Avenue to 41st Pl 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.

Other elements include a mini-roundabout and on-street planters to create a dynamic operating environment and increase safety by raising user awareness.





This is a concept only. Detailed design for the roundabout will be developed after final concept approval.

Average Daily Traffic = 3,357 Vehicles

Property Line

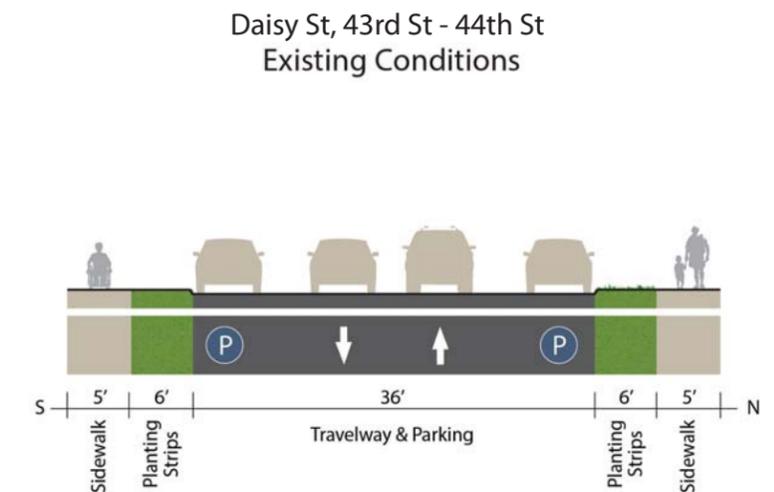
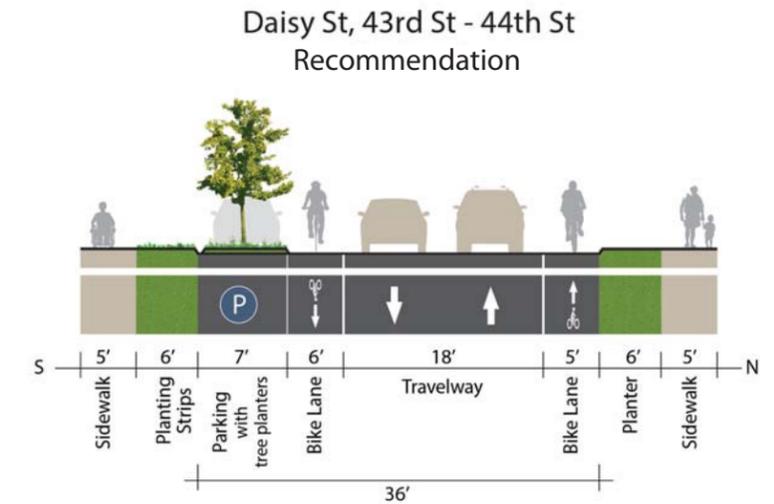
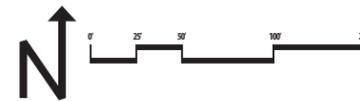
At S 42 St:
Intersection design options are proposed to improve safety, yielding and crossing comfort for users.

See detailed designs of intersection options on the following pages.

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

Street modification:
Curb extension with possible stormwater treatment. See photo of potential treatment below.

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.



KEY FEATURES

The preferred bikeway type on Daisy Street to 43rd Pl 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 lane would be provided to encourage motor vehicles to give extra distance while passing people biking.

Other elements include a stormwater treatment and on-street planters to create a dynamic operating environment and increase safety by raising user awareness.

Identification of consolidated parking lane is based on existing parking utilization levels combined with gaps in tree canopy.



42ND STREET INTERSECTION DESIGN PREFERRED OPTION (ROUNDAABOUT)

A compact 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 onto a shared use path and cross adjacent to pedestrians.

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.

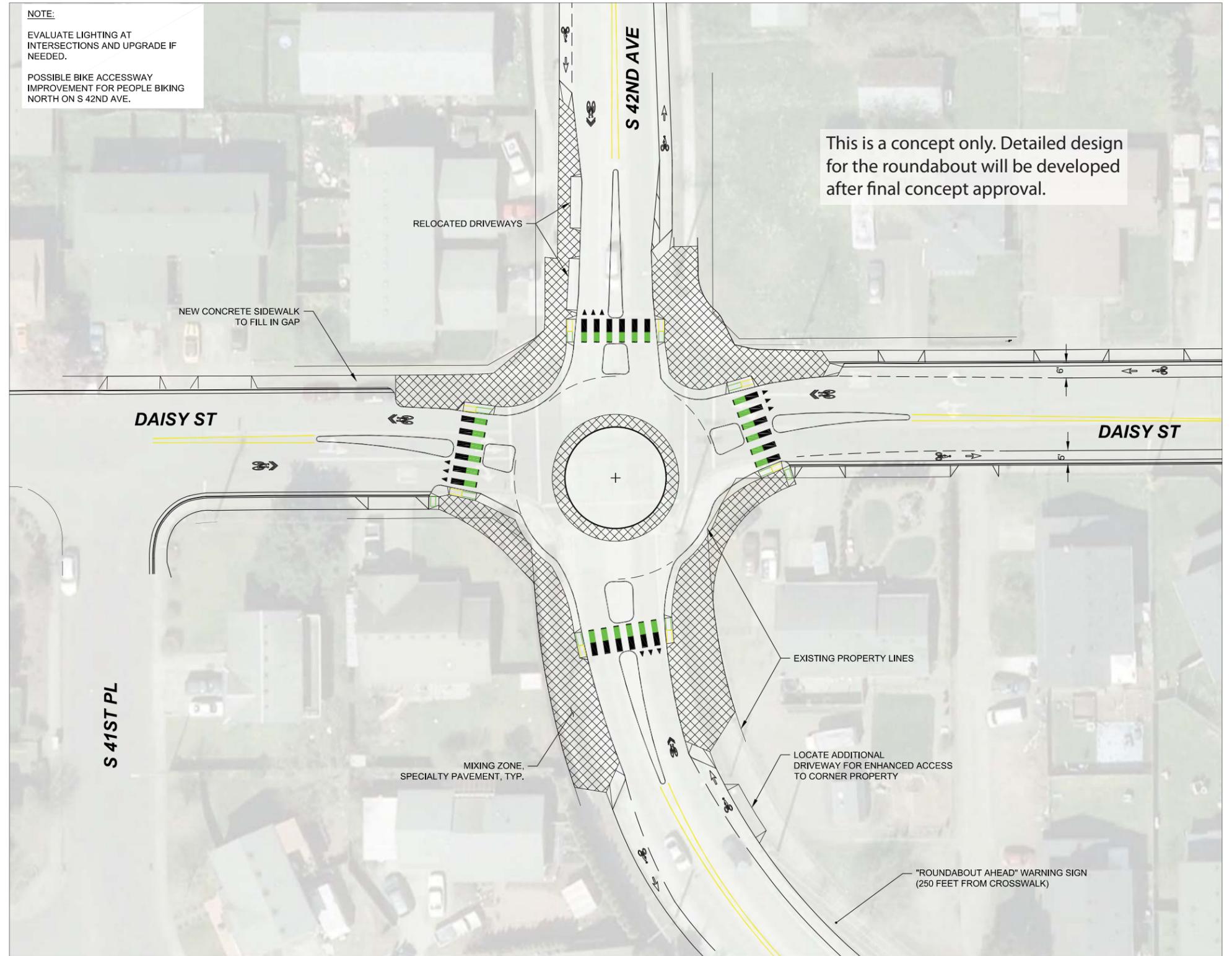
ROUNDAABOUT SAFETY BENEFITS*

- Crash reduction
 - 37 % reduction in overall collisions
 - 75 % reduction in injury collisions
 - **90 % reduction in fatality collisions**
 - 40 % reduction in pedestrian collisions
- Reduce delay, improve traffic flow
- Less expensive: Installations costs are comparable, however roundabouts eliminate hardware, maintenance and electrical costs associated with traffic signals

The roundabout proposed for implementation at 42nd & Daisy 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. This slow speed creates low speed differentials for cyclists choosing to travel in-lane, and a high degree of yielding to pedestrians and cyclists within the crosswalk.

*Federal Highway Administration and Insurance Institute for Highway Safety (FHWA and IHS) and <https://www.wsdot.wa.gov/Safety/roundabouts/benefits.htm>

**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.



42ND STREET INTERSECTION SIMULATION



VIRGINIA-DAISY BIKEWAY: REFINED DESIGN CONCEPT

Daisy Street: 42nd Street Intersection



Street modification:

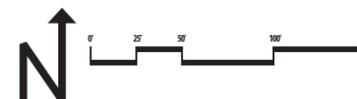
A mini-median island would be added to slow traffic and keep cars in the proper lane through the bend in the roadway.

Street modification:

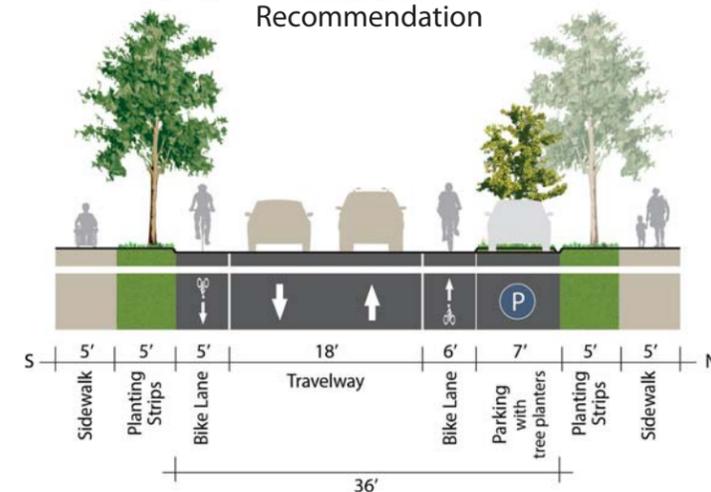
Parking would be consolidated to the higher-demand side of the street. Bicycle lanes would be added for the safety and comfort of people bicycling.

Added Tree Canopy:

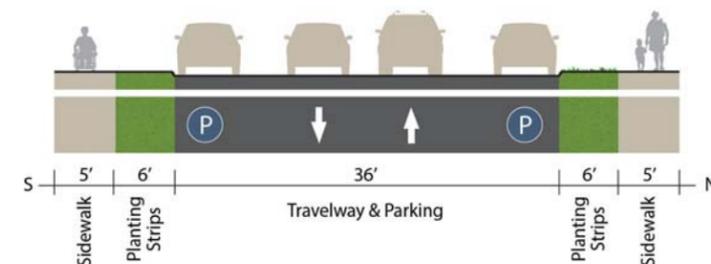
Within the parking lane, tree planting areas would be added to increase canopy and define the edges of the street. Locations are schematic only, but based on existing parking needs and lack of existing tree canopy.



Daisy St, 44th St - Weyerhaeuser Haul Rd
Recommendation



Daisy St, 44th St - Weyerhaeuser Haul Rd
Existing Conditions



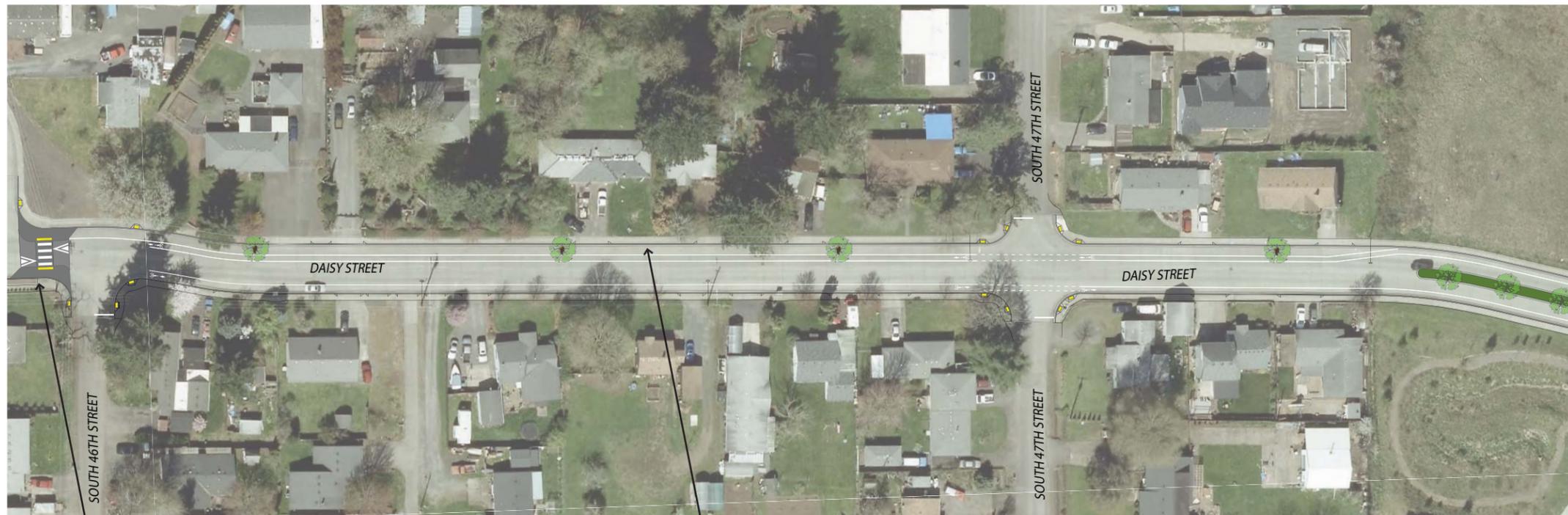
KEY FEATURES

The preferred bikeway type on Daisy Street to 46th St 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 lane would be provided to encourage motor vehicles to give extra distance while passing people biking.

Other elements include a center median and on-street planters to create a dynamic operating environment and increase safety by raising user awareness.

Identification of consolidated parking lane is based on existing parking utilization levels combined with gaps in tree canopy.

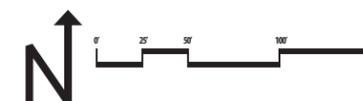


At 46th Street:

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

Street modification:

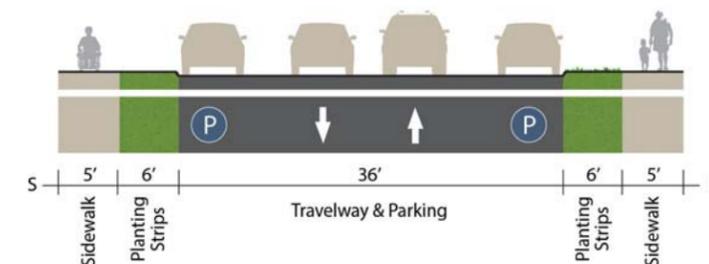
Parking would be consolidated to the higher-demand side of the street. Bicycle lanes would be added for the safety and comfort of people bicycling.



**Daisy St, 44th St - Weyerhaeuser Haul Rd
Recommendation**



**Daisy St, 44th St - Weyerhaeuser Haul Rd
Existing Conditions**



KEY FEATURES

The preferred bikeway type on Daisy Street to 47th St 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 lane would be provided to encourage motor vehicles to give extra distance while passing people biking.

Other elements include curb extensions, a raised crosswalk, a center median, and on-street planters to create a dynamic operating environment and increase safety by raising user awareness.

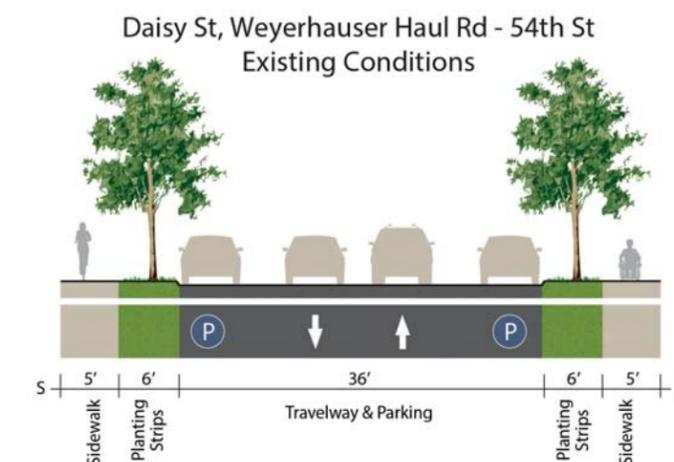
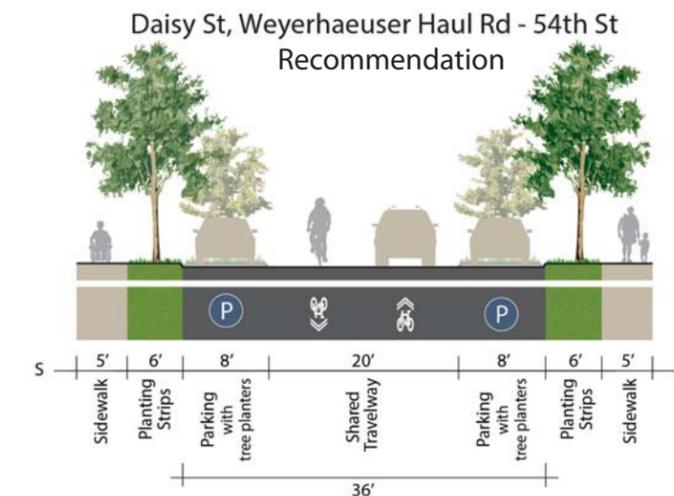
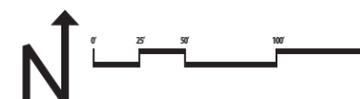
A portion of this segment features light colored concrete paving. On this section, markings will use high-contrast black backing with all white colored markings to enhance visibility.

Identification of consolidated parking lane is based on existing parking utilization levels combined with gaps in tree canopy.



At S Weyerhaeuser 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 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.



KEY FEATURES

The preferred bikeway type on Daisy Street to Camellia St 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.

Other elements include curb extensions, a raised crosswalk, and on-street planters to create a dynamic operating environment and increase safety by raising user awareness.

A portion of this segment features light colored concrete paving. On this section, markings will use high-contrast black backing with all white colored markings to enhance visibility.



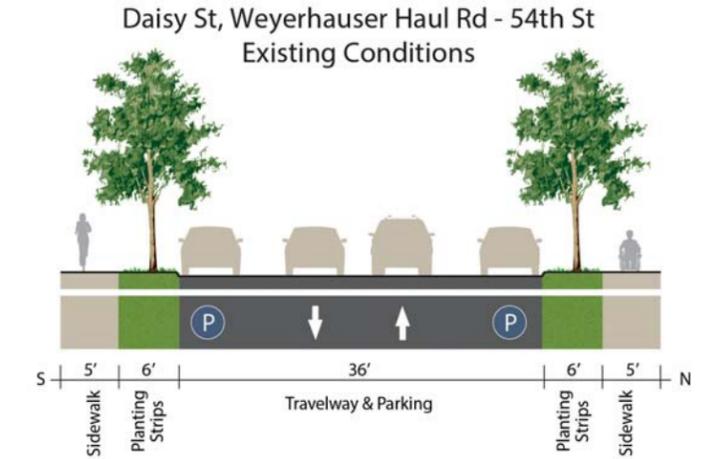
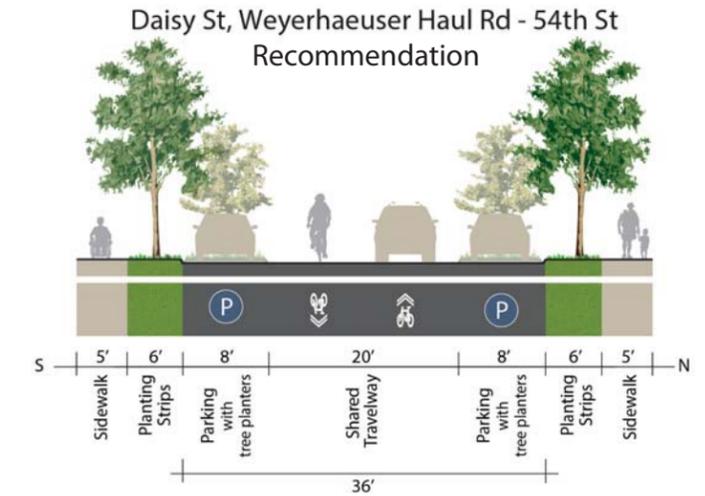
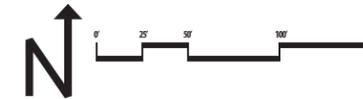
Average Daily Traffic = 1,514 Vehicles

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.

At S 49th Pl:

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



KEY FEATURES

The preferred bikeway type on Daisy Street to Daisy St Cul-de-Sac 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.

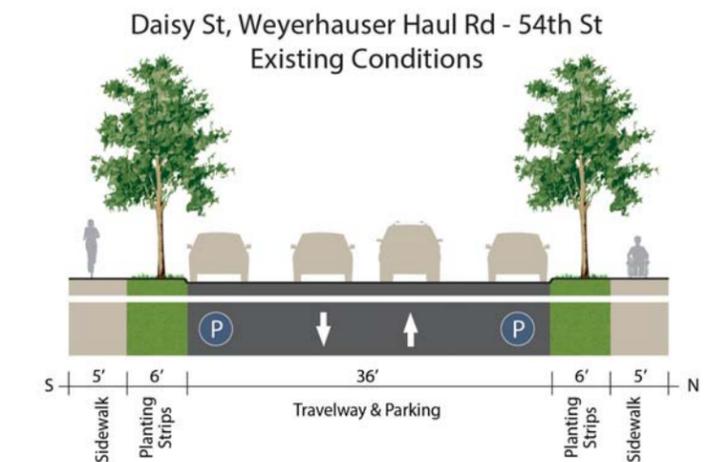
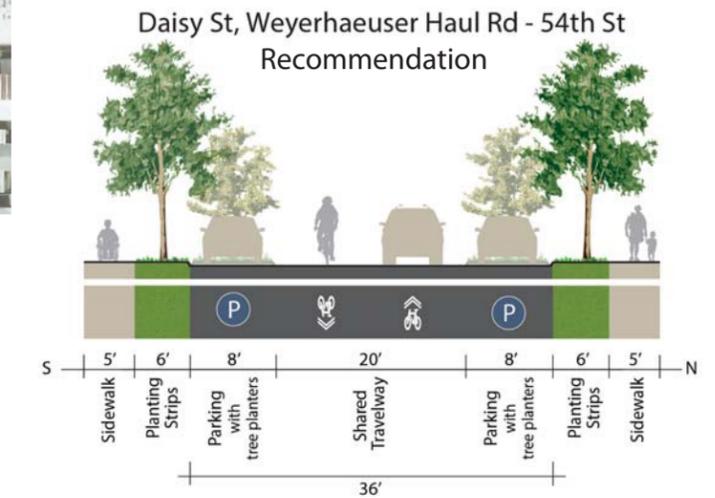
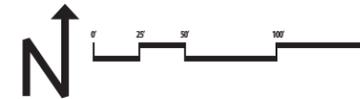
Other elements include a raised crossing and on-street planters to create a dynamic operating environment and increase safety by raising user awareness.



At S 51st Pl:
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 St:
Sidewalks would be added to the north side of Daisy.

At S 53rd St:
A narrowed raised crossing would be added to promote yielding to crossing pedestrians. This replaces the existing crosswalk to the east.



KEY FEATURES

The preferred bikeway type on Daisy Street to 53rd St 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.

Other elements include curb extensions, a raised crosswalk, a mini-roundabout, and on-street planters to create a dynamic operating environment and increase safety by raising user awareness.



VIRGINIA-DAISY BIKEWAY: REFINED DESIGN CONCEPT

Daisy Street: Raised Crosswalk at 53rd Street

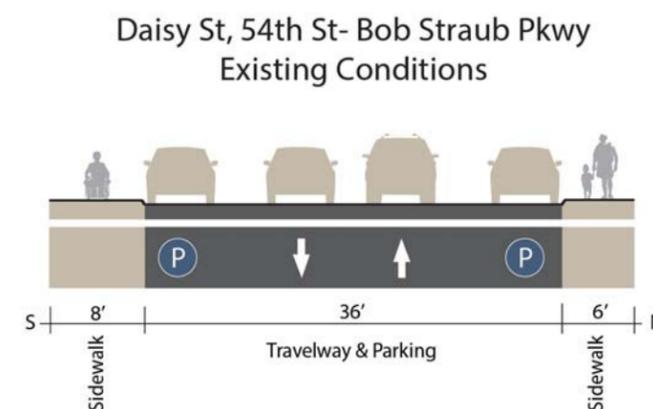
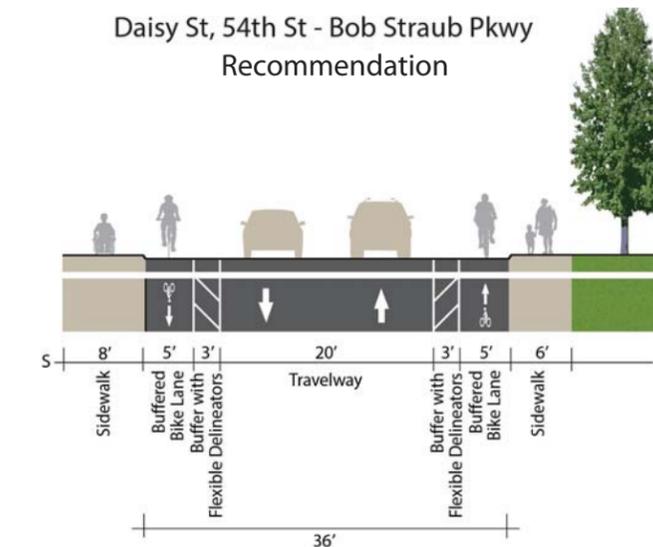
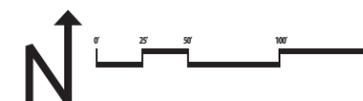


At Future Trail Crossing:

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. See cross-section views of design options to the right.



KEY FEATURES

The preferred bikeway type on Daisy Street to Gateway St is buffered bike lanes.

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.

Other elements include a raised crosswalk and on-street planters to create a dynamic operating environment and increase safety by raising user awareness.

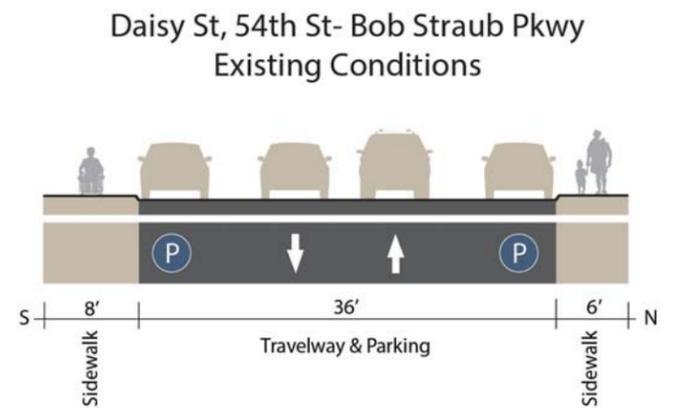
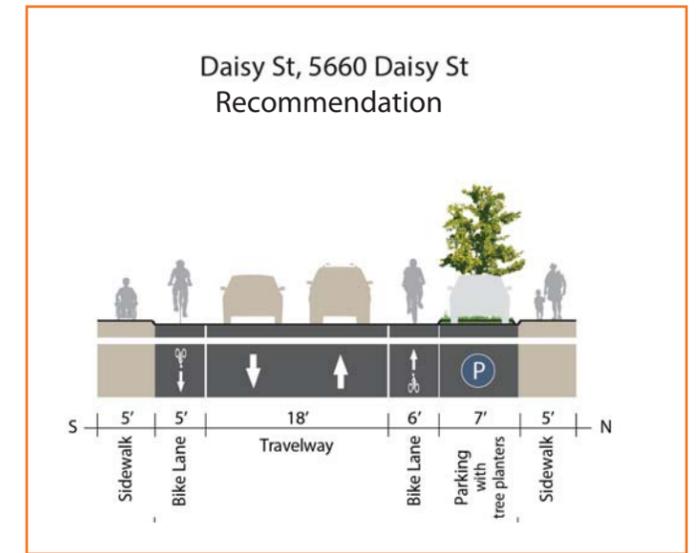
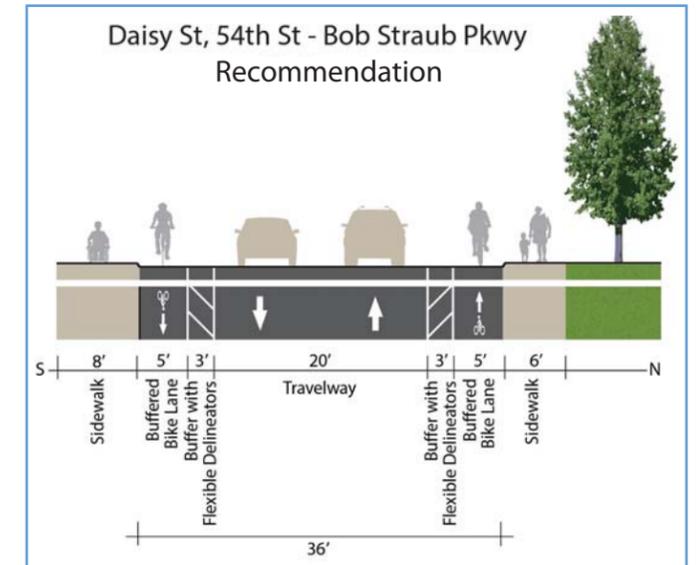
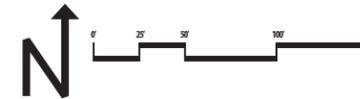
Extremely low parking utilization in this block would allow conversion to buffered bike lanes.



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.
See option 1 cross-section view to the right.

Bob Straub Pkwy:
Design will be part of a future project.



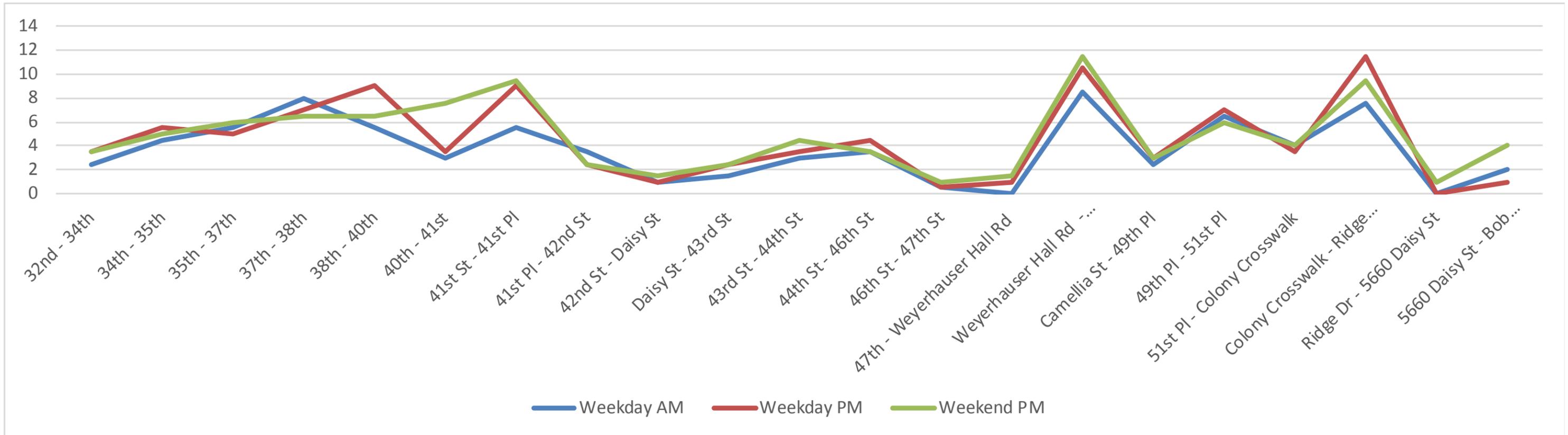
KEY FEATURES

The preferred bikeway type on Daisy Street to Bob Straub Pkwy is buffered bike lanes.

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.

Other elements include a raised crosswalk and on-street planters to create a dynamic operating environment and increase safety by raising user awareness.

AVERAGE PARKING USE FOR EACH BLOCK SEGMENT ON THE CORRIDOR BASED ON DAY AND TIME



PARKING CONSOLIDATION TO SUPPORT BIKEWAY IMPLEMENTATION

Establishing a new bikeway on the Virginia-Daisy corridor involves changes to the street that may include traffic control changes, lane restriping and roadway reconfiguration. One strategy for creating space for dedicated bike lane facilities is to consolidate street parking on only one side of the street. Underutilized parking lanes can result in higher traffic speeds and unsafe driving behavior due to the appearance of a wide open travel lane space. Reallocating a portion of underutilized parking or travel lanes as a bike lane can mitigate these issues while providing dedicated space for people biking¹.

EXISTING CONDITIONS

To support the bikeway design for Virginia-Daisy, the City of Springfield supplied on-street parking counts performed at six different times to cover the variety of conditions encountered on the corridor². To supplement this data, the city also performed a count based on visual inspection of previously captured photography³.

COUNT SUMMARY

Usage of the on-street parking lane on the full Virginia-Daisy corridor ranges from a low of 74 vehicles to a high of 101 vehicles. Specific clusters of parking demand varies on the corridor in response to land uses, community destinations and availability of off-street parking. As shown in the table to the right, parking demand is generally consistent from weekday to weekend and morning to evening hours. Special event parking demand (such as a sports event at the Willamalane Center) may exceed the use seen on the average day.

PARKING LANE CAPACITY

Parking is allowed on the curbside on both sides of the street along the majority of the Virginia-Daisy corridor. Under some conditions, parking use may be prohibited, restricted or unavailable. These conditions include:

- Parking is prohibited for 30 ft advance of crosswalks. This applies at all crosswalks⁴, including all street corners. On the Virginia-Daisy corridor, yellow curbs are only painted on either side of the marked crosswalks by Colony Dr and Ridge Dr.
- Spot parking restrictions such as the residential loop at the far East end of the corridor which has no parking permitted on the street (off of Daisy St).
- On-street parking is not allowed in front of driveways. Many residential units on the corridor provide their own off-street parking for 1 or 2 vehicles. Curb cuts provide access to these spaces but also prevent on-street parking in that location.
- On narrow segments without space for parking. Between 51st and 52nd St the street is so narrow that parking would block one travel lane. Parking is prohibited on this segment.

¹ FHWA. Incorporating On-Road Bicycle Networks into Resurfacing Projects. 2016

² Counts were performed Tuesday 1/12/2016 and Tuesday 1/19.2016 at 10am; Tuesday 1/19/2016 and Tuesday 1/26/2016 at 6:30 pm; and Saturday 1/16/2016 and Saturday 1/23/2016 at 2:00pm.

³ Google StreetView photography dated September 2011.

⁴ See. ORS 811.550 – Parking prohibition near crosswalks

DESIGN CONSIDERATIONS

- On most streets with parking on both sides, parking demand can be accommodated with parking provided on one side.
- Parking may be alternated from one side of the street to the other with proper transitioning. This pattern may cause motorists to reduce their speed.

IMPLEMENTATION CONSIDERATIONS

Imperfections in the quality or installation of roadway pavement, gutter joints and drainage grates must be held to a higher standard when they are located within a bicycle lane than when located within a parking lane. Construction plans should call for repair of rough or uneven pavement surface, the use bicycle compatible drainage grates, and corrections to raise or lower existing grates and utility covers so they are flush with the pavement surface.

PROPOSED CHANGES

As part of the Virginia-Daisy Bikeway project, some segments of the corridor may feature consolidated parking lanes in order to visually narrow the roadway and provide space to establish a bike lane. At spot locations across the entire corridor, parking may be restricted in certain locations to allow for trees and crossing enhancements. These spot changes on their own are not expected to have significant impact to parking availability.

There are four distinct segments in the project related to parking lane consolidation:

32nd to 42nd:

In this segment, no parking consolidation is proposed, with no significant effect on parking availability.

42nd to Weyerhauser Hall Rd:

This segment proposes parking consolidation on one side of the street. The parking lane may be allocated on the north or south side of the street in response to measured parking demand.

The observed weekend parking peak consisted of 15 cars. After implementation, this segment will have an estimated 140 parking spaces, which will more than serve the parking utilization needs.

Weyerhauser Hall Rd to Ridge Dr:

In this segment, no parking consolidation is proposed, with no significant effect on parking availability.

Ridge Dr to Bob Straub Parkway:

Based on low existing parking utilization, this segment proposes the removal of parking on both sides of the street (with the exception of one block on the north side near 5660 Daisy Street (Western Loop)).

The observed weekend parking peak consisted of 5 cars. After implementation, this segment will have an estimated 15 parking spaces, which will more than serve the parking utilization needs.

BENEFITS

- Reduces conflicts with bicyclists as drivers pull into and out of parking spaces and drivers and passengers open doors of parked vehicles.
- Provides additional roadway space for bicycle facilities.
- Improves sight distance for all roadway users.