SR 516 COVINGTON: CORRIDOR STUDY

Covington Way Southeast to 169th Place Southeast (Milepost 11.16 to 11.75)

Management of Mobility Division
August 2024

Table of Contents

Figures

Tables

1 BACKGROUND AND EXISTING CONDITIONS

1.1 Study Background

SR 516 serves as the primary east-west roadway through the City of Covington. It provides connections to the nearby communities of Kent and Maple Valley and serves as the city's primary commercial corridor. The SR 516 Covington Corridor Study limits are from Covington Way Southeast to 169th Place Southeast (Milepost 11.16 to 11.75). Within the identified study area, there are five signalized intersections. Two of the signalized intersections are on- and off-ramps to SR 18 which provides regional access to and from Covington. SR 18 is an east-west limited access roadway. The study limits and intersections are shown in **Figure 1**.

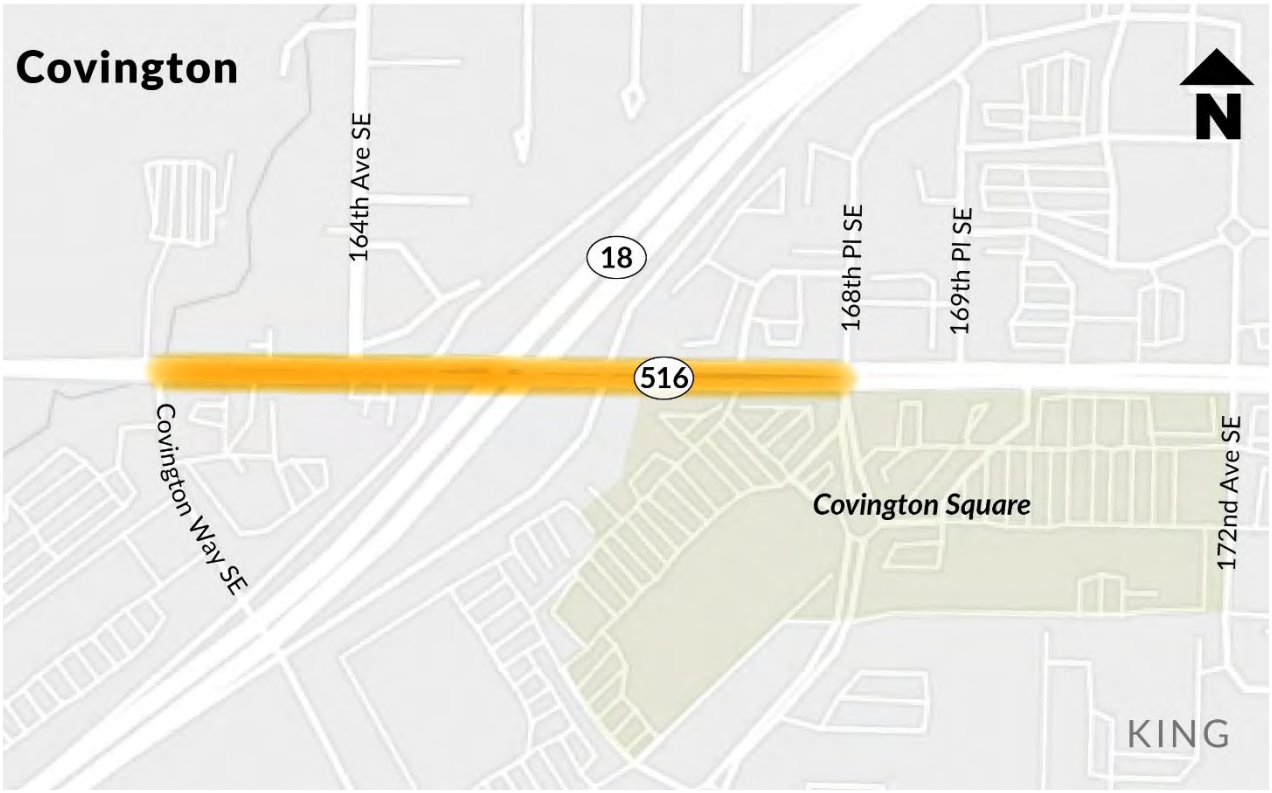


Figure 1: SR 516 Corridor Study Area

This portion of the SR 516 corridor includes commercial, retail, and residential destinations that create substantial travel demand; however, a series of closely spaced intersections cause challenges with corridor operations and access to adjoining businesses. The City of Covington's Comprehensive Plan forecasts that if operational improvements are not implemented, then most major intersections in the study limits will experience steadily decreasing performance by the year 2035. The study assessed strategies to improve the multimodal safety, accessibility, and operations of the corridor.

1.2 Purpose and Need

The Corridor Study purpose and need is:

SR 516 from Covington Way Southeast to 169th Place Southeast serves as a critical connection in the regional transportation network. This segment of SR 516 experiences delays and lacks sufficient pedestrian and bicycle facilities. Performance-based strategies are needed to satisfy the following study goals (not listed in order of priority):

Goals

- Improve SR 516's operations to efficiently and equitably provide multimodal options to move people and goods.
- Increase access for all corridor users.
- Improve safety for all users.

1.3 Study Context

This study was developed to address a need identified in an Intersection Control Evaluation (ICE) initiated by the City of Covington for a project at the Covington Way Southeast and SR 516 (Southeast 272nd Street) intersection. Section 1300.05 of the WSDOT Design Manual establishes that an Intersection Control Evaluation (ICE) is required when design or operational changes are proposed at an intersection on a state highway, and the ICE process determines the new intersection control type (i.e., signal, roundabout, stop control). The Covington project, partially funded by a Puget Sound Regional Council (PSRC) regional grant, is focused on improving operations at Covington Way Southeast and SR 516 (Southeast 272nd Street) intersection. To effectively evaluate intersection controls for the Covington Way Southeast intersection, four closely spaced intersections at 164th Avenue Southeast, the SR 18/SR 516 interchange ramps (eastbound and westbound), and 168th Place Southeast need to also be evaluated. WSDOT, in partnership with the City of Covington, launched a study of intersection control types on SR 516 in Summer 2022 to evaluate the intersection control of the five intersections.

The SR 516 Corridor Study provides an opportunity to holistically evaluate intersection control for the whole corridor. The study will also explore options to improve safety and operations outside of the intersections and will inform next steps for the Covington Way project and strategies for the broader SR 516 corridor to improve operations, access, and safety for all road users.

1.4 Study Process

The SR 516 Covington Corridor Study was conducted in two phases. The first phase focused on initial community engagement, development of performance measures, concept development and concept screening. Concepts focused on intersection controls at the five study intersections. The second phase included community engagement focused on sharing the

concept development and evaluation process, how feedback informed the concepts and evaluation process, and the study recommendation. Community engagement tasks were led by WSDOT with support from the City of Covington and their consultant, Transpo Group. Technical work was completed by the Transpo Group, in close coordination with city staff and WSDOT.

1.4.1 Phase 1

Community engagement tasks in this phase included the development of a study webpage and an online community survey to learn about community transportation needs, challenges, and priorities within the study limits. Technical tasks included the development of performance metrics, concept development and concept screening. The metrics focused on operational performance measures at the five intersections including level of service (LOS), volume-to-capacity ratio (V/C), intersection queuing (vehicle backups) as well as multimodal access for all users and safety at the intersection and corridor level. Performance metrics and community feedback were used to identify and evaluate potential improvement concepts. Intersection control options were initially developed and evaluated for the Covington Way Southeast intersection. Once the Covington Way Southeast intersection control was selected, corridor concepts were developed, evaluated and pre-screened to assess operational feasibility, that work was then followed by a two-level screening process, with the level 1 screening focused on performance metrics in five specific categories for evaluation:

1) Safety/Traffic Operations
2) Accessibility
3) Constructability
4) Community Support
5) Environmental Impacts

Level 1 traffic operations metrics focused operational performance in 2025, and the level 2 screening focused on operational performance in 2035.

1.4.2 Phase 2

Community engagement focused on sharing the concept development and evaluation processes, how public feedback informed the processes, and the resulting study recommendation. Engagement strategies included an online open house with a community web survey that presented the results of the technical analysis (Phase I) work. **Figure 2** details the steps in Phase 1 and 2.

Figure 2: Study Process

1.5 Study Report

The SR 516 Corridor Study report includes the following key elements:

- Traffic analysis including current traffic volumes, a five-year crash history (January 2019 – April 2024), and conceptual intersection alternatives.
- Inventory of active transportation (bicycle/walking) facilities along the SR 516 study area.
- Summary of community engagement and outreach elements, as well as interests and concerns from the public, project partners and interested parties in Covington.
- Key findings from the technical analysis (concept development/screening), recommendations, phasing and funding options, implementation actions and next steps.

1.6 Planning Context

There are numerous local, state, and federal plans and policies that were considered in the context of this study. Some of the key planning and policy elements are described in greater detail below.

1.6.1 City of Covington Comprehensive Plan

The City of Covington's Comprehensive Plan was last updated in 2015. The plan reflects the community's vision for development, transportation improvements, and other community features in Covington. The Comprehensive Plan highlights the critical role that SR 516 plays in the City's transportation system as the primary east-west corridor for access to both local and regional destinations. The Comprehensive Plan states that any segments of SR 516 that are built out to a five-lane section are considered at ultimate capacity and should not be widened further except at spot locations as needed. This reflects the constrained nature of the SR 516 corridor within the study limits where substantial development exists on both sides of the roadway. The City's Comprehensive Plan also notes that all the study intersections are

expected to operate at LOS E or worse by 2035 without mitigation except for the Eastbound SR 18 Ramps/SR 516 intersection.

1.6.2 Complete Streets

In 2022, the Washington state Legislature passed Senate Bill 5974 (PDF 738KB), the Move Ahead Washington package. It added a Complete Streets requirement to RCW 47.24.060, which directs that "in order to improve the safety, mobility and accessibility of state highways, it is the intent of the Legislature that the department must incorporate the principles of complete streets with facilities that provide street access with all users in mind, including pedestrians, bicyclists and public transportation users" for "state transportation projects within WSDOT right of way starting design on or after July 1, 2022 and that are $500,000 or more."

Since this study began prior to the passage of this legislation, Complete Streets principles were not fully integrated into the study concept development and screening process; however, active transportation user needs and facilities were still considered as part of this study. Any future projects that are based on the recommendations of this study will still need to be compliant with the Complete Streets legislation upon their implementation.

1.6.3 Target Zero

WSDOT is guided by the strategies and recommendations in Target Zero, the state's Strategic Highway Safety Plan. Target Zero's goal is to reduce the number of deaths and serious injuries on Washington's roadways to zero by year 2030. WSDOT approaches safety using the Federal Highway Administration's (FHWA's) Safe System Approach, which places safety as a primary factor in road system investment decisions. The Safe Systems Approach includes five elements in synergy – safe road users, safe vehicles, safe speeds, safe roads, and post-crash care. All five elements must be addressed and strengthened to achieve the Target Zero goal of zero traffic deaths and serious injuries.

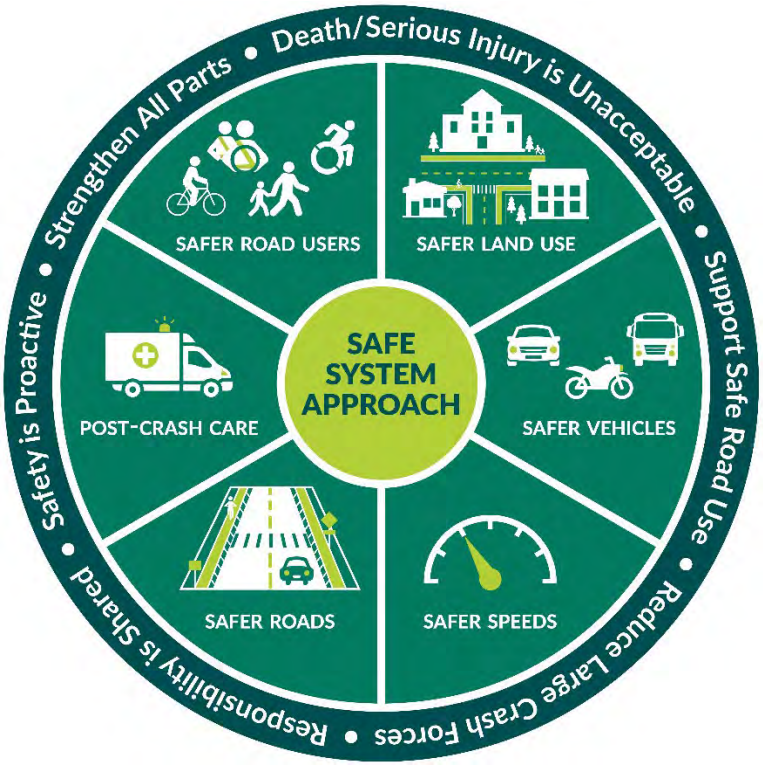


Figure 3 The FHWA Safe Systems Approach

1.6.4 Why Roundabouts?

Due to their excellent safety record, roundabouts are required to be considered as part of the Intersection Control Evaluation (ICE) process. A study on two-lane roundabouts in Washington state showed annual crashes decreased 9% on average and annual injury crashes decreased more than 30% when compared to previous control types. Notably, statistics show that safety improves over time due to increased familiarity of users[1].

There are several reasons why roundabouts help reduce the likelihood and severity of crashes:

- Low travel speeds – Drivers must slow down and yield to traffic before entering a roundabout. Speeds in the roundabout are typically between 15 and 20 miles per hour. Crashes occurring in roundabouts are typically minor and cause few injuries since they occur at such low speeds.
- No light to beat – Roundabouts are designed to promote a continuous flow of traffic. Drivers yield to traffic before entering a roundabout. If there is no traffic in the roundabout, drivers are not required to stop. Drivers don't have the incentive to speed up to try and "beat the light," like they might at a traditional intersection. This is also beneficial when the power goes out. There is no confusion over an all-way stop.

[1] *Insurance Institute for Highway Safety. (2019). Long-Term Crash Trends at Single- and Double-Lane Roundabouts in Washington State. Retrieved from https://www.iihs.org/topics/bibliography/ref/2210.*

- One-way travel – Roads are gently curved to direct drivers into the intersection. The roadway directs them to travel counterclockwise around the roundabout. The curved roads and one-way travel around the roundabout minimize the possibility for T-bone and head-on crashes.
- Reduce delay and improve traffic flow – Typically, roundabouts can move more traffic through an intersection than traffic signals. Roundabouts promote a continuous flow of traffic. Drivers don't have to wait for a green light at a roundabout to get through the intersection. Improved traffic flow also results in reduced vehicle emissions and fuel consumption.

1.7 Existing Conditions

1.7.1 Crash History

Crash data from January 2019 through April 2024 was reviewed to assess existing conditions for safety within the study limits. During this timeframe, there were 269 reported crashes in the study limits. Crash locations are detailed in **Table 1**.

Table 1: Crash Types by Location

Milepost	Location	Rear End	Opposite Direction	Sideswipe	Fixed Object	Entering Roadway	Pedestrian or Bike	Other	Total Crashes
11.16 – 11.25	West of Covington Way Southeast	14	1	4	1	0	0	0	20
11.26	Covington Way Southeast	9	4	4	3	9	0	1	30
11.27 – 11.36	Between Covington Way Southeast and 164th Street Southeast	11	0	7	1	0	0	0	19
11.37	164th Street Southeast	5	3	5	1	6	0	0	20
11.38 – 11.41	Between 164th Street Southeast and westbound ramps	4	0	7	1	0	1	0	13
11.42	Westbound ramps	5	0	10	0	6	2	0	23
11.43 – 11.50	Between westbound ramps and eastbound ramps	7	0	6	0	1	0	0	14
11.51	Eastbound ramps	10	2	9	1	8	0	1	31
1152 – 11.64	Between eastbound ramps and 168th Place Southeast	19	0	16	4	4	0	0	43
11.65	168th Place Southeast	5	16	3	0	6	2	0	32
11.66 – 11.75	East of 168th Place Southeast	14	0	5	1	3	1	0	24
Grand Total		**103**	**26**	**76**	**13**	**43**	**6**	**2**	**269**

There were no fatal crashes reported for the time period. There were three suspected serious injury crashes: One was reported at the SR 516 and the eastbound SR 18 off-ramp intersection and two occurred at the SR 516 and 168th Place Southeast intersection. The SR 516 and eastbound SR 18 off-ramp intersection crash was attributed to speed. The first SR 516 and 168th Place Southeast intersection crash involved a pedestrian, and the second SR 516 and 168th Place Southeast intersection crash was due to an attempt to evade police. There were three pedestrian involved crashes (including the suspected serious injury crash) and three bicycle involved crashes. The pedestrian or bicyclist involved crashes occurred at:

- 168th Avenue Southeast (one pedestrian involved crash and one bicycle involved crash)
- SR 18 westbound off-ramp (two bicycle involved crashes)
- East of the 168th Avenue Southeast (one pedestrian involved crash)

- Between the intersections of 164th Avenue Southeast and the westbound SR 18 on-ramp at the gas station driveway (one pedestrian involved crash).

1.7.2 Existing Active Transportation Facilities

Currently there are sidewalks of varying widths on some segments of the corridor. There are no existing bicycle facilities. WSDOT's Level of Traffic Stress (LTS) metric is used to evaluate the experience of pedestrians and bicyclists using a given facility. LTS is rated on a scale of 1 to 4 with 1 being the lowest-stress, most comfortable experience, and 4 being the most stressful and least comfortable experience.

WSDOT policy is to provide active transportation facilities for state routes that are LTS 2 or better on state facilities where Complete Streets standards apply. This facility does not meet WSDOT Complete Streets standard for Pedestrian or Bicycle LTS 2.

Figure 4 details examples of Pedestrian and Bicycle Level of Traffic Stress (LTS). These examples are for comparison purposes only. LTS ratings are dependent on multiple factors including operating speed and traffic volumes. For more information, refer to WSDOT's Design Manual Chapters 1510 – Pedestrian Facilities and 1520 – Bicycle Facilities.

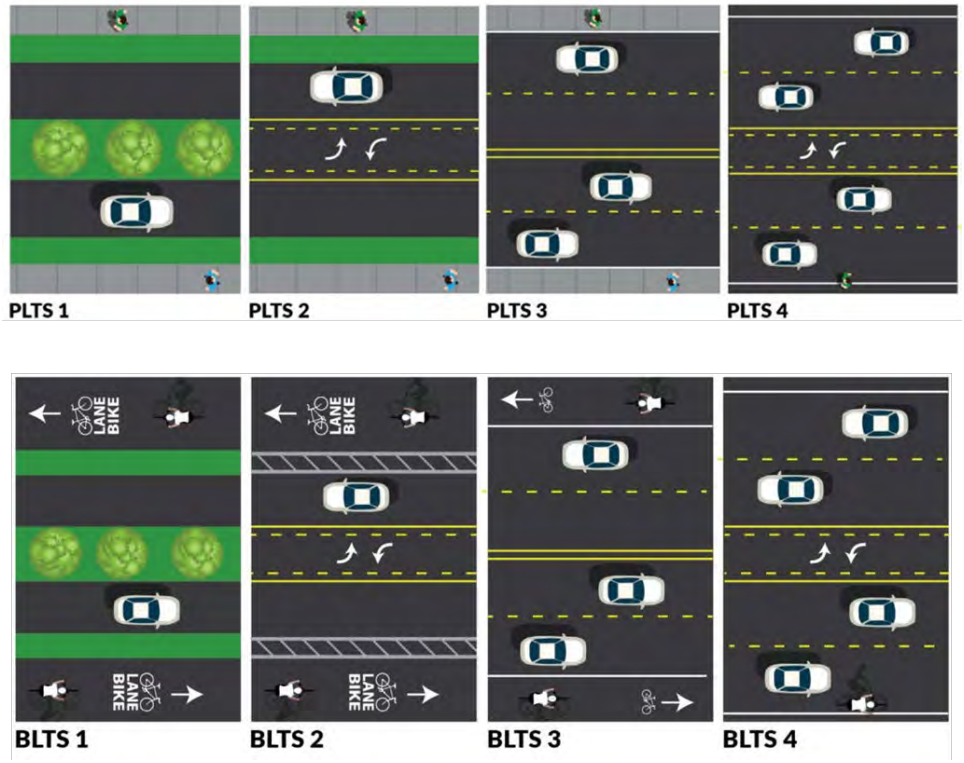


Figure 4: Pedestrian and Bicycle Level of Traffic Stress (LTS) Examples

2 COMMUNITY ENGAGEMENT

2.1 Background

Community engagement is a key component of corridor planning at WSDOT. Community feedback helps define study objectives and informs the development and evaluation of concepts and the selected study recommendation.

2.2 Study Webpage

In summer 2022, WSDOT created a to provide information and updates on the key milestones and progress of the SR 516 Covington Study. Contact information for WSDOT staff involved in the study were also provided on the webpage.

2.3 Community Engagement

2.3.1 Phase 1 - Online survey

In late 2022 an online survey was used to identify transportation needs, challenges, and priorities for SR 516 between Covington Way Southeast and168th Avenue Southeast. The survey consisted of ten questions focused on the community's experience using SR 516 through the study limits. Topics included origins and destinations, travel mode(s), and general input on the five intersections in the study area. The survey questions included a set of optional demographic questions at the end. These questions requested participant's age, income range, educational background, languages spoken, and any specific mobility challenges or concerns. There were 492 survey responses received in English and one survey response in Spanish. A summary of the online survey responses is detailed in **Appendix A**.

2.3.2 Phase 2 - Online Open House

The Phase 2 online open house was hosted during October 2023. There were 12,140 views of the online open house in English, 128 views of the online open house in Spanish, and a total of

123 comments received from participants in the online open house. An activity summary is provided in Appendix A.

2.4 Council Briefings and Other Coordination

City of Covington elected officials were briefed by Covington staff throughout the study. WSDOT staff provided a briefing to the Covington City Council on August 13, 2024 prior to the public comment period on the study report.

As part of the development and review process for corridor studies, WSDOT facilitated internal coordination with the M2 Team, an internal agency team that provides multimodal discipline review and input at key points in the planning process.

3 ENVIRONMENTAL & SOCIODEMOGRAPHIC DATA

3.1 Community Profile

The following community profile provides an overview of the demographics of the engagement area in Table **2**, which includes communities that are generally within approximately half a mile of the project study limits.

Demographic information was collected from the United States Census Bureau 2022 American Community Survey, 5-year data for six tracts in the engagement area, including population age, race/ethnicity, income, home ownership, household computer use and internet subscription, languages spoken and Limited English Proficiency, and vehicle ownership. Information about health disparities was provided by the Washington State Department of Health's Environmental Health Disparities map.

The following represents key characteristics of the community profile of the engagement area. The total population can differ within each field, but generally the community residing within a census tract within a half mile from the study area includes over 28,100 people and 10,700 households. **Table 2** and **3** summarizes key characteristics that form a community profile of the engagement area. Spanish translations were provided based on early feedback in study process.

Table 2: Key Characteristics and community profile for study area

Key characteristic	Community profile of the engagement area
Language spoken at home and Limited English Proficiency	None
Race	Less than 20% of the population is Black, Indigenous, and People of Color (BIPOC), with the following details: • 12% Hispanic or Latino (of any race) • 13% Asian • 5% Black or African American • <1% American Indian and Alaska Native
Income	• 16% of the population (~4,800 people) is considered low-income for the Puget Sound Region (below 200% of the federal poverty level)
Age	• 28% of the population (~7,800 people) is under the age of 18. • 14% of the population (~3,800) is 65 years old or older.
Disability	15% of the population (or ~3,500 people) reported experiencing a disability.
Vehicle access	5% of occupied housing units (~520) have no car available.
Internet access	5% of households (~580) have no internet subscription service.

3.2 Intersectionality analysis

The following analysis represents a comprehensive intersectionality of data obtained from by the Washington State Department of Health's Environmental Health Disparities map. There are five 2010 census tracts within 0.5 miles a half mile of the study limits. According to the Washington State Department of Health's, Environmental Health Disparities map the, 2010 census tracts within this area have health disparities rankings that range from 1 (lowest environmental health disparities) to 8, with 10 being the highest level of environmental health disparities. This dataset has not been updated to reflect 2020 census tract boundaries, resulting in the smaller number of tracts included in this section.

- Tract 317.03 Ranking: 6
- Tract 317.04 Ranking: 8
- Tract 317.05 Ranking: 6
- Tract 317.06 Ranking: 8
- Tract 320.06 Ranking: 5

Table 3 Health Disparities

Key characteristic	Community profile of the community engagement area
Environmental Exposures	• For Ozone concentration, tract 320.06 has a ranking of 9. The remaining tracts have rankings of 7. • Tracts 317.03, 317.04, and 317.06 have a ranking of 9 for exposure to Toxic Release from Facilities (RSEI Model). The remaining tracts both have a ranking of 7.
Environmental Effects	• 33% of tracts (519.12) score 8 or above for proximity to Hazardous Waste Treatment Storage and Disposal Facilities (TSDFs). • 66% of tracts (519.12 and 521.08) score an 8 or above on wastewater discharge. Scores were highest in census tract 519.12, south and southwest of the intersection between SR 522 and Paradise Lake Road.
Socioeconomic Effects	• Tracts 317.03 and 317.04 have rankings of 9 for Limited English Proficiency (LEP). • Tract 317.04 also has a ranking of 9 for the percentage of the population with no high school diploma, while tracts 317.04 and 317.06 have rankings of 9 and 8, respectively, for the percentage of people of color as part of the total population.
Sensitive Populations	• Tracts 317.04, 317.05, and 317.06 have rankings of either 9 or 10 for the rate of cardiovascular disease occurrence.

	• Tracts 317.03 and 317.04 have ranks of 8 and 9 respectively for the rate of low-birth-weight occurrence.

[1] *Data Source: Washington State Department of Health, Washington Environmental Health Disparities Map*

3.3 Environmental Screening

An environmental screening was completed to ensure the environmental context and priorities of the area were highlighted and accounted for in this study. The environmental screening findings including whether additional review is needed in design are detailed in **Table 3**. **Figures 5** to **10** detail the findings for categories identified for additional environmental review except for environmental justice and air quality.

Table 4: Environmental Screening Findings

Environmental Discipline	Findings	Additional Environmental Review
Environmental Justice	There are two 2010 census tracts with an environmental health disparity ranking of 8 or higher in the vicinity of the study limits.	Yes
Fish passage barriers	There is an existing fish passage barrier in the vicinity of the Covington Way Southeast/SR 516 intersection. The fish passage barrier is located in Little Soos Creek, which is a tributary to Big Soos Creek.	Yes
Wetland and other environmental mitigation sites	There are no documented wetlands or environmental mitigation sites on this corridor.	No
Chronic environmental deficiencies (CED)	There are no documented Chronic Environmental Deficiencies on this corridor.	No
Noise walls	There are existing noise walls to the north of the study limits. While not directly within the study limits, their proximity is worth noting.	Yes
Historic bridges	There are no documented historic bridges present on this corridor.	No
Stormwater best management practice (BMP) sites and retrofit priorities	There are two stormwater ponds present within the SR 18/SR 516 interchange. Potential impacts to these facilities will need to be evaluated by any future projects at these locations.	Yes
Climate vulnerability	This corridor has a climate vulnerability rating of “Low”.	No

Environmental Discipline	Findings	Additional Environmental Review
Air Quality	This corridor is in an area that presently and historically did not meet carbon monoxide (CO) and ozone (O3) air quality standards.	Yes
Greenhouse gas emissions	The study recommendation is not anticipated to increase the vehicle miles traveled. Added complete streets facilities are anticipated to support mode shifts to active modes and transit.	No
Habitat connectivity	This corridor has no segments identified as medium or high priority segments for Ecological Stewardship or Wildlife-related Safety. There are no documented monarch habitats on this corridor.	No
Habitat connectivity	The corridor has an Urban Gateway Habitat ranking of Medium or High. The western end of the study limits is ranked as “High” for pollinator habitats.	Yes
Hazardous materials contamination sites	There are multiple hazardous materials sites located on this corridor that have already been cleaned up or where cleanup has started. The sites that have not completed cleanup could pose health hazards to the surrounding community until they have been cleaned up.	Yes

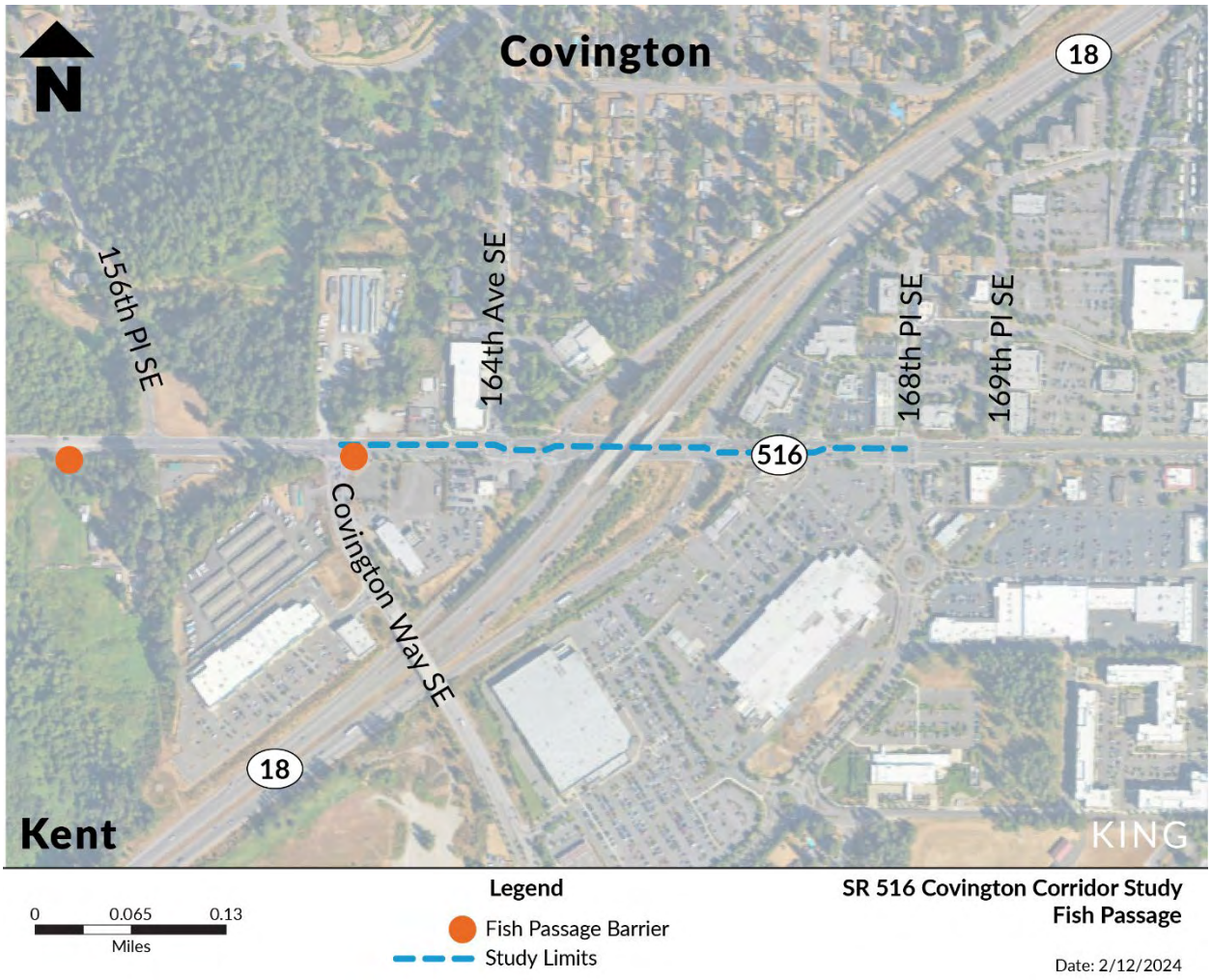


Figure 5: Fish Passage

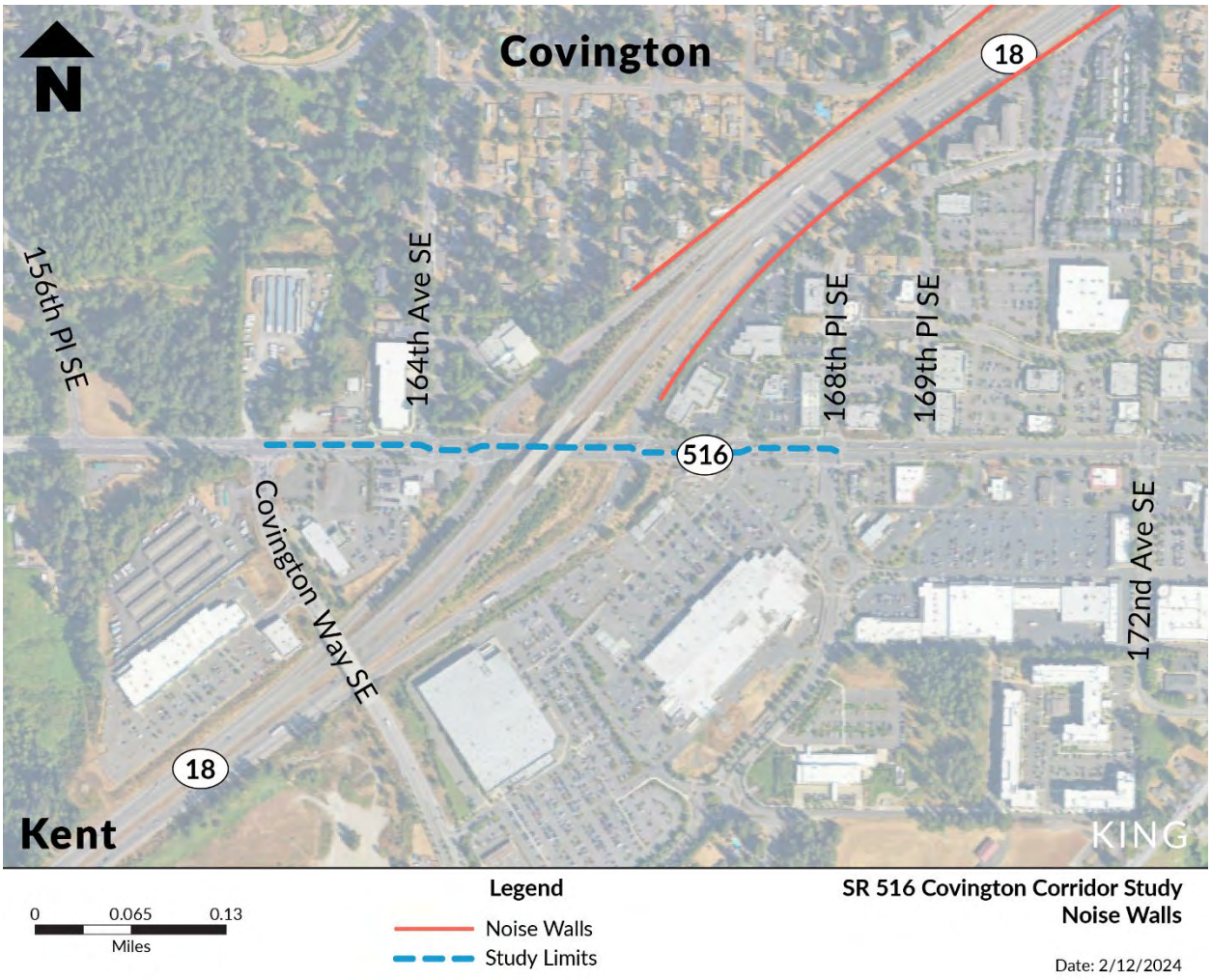


Figure 6: Noise Walls

Figure 7: Stormwater Best Management Practice (BMP) Sites

Figure 8: Urban Gateway Habitats

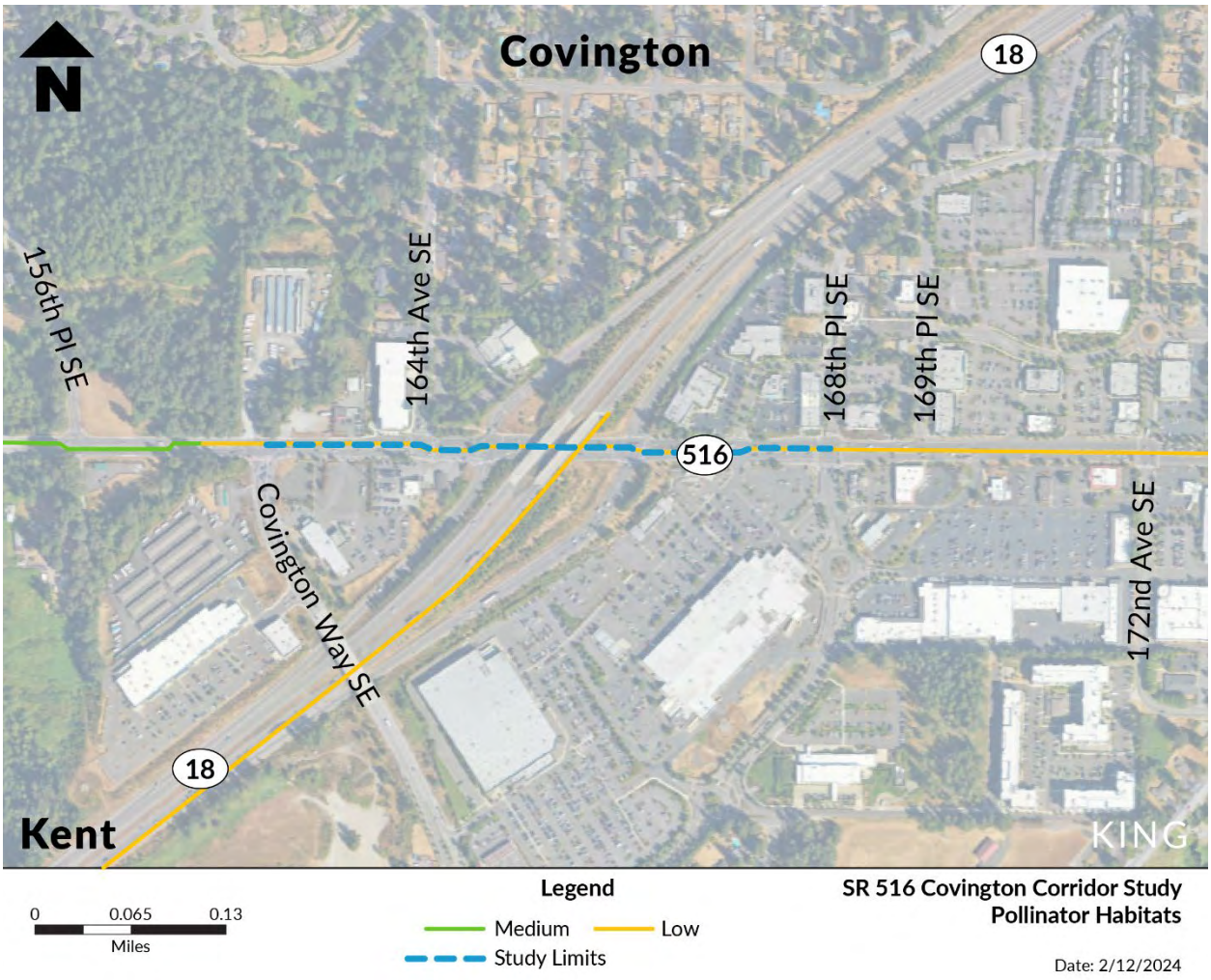


Figure 9: Pollinator Habitats

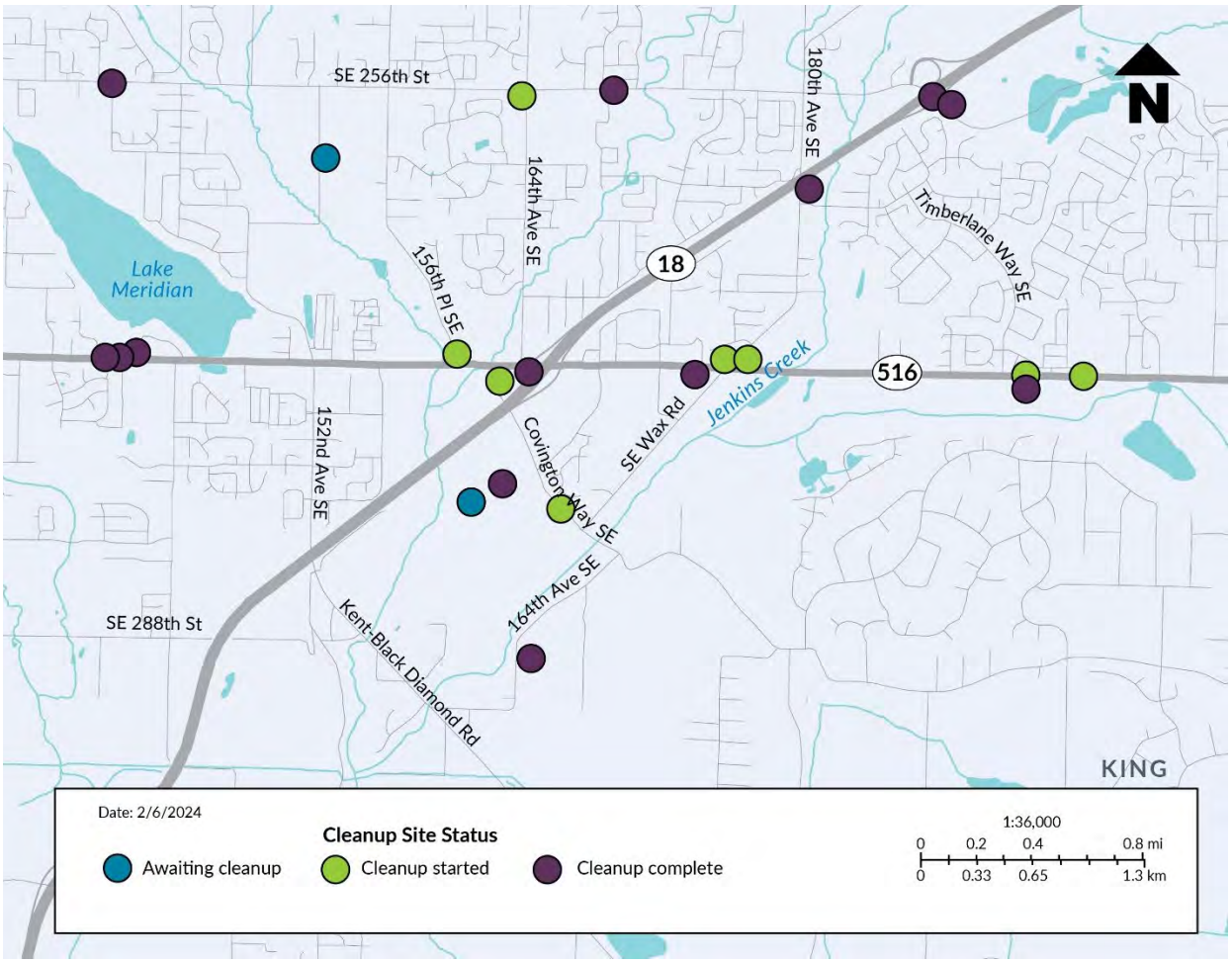


Figure 10: Hazardous Materials

4 TECHNICAL ANALYSIS

4.1 Traffic Operations Analysis

The five SR 516 signalized intersections analyzed in this study include Covington Way Southeast, 164th Avenue Southeast, SR 18 interchange (westbound and eastbound ramps), and 168th Place Southeast. The study intersections are shown in **Figure 11**.

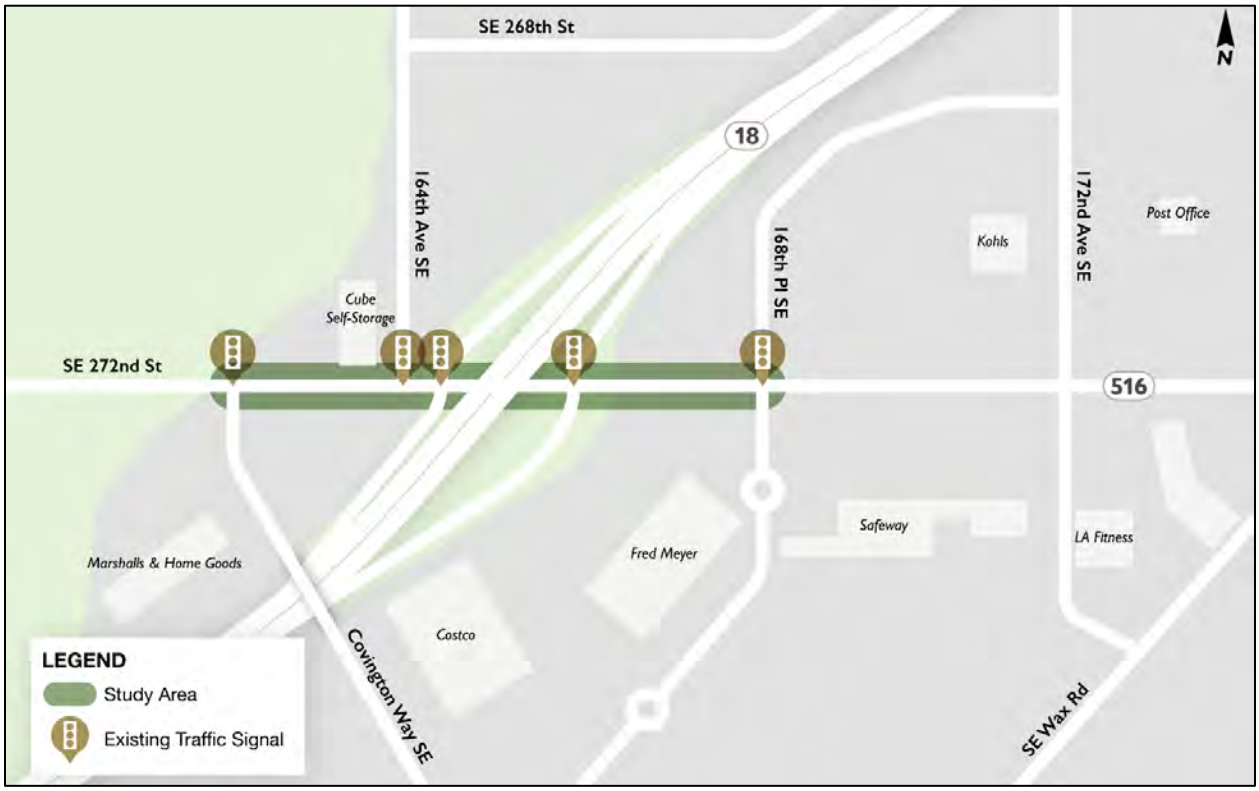


Figure 11: Study Intersections

4.1.1 Forecast Traffic Operations Analysis

Traffic operations were analyzed under anticipated 2025 near-term design conditions and 2035 full design conditions. Traffic volume forecasts were developed using the City of Covington's 2012 travel demand model from their 2015 Comprehensive Plan. The 2012 travel demand model and 2015 Comprehensive Plan were the latest available as both are only updated every 10 years. The 2012 travel demand model accounts for estimated future land use in and around the city based on local and regional plans. Adjustments were made to account for proposed and implemented changes in land use that occurred since the model's initial development in 2012. The 2012 model was also compared to the city's current development pipeline forecasts for the 2025 and 2035 design years to determine the location and magnitude of growth. The adjusted 2012 model accounts for all projects in Covington that have applied for concurrency and includes a background growth rate to account for development occurring in nearby jurisdictions.

Manual adjustments to the resulting traffic forecasts were made to account for volume imbalances between intersections where needed.

4.1.2 Traffic Operations Performance Metrics

Select performance metrics were evaluated to compare anticipated traffic operations for each concept. These congestion and mobility relief metrics included level of service (LOS), volume to capacity ratio (v/c), and queue lengths. Alternatives were compared based on the following metrics:

Level of Service (LOS)

- For roundabout and traffic signal-controlled intersections, LOS is measured in average delay per vehicle and is reported for the intersection as a whole. Traffic operations for an intersection can be described alphabetically with a range of levels of service (LOS A through F), with LOS A indicating free-flowing traffic and LOS F indicating extreme congestion and long vehicle delays.

Table 5 Level of Service Criteria for a Signalized Intersection

Level of Service	Average Control Delay (seconds/vehicle)	General Description
A	≤10	Free flow
B	>10 – 20	Stable flow (slight delays)
C	>20 – 35	Stable flow (acceptable delays)
D	>35 – 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	>55 – 80	Unstable flow (intolerable delay)
F[1]	>80	Forced flow (congested and queues fail to clear)

Source: *Highway Capacity Manual 2010 and 6th Edition*, Transportation Research Board, 2010 and 2016, respectively.

[1] If the volume-to-capacity (vic) ratio for a lane group exceeds 1.0 LOS F is assigned to the individual lane group. LOS for overall approach or intersection is determined solely by the control delay.

Table 6 Level of Service Criteria for a Roundabout

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio*	
	≤1.0	>1.0
≤10	A	F
>10 – 20	B	F
>20 – 35	C	F
>35 – 55	D	F
>55 – 80	E	F
>80	F	F

Vehicle to Capacity ratio (v/c)

- The v/c ratio, also referred to as degree of saturation, represents the sufficiency of an intersection to accommodate the vehicular demand. A v/c ratio less than 0.85 generally indicates that adequate capacity is available, and vehicles are not expected to experience significant queues and delays. As the v/c ratio approaches 1.0, traffic flow may become unstable, and delay and queuing conditions may occur. Once the demand exceeds the capacity (a v/c ratio greater than 1.0), traffic flow is unstable and excessive delay and queuing is expected.

95th percentile queues

- The 95th percentile queue is the length of queue, measured in feet, that should not be exceeded in 95% of cycles. This should also not exceed available lane storage. Additional considerations beyond the operational items identified above included, but were not limited to, a review of safety, multimodal access and mobility, environmental impacts, constructability, and community support.

4.1.3 Forecast Baseline Traffic Operations

The anticipated forecast baseline traffic operations were analyzed under the assumption that the existing channelization and traffic control (traffic signal) would remain the same. Forecast baseline traffic operations analysis is often called the No Build alternative or concept since this analysis assesses conditions if no roadway improvements are completed at the five study intersections.

The future baseline analysis forecast the intersection of SR 516 and Covington Way Southeast will operate at LOS F in the PM peak hour during both future analysis years – a 2025 near term design year and a 2035 design year – as shown in Tables **4** and **5**. The SR 516/168th Place Southeast intersection is forecast to degrade from LOS D in the 2025 near term design year to LOS E in the 2035 design year, below the LOS D standard for SR 516 in Covington. Also, 95th-percentile queue lengths are anticipated to exceed available lane-storage for eastbound vehicular movements. The remaining study intersections are forecast to operate acceptably at LOS D or better under both analysis years during the PM peak hour; however, 95th-percentile queues are anticipated to exceed available storage for multiple movements at certain study intersections.

Table 7: Future 2025 Baseline Weekday PM Peak Hour Traffic Operations

Intersection/Movement	LOS	v/c ratio	Available Storage (ft)		95th Percentile Queue (ft)	
			THRU	TURN	THRU	TURN
1. Covington Way / SE 272nd St	F	1.01				
Eastbound			700		750	
Westbound			450	175	390	455
Northbound			1,000		625	
Southbound			100		60	
2. 164th Ave SE / SE 272nd St	D	0.85				
Eastbound			450	170	685	390
Westbound			115		570	
Southbound			500	300	505	490
3. SR 18 WB Ramp / SE 272nd St	D	0.87				
Eastbound			115		665	225
Westbound			370	165	190	355
Southbound			1,000		250	
4. SR 18 EB Ramp / SE 272nd St	C	0.76				
Eastbound			370		156	
Westbound			590		420	
Northbound			1,500		250	
Southbound			-		-	
5. 168th Pl SE / SE 272nd St	D	0.93				
Eastbound			590	270	780	415
Westbound			1,000	250	550	481
Northbound			170	290	226	128
Southbound			100		340	

Table 8: Future 2035 Baseline Weekday PM Peak Hour Traffic Operations

Intersection/Movement	LOS	v/c ratio	Available Storage (ft)		95th Percentile Queue (ft)	
			THRU	TURN	THRU	TURN
1. Covington Way / SE 272nd St	F	1.36				
Eastbound			700		1,165	
Westbound			450	175	455	730
Northbound			1,000		795	
Southbound			100		50	
2. 164th Ave SE / SE 272nd St	D	0.94				
Eastbound			450	170	645	335
Westbound			115		715	
Southbound			500	300	380	380
3. SR 18 WB Ramp / SE 272nd St	D	0.99				
Eastbound			115		845	
Westbound			370	165	235	365
Southbound			1,000		335	
4. SR 18 EB Ramp / SE 272nd St	D	0.89				
Eastbound			370		70	
Westbound			590		520	
Northbound			1,500		235	
Southbound			-		-	
5. 168th Pl SE / SE 272nd St	E	0.97				
Eastbound			590	270	975	360
Westbound			1,000	250	465	510
Northbound			170	290	210	310
Southbound			100		130	

4.2 Concept Development and Evaluation Process

Concept development focused primarily on traffic operations and safety at the five signalized intersections, while the concept evaluation process focused on safety/traffic operations, accessibility, constructability, community support, and environmental impacts.

Both the concept development and evaluation processes were part of Phase 1 of the SR 516 Covington Corridor Study.

4.2.1 Concept Development

The concept development process began with the consideration of a broad range of intersection control options at Covington Way Southeast. This portion of the concept development process is documented in the SR 516 and Covington Way Southeast ICE Report completed by Transpo Group for the City of Covington. Once the Covington Way Southeast intersection control was selected, the concept development process shifted to developing concepts for the corridor

focused on intersection control options for the four other study intersections (164th Avenue Southeast, SR 18 westbound and eastbound interchange ramps, and 168th Place Southeast).

Covington Way Southeast Options

The intersection control options considered at the Covington Way Southeast in the SR 516 and Covington Way Southeast ICE Report include:

1. Signalized intersection with an added eastbound right-turn lane and westbound left-turn lane.
2. A multi-lane roundabout.
3. A multi-lane roundabout with added eastbound and northbound right turn.
4. A multi-lane roundabout with added eastbound and northbound right turn lanes and added signalization of the northbound and eastbound approaches.
5. A multi-lane roundabout with added eastbound right turn lane.
6. A multi-lane roundabout with added northbound right turn lane.

Based on feasibility and operational and safety analysis, the ICE selected Option #3.

Corridor Concept Development

Corridor concepts were developed for the remaining four study intersections (164th Avenue Southeast, westbound and eastbound SR 18 interchange ramps, and the 168th Place Southeast) that address the study purpose and need. The Covington Way Southeast intersection control option #3 was included in all corridor concepts developed. The concepts identified and evaluated include the following:

1. **Concept #1:** A series of five multi-lane roundabouts (Covington Way Southeast, 164th Avenue Southeast, westbound and eastbound SR 18 interchange ramps, and the 168th Place Southeast).
2. **Concept #2:** Multi-lane roundabouts at Covington Way Southeast, 168th Place Southeast, and eastbound SR 18 interchange ramps and a ‘Peanut’ roundabout at the 164th Avenue Southeast and westbound SR 18 interchange ramps. A contraflow lane would also be provided connecting from the eastbound SR 18 intersection to the westbound SR 18 on-ramp.
3. **Concept #3:** Multi-lane roundabouts at Covington Way Southeast and 168th Place Southeast intersections and a diverging diamond from 164th Avenue Southeast to the eastbound SR 18 ramps with the 164th Avenue Southeast and the westbound SR 18 ramps being roundabout controlled, and the eastbound SR 18 ramps being signalized.
4. **Concept #4:** Multi-lane roundabouts at Covington Way Southeast, 164th Avenue Southeast, and 168th Place Southeast, and replacement of the existing SR 18/SR 516 interchange with a single-point urban interchange (SPUI).

All the concepts developed included a roundabout at 168th Place Southeast/SR 516.

4.2.2 Corridor Concepts

Concept #1: Five Roundabouts

A multi-lane roundabout is proposed at each study intersection and is shown in **Figure 12**: Concept #1 – Five .

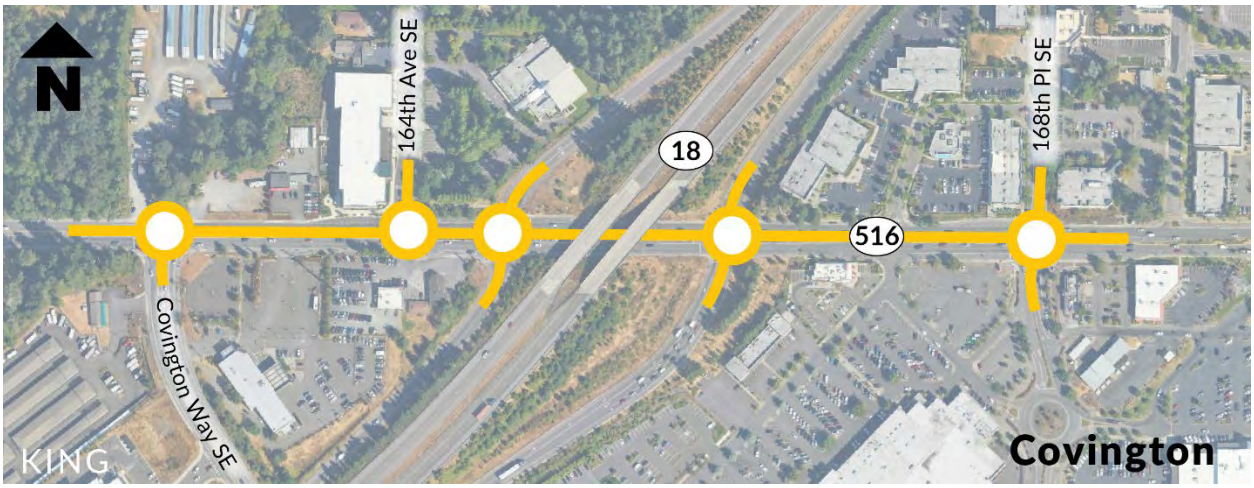


Figure 12: Concept #1 – Five Roundabouts

The proposed traffic control and channelization at each study intersection along the SR 516 corridor includes the following:

- **Covington Way Southeast** – At the intersection of SR 516 and Covington Way Southeast, there are two circulating lanes on all sides of the roundabout except for the west side of the roundabout which has one circulating lane. The eastbound approach includes two through lanes and one right turn lane. The northbound approach includes two left turn lanes and one right turn lane. The westbound approach includes a shared left-through lane and through lane. There are pedestrian crossings across all legs of the roundabout.
- **164th Avenue Southeast** – At the intersection of SR 516 and 164th Avenue Southeast, there are two circulating lanes on the north and south sides of the roundabout and one circulating lane along the east and west sides of the roundabout. The eastbound approach includes two through lanes. The westbound approach includes a through lane and a shared through-right turn lane. The southbound approach on 164th Avenue Southeast is a single lane approach. There will be pedestrian crossings across the north and west legs of the roundabout.
- **Westbound SR 18 ramps** – At the SR 18/SR 516 interchange accessing the westbound SR 18 ramps, there are two circulating lanes on all sides of the roundabout except for the east side of the roundabout which has one circulating lane. The eastbound, westbound, and southbound approaches include two lanes. The south leg is exit only (the SR 18 westbound on-ramp). There are pedestrian crossings across the north and south legs of the roundabout.
- **Eastbound SR 18 ramps** – At the SR 18/SR 516 interchange accessing the eastbound SR 18 interchange ramps, there would be two circulating lanes on the north and south sides of the intersection roundabout and one circulating lane along the east and west sides of the roundabout. The eastbound, westbound, and southbound approaches

include 2 lanes. The north leg is exit only (the SR 18 eastbound on-ramp). There are pedestrian crossings across the north, south, and east legs of the roundabout.

- **168th Place Southeast** – At the intersection of 168th Place Southeast, there would be two circulating lanes on all sides of the roundabout except for the west side of the roundabout which has one circulating lane. The eastbound approach includes one shared left-through lane, one through lane, and one right turn lane. The northbound and westbound approaches include two lanes. Southbound is a single lane approach. There are pedestrian crossings across all legs of the roundabout.

Concept #2: Three Roundabouts and One Peanut Roundabout

The second concept proposed for evaluation includes multi-lane roundabouts at Covington Way Southeast, 168th Place Southeast, and eastbound SR 18 interchange ramps and a 'Peanut' roundabout at the 164th Avenue Southeast and westbound SR 18 interchange ramps. Additionally, a contraflow lane is proposed connecting from the eastbound SR 18 intersection to the westbound SR 18 on-ramp.

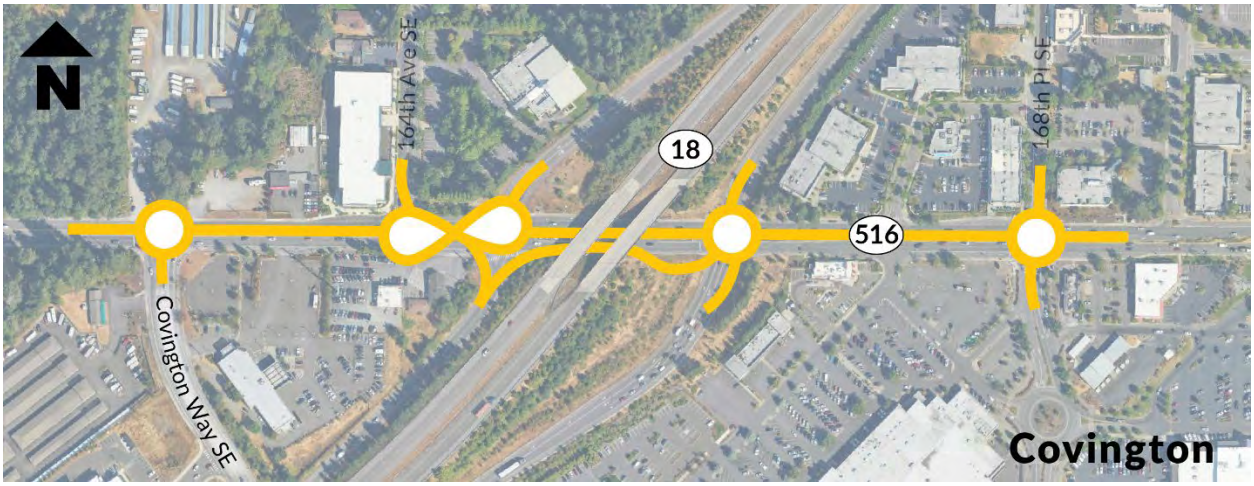


Figure 13: Concept #2 – Three Roundabouts and One Peanut Roundabout

The proposed traffic control and channelization at each study intersection along the SR 516 corridor includes:

- **Covington Way Southeast** – In concept #2, the Covington Way Southeast intersection is consistent with concept #1.
- **164th Avenue Southeast/Westbound SR 18 ramps** – The general channelization of these two intersections with SR 516 is similar to concept #1; however, these two intersections are connected in a peanut roundabout, removing any circulating north/south between the intersections, which removes vehicle conflict points from the intersections. This prevents any queuing that could otherwise occur between the two closely spaced intersections; however, eastbound and westbound left turns result in added circulation (e.g., a westbound left turn along SR 516 at the westbound SR 18 intersection must circulate around the 164th Avenue Southeast intersection prior to making the turn onto the westbound SR 18 on-ramp). The added circulation to access the westbound SR 18

on-ramp is minimized by providing the contraflow lane at the adjacent eastbound SR 18 ramps intersection as discussed in greater detail below.

- **Eastbound SR 18 ramps** – For the eastbound ramps accessing SR 18, concept #2 is consistent with Concept #1 with the exception of an addition of the contraflow lane. The contraflow lane would connect at the roundabout as a southbound exit lane of the roundabout and connect directly to the westbound SR 18 on-ramp. The inclusion of the contraflow lane is proposed with the peanut roundabout to eliminate added circulation as all westbound left turns from the SR 516 corridor would have to otherwise have to circulate around the peanut to access eastbound SR 18.
- **168th Place Southeast** – In this concept, the intersection configuration at 168th Place Southeast is consistent with concept #1.

Concept #3: Three Roundabouts and Diverging Diamond

The third improvement concept would include conventional multi-lane roundabouts at the Covington Way Southeast and 168th Place Southeast intersections. Due to their close proximity, the 164th Avenue Southeast intersection would be combined with the westbound SR 18 ramps to form a multi-lane roundabout that includes a crossover on the eastern edge to tie into a diverging diamond intersection at the eastbound SR 18 ramps.

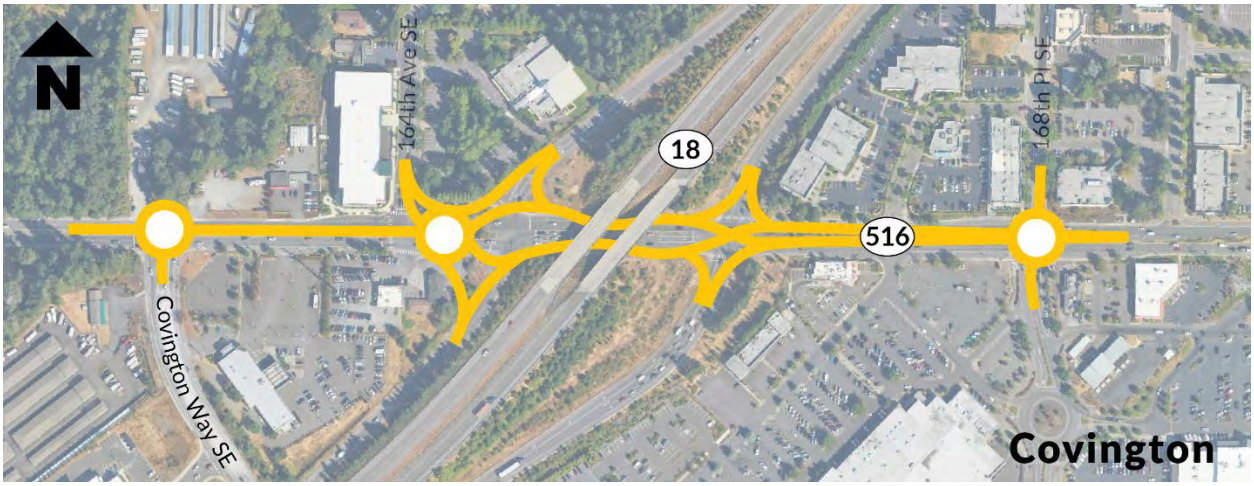


Figure 14: Concept #3 – Three Roundabouts and a Diverging Diamond

In concept #3, the proposed traffic control and channelization at each study intersection along the SR 516 corridor include:

- **Covington Way Southeast** – The intersection of SR 516 with Covington Way Southeast is consistent with concept #1.
- **164th Avenue Southeast/westbound SR 18 ramps** – Given the close proximity of these two intersections, they would be combined into a single roundabout where the easternmost legs would serve as a diverging diamond interchange. The circulation through the roundabout would be typical and the diverging diamond would be accomplished through signage and geometric layout.
- **Eastbound SR 18 ramps** – This intersection would be the eastern side of the diverging diamond interchange and controlled by a traffic signal such that east of the intersection

traffic would flow in the conventional manner (on the right side of the road) and the traffic signal would cross the vehicles to be on opposite side of the road west of the intersection (left-side of the road). The signalized diverging diamond would be limited to two-phases, when compared to up to eight phases with a traditional traffic signal, as well as eliminate left turning movements, both of which reduce delay.

- **168th Place Southeast** – In this concept, the intersection configuration at 168th Place Southeast is consistent with concept #1.

Concept #4: Two Roundabouts and Single-Point Urban Interchange (SPUI)

The fourth improvement concept includes multi-lane roundabouts at Covington Way Southeast, 164th Avenue Southeast, and 168th Place Southeast, and replacement of the existing SR 18/SR 516 interchange with a single-point urban interchange (SPUI). The example below, the US-95 and Idaho Highway 53 interchange, details a typical SPUI interchange.

Source: Idaho Department of Transportation

Figure 15: Concept #4: Example SPUI at US 95 and Idaho Highway 53

The proposed traffic control and channelization at each study intersection along the SR 516 corridor for this concept includes:

- **Covington Way Southeast** – This would be consistent with concept #1.
- **164th Avenue Southeast** – This would be consistent with concept #2.
- **Westbound SR 18 ramps/Eastbound SR 18 ramps** – The interchange ramps would be signalized as a single-point urban interchange. As shown in the example above, this makes it so that both ramps would be combined to function as a single intersection,

although SR 18 would continue to be an overpass above the interchange, with the SPUI located below SR 18.

- **168th Place Southeast** – This would be consistent with concept #1.

4.2.3 Pre-screening

As previously noted, the corridor concept pre-screening focused on traffic operational feasibility which considered the same key operational performance measures noted above for the baseline condition, including LOS, v/c ratio, and queuing. The operational summary of key operational performance measures for the four corridor concepts are summarized in **Table 8** and **9** for the 2025 near term design year during the weekday PM peak hour. As shown in **Table 8** and **9**, the concepts result in the overall intersection operations meeting the LOS standards in the 2025 near-term design year conditions during the weekday PM peak hour. Additionally, the 95th percentile queues are generally accommodated in the available intersection storage. Given these preliminary operational findings, the four corridor concepts were moved forward to the level 1 screening in which additional criteria and metrics were reviewed.

Table 9: 2025 Weekday PM Peak Hour Traffic Operations (Concepts #1 & #2)

	Concept #1: 5 Roundabouts				Concept #2: "Peanut" Roundabout with contraflow lane			
Intersection/ Movement	**LOS**	**v/c ratio**	**Available Storage (ft)**	**95th Percentile Queue (ft)**	**LOS**	**v/c ratio**	**Available Storage (ft)**	**95th Percentile Queue (ft)**
1. Covington Way / SE 272nd St	**A**	**0.67**			**A**	**0.67**		
Eastbound	A	0.40	700	75	A	0.40	700	75
Westbound	B	0.67	450	180	B	0.67	450	180
Northbound	A	0.47	1,000	80	A	0.47	1,000	80
Southbound	A	0.12	100	25	A	0.12	100	25
2. 164th Ave SE / SE 272nd St	**B**	**0.84**			**B**	**0.83**		
Eastbound	C	0.84	450	365	C	0.82	450	360
Westbound	A	0.40	115	70	A	0.61	-	0
Southbound	B	0.51	500	80	B	0.46	500	70
3. SR 18 WB Ramp / SE 272nd St	**A**	**0.57**			**A**	**0.51**		
Eastbound	A	0.56	115	130	A	0.51	-	0
Westbound	A	0.57	370	0	A	0.44	370	60
Southbound	A	0.41	1,000	50	A	0.32	1,000	40
4. SR 18 EB Ramp / SE 272nd St	**B**	**0.73**			**C**	**0.89**		
Eastbound	A	0.47	370	0	B	0.75	370	310
Westbound	B	0.73	590	290	A	0.59	590	140
Northbound	B	0.59	1,500	105	D	0.89	1,500	340
Southbound			-		-			
5. 168th Pl SE / SE 272nd St	**B**	**0.81**			**B**	**0.81**		
Eastbound	B	0.72	590	290	B	0.72	590	290
Westbound	C	0.81	1,000	380	C	0.81	1,000	380
Northbound	B	0.44	290	70	B	0.44	290	70
Southbound	C	0.64	100	110	C	0.64	100	110

Table 10: 2025 Weekday PM Peak Hour Traffic Operations (Concepts #3 & #4)

	Concept #3: DDI				Concept #4: SPUI			
Intersection/ Movement	**LOS**	**v/c ratio**	**Available Storage (ft)**	**95th Percentile Queue (ft)**	**LOS**	**v/c ratio**	**Available Storage (ft)**	**95th Percentile Queue (ft)**
1. Covington Way / SE 272nd St	**A**	**0.65**			**A**	**0.67**		
Eastbound	A	0.37	550	24	A	0.40	700	75
Westbound	B	0.65	450	69	B	0.67	450	180
Northbound	A	0.36	1000	19	A	0.47	1,000	80
Southbound	A	0.12	100	5	A	0.12	100	25
2. 164th Ave SE / SE 272nd St	**C**	**0.89**			**B**	**0.78**		
Eastbound	B	0.61	450	54	B	0.78	450	320
Westbound	C	0.89	330	101	A	0.39	335	60
Southbound	D	0.85	500	141	A	0.42	500	70
3. SR 18 WB Ramp / SE 272nd St	**Combined with Intersection #2 in these concepts.**							
4. SR 18 EB Ramp / SE 272nd St	**C**	**0.81**			**B**	**0.76**		
Eastbound	B	0.7	330	248	B	0.73	335	230
Westbound	C	0.8	590	353	B	0.75	825	190
Northbound	C	0.81	1000	248	B	0.76	1,500	240
Southbound					A	0.32	1,000	65
5. 168th Pl SE / SE 272nd St	**B**	**0.81**			**B**	**0.81**		
Eastbound	B	0.72	590	97	B	0.74	825	260
Westbound	C	0.81	1000	154	C	0.81	1,000	385
Northbound	B	0.38	290	24	B	0.39	290	60
Southbound	C	0.64	100	44	C	0.65	100	110

4.2.4 Level 1 Screening

Performance Metrics

All of the performance metrics and detailed review criteria is discussed below. Each corridor concept was reviewed relative to the baseline condition.

Safety and Traffic Operations

- *Consistency with 'Target Zero'* – Reductions in serious/fatal crashes or reducing the severity of collisions.
- *Potential Safety Performance Improvements* – Crash Modification Factors (CMFs) were identified to support anticipated improvements in safety performance.
- *Pedestrian Safety* – Review of pedestrian crossing distances, ramp locations, vehicle speeds at crossings, and crossing treatments.

- *Bicycle Safety* – Type of bicycle facilities, maneuverability, and path.
- *Congestion / Mobility Relief* – Operational key metrics including LOS, v/c ratio, and queueing.
- *Bicycle and Pedestrian Level of Traffic Stress (LTS)* – Reviews anticipated non-motorized users' level of comfort.
- *Reduction in conflict points between modes* – Quantifies the number of conflict points.

Accessibility

- *Pedestrian connectivity* – Identifies pedestrian connectivity through crosswalks, sidewalks, etc.
- *Bicycle connectivity* – Identifies bicycle connectivity through shared use paths or other bicycle facilities.
- *Access to transit* – Feasibility of transit stop locations.
- *Wayfinding* – Typical driver's comfort navigating the corridor.
- *Truck access and travel-time reliability* – Truck driver's ability and comfort navigating the corridor as well as review of travel time reliability.

Constructability

- *Cost (Low/Medium/High)* – Rough cost estimate.
- *Forward compatibility* – Ability of the concept to adapt to future travel patterns and needs without re-building.
- *Impacts from construction* – Extent of disruption to the corridor during construction.
- *Technical feasibility* – Considers lane alignment, geometry, safety, or feasibility associated with underpasses.
- *Design Consideration, consistency with Complete Streets* – Vehicle speeds, non-motorized facilities and connectivity, and LTS.
- *Potential Phasing for Construction* – Ability to phase the construction of the concept, e.g., could each intersection be constructed separately or is it necessary to implement all improvements at the same time.
- *On-going (recurring) annual maintenance* – Identification of types of maintenance needed and frequency.
- *Right Of Way (ROW) impacts* – Impacts to surrounding businesses or need to acquire additional ROW to implement the concept.

Community Support

- *Community support for proposed alternative* – Review of the public survey comments and feedback.
- *Preservation of "Community Character"* – Maintain corridor features and community character.
- *Compatibility/consistency with local plans and planning efforts* – Consistency with the comprehensive plan and completion of the Intersection Control Evaluation (ICE) at the Covington Way/SR 516 intersection.

Environmental Impacts

- *Wetlands and/or sensitive area impacts* – Cursory assessment given this preliminary planning stage was based on WSDOT GIS work to determine potential environmental impacts.
- *Other potential impacts to known environmental sources (water, land, air quality, etc.)* – Congestion and anticipated associated effects on air quality.
- *ROW impacts/impacts to adjacent properties* – Need for any acquisitions.

Results

The performance evaluation metrics result for each corridor concept are summarized below in **Figure 16**. Overall, Concept #1 ranked the highest in the level 1 screening. Additionally, concept #3 was eliminated as it performed the lowest in the level 1 screening and is not considered in the level 2 screening. The remaining three corridor concepts are evaluated further in the level 2 screening.

Evaluation Criteria	Improvement Concept #1: Five Roundabouts	Improvement Concept #2: Three Roundabouts and One Peanut Roundabout	Improvement Concept #3: Two Roundabouts and Diverging Diamonds	Improvement Concept #4: Roundabouts and Single-point urban interchange (SPUI)
Screening #1				
Safety and Traffic Operations	Best	Better	Better	Better
Accessibility	Best	Better	Better	Best
Constructability	Best	Average	Worse	Average
Community Support	Best	Average	Worse	Worse
Environmental Impacts	Best	Best	Better	Best

Legend: Performance relative to other concepts

Best | Better | Average | Worse | Worst

Figure 16: Level One Screening Results

4.2.5 Level Two Screening

The level 2 screening was focused on an evaluation of the 2035 deign year operational performance. The same key metrics for the baseline and 2025 near-term operations pre-screening summarized above were reviewed for the three corridor concepts. The resulting 2035 design year operational performance for the three remaining corridor concepts is summarized in **Table 10** and **Table 11**.

As shown in **Tables 10** and **11**, the intersections are forecast to operate at LOS B or better along with v/c ratios of less than 1.0 at all study intersections under concepts #1 and #2. In concept #2, the eastbound SR 18 ramp intersection along SR 516 is forecast to operate at LOS D with a v/c ratio exceeding 1.0, not meeting the identified standard.

Results

Based on the 2035 operational metrics shown above, the ratings as shown below in **Figure 17** were identified for each concept with concept #1 rating as the best option.

Evaluation Criteria	Improvement Concept #1: Five Roundabouts	Improvement Concept #2: Three Roundabouts and One Peanut Roundabout	Improvement Concept #3: Two Roundabouts and Diverging Diamonds	Improvement Concept #4: Roundabouts and Single-point urban interchange (SPUI)
Screening #2				
Future Year (2035) Performance	Best	Worse	N/A	Better

Legend: Performance relative to other concepts

Best | Better | Average | Worse | Worst

Figure 17: Level Two Screening Results

Table 11: 2035 Weekday PM Peak Hour Traffic Operations (Concepts #1 & #2)

	Concept #1: 5 Roundabouts				Concept #2: "Peanut" Roundabout with contraflow lane			
Intersection/ Movement	**LOS**	**v/c ratio**	**Available Storage (ft)**	**95th Percentile Queue (ft)**	**LOS**	**v/c ratio**	**Available Storage (ft)**	**95th Percentile Queue (ft)**
1. Covington Way / SE 272nd St	**B**	**0.83**			**B**	**0.82**		
Eastbound	A	0.51	700	115	A	0.50	700	110
Westbound	C	0.83	450	375	C	0.82	450	345
Northbound	A	0.50	1,000	100	A	0.49	1,000	100
Southbound	B	0.12	100	25	B	0.12	100	25
2. 164th Ave SE / SE 272nd St	**B**	**0.87**			**B**	**0.81**		
Eastbound	C	0.87	450	470	C	0.81	450	380
Westbound	A	0.43	115	80	B	0.66	-	0
Southbound	B	0.49	500	75	A	0.42	500	60
3. SR 18 WB Ramp / SE 272nd St	**A**	**0.61**			**A**	**0.60**		
Eastbound	A	0.61	115	165	A	0.60	-	0
Westbound	A	0.59	370	0	A	0.45	370	65
Southbound	A	0.43	1,000	60	A	0.38	1,000	55
4. SR 18 EB Ramp / SE 272nd St	**B**	**0.75**			**D**	**1.19**		
Eastbound	A	0.51	370	0	C	0.84	370	480
Westbound	B	0.75	590	285	B	0.66	590	230
Northbound	B	0.69	1,500	155	F	1.19	1,500	1,290
Southbound								
5. 168th Pl SE / SE 272nd St	**B**	**0.70**			**B**	**0.70**		
Eastbound	B	0.68	590	240	B	0.63	590	190
Westbound	B	0.70	1,000	220	B	0.70	1,000	215
Northbound	C	0.6	290	120	B	0.54	290	105
Southbound	B	0.39	100	55	B	0.39	100	50

Table 12: 2035 Weekday PM Peak Hour Traffic Operations (Concept #4)

	Concept #3: DDI			
Intersection/Movement	**LOS**	**v/c ratio**	**Available Storage (ft)**	**95th Percentile Queue (ft)**
1. Covington Way / SE 272nd St	**B**	**0.83**		
Eastbound	A	0.50	700	110
Westbound	C	0.83	450	370
Northbound	A	0.49	1,000	100
Southbound	B	0.12	100	25
2. 164th Ave SE / SE 272nd St	**B**	**0.76**		
Eastbound	B	0.76	450	335
Westbound	A	0.43	335	70
Southbound	A	0.39	500	70
3. SR 18 WB Ramp / SE 272nd St	**Combined with Intersection #2 in these concepts.**			
4. SR 18 EB Ramp / SE 272nd St	**B**	**0.93**		
Eastbound	B	0.82	335	310
Westbound	B	0.79	825	200
Northbound	C	0.93	1,500	470
Southbound	A	0.41	1,000	80
5. 168th Pl SE / SE 272nd St	**B**	**0.71**		
Eastbound	B	0.68	825	205
Westbound	B	0.71	1,000	235
Northbound	B	0.49	290	125
Southbound	B	0.39	100	55

5 RECOMMENDATIONS AND NEXT STEPS

5.1 Recommended Concept

Based on the results of the screening process, concept #1, a multi-lane roundabout at each study intersection, is recommended. This concept is shown in **Figure 18**.

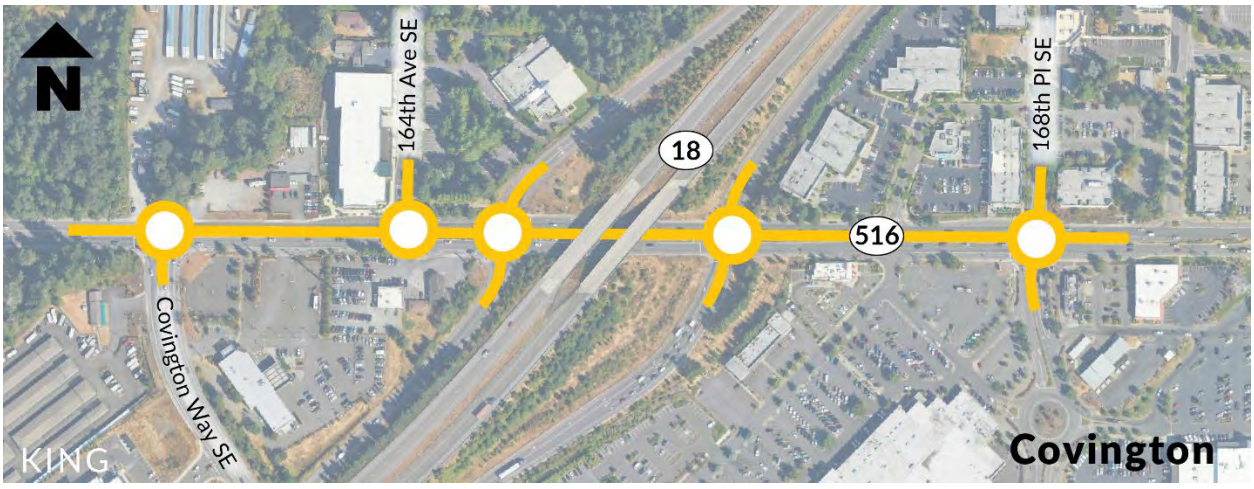


Figure 18: Recommended Corridor Concept

5.1.1 Planning Level Cost Estimates

A planning level cost estimate to deliver the recommended concept was developed. While acknowledging that only conceptual layouts of the roundabouts have been prepared to-date, the construction cost estimate is reported as a range, with a low estimate assuming 10 percent contingency and high estimate assuming 25 percent, based on the planning level of investigation and engineering completed in this study. The resulting construction cost estimate for concept #1 is $38M to $46M in 2023 dollars. The Planning Level Engineer's Opinion of Probable Cost for the recommendation can be found in **Appendix C**. Since this recommendation includes capital construction that adds new infrastructure assets to the system, it is important that the impact of this capital construction to maintenance operations is identified. The on-going biennial expenses needed to maintain this new infrastructure is between $190,000 and $230,000, 0.5 percent of the capital construction costs.

5.2 Complete Streets

The goal of WSDOT's Complete Streets program is to build out a comprehensive active transportation network on the existing state highway system in population centers. As WSDOT makes regular and capital improvements to its rights of way, it will update these facilities to improve safety, mobility and accessibility for pedestrians, bicyclists and public transportation users.

Complete Streets applies to state projects greater than $500,000 on highways in population centers that are open to pedestrian travel. See WSDOT's Complete Streets website for more information. Any future projects that deliver the improvements identified in this study will be required to adhere to WSDOT's Complete Streets requirements.

5.3 Transportation Systems Management and Operation

WSDOT and local stakeholders should consider and pursue, where appropriate, near-term Transportation Systems Management and Operations (TSMO) strategies to address immediate performance gaps on SR 516 in Covington. These TSMO strategies could include channelization modifications, additional lighting, and/or other TSMO components as appropriate. As efforts to seek funding for the recommended study concept will be a multiyear effort, near-term TSMO strategies should be considered to provide immediate improvements where feasible. Phasing of project implementation may be necessary given the cost estimate for the five-intersection improvement.

5.4 Phasing

The recommended corridor concept may need to be constructed in phases due to the anticipated cost. Ultimately, phasing may be the most viable funding strategy because receiving funding for full construction could be challenging. Since operations at the Covington Way Southeast/SR 516 were the nexus for this study, the first phase should include the installation of a roundabout at that location. In the interim condition of a single roundabout at the intersection of SR 516/Covington Way Southeast, traffic signals may be required for the eastbound and northbound approaches of the intersection. Due to the close spacing with neighboring intersections on SR 516, these traffic signals could help meter the flow of traffic entering the roundabout to improve corridor-wide operations.

After the roundabout at the intersection of SR 516/Covington Way Southeast is constructed, funding should be pursued to design and construct the remaining roundabouts from west to east. Ideally, funding would be secured to design and construct the intersections of SR 516/164th Avenue Southeast and SR 18 ramps/SR 516 simultaneously. Since these intersections are closely spaced, completing them together could create efficiencies with both construction and traffic operations after construction. The remaining two intersections, Eastbound SR 18 ramps/SR 516 and 168th Place Southeast/SR 516, would be pursued next, either simultaneously or sequentially based on the resources available and need.

5.5 Funding Opportunities

As previously noted, the delivery of the improvements in the recommended concept may need to be phased, and it may be advantageous to seek grant funding from a variety of sources. There are several regional, state, and federal grant funding opportunities that could be considered for this purpose.

5.5.1 Puget Sound Regional Council

The Puget Sound Regional Council (PSRC) is the recognized Metropolitan Planning Organization (MPO) and Regional Transportation Planning Organization (RTPO) for the four-county (King, Kitsap, Pierce, Snohomish) central Puget Sound Region. The PSRC is responsible for distributing federal funds through several different grant funding programs.

The PSRC has multiple funding cycles for different programs, including Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) grants. These grant programs operate on different two-year cycles. Several grant programs will be gearing up for a year 2026 call-for-projects and as such, could be potential candidates for future SR 516 corridor project applications. The next cycle of the PSRC call-for-projects for these programs is expected in Spring 2026.

5.5.2 Washington State Department of Transportation

WSDOT, through its Active Transportation Division (ATD), administers the evaluation of project proposals for two competitive funding programs for pedestrians and bicyclists, the (PBP) and the (SRTS) program. These programs are focused on improving pedestrian and bicycle safety on transportation facilities as well as making biking and walking to school safer and more appealing. These WSDOT programs are currently closed and do not have a call-for-projects out now, however there will be a future call-for-projects for the 2027 – 2029 biennium. ATD also administers the Sandy Williams Connecting Communities (SWCC) program, which focuses on improving active transportation connectivity for people walking, biking, and rolling along and across current and former state highways. The program focuses on communities with high-equity needs. The process for selecting SWCC projects opens in the fall of 2024. More information about SWCC is available on the program website.

5.5.3 Federal Funding

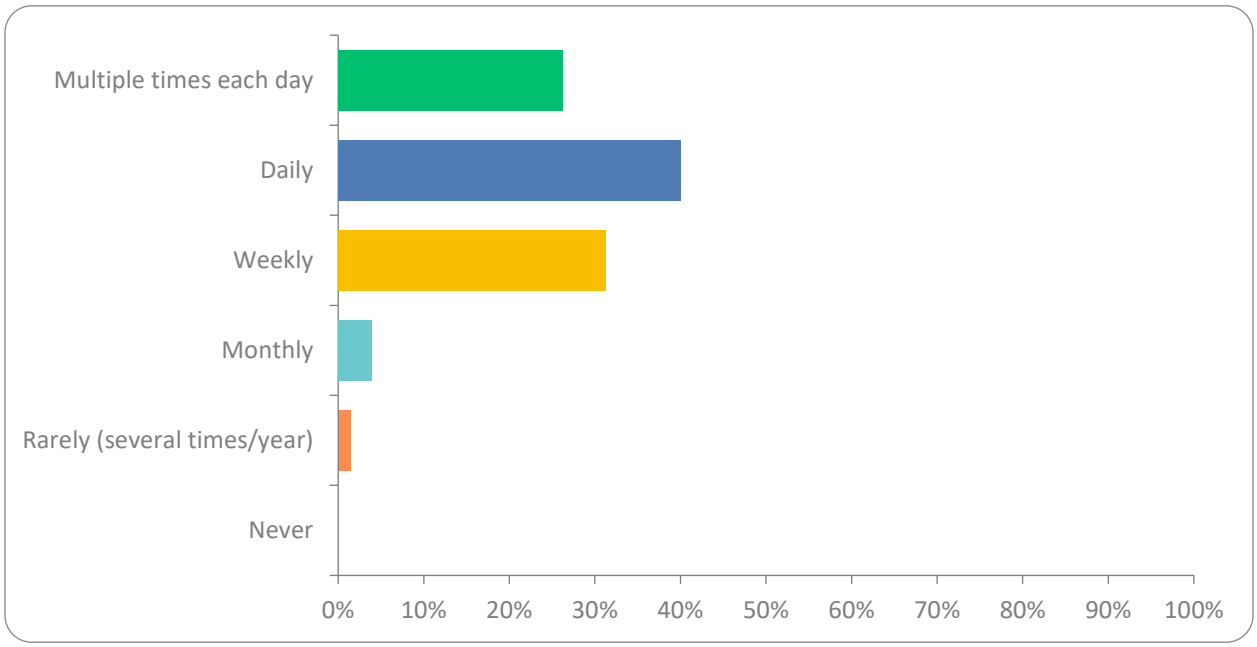
The Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant is a discretionary grant program that provides funding for projects with significant local or regional impacts. RAISE grants can fund both planning and capital projects. According to the most recent Notice of Funding Opportunity (2023), USDOT will prioritize projects that reduce greenhouse gas emissions, address environmental justice, proactively address racial equity and barriers to opportunity, and supports the creation of good paying jobs. The RAISE project grant applications require a 20-percent non-federal match unless the project is located in a rural area, or an area identified by USDOT as an Area of Persistent Poverty or Historically Disadvantaged Community. USDOT solicits RAISE grant applications annually, with the application deadline typically occurring in April, with the awards typically announced in August.

APPENDIX A: COMMUNITY ENGAGEMENT SUMMARY

Fall 2022 Online Survey Questions and Responses

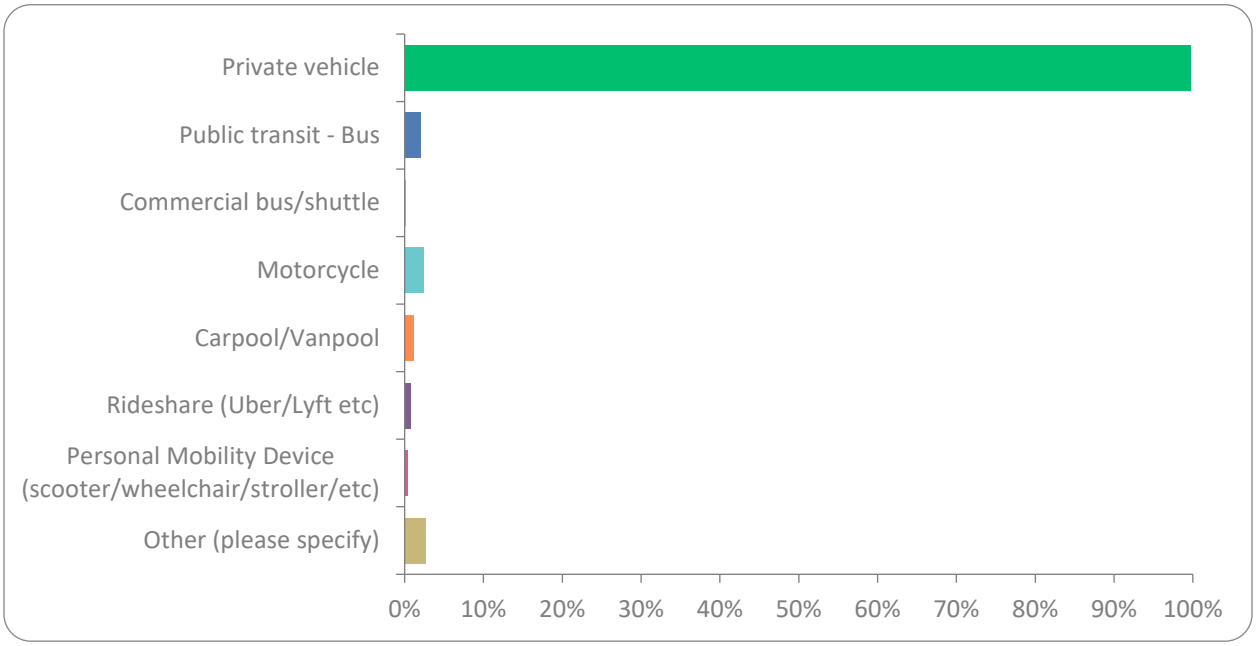
Q1: How often do you travel on SR 516 in Covington? (492 responses)

Note, a few respondents selected more than one option.



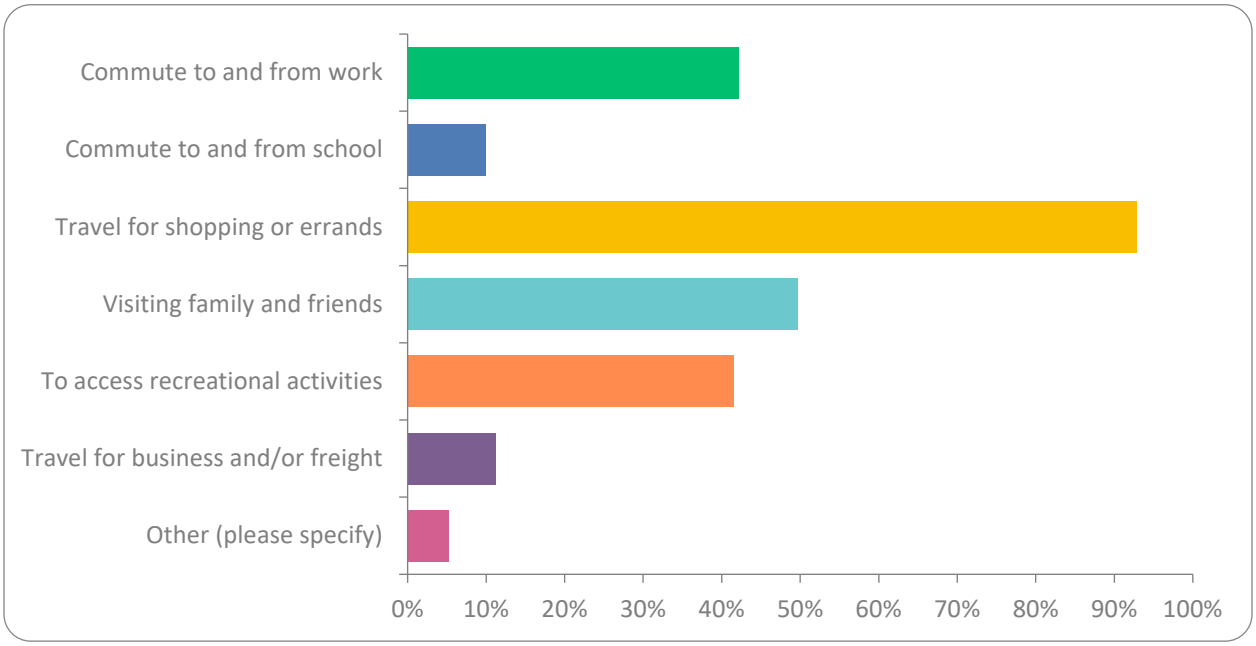
ANSWER CHOICES	RESPONSES	
Multiple times each day	26.22%	129
Daily	40.04%	197
Weekly	31.30%	154
Monthly	3.86%	19
Rarely (several times/year)	1.42%	7
Never	0%	0
TOTAL		506

Q2: How do you travel on SR 516 in Covington? (select all that apply) (492 responses)



ANSWER CHOICES	RESPONSES	
Private vehicle	99.80%	491
Public transit - Bus	2.03%	10
Commercial bus/shuttle	0.20%	1
Motorcycle	2.44%	12
Carpool/Vanpool	1.22%	6
Rideshare (Uber/Lyft etc)	0.81%	4
Personal Mobility Device scooter/wheelchair/stroller/etc)	0.41%	2
Other (please specify)	2.64%	13
TOTAL		539

Q3: Why do you travel on SR 516 in Covington (select all that apply) (491 responses)



ANSWER CHOICES	RESPONSES	
Commute to and from work	42.16%	207
Commute to and from school	9.98%	49
Travel for shopping or errands	92.87%	456
Visiting family and friends	49.69%	244
To access recreational activities	41.55%	204
Travel for business and/or freight	11.20%	55
Other (please specify)	5.30%	26
TOTAL		1241

Q4: When you travel on SR 516 in Covington which zip code do you usually start from? If your zip code is not shown on the map, please enter it. (488 responses)

ANSWER CHOICES	RESPONSES	
98042	56.8%	277
98038	20.5%	100
98092	3.5%	17
98010	2.7%	13
98030	2.7%	13
98051	1.6%	8

98058	1.6%	8
98022	1.2%	6
98031	1.2%	6
98001	0.8%	4
98391	0.8%	4
98942	0.6%	3
98002	0.4%	2
98032	0.4%	2
98144	0.4%	2

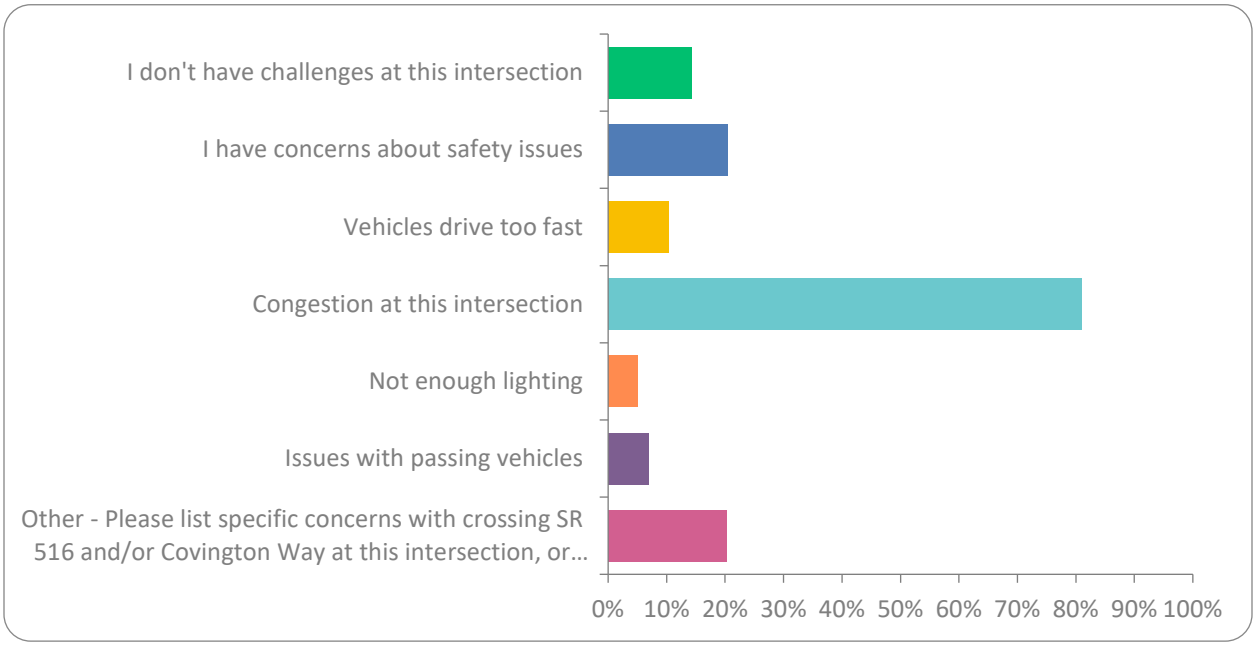
There were also two responses for three zip codes (98002, 08032, 99144) and one response for 23 zip codes (9042, 90842, 97042, 97942, 98002, 98003, 98006, 98023, 98027, 98056, 98057, 98059, 98065, 98082, 98136, 98198, 98311, 98321, 98372, 98409, 98422, 98502, and 99203).

Q5: When you travel on SR 516 in Covington which zip code is typically your destination (It's okay to enter the same zip code if your final destination and origin point share a zip code)

ANSWER CHOICES	RESPONSES	
98042	63.9%	285
98038	8.7%	39
98030	3.8%	17
98031	3.4%	15
98092	2.5%	11
98001	2.2%	10
98010	1.8%	8
98002	1.6%	7
98003	0.9%	4
98027	0.7%	3
98104	0.7%	3

There were also two responses for seven zip codes (98058, 98188, 98198, 98374, 98391, 98402, and 98424) and one response for 30 zip codes (90842, 98004, 98005, 98025, 98032, 98033, 98034, 98040, 98043, 98048, 98051, 98056, 98057, 98059, 98065, 98106, 98109, 98116, 98136, 98148, 98199, 98321, 98371, 98404, 98407, 98421, 98422, 98901, 98930, and 98942).

Q6: Covington Way Southeast (Select all that apply) (474 Responses)



ANSWER CHOICES	RESPONSES	
I don't have challenges at this intersection	14.35%	68
I have concerns about safety issues	20.46%	97
Vehicles drive too fast	10.34%	49
Congestion at this intersection	81.01%	384
Not enough lighting	5.06%	24
Issues with passing vehicles	6.96%	33
Other - Please list specific concerns with crossing SR 516 and/or Covington Way at this intersection, or any issues turning at this intersection.	20.25%	96
TOTAL		751

The Table below lists other concerns shared by the participants for the Covington Way Southeast intersection.

TOO congested during rush hour. Start 18W dedicated on ramp lane sooner. Gas station too close to ramp
When you turning right at this intersection and then need to get into the left hand lane to turn left at the next light, it's so hard to get into the left hand lane because of the congestion.

The weed shop traffic backs up into the road. Also the dual left turn lanes coming from Costco and heading West, people don't realize that the right left lane is also a left turn lane and they drift over into the right lane to make the upcoming right turn. I've been cut off and almost side swiped so many times from this scenario.
Timing of lights from wax road to 516
Vehicles in the intersection blocking traffic that has the green
The 420 store entrance. The lack of a right turn lane from 516 onto Covington Way South. The lights ahead of this intersection do not work in tandem and cause back ups
Free right from Covington Way to SR516. Cars turn right on red when the light on 516 is green but intersection is full.
Often hard to get across from Highway 18 to take a left to Covington Way
turning lanes too short
Frequently impossible to get from Covington Way to 168th because east/west cars don't clear the intersection
Turns from cov way when light is yellow or red (right turns to go East) block the intersection. Cars stacked at red lights go to the brink of gridlock
Pedestrians especially from the pot shop; cars not stopping while turning the corners; cars pushing the limit on a red light and continuing through the intersection.
The entrance to Marley 420 Recreational Marijuana makes the intersection confusing to navigate, particularly for cars entering/leaving their parking lot.
Vehicles turning east onto SR 516 often sit through a green light, unable to go anywhere because of congestion on SR 516.
Often times traffic backs up at the light heading into covington. People who are driving straight into covington can't proceed properly through the light once clear because people are taking the right turn from Covington Way Southeast and makes it impossible to make it through the light without blocking the intersection. There's also congestion because there's no dedicated right turn lane to leave 516 onto covington way so people heading straight block those waiting for the right turn.
Lights not sequenced properly under 18 into Covington
I dont use this intersection
Unpredictable traffic in and out of weed shop
Aggressive lane changing, blocking intersection
There should be a left turn only lane for people wanting to turn onto covington way
Cars heading east on 516 block covington way when light turns green, preventing turns off covington way
long long wait times at lights and turning right is a nightmare.

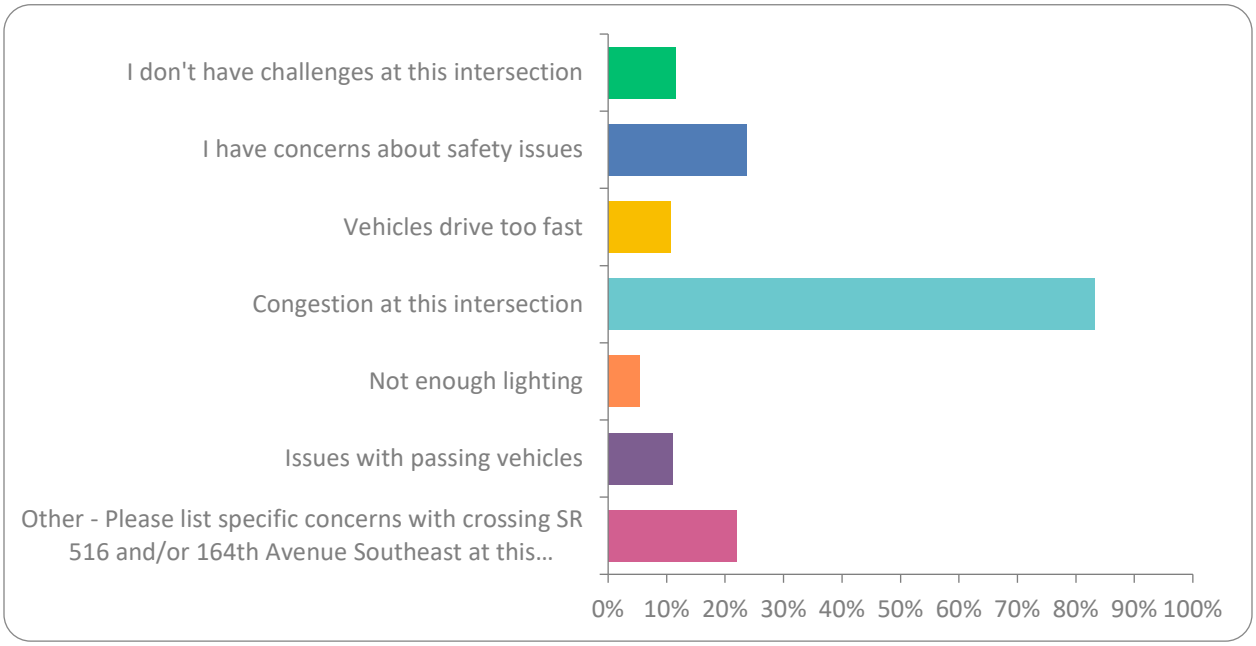
It can be difficult to see eastbound vehicles if attempting to make a turn on red coming from Covington way.
going into covington the traffics backs up all the way to fire station. Heavy congestion, cars making free right turn onto kent kangely further slow traffic and traffic blocks the intersection
Issues with clear sight when turning right onto east bound 272nd
Turning right from 516 eastbound to Covington way is usually very difficult due to traffic. I generally avoid turning right from Covington way to eastbound 516 as well due to traffic backup.
The offset intersection for northbound and southbound Covington Way is very inefficient. Also, Covington still needs to build the eastbound right turn lane that was required mitigation for the Costco EIS,
Parking lot traffic for the Marijuana store on north side.
Inadequate storage for WBL; needs EBR turn lane; EB queues from 164th block intersection; should've realigned 164th to this intersection per the original plan; convert EB/WB left-turns to flashing yellow arrows and use lead/lag phasing to improve coordination.
Not enough free right access from east bound SR 516 to Covington Way
Trying to exit from adjacent business on Covington Way SE is challenging and safety concerns about impacts and sight distance over the bridge.
Traffic backs up on 516, which does not allow for right hand turns from Covington Way due to traffic stacked into intersection. Left turn to Covington Way from W 516 can be difficult, esp if coming from W18 (it's a short jaunt over 3 lanes to make the turn)
Westbound traffic backs up from the turn lane to get onto Hwy18
From Covington way heading north, taking left turn drivers need to know far left lane won't be able to merge into right hand lane on Kent Kangley to make right run on 156th Ave se
Making u turns
Reroute 164th se to connect directly to Covington Way SE , eliminate the 164 light, but leave a west bound turn into 164th.
Turning right from eastbound 516 to south on Covington Way, a dedicated right turn lane would alleviate lots of congestion.
Intersection frequently blocked with traffic
Needs an eastbound right turn only lane
That marijuana bussiness causes too much traffic
Visibility and sight lines
roads are never smooth

The parking lot is often very congested on the right. Also, people turn right from Cov Way onto 516 when the light is red for them but the people going straight can't block the intersection. So instead, the right hand turn cars block it making it much worse.
Driver aggression
Business at location is very busy during evenings and weekends.
Lots of turning vehicles from 516 west bound turning on to Covington way
Low visibility sometimes turning right onto 516 from Covington Way
Pot shop backs up traffic sometimes
Not enough lanes and too many signals
Always congestion from queuing vehicles waiting to get onto SR 18
I have a few theories with this intersection. 1) Create a roundabout 2) Extend Covington Way to connect to 156th Pl SE and remove the intersection of 156th Pl and 272nd altogether (it's so dangerous trying to left turn out of there from 156th with people speeding in both directions.) 3) Create an additional eastbound lane that becomes a right turn only to 18 westbound.
Too much traffic coming from pot shop, gets highly congested and the left turn light from 516 to Covington way se is too short for cars to get through
There is significant congestion here and the light pattern does no alleviate it. You have cars breaching the intersection and then pedestrians crossing around vehicles. It is a hot mess.
blocking intersection on red lights
The dispensary is located in the middle of the intersection. Too many people stopping in the middle of the intersection to go there. It's unsafe.
This light backs traffic going eastbound for miles! It takes me 20 minutes to get to work in the morning and sometimes 1-1/2 hours to get home!!
Not sure if it's many traffic lights in the area or the lights are not in sequence but there is always a back up coming into covington from Kent on 516
The dispensary there is a problem. The parking means that people turning into their parking lot are always left sitting in the intersection. The drivers coming and going from this place are overly aggressive because it is such a mess that they just want to get in or out and they pull into the second lane, they run the red, they basically park in the road. The sheer volume of people coming and going adds to the problem. That business needs to move.
Just before the intersection, when traveling into covington from Kent, is a road that turns onto SR 516 without a light. The cars turning left onto kent Kangley dodge traffic and merge into traffic causing more congestion at the light. Driving from Covington towards Kent, the pot shop traffic sometimes backs up into the road.

The people pulling in and out of the dispensary frequently make unsafe vehicle maneuvers. It is very scary to drive past this business. Also, traffic backs up because the parking lot is too full or someone has not safely maneuvered in/around the lot and people cannot pass them.
I need to turn right and then immediately try to get into the left turn lane at the Covington library. There is too much fast traffic to turn right on red ABD get over to the often backed up turn lane. I have to wait until it's green to turn right, and this backs up Covington Way. Others do this too. It takes one or two light cycles to turn right and then quickly move left three lanes.
Weed store traffic often backs up into the street despite their attempts to guide people to parking spots.
Business at north end of this intersection has slow inbound traffic, sometimes causing backups (WB516)
There needs to be a turn lane onto Covington Way
Vehicles blocking the intersection
Timing on all lights on SR 516 is so bad that traffic travelling east on SR 516 ends up being completely backed up to the point that when traffic turning onto SR 516 from Covington Way isn't abke to turn right when the light is green so cars trying to turn onto SR 516 from Covington Way end up sitting through numerous lights unable to turn.
Cars blocking intersection on 516 (can't turn left on green light). Cars turning into "retail store" on 516 backs up left turn commuters in second left turn lane. Often it is unexpected and causes back-ups)
Traffic backs up and makes it difficult to turn right onto SR 516 from Covington Way
A rt turn lane from 516 to Covington away SE would be nice. Vehicles traveling straight frequently block the intersection once the light changes.
Crosswalk light not long enough
Really busy, the traffic at the 164th intersection backs up on to the intersection and people on Covington way turning towards the interchange waste green light time because of no space on the road way.
Too much congestion for cars turning into 272nd. The lights take too long as well
I sometimes accidentally turn left early and then have to u-turn at the store.
When you turn left onto Covington way from the home hood shooing center, there is no light and you have to cross multiple lanes of traffic that are often backed up due to congestion at the main intersection.
Exiting Marley 420 parking lot
Need dedicated turn lane from eastbound 516 to Covington Way SE. or traffic circle
Lights further east from this intersection and timing of lights cause backups; merging traffic going eastbound from Covington Way SE cause stoppages when turning right on red light…have witnessed many accidents near/at this intersection
Intersection being blocked eastbound due to the timing of the lights

Lights need to be synced better thru here
Traffic backs up from the 164th Ave. light all the way back to the fire station on SR 516. You can't even turn right from Covington Way when it is so backed up. The light timing is so bad in this stretch of road!
Traffic entering the pot shop stops in the intersection to wait for parking. This causes congestion and accidents.
Cars drive long ways going east down the middle turn lane to turn left into the pot shop
Not enough length of road to make a right hand turn from Covington Way onto 516 AND get in the left hand turn lane to make a left hand turn onto 146th.
Cars turning right from Covington way SE when they have a red light and 516 is backed up. They will often turn in front of cars with right away.
Blind corner turning right onto Covington Way. Twice I've turned right to discover a disabled vehicle that I had to help push uphill off the road
Seems difficult for anyone going to the pot shop
At all intersections on SR516, with the congestion and speeding cars, I feel the intersections would be much safer if traffic lights were red or green no flashing yellow. The turn lanes,at some of the intersections, don't line up. So, if you try to turn, the visibility is very low to see cars going the opposite of you.
Right turns back up traffic and mistimed lights cause congestion
Difficult to make right turn onto SR516 EB, to immediate left @ 164th
This intersection causes problems at the Canyonridge shopping center entrance; backs up WB 512 that wants to turn left onto Covington Way, and blocks any hope of turning left from SB 156th to return to Covington
Short turn lanes and congestion from hy18 and cars going to pot shop
Delays turning right...no right turn lae. Not synced with green lights ahead
Lights don't sync so traffic blocks intersections
Would be nice to have a right turn lane from EB SR516 to Covington Way
Pot shop parking
Vehicles queueing up to access the Marijuana store.

Q7: 164th Street Southeast (Select all that apply) (468 Responses)



ANSWER CHOICES	RESPONSES	
I don't have challenges at this intersection	11.54%	54
I have concerns about safety issues	23.72%	111
Vehicles drive too fast	10.68%	50
Congestion at this intersection	83.12%	389
Not enough lighting	5.34%	25
Issues with passing vehicles	11.11%	52
Other - Please list specific concerns with crossing SR 516 and/or 164th Avenue Southeast at this intersection, or any issues turning at this intersection.	22.01%	103
TOTAL		784

The Table below lists other concerns shared by the participants for the 164th Street Southeast intersection.

The dual turn lane for hwy18 doesn't have enough merge room after the light. Leads too many drivers confused about which lane has right of way
The light timing can be confusing

I hate this intersection. It backs up so much, it seems like the lights don't sync up, it takes absolutely forever to make it off the freeway. Also, the whole Westbound right turn lane that goes past the off-ramp and then turns past the library, that's just confusing and it is so obvious that it confuses people.
When leaving the gas station, the light rarely turns green and only for a couple seconds making protected turns rare and rushed
Lights are too close together west of 18
These intersections are way too close together and the backups at these lights are insane. I normally try to avoid Covington in general if I need freeway access because of how bad it here here.
Traffic lights are not synchronized
Too close to other intersection
The left turn lane from 516 to 164th is always blocked off by cars backed up from the next traffic light. Often have to sit through 2 lights to get into the turn lane and then turn left.
When turning onto 516 with the 2 lefts, often people don't stay in their lane in the middle of the intersection and typically get cut off.
Merging cars nearly causing accidents when they are in wrong lane. Better signage needed.
Vehicles turning east onto SR 516 often sit through a green light because of congestion on SR 516. The lights aren't timed well enough for eastbound traffic.
lots of gridlock
When both lanes are making a left turn from 164th heading towards covington, cars from the right lane often cross into the left lane. It also gets extremely congested so only a few cars make it through the light turning left towards the shopping center/freeway before they're stopped at the red light near the freeway entrance/overpass.
Light takes forever. People in inside lane swerve into outside lane to get in 18 westbound. Numerous accidents and close calls.
Need a longer right turn lane from 164th onto 516. Prior just run over the curb and landscaping now.
Coming out from the Library to head for the intersection is backed up and busy at rush hour and therefore dangerous and time consuming
Too many lights in short distance causes impatient drivers
Timing of traffic lights at 164th and 18 ramps
Lights are not synced to allow traffic to flow properly.
Getting out of the Library turning left
Too close to the highway on/off ramps.

These two lights are never in sync and it slows traffic in all directions and causes traffic jamb.The short distance between these 2 lights makes it so traffic does not flow and cars are constantly blocking intersection and if you get stopped at both lights it will often take 10 plus minutes to get through this 1 block.
Too many times someone from the left turn lane don't realize the middle lane also turns left
Left turn from 516 to 164th Ave.: the left turn light isn't on long enough to clear the left turn traffic.
Inefficient operation in this area. The signals are too closely spaced and the signalized driveway on the south side is very inefficient
Traffic wanting to turn onto Highway 18 backs up beyond the turn lanes holding up traffic in the thru lanes. Westbound, this affects traffic trying to get through the light at the Highway 18 eastbound exit and entrance ramps.
Signal takes a long time. People turning left onto 516 and heading east from the far left turn lane will off and jump into the right to get on 18.
Lights are hardly synchronized
north bound "green" light is too long. South bound and east to north bound lights should be lengthened.
Difficulty exiting library due to vehicles backed up on southbound 164th
Should've realigned 164th to Covington Way intersection per original plan; current phasing has too much lost time; SB approach needs more queue storage, especially for the SBR turn lane; EBL needs more storage; EB/WB left-turn phasing should be flashing yellow arrows and use lead/lag phasing; EBR turn-lane at WB ramps should be extended back to Covington Way.
Everyone from all directions sits in the middle of this intersection making it impossible to turn. Paint and traffic cams/ticket cams are much needed. People are real jerks at this intersection
Poor phasing of traffic lights
Intersections are too close together and traffic backs up in the turn lanes amd blocks the thru lanes
Having a round about here would be terrible
Timing of lights when Turning left onto 516 from 164th
Reroute 164th se to connect directly to Covington Way SE , eliminate the 164 light, but leave a west bound turn into 164th.
Light is long. Traffic backs up so often unable to make a left out of the library
Side wake
This intersection needs additional lanes, but the new storage building eliminated the ability to add any. Poor planning!!!
HW 18 lights back up this intersection

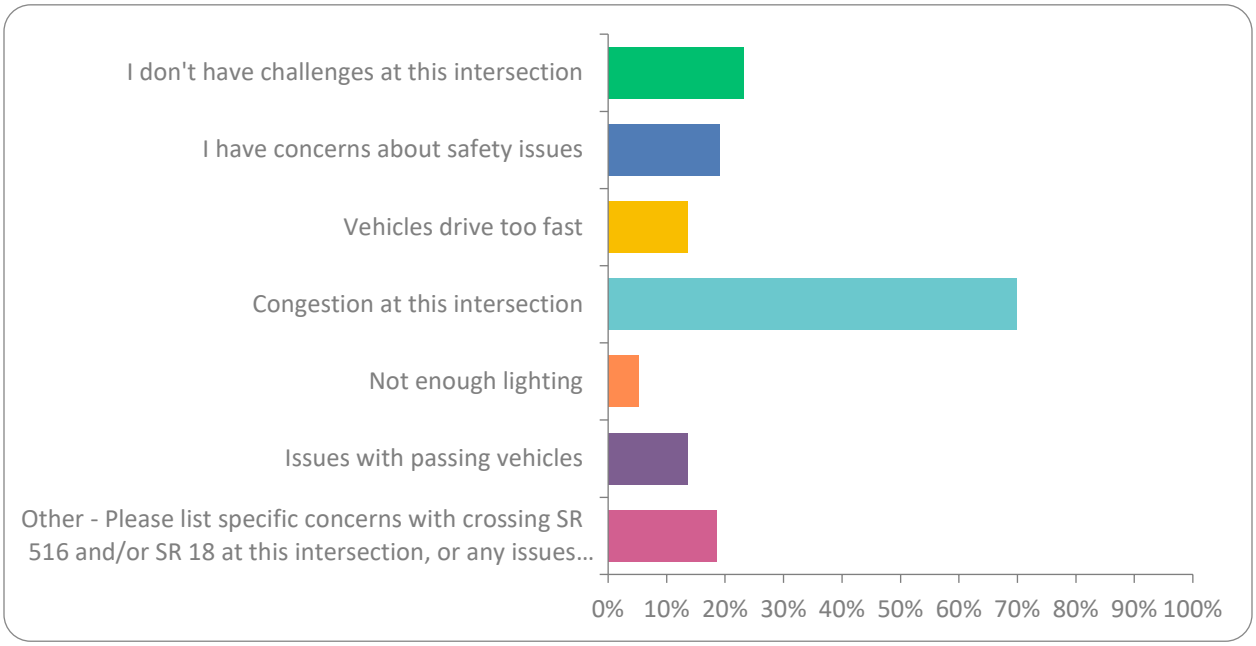
The timing of the lights doesn't allow the hwy 18 traffic to flow often enough. It gets so clogged that there ends up being lights missed because you can't enter the lanes to travel west.
No one knows how to use that short turn lane onto 164th
backup for left turn onto HWY18 from 516
Aggressive drivers
There should be two lanes turning left from 18. Currently it offers two turning right.
Very small grid. 3-4 cars. Red light creats back up of other vehicles
Two close lights make this intersection frustrating.
Complete lack of safe cycling access
Turn lanes aren’t big enough for traffic getting onto west bound 18
Not enough room for cars who are turning on 18, always backs up in the left 516 west bound lane, dangerous to try to get into right lane because of speed of traffic
Hard to turn left out of the library so sometimes I avoid it altogether; street is too narrow for amount of traffic
Vehicles block intersection due to congestion.
The right turn lane on 164th turning onto Kent-Kangley needs to be MUCH longer. That would help reduce some of the congestion on 164th.
Right Turns from 164th to 516 are usually blocked by excessive traffic
There needs to be a longer turn lane onto Hwy 18. I have been into a accident at this intersection because of people trying to speed by the turn lane when it was full.
New homes that impact, scrubs affect visibility
Always congestion from queuing vehicles waiting to get onto SR 18. People dart in and out of open gaps, creating safety concerns.
I feel like the only way this area is ever going to improve is if you move the ramps from 18 to Covington Way instead of 516. The intersections are too close together, and even if you implemented a roundabout, I feel like there would be some cars on 164th that are just going to sit there because they can't get out with all the traffic the road endures.
The traffic lights in intersection of the freeway entrance/exit is not efficient and could be improved accordingly.
Drivers crossing two lanes from 164th trying to get on to hwy 18 west bound.
Another light pattern issue, with heavy pedestrian traffic at this particular location
Light pattern creates terrible congestions. SR-516 has a longer light due to being SR and that's fine. However, vehicle coming from SR-18 along with 164th, has short light which ends up with cars backing up for a long time.

Because of the short distance between lights, cars often stop in the intersection, blocking vehicles turning onto Hwy 18 and causing additional congestion. The turning lane from eastbound SR 516 is also too short and cars are regularly backed up and blocking the left lane, reducing eastbound traffic to one lane.
on red lights blocking the on-ramps when traffic is heavy
Traffic back up from people getting off highway 18 southbound. People are often changing lanes in the middle of the intersection. Cutting me off while I'm passing through the intersection. Then I get stuck in the middle of the intersection.
long wait times
The turning light to go into hwy 18 from covington is not in senquence with the other lights or there is to much going on because traffic gets backed up pretty bad.
Getting out of the library is the problem here. Southbound traffic on 164th backs up past the library by a lot. Not sure how to fix that. The fact that it is so close to the next intersection also contributes to the issues.
The light that allows drivers at the gas station is too long. MOST of the time I am at the intersection, there is nobody there - yet they get the right of way for the full light cycle. Also, there is a period of time where nobody has a green light on 516 westbound at the 18 offramp, yet the turn only from 516 westbound at 164th is green. I realize that a green light for westbound traffic may only block the intersection at 164th, however we could get traffic moving through if we allowed the cars who would be turning right on a green arrow to clear through the intersection.
I go through this intersection several times a day. I live in a street near the Covington library. There needs to be more lanes on 164th to turn only right and then CLEARLY marked designated HWY 18 ONLY lanes. All the time I sit at this light trying to get left so I can go into Covington is a waste of time. The light ms are not synchronized right so that even if you can get left from 164th onto 272nd, you get stuck in the intersection from cars backed up at the next light. It's a mess!
Southbound 164th is always backed up
Panhandling on the lanes of traffic
Need a longer right turn lane heading south on 164th at SR516
This intersection has the same challenges with light timing that contributes to traffic congestion as the intersection of SR 516 & Covington Way.
Large back-ups on 164 trying to get onto 18 or 516.
Often the turn from 164th onto Eastbound SR 516 is congested causing vehicles to miss the lights
Getting out of library going south
Heading southbound on 164th and turning right onto 272nd is very difficult. The right turn lane is often inaccessible because of traffic backups for drivers trying to turn left
This is the worst intersection in the city. Too many lanes, turns, causing too congestion east and west on 516

Need more right turn lanes from the freeway off ramp onto 516. Also exiting the off ramp difficult to see cars stopped at the light until you are right up on them.
Library exit needs traffic signal or better sightlines
It seems like the timing of the traffic lights needs to be improved for congestion around the ramps on/off the 18.
Traffic circle needed
Turning lane, left onto 164th Ave SE is short, volume of traffic causes many backups into previous intersection to west
The storage building is WAY too close to the road. There should be more lanes turning from 164th to SR516, both right and left turn (right turn is almost non-existent and blocked most of the time.) Honestly, the storage building should be torn to the ground. It's terrible. Somehow there needs to be more space. The lanes that are there are tiny in width, and the right turn lane primarily blocked.
Lights take way to long
This light is not synchronized well with the next light, where cars can only go straight or turn right onto the 18 onramp toward Auburn. Cars that turn onto 516 from 164th immediately get a yellow light and have to stop again.
The two lanes turning left from 164th cause confusion.
Too many lights in a very short distance
Liights need to be synced better allow more time to turn when coming from library road
This intersection is a big mess. I'm surprised more pedestrians aren't hit here. It has gotten much more congested lately, backing up on 164th clear back to 268th a lot of times. People come way too fast down the hill from Kentwood, too.
The right turn lane on 164th is way too short and needs to be extended. Self storage should be demolished to make room for lane. The other option would be extend Covington Way to connect with 164th and eliminate this intersection. The intersection is too close to the highway 18 interchange
Not enough length of road to make a right hand turn from Covington Way onto 516 AND get in the left hand turn lane to make a left hand turn onto 146th.
Cars get backed up on 164th during peak driving times. Also, drivers turn left onto 516 from the left lane on 164th and then cut across two lanes of traffic to enter the Hwy 18 westbound ramp.
With the short distance to the Hwy 18 on ramp there is frequent congestion especially during rush hours that cause gridlock.
Coming down 164th the light takes forever to turn green. Also turning left going up 164th. It skips the green sometimes.

Idiots who approved a storage facility and then no turn lane into business causes gridlock also cars turning towards city center compete for right lane to go hy18
Unable to merge into traffic on 516 going east
Lights don’t sync and cause congestion. Also the left hand turn lane messes up traffic really bad.
Too many vehicles trying to get past the light and end up blocking other traffic as they wait to go
Dual turn lanes under the overpass overflow into westbound 516 and block westbound traffic. Timing of traffic lights needs to allow shorter intervals to access WB HWY 18 instead of favoring left turn traffic from 164th Ave SE

Q8: SR 18 interchange, southbound ramp (Select all that apply) (465 responses)



ANSWER CHOICES	RESPONSES	
I don't have challenges at this intersection	23.23%	108
I have concerns about safety issues	19.14%	89
Vehicles drive too fast	13.55%	63
Congestion at this intersection	69.89%	325
Not enough lighting	5.16%	24
Issues with passing vehicles	13.55%	63
Other - Please list specific concerns with crossing SR 516 and/or SR 18 at this intersection, or any issues turning at this intersection.	18.49%	86
TOTAL		758

TOTAL	758

The Table below lists other concerns shared by the participants for the southbound SR 18 ramp.

Dual turn lane for hwy18 east needs more merge room after light
Poor wording for question!!
Overflow of vehicles from turn lanes blocking westbound lanes under freeway
Not everyone realizes there are 2 rights from the Highway 18 intersectio
turn lanes too short to accomodate volume
Zipper merge causes aggressive overtaking
The turn lanes back up often because of how long the lights take to change . This stops traffic for those going straight through.
Traffic lights not synchronized
Not long enough turn lanes. The traffic backs up on 516 and those continuing west swerve right to avoid vehicles waiting to turn left onto 18. Or the backup is so long the cars going west have no way to get around
The left turn lane heading away from Covington always causes the road to backup because cars can’t fit in the two turn lanes provided
Cars get backed up at this light waiting to turn onto the southbound lanes. It is especially bad when coming from the east. Both left turn lanes get backed up and clog traffic.
Both westbound lanes to enter HWy 18 get full and block traffic attempting to contnue westward on SR 516.
Extremely congested. Often times traffic going straight towards kent can't proceed because the two lanes to enter hwy 18 towards auburn are backed up. Then you have cars jumping out from the left straight lane or swerving around cars in the turn lane. There have been multiple accidents here.
It’s 18 west bound. Not southbound.
W/B vehicles turning onto S/B 18 clog up under the overpass despite the turn lane. Traffic often backs up beyond the limitations of this turn lane also
the exit onto 516 is confusing which way cars travel. Many turn and come do not follow the intended lane cutting others off.
Lights are not synced properly
The two major turn lanes coming from Covington block outbound traffic that isn't getting on 18.
Onramp lanes westbound frequently backup into the mainline.

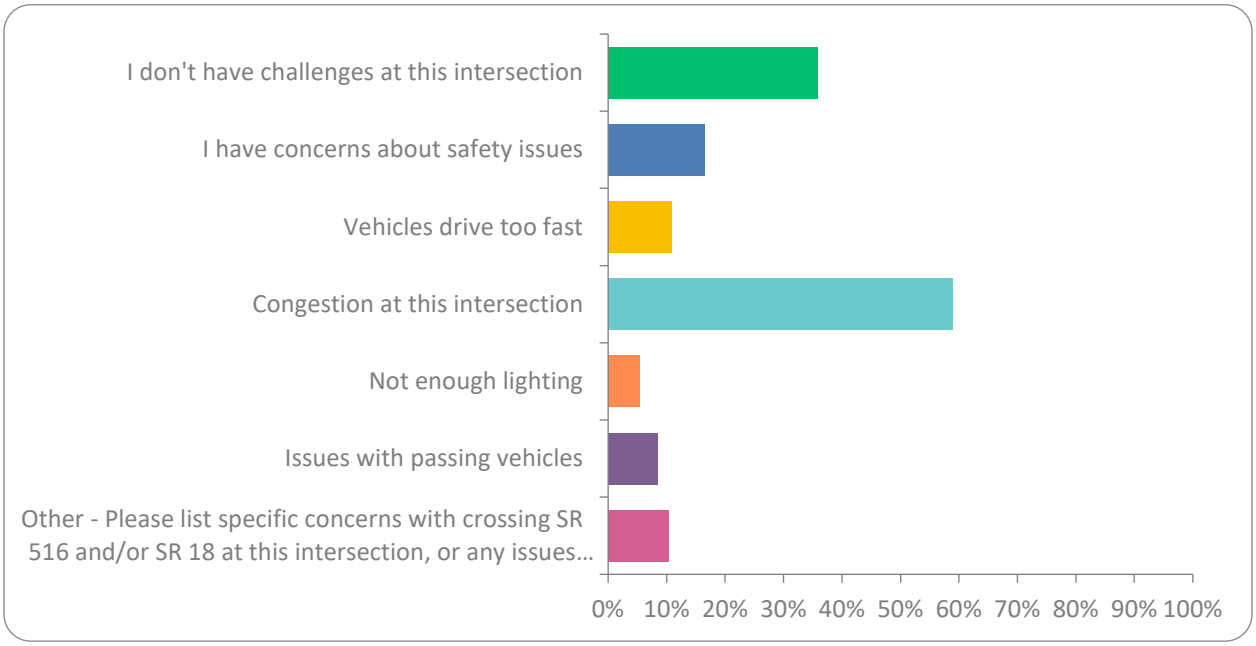
The on ramp to highway 18 is way too short. Taffic backs up into the non-turning lanes and car often have to get over at the last minute to avoid stopped traffic in the traveling lanes. The 2 turnlanes that serve the onramp need to be address ASAP
People coming off 18 and turning to westbound 272nd, often block the right lane to turn onto 164th
The light cycles often don't match up with the traffic and people are often blocking or speeding to get thru the intersection before the light changes.
turn lane backs up on SR516 creating blockage at the intersections to the east and west of the Hwy18 S entrance.
The WB left-turn storage is insufficient. Often backs up into the WB through lanes.
Backups in the turn lanes affects traffic trying to get through intersections in either direction. The intersections are too close together for the amount of traffic.
Basically congestion, but this one being so close to the signal for 164th causes grid-lock, as well, which comes from both sides: to the west, there isn't much room for very many cars to stop at this light; from the east, we're almost always backed up into the left through-lane because cars have filled up the two turn lanes. .
The light takes forever to turn green
Remove landscaping to allow adequate sight distance for WBL on red arrow; Revise phasing sequence to reduce lost time; extend EBR turn lane back to Covington Way; WBL needs more storage to not block inside thru lane; WBL phase needs to lag to handle AM peak queuing; consider converting interchange to diverging diamond; allowing the SBL lane to turn right doesn't accomplish much; it just makes it harder to clear the SBL queue.
The stoplights are too close and not in sync all of the time so traffic turning left from 164th to 516 backs up into the intersection
Same comment as last: Everyone from all directions sits in the intersection like a bunch of entitled jerks. Ticket cams needed to control traffic
For offramp - It's not clear soon enough that both lanes can turn right. For onramp - Facing west and trying to get onto SR-18 W, the 2 left turn lanes get backed up too far into the light right before it and cause traffic - especially for cars trying to continue west on the 516
Poor phasing of the lights
See above answer
Timing/sequencing of traffic lights when turning onto 516
Wait time for green light is way too long
The 164th se light bogs down this light backing up traffic as the turn lane to 18 gets all backed up.
When walking, people don't look both directions at crosswalks.

Lanes to get on hwy 18 are too short
2 right turn lanes off of SR18 exit ramp when turning right and trying to get to left lane on SR516
It is hard to see pedestrians at this intersection
The light is never green long enough for traffic to move through.
Complete lack of cycling access
Need better right turn lane
I have seen people turn left onto Highway 18 on a red arrow because the intersection is confusing to those unfamiliar with it and the light is incredibly slow. No issues turning right here, just wish there was a right turn lane.
Intersection is often blocked by congestion.
There's not enough space in the left turn lanes to hold all the vehicles at peak travel times, so cars waiting to turn left back up into the two through lanes. Sometimes cars jump out from the backlog into the through lanes unexpectedly.
Multiple times people do illegal uturns
The double right turn lane leads to safety issues and confusion.
Turn lane always backs up into westbound travel lanes
Picture doesn’t align to description. Given there’s only room for two queuing lanes for 18, this backs up under the overpasses and through the next intersection. Creates situations where there’s stopped traffic well before the on-ramp.
This intersection gets so backed up.
The image doesn't look like it is for the SB ramp for SR 18? right turn lanes from SR18 off ramp going NB will proceed with turns with red light, creating risk of collisions. Especially the middle right turn lane.
When you're on 516 going eastbound and you are either on a green or sitting at the red light, a lot of cars from the ramp like to whip out in front of you at the last possible second. There needs to be a no turn on red implemented for this intersection. Either that or a roundabout or change 516 to a DDI to alleviate the stress.
Traffic overflow going into SR18
you get a significant back up because the traffic volume is high here. The light does not clear out the interchange or the 516 traffic. That means that you are having to turn on red lights to the right to get on 516.
The SB onramp presents a dangerous situation with vehicles queing on 516 to enter the highway. Because of long queues, nb-off ramp traffic has difficulty turning left onto 516, especially during rush-hour.

The left turn lane onto south ound Hwy 18 is too short and cars in the turning lane backup into the left lane reducing eastbound traffic to one lane.
on red lights, blocking on-ramps
Wait times, back-up of vehicles attempting to go SR 18 southbound
The traffic getting on the freeway backs up blocking traffic
Going west on 516 the turn lanes back up for the on ramp to 18 south. The left lane of westbound 516 is frequently blocked buy overflow from the lefthand turn lanes.
Despite having two turn lanes to get on 18 northbound at the next intersection, it still backs traffic up past this intersection. Also it is frustrating because vehicles turning westbound off highway 18 at this intersection often cannot empty onto 516 because the turn lanes are backed up into this intersection and they have nowhere to go. At least having only one lefthand turn lane allows drivers to pull into the lesser congested right lane - that maneuver is illegal as drivers are supposed to pull into the lane closest to them.
The backup for people getting on westbound SR18 blocks westbound traffic on SR516.
Crazy intersection! If you are coming off Hwy 18 and turning left there is only one lane that fits left. But, I've had many near misses from drivers turning left from the middle lane that goes right only. This is not marked well. It's also confusing because there are two lanes to turn in to. Usually the intersection is backed up in the left lane because of people waiting on 272nd to get on 18 west. Going west on 272, it backs up past petco and then blocks the intersection. Sometimes I sit through two lights trying to get left off of 18 eastbound. This is a mess!
Turning traffic from Westbound SR 516 onto HWY 18 South blocks the lane
Left turns from 18 off ranp to 516 gets backed up quickly and blocks traffic.
The turn lanes to access westbound 18 backup, preventing one from passing through in the two straight lanes. The ability to change into the far right lane to pass through and avoid this back up is usually difficult as well due to congestion.
Right turn lane onto 18 should start earlier. Is often congested and people move over to the right at the last minute. Plus congestion from those on 516 going the other way and making a left onto 18 often block this intersection.
Quite a few issues with cars trying to make it through the light and then blocking the intersection for left turns.
Traffic circle would help alleviate congestion here and at nearby intersections to keep vehicles from stacking.
2 right-hand lanes for turning onto 516 from hwy 18, view is partially blocked, many right-hand turns onto 516, right turning lane into Fred Meyer just after this intersection; traffic volume causes backups
Turn lane too short. Stops traffic while waiting for turn light.
I have seen many people make risky and illegal left hand turns off the freeway.

People exiting 18 and turning right from the center lane will take a right in front of oncoming traffic
The left turning traffic (2 lanes) from SR 516 to WB SR 18, backs up through the intersection regularly. It becomes unsafe even to try to turn left with the left turn light, because there is hardly room to get around the people waiting to turn left onto Hwy. 18. The traffic backs up so that people end up in the middle of the intersection (in the box) when the light turns. Also the off ramp should have a right turn arrow when the EB SR516 traffic has a left turn only signal. People are always trying to make free right turns there so I'm shocked there aren't more wrecks there, too, as people speed from the west to beat the light.
Not enough space for vehicles turning left onto SB Hwy 18
Onramp blocks through traffic constantly
Gridlock issues happen during rush hours
No turn on red signs.
This intersection would benefit from a “Diverging Diamond”
Pedestrians crossing 512 here
Middle lane often turns left although not allowed
Gridlock here cars blocking going onto hy18 and not enough turn lane
This on ramp is at multiple lights with not enough turn lane to the on ramp
Timing on the lights cause congestion
Vehicles queue up to access the southbound ramp, which blocks traffic continuing west down 516

Q9: SR 18 interchange, northbound ramp (Select all that apply) (460 responses)



ANSWER CHOICES	RESPONSES	
I don't have challenges at this intersection	35.87%	165
I have concerns about safety issues	16.52%	76
Vehicles drive too fast	10.87%	50
Congestion at this intersection	58.91%	271
Not enough lighting	5.43%	25
Issues with passing vehicles	8.48%	39
Other - Please list specific concerns with crossing SR 516 and/or SR 18 at this intersection, or any issues turning at this intersection.	10.43%	48
TOTAL		674

The Table below lists other concerns shared by participants for the northbound SR 18 ramp.

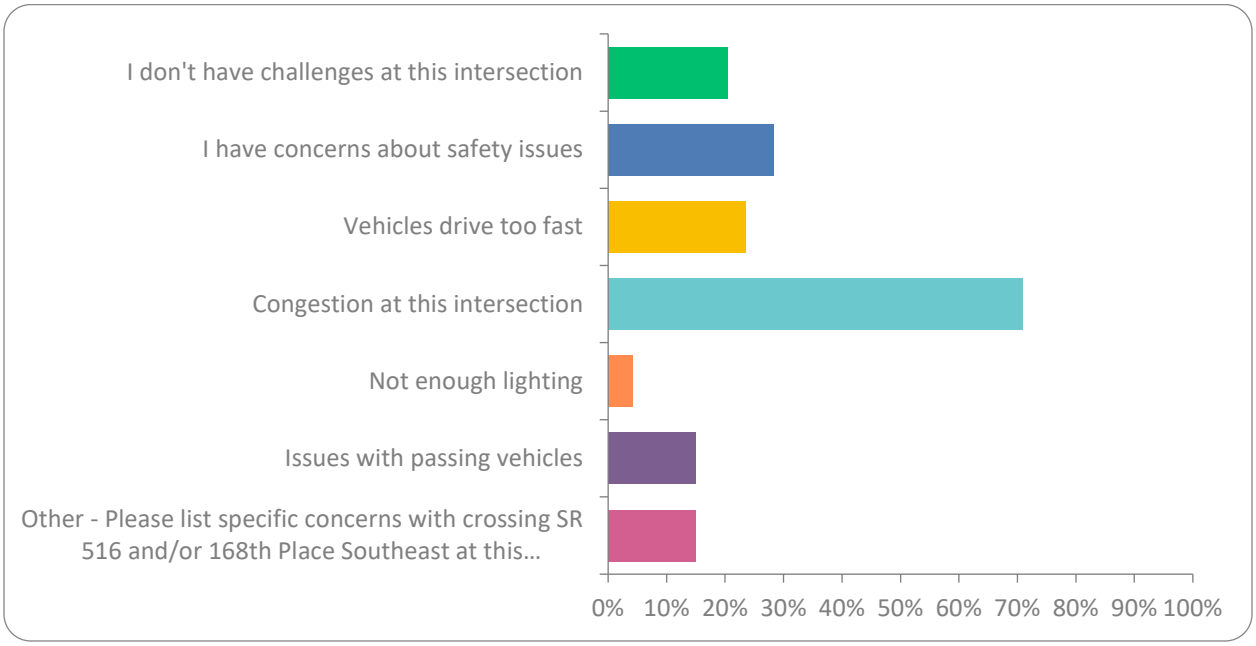
Mostly no problems except when the overflow for traffic getting on 18east blocks all lanes
Poor wording of question. People always confused about which lane to be in and try and switch at the last minute
When turning onto 516 from the 18 off ramp - this is a traffic nightmare. There are two lane to turn into but one is always backed up with people trying to turn left. It's a dangerous place
Cars running the light going eastbound SR 516

Eastbound not northbound.
The lane to make a left onto SB on ramp is too short. Vehicles going straight get trapped behind causing a backup into the intersection.
Lights are not synced properly
Vehicles from Sr 18 off ramp turning west on 516 run red light and block Sr 18 northbound turn lane so on green light cannot turn onto 18 north safely,
Offramp backs up.
This is where the hwy 18 on ramp to auburn back up into the passing lanes and out of the traveling lanes. You go from speed of traffic to a dead stop in the left lane because of backup from on ramp turning lanes. Need more more going onto W bound onramp and less room for the cars getting on 18 E bound.
Backup from s-18 onramp
Intersection works surprisingly well. Occasionally the EB left-turn storage backs up into the EB through lanes. The ped crossing of the east leg can be challenging at times.
Safety issues concern crossing pedestrians
Need to move NB thru to left-turn lane - it makes no sense to block right-turners in center lane; NBR could use an overlap phase; convert EBL to flashing yellow arrow - then you could handle the volume with a single left-turn lane, allowing space to extend queue storage for WBL at WB ramp terminal; add WBR turn-lane; consider converting interchange to diverging diamond.
Some drivers hold up traffic when they don't take a free right turn on red from the middle lane.
This direction is not as bad as others if turning right. If turning left, oncoming traffic from 516 blocks intersection during rush hour
For offramp - Taking a right onto 516 gets very congested at all hours of the day. Most drivers use the very right lane and flood into Fred Meyer and Costco. Some drivers don't realize that the middle lane is turn right or go straight and sometimes they hold up traffic trying to take a left from the center lane.
Better signage to let people know ahead of time to be in left lane to make the turn
Turn lane too short
Add right turn lane on SR 516 for north bound 18
People turn into the wrong turn lane almost hitting myself once
People don’t look both directions at crosswalks. Often, people in the middle lane of the off-ramp will turn left (straight or right turn is allowed). Need better markings. Often unable to turn left due to backed up traffic.
A LOT of lane changing and merging into traffic from FM plaza makes this very dangerous
Long lights

It is hard to see pedestrians
The light is never long enough for traffic to move through
Cars blocking the intersection due to traffic, poor timing of traffic lights
Seems like it might be a good idea to add a turn lane.
Right turn lanes from SR18 off ramp going NB will proceed with turns with red light, creating risk of collisions. Especially the middle right turn lane.
BTW there is no NB and SB ramps. 18 is EB and WB so it is really hard to know exactly what you are asking but the previous comment is the same for both ramps.
Through traffic on 516W tends to avoid the right lane ahead of this intersection to avoid traffic turning right either onto the 18N or the various businesses just before it. Additionally, because of the queing traffic for 18S, reckless drivers are weaving between these two 18connection points
Dedicated right turn lane for onramp would clear most congestion issues here
Again too many people trying to change lanes in this intersection or too close to the intersection. It's unsafe or they are blocking traffic because they can't get over into the lane they wanted.
Vehicles turning right on red from the center lane Getting off the freeway
The eastbound lanes here can get backed up but not as often as westbound. This intersection is busy but less of a problem than the other two. The traffic coming off of 18 here often take a right from the second lane and that gets a bit crazy.
Always crammed with traffic that can't get on or off 18
The two right turn lanes have to compete for line of sight to turn right on red. Improving line of sight (+ staggering lanes) towards the West would improve safety.
Too much congestion. Light needs to be longer
I am unclear about the question. Heading west, getting on 18 toward Fed Way - that intersection will back up. Lights are timed such that it often creates a back-up into W-bound 516
Two lane entrance to freeway, play chicken in on ramp
Because the turn lanes to access westbound 18 are usually backed up, vehicles usually have to change into the far right lane to go around the backup to pass through and back into the left lane. This impacts the far right lane for access to the eastbound ramp to 18 because of passing vehicles and congestion
Same as previous question.
Many backups when heading westbound due to traffic preparing to enter hwy 18; not very lengthy, so backups occur in left lane (heading westbound), other complication is a right-hand turning lane when heading westbound for 164th Ave SE
Mostly I worry about people trying to walk across this intersection, across the on ramp.

This intersection would benefit from a “Diverging Diamond”
it's a short merge lane for how many cars need to use it
No turn lane onto hy 18 back up traffic on main road
Eastbound 516 turning to EB HWY 18 has a large area allotted under the overpass that anecdotally never appears to be full compared to similar WB traffic. Restructuring the sizes of the dual turn lanes under the overpass to favor WB traffic would be helpful

Q10: 168th Place Southeast (Select all that apply) (460 responses)



ANSWER CHOICES	RESPONSES	
I don't have challenges at this intersection	20.43%	94
I have concerns about safety issues	28.26%	130
Vehicles drive too fast	23.48%	108
Congestion at this intersection	70.87%	326
Not enough lighting	4.13%	19
Issues with passing vehicles	15.00%	69
Other - Please list specific concerns with crossing SR 516 and/or 168th Place Southeast at this intersection, or any issues turning at this intersection.	15.00%	69
TOTAL		815

The Table below lists other concerns shared by the participants for the 168th Street Southeast intersection.

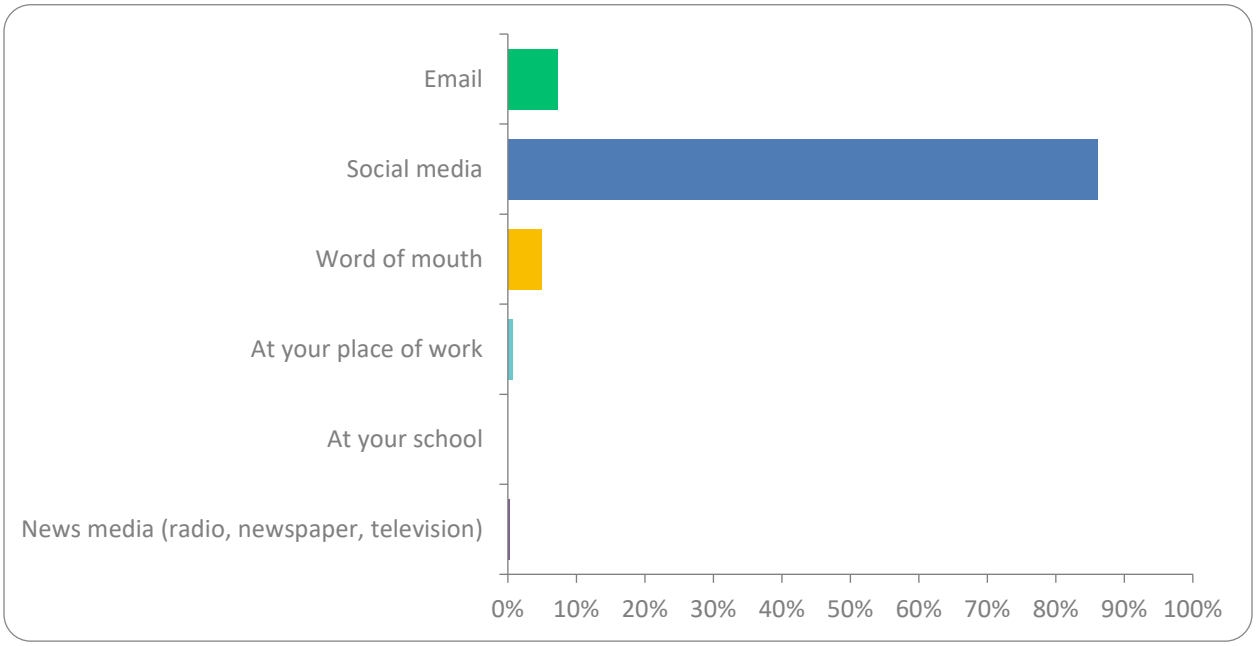
Not enough opportunities to make left turns out of parking lots and into them causing the need for u turns
Drivers turning at the light being confused with drivers turning into Fred Meyer. Drivers attempting to leave Fred Meyer face challenges due to congestion
I mostly have issues turning right out of the Fred Meyer parking lot or right out of 168th pl. Cars travel at inconsistent speeds through this area and it's hard to know when it's actually safe to turn right.
Left turn lane is difficult to use, it's always congested.
When trying to turn out of fred Meyer it is too confusing whether people are turning into Fred Meyer or turning at the light. The entrance to Fred Meyer right before the light should be closed off
Pedestrians
Cars turning into fred meyer parking lot can almost cause accidents. The turn lane is too short. Lengthen turn lane by Wendy's or force all cars to stoplight for better flow of traffic.
1. The turn lane from eastbound SR 516 north to 168th isn't long enough. Traffic backs up and blocks through traffic in the other lane. 2. Lights aren't timed well and vehicles going north on 168th and turning westbound onto SR 516 block the intersection preventing eastbound traffic from moving.
The left turn lane (towards Safeway/Fred Meyer) is dangerous. Crossing that many lanes of traffic on a flashing yellow light when visibility is low is risky.
When making a right turn near wendy's it can be extremely dangerous because you can't tell if the oncoming cars are going to be turning into the entrance at wendy's or proceeding up to the light. They often either drive all the way up tonthe light with their blinker on or jump into that right turn lane right where traffic would pull out from wendy's. I've seen a ton of near misses there.
Aggressive lane changing
The turning lane on the right is confusing when cars are exiting Fred Meyer and expecting the car movie into the lane to turn into the parking lot. Also the west bound left turn lane is frequently a safety issue on a flashing yellow when turning cars take risks. a
Cars blocking intersection
still too many drivers that don't understand how to drive around a traffic circle. I have seen them drive the wrong way and up on the pavement of the circle. It's crazy!
All these stop lights need to be time coordinated. I have VERY few issues driving through here if the next light turns green as traffic approaches.
Poorly designed and signage is an issue N and S bound left turn lanes confusinglanes
No challenges eastbound. Westbound, traffic backs up from intersections to the west.

Vehicles coming out of Fred Meyer after you turn right onto 168th Pl SE into the parking lot do not always merge. There can be better signage there.
both north & south bound lanes need separate free right turn lanes
Need to allow EB/WB lead/lag phases to improve coordination throughout corridor - WB progression sucks outside of AM peak, especially on weekends; consider moving NBT and SBT to middle lane to allow RTOR since NB/SB practically runs as split phase most of the time anyway.
The turn signal is too short to access 168th PL SE
The congestion stems from the northbound direction on 168th only having one lane for northbound and eastbound onto 516
Traffic often backs up into round-about. Often unable to turn onto Kent Kangley due to backed up traffic or people will block the intersection.
This intersection has blind spots in the turn lanes. It is the worst of the lot. People fly down turn lanes, turn at the last minute, and I've seen many people run reds here.
exit from fred meyers west of 168th to 516 east can be a difficult merge/turn due to oncoming traffic
Vehicles leaving shopping center more than the road can hold. Back ups often beyond circle
Complete lack of cycling access
I'm never sure if I should be in right turn lane before or after that parking lot entrance.
I make left urns onto 168th from 516
Heading west on 516 and turning on to 168th is terrifying. I drive around and avoid it at all costs. The free left turn crosses three lanes of speeding traffic but it is the main entrance to my grocery stores. Lots of traffic during commuting times. Too many lights across the whole strip cause major backups and barely moving - I drive around and take Covington way towards the backroads.
Slow light sometimes turning left onto 516
Blocking the intersection, Light too short for turns
When the two left turn lanes coming out of Fred Meyer are green and the left turn off 168th is also green (meaning both left turns are happening at the same time), there's not a lot of space in the intersection. If you are in the outer left turn lane coming from Fred Meyer, it feels like you are going to hit the cars turning left from 168th onto 516 (and vice versa). I have seen turning cars come to a complete stop in the middle of the intersection because they are confused and flustered. I have also seen cars sit through the green arrow and refuse to turn.
SR 516 WB left turn onto 168th Pl dedicated turn light can be a bit longer, but not a big issue.

I've had a lot of close calls going eastbound before this intersection, and people whipping out from the Wendy's/Fred Meyer service road there. This really needs to be an entrance-only road to minimize hazards. The roundabout below the intersection is also dangerous sometimes, a lot of people like to go really fast around this thing to cut you off, or because of the 2 lanes on the north/south direction, people beside you like to use both lanes when going into the roundabout and cutting you off. Going northbound on the roundabout, people like to go in the left lane and then switch into the right lane when they are approaching 516. The intersection in question I think is mostly fine, except people driving who do not give courtesy to those who are trying to cross, I've seen a few close calls of people almost getting hit.
Cars doing U-turns slow down cars turning left on either way of 516
It's difficult for vehicles to exit the Fred Meyer/Costco exit without the aid of a light. Westbound traffic backs up and the right lane is right turn only, which would return them into the shopping center.
Roundabout from south causes confusion to most drivers regarding left turn lane onto SR 516
Back-up can reach roundabout
Light takes forever to change
The 516 eastbound lefthand turn lane gets backed up here. Fred Meyer/Wendy's traffic exiting and entering right before this intersection and people diving all the way across the lanes to turn left at 168th.
Stoplights going east only synch to make this light when speeding. If you go the speed limit, it's a red light which promotes speeding.
More than just congestion but people being in the intersection when their light turns red and then blocks the other drivers
This intersection is tricky because people pull into the turn-only lane whether they are turning at Wendy's or at the light. People pulling out of the Wendy's exit can't tell if people are turning there or moving down the line. Sometimes when people turn at Wendy's, people turning at the light drive quickly around them - making a safety issue for those trying to pull out onto 516.
People doing u-turns when they shouldn't
The lights are not timed right. Not enough lanes. Cars making U turns block intersection. Left turns from Fred Meyer are almost impossible at rush hour. Turning left from 272 to street that is behind Starbucks doesn't have a king enough light.
WB18 bound traffic often backs up to this intersection.
Cars run the red light, block the intersection not allowing cars to turn left on 168th Pl
Frequently see reckless left turns
Timing on lights is so bad that very limited amount if vehicles can turn from 168th Place on SR 516 because the amount if time given to turn is too brief, yet traffic on 168th Place sit and wait for extremely long periods of time for the lights to change
Turning traffic blocks intersection at red light

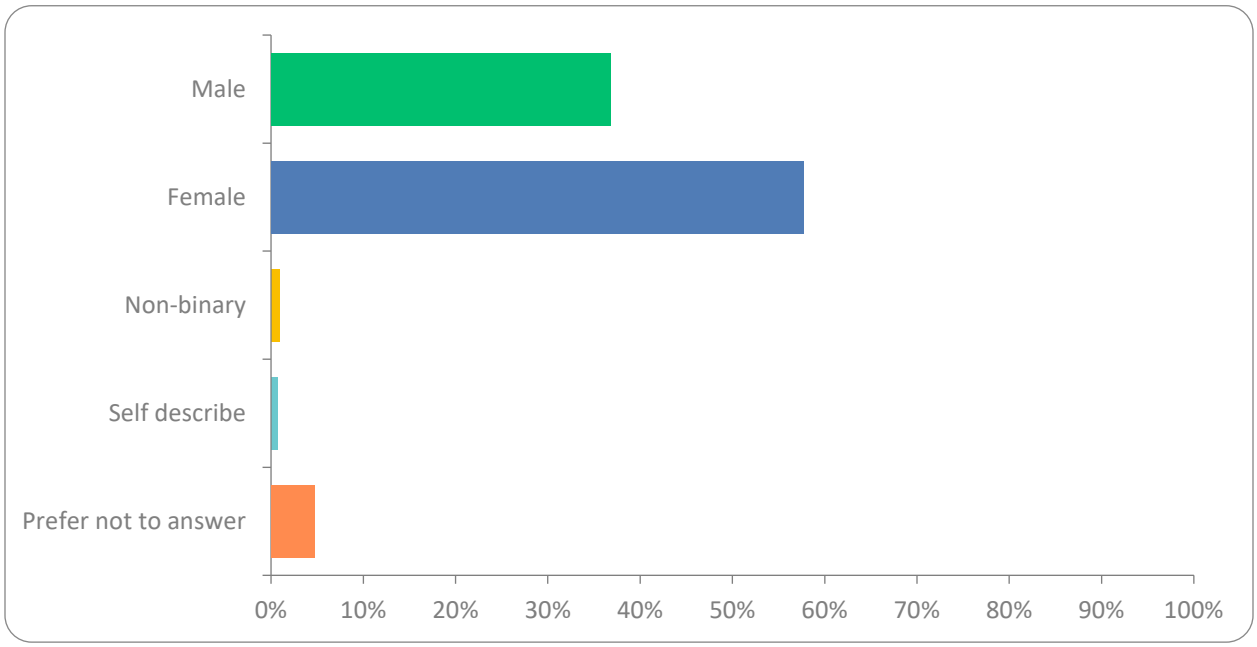
The left turn lane from 516 to 168th conflicts with the exit from Fred Meyer. People pull out in front of cars thinking the other person is turning in to Fred meyer but they are in the turn lane for the intersection.
You can not see when turning left in either direction
Some try to turn into taco time across double yellow line
Bike lanes are unnecessary as there is very little bike us have along this entire corridor. Bike monies are better spent on nearby streets.
Major traffic volume, people exiting Fred Meyer area, many cars try to proceed but block the lanes which interrupt traffic once lights change; fast drivers heading westbound adds to dangers at this intersection
This is a dangerous intersection with speeding being a factor.
Put up yellow lane blockers so people turning ou ur of fred.meyer bh wendy's cant go all the way over to turn left at the light
WB SR516 traffic backs up into the intersection. There are two left turn lanes coming out of 168th PL SE, but often only space to turn into the right lane of 516, the left lane being backed up from the turn to SB SR18. There is also an unfortunate short lane to the right. Maybe it isn't unfortunate, because I've had to escape into it when someone from the leftmost of the left turn lanes decides to turn into the far right lane, because the left lane of SR516 is all blocked up.
Lanes around roundabout confuse people that want to turn left at the light.
This is the one I use to get to Fred Meyer or Costco, I'd prefer a more direct route to stores.
Crossing at this intersection is scary. Cars are going too fast, drivers are staring at their phones . . .
This intersection is the worst for vision of oncoming traffic in the turn lane. Your map shows the turn lanes matching up. That is not correct, they don't line up at all and impair vision because of it. For turn lanes, it would be much safer for traffic lights to be solid green and red, no yellow.
It's dangerous making a left hand turn without a green arrow.
SR 516 Left turn lanes onto 168th and 172nd are not aligned, causing visibility issues with oncoming traffic. Remove left turn abilities while opposite side has green light or completely re-do intersections.
NB 168th is hard to do- I always forget I need the right lane because TWO lanes turn left
No signs to warn of u turns!
Timing of signals before 6:30 am
Cars trying to beat the light and then end up blocking traffic as they sit in the intersection awaiting to go

Q11: How did you hear about the study/survey? (Select all that apply) (442 responses)



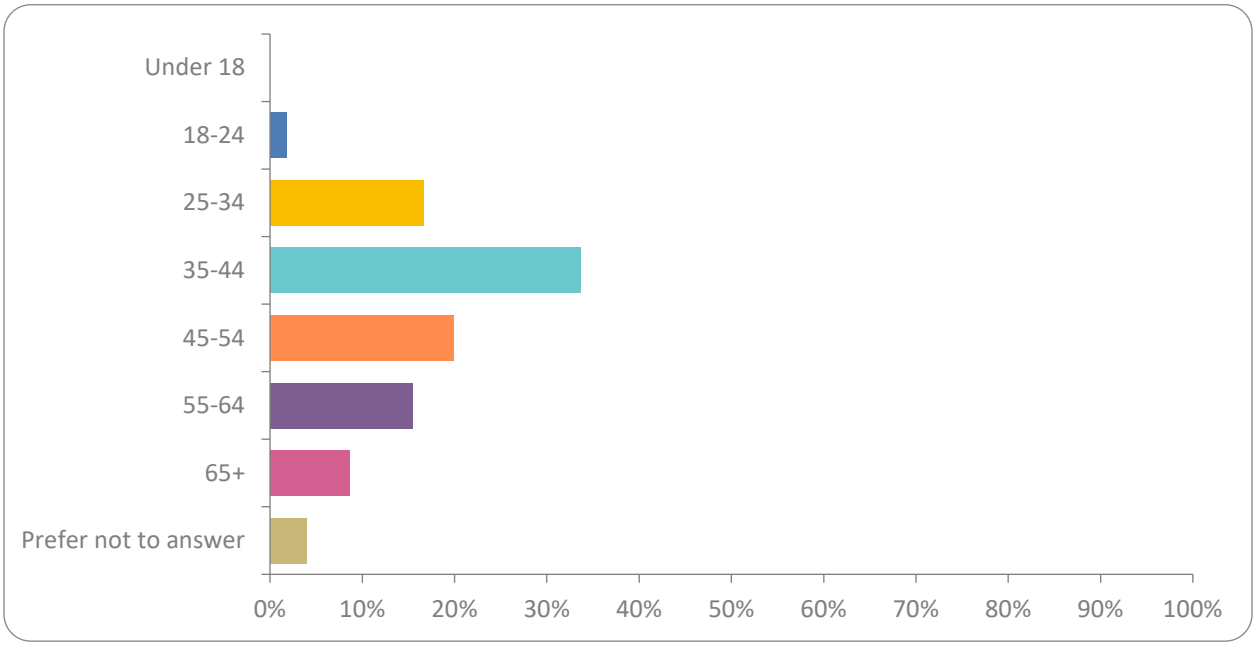
ANSWER CHOICES	RESPONSES	
Email	7.28%	33
Social media	86.09%	390
Word of mouth	4.86%	22
At your place of work	0.66%	3
At your school	0%	0
News media (radio, newspaper, television)	0.22%	1
TOTAL		449

Q12: How do you identify (Select all that apply) (451 responses)



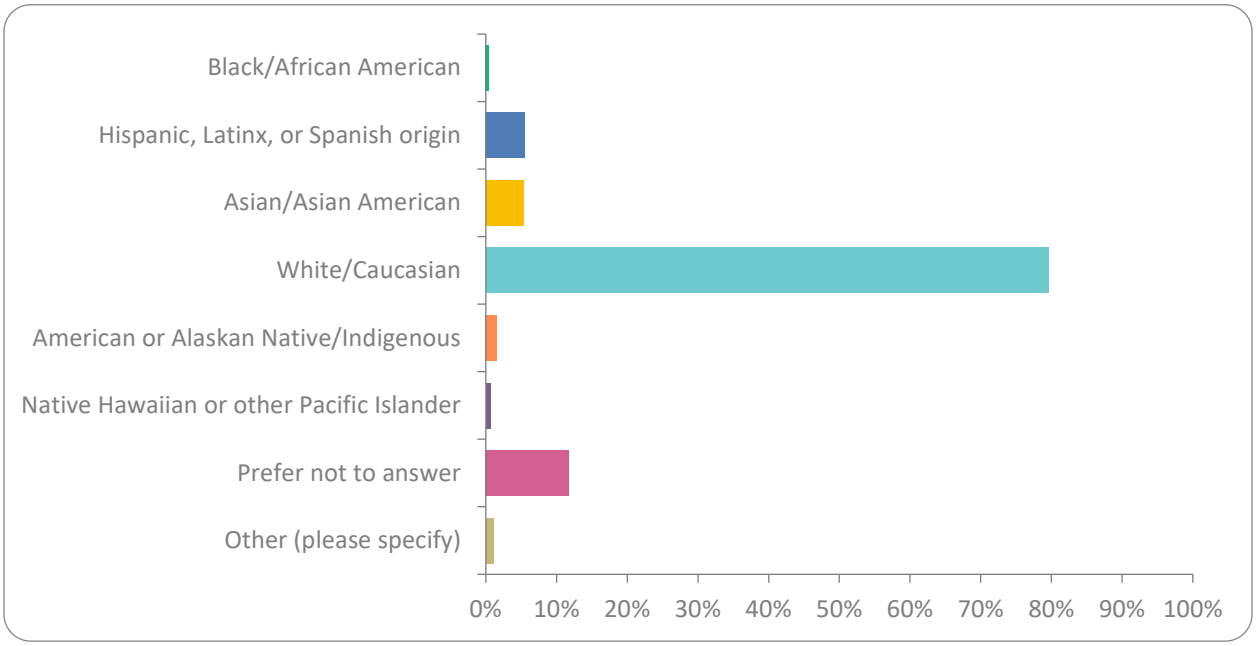
ANSWER CHOICES	RESPONSES	
Male	36.81%	166
Female	57.65%	260
Non-binary	0.89%	4
Self describe	0.67%	3
Prefer not to answer	4.66%	21
TOTAL		454

Q13: What is your age? (452 responses)



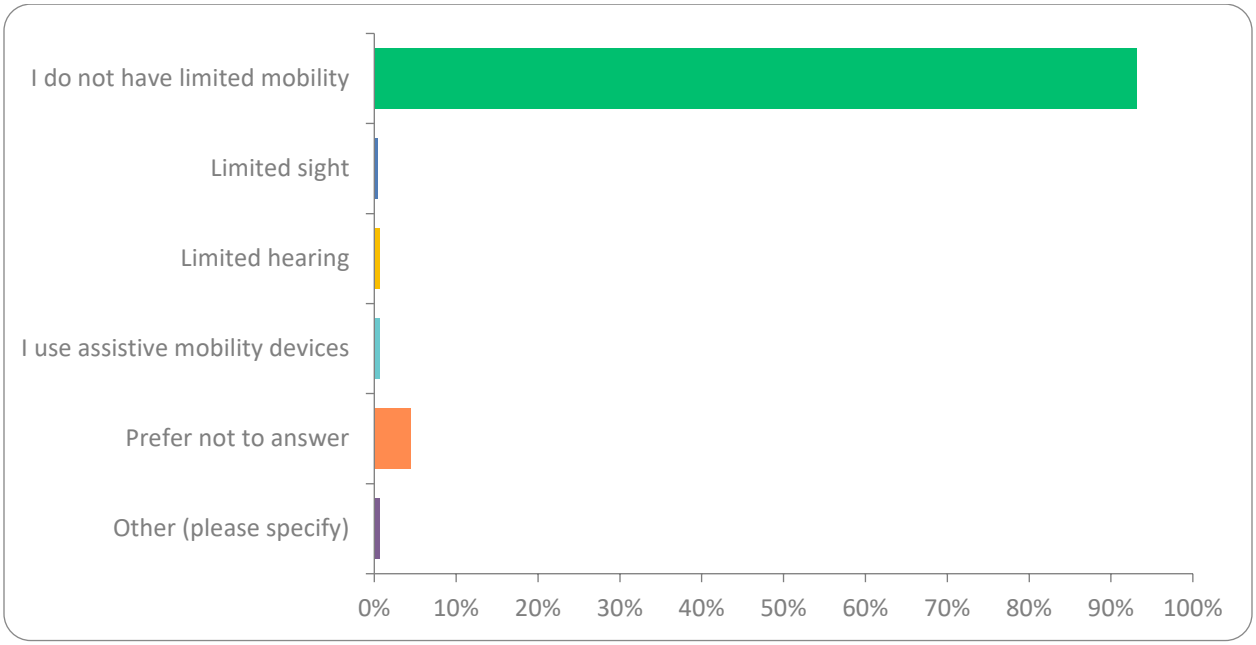
ANSWER CHOICES	RESPONSES	
Under 18	0%	0
18-24	1.77%	8
25-34	16.59%	75
35-44	33.63%	152
45-54	19.91%	90
55-64	15.49%	70
65+	8.63%	39
Prefer not to answer	3.98%	18
TOTAL		452

Q14: How do you identify? (Please check all that apply) (450 responses)



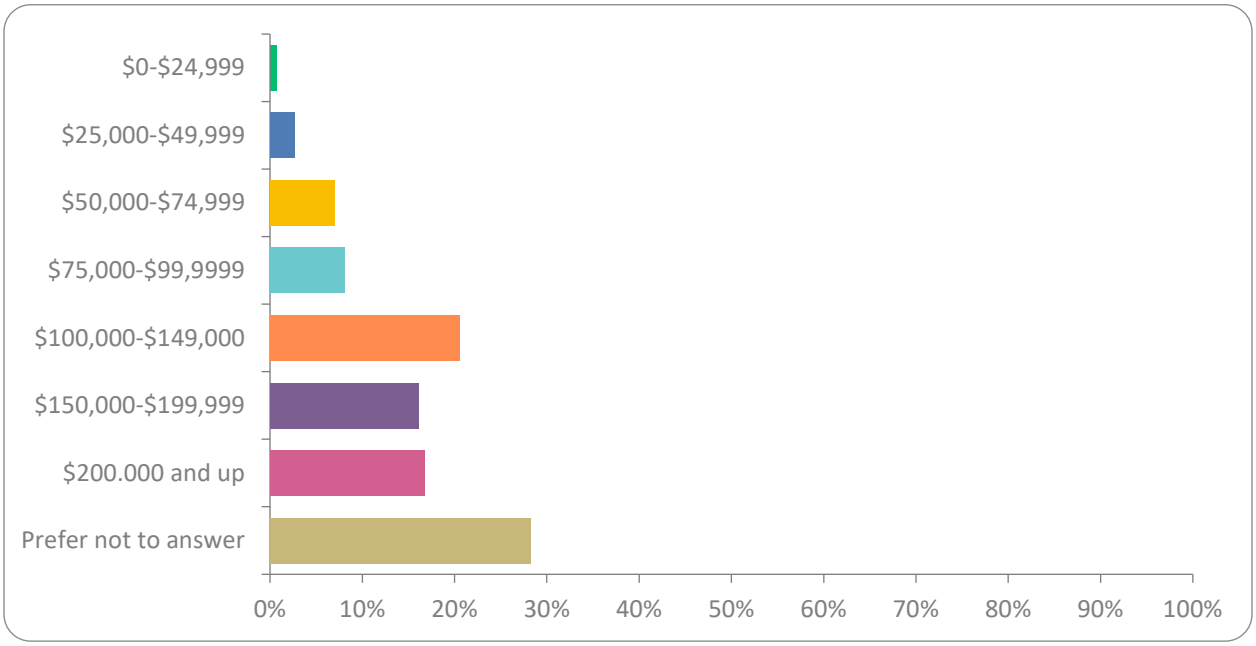
ANSWER CHOICES	RESPONSES	
Black/African American	0.44%	2
Hispanic, Latinx, or Spanish origin	5.56%	25
Asian/Asian American	5.33%	24
White/Caucasian	79.56%	358
American or Alaskan Native/Indigenous	1.56%	7
Native Hawaiian or other Pacific Islander	0.67%	3
Prefer not to answer	11.78%	53
Other (please specify)	1.11%	5
TOTAL		477

Q15: Do you have limited mobility that affects your ability to travel along SR 516? (450 responses)



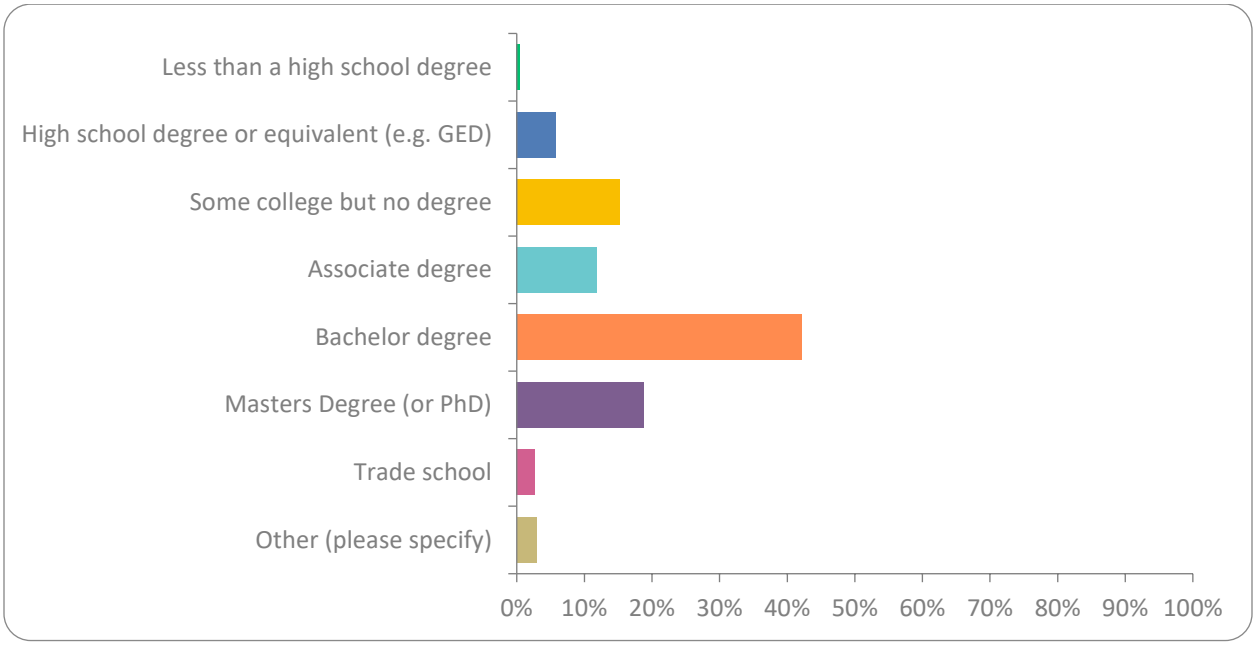
ANSWER CHOICES	RESPONSES	
I do not have limited mobility	93.11%	419
Limited sight	0.44%	2
Limited hearing	0.67%	3
I use assistive mobility devices	0.67%	3
Prefer not to answer	4.44%	20
Other (please specify)	0.67%	3
TOTAL		450

Q16: What is your approximate yearly household income? (447 responses)



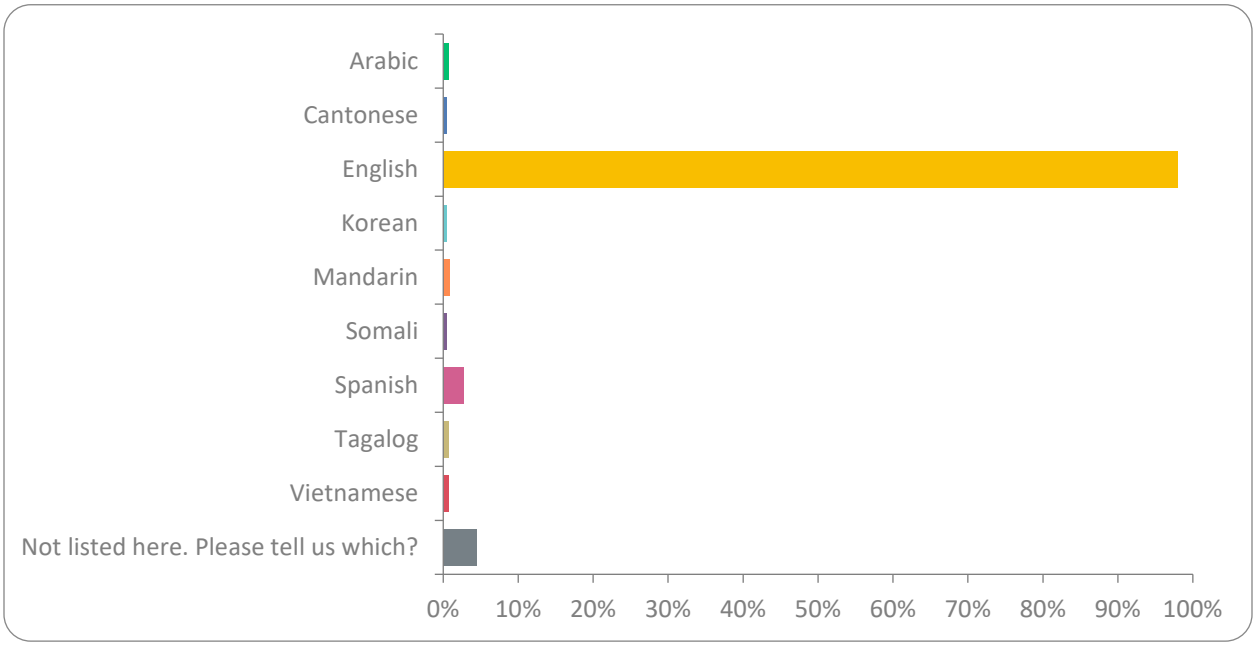
ANSWER CHOICES	RESPONSES	
$0-$24,999	0.67%	3
$25,000-$49,999	2.68%	12
$50,000-$74,999	6.94%	31
$75,000-$99,9999	8.05%	36
$100,000-$149,000	20.58%	92
$150,000-$199,999	16.11%	72
$200.000 and up	16.78%	75
Prefer not to answer	28.19%	126
TOTAL		447

Q17: What is the highest level of school you have completed or the highest degree you have received? (446 responses)



ANSWER CHOICES	RESPONSES	
Less than a high school degree	0.45%	2
High school degree or equivalent (e.g. GED)	5.83%	26
Some college but no degree	15.25%	68
Associate degree	11.88%	53
Bachelor degree	42.15%	188
Masters Degree (or PhD)	18.83%	84
Trade school	2.69%	12
Other (please specify)	2.91%	13
TOTAL		446

Q18: Which language(s) do you speak at home (Select all that apply) (442 responses)



ANSWER CHOICES	RESPONSES	
Arabic	0.68%	3
Cantonese	0.45%	2
English	97.96%	433
Korean	0.45%	2
Mandarin	0.90%	4
Somali	0.45%	2
Spanish	2.71%	12
Tagalog	0.68%	3
Vietnamese	0.68%	3
Not listed here. Please tell us which?	4.52%	20
TOTAL		484

Other languages shared included Ahanta, Albanian, Bulgarian, Farsi, German, Hindi, Japanese, Polish, Portuguese, Swedish, Tamil, and Ukrainian.

The survey also gave participants a comment box to share unprompted feedback about their concerns with the corridor and intersections. The table below lists the feedback shared by the participants.

Given the amount of traffic, including semi-truck traffic, I worry about the ability of cars to enter the roundabouts when heavy flow is coming from one direction. This may create backups since the traffic lights no longer stop people to let others through.
Not 5 roundabouts!!!!! That will not work. I can see it at covington way. But 4 roundabouts between 164th and 168th is utter insanity. 4 within 4 blocks! No no no. What about the intersection by keybank, & Taco time. That is where the most head on collisions happen. What about the walkers in those 5 roundabouts? People are getting hit in the one in the fred meyer parking lot all the time. Now put 4 on a major highway, there is going to be alot more deaths. Start over aging with ideas.
Godspeed
I appreciate the thoroughness of the study. I do not understand the decision for the roundabout only solution. It appears the other solutions may have been more viable and less confusing for drivers.
Five roundabouts in this tight of an area is insanity. Drivers will try to race people through the circles. It won't be better. Also if there are no pedestrian usage adding facilities for them won't bring pedestrians here. It's rural.
So when traffic backups into the RABs then what. The issue is too many intersections. That have high traffic from multiple legs at each direction which usually isn't helped by RABs combine Covington Sawyer and 168th into one intersection and spui or diverge the interchange that would eliminate three of the five intersections and it would help
Too many roundabouts right next to one another. Combine some or do something so it is not so standard, and it would feel like there would be more accidents with people getting annoying having to drive through all 5 roundabouts
I really hope you don't turn all these intersections in to roundabouts. We live by the roundabout by Kentwood high school and we have almost been hit numerous times. A good portion of the public doesn't understand who has the right away. It's been an absolute nightmare.
Definitely need more roundabouts
Not a permanent fix but a turn only lane eastbound to Covington Way might help with afternoon/evening congestion.
I do not care for roundabouts, and the way they are usually constructed around here makes them dangerous. Will you ever install the much-needed traffic signal at the end of 156th? I am tired of going the long way around to get to downtown Covington.
What a horrible idea. Try developing alternate routes to Maple Valley.
How will the roundabouts at 164th Street work with the roundabout adjacent to 164th at the Sr 18 Ramps
I agree that the option for five roundabouts makes more sense than the other proposed options, but it is not clear whether any of the options are better than the existing situation. Will traffic still get backed up and delayed? Will pedestrians and bicycles be as safe when crossing vehicular traffic that is not required to come to a complete stop?
Please get this done asap

Seems like all improved traffic flow will still lead to the worst intersection at Walgreen's. Get rid of ALL flashing yellow lights!
Right off the start I'm not sure why page 4 exists in this proposal. What does color and or LEP have to do with road improvements? This is not residential area where low income/impoverished individuals will be displaced. Also Target Zero is a very lofty goal that would require Joe/Jane Doe Public to learn how to drive more sensible. 5 roundabouts in maybe a 1/2 mile distance is ridiculous for all traffic let alone the semi trucks attempting to deliver product to the businesses, of which the city keeps expanding, in the area. 60-75% of the flow problems probably could be corrected by reprogramming the traffic lights.
The analysis results of 5 roundabouts would help move traffic to reduce the congestion at each of the intersections noted & studied.
I am more of a fan of the roundabouts with 1 peanut roundabout but any improvement to the current mess is welcome! I only wish it could happen sooner. I'm very happy to see that the effort to deal with the situation is underway though!
Given how busy 516 is, I'm concerned re. how difficult it will be to get onto 516 at these various intersections via roundabouts. I'm also concerned about pedestrian safety crossing the roundabouts. Even when the crossing lights are activated at Covington's roundabout at SE 256th St. and 164th Ave. SE, drivers fail to stop for pedestrians.
Please limit the number of roundabouts in sequence. Having so many roundabouts in a row, close together makes it very difficult to be in the correct lane, and navigate the correct exits. It is also very very difficult for long trucks, trailers, etc to navigate.
While I like the concept my fear is that the amount of traffic on 272nd will be sufficiently high that the folks trying to merge into the traffic circles will be unable and thus cause even bigger backups as a lot of people still don't understand how to properly enter and navigate a round-about
You really need to extend the study one intersection to the west to SR 516/156th Pl SE. Covington has been planning to signalize that intersection since before Costco was built. Future intersection control at that intersection will influence SR 516/Covington Way.
5 Round abouts in 2 blocks is crazy. Stop it.
No more roundabouts! Focus on the lights getting synchronized, that would help a lot!
That's a lot of roundabouts in a short distance.
Best of luck. Experience shows that when cities get too crowded, they don’t function well. This is a problem as old as cities, themselves. It is happening here, now. The answer is density restrictions. Anything short of this doesn’t really address the problem.
Skeptical of having roundabouts at these high traffic areas. Just spent two weeks in London and southwest England. All the roundabouts in high traffic areas had traffic signals due to no break in traffic flow that allowed merging.
I love this idea! Thank you for the work that went into planning and communicating this plan.

Option two is better IMHO than option one. The traffic volumes on each of these side streets varies with the time of day and will change dramatically when these options are installed. I think option two, with the peanut design, will dramatically improve access to Covington way from the west, encouraging the development of more shopping destinations. That will precipitate the need for a better integrated design which option two offers.
I like roundabouts. In certain locations I love them, great for pedestrians, keeps traffic flowing. But how does this translate to 5 roundabouts in ~1/2 a mile? And on that same line of thinking one of the focus of this was pedestrian safety & bicycle safety. Do pedestrians and bicycles need to have access across SR 516 at every intersection? Would it not be better to more secure access such two pedestrian bridges, 1 at 164th and between 168th and the East bound ramps. Would this offer the ability to design SR 516 at these intersection to flow more smoothly. Can you provide examples of locations with similar traffic flow where five roundabouts in a 1/2 mile distance have been successful used? And finally, is there even enough of a footprint available at each of these locations?
5 roundabouts are too much is such close proximity. The peanut design is interesting, does it meet the needs of that intersection.
Solution #1 is a perfect plan for congestion in Covington. Phasing west to east makes sense as well. Bravo!
I've lived in covington for 12 years and the thought of 5 round abouts in such short succession seems very confusing to people passing through/ not local residents. Of the outlined plans, #2 with the peanut design seems more streamlined and less confusing, and was only slightly below the performance for #1 with the 5 round abouts. #2 gets my vote
Couldn't this be done cheaper with less roundabouts and turning a couple of the roads to one way streets with only right turns? Imagine you had roundabout 1,3,5 and on 2 and 4 you are only allowed to turn right (one way street). Maybe these are not the right street numbers but hopefully the reader is a reasonable thinker
What does race and where you live have anything to do with the fact that these places need to be redone because of over crowding in our towns. Maple valley has the same issues with traffic congestion @maple valley hwy and sr 18
Thank you so much for going with the plan most likely to improve based on data instead of based on people's weird xenophobic fear of roundabouts. Very excited about this plan even knowing it will take years of delays â€"I know good ideas often take time and money.
I'm happy with everything but the cost and extended timeline. How can 5 roundabouts cost $38+ million? Has DOT looked at reducing costs?
I like option two with the peanut interchange. I would like to beg WSDOT to please evaluate the intersection East at 172nd Ave SE! (Keybank and Walgreens). This intersection is misaligned, where the cars in the westbound turn lane block visibility of through traffic from the eastbound turn lane. We have rollover accidents there several times a year, and I have told my new driver never to go through that intersection when greenâ€¦ Only on a green arrow.. I have personally seen many near misses, and had people honk at me when I refuse to go through the intersection blind. It is a well-known dangerous situation among the community but none of us can figure out how to get it improved.

I would love not to sit at the lights so long but do have concerns that that is alot of traffic to get thru a circle. Mostly concern because people don't understand that they don't have to stop unless a car coming. So if there is an accident what alternative routes will we have and how long will it take. I use these roads every day for work and personal as a resident of covington. I look forward to improvements with hopfully minimal interruption. Thank you
I am fine with the current recommendation, but 5 roundabouts in a row seems like a lot. My concern lies in library access. It's already really challenging to turn left out of that parking lot and almost impossible during high traffic times. I wonder if this has been brought up before and examined.
Round abouts? Every concept is round abouts. Also, fix the blind intersection at 172nd. I would hate having to navigate that many roundabouts to travel 516
As a Kent resident and KSD employee, I fully back the idea of adding 5 roundabouts to SR 516 (aka Kent Kangley). I often use SE 256th Street as a parallel route that allows me to skip some parts of heavily congested and too speedy Kent Kangley. Roundabouts stress me out, but I really wish we had one at the 4 way stop on 116th Ave SE and SE 248th Street not far from the Kent YMCA. Long overdue! But I know, a different branch of government.
Traffic signals are safer than roundabouts especially with all of the aggressive drivers in King County.
I dint see anything regarding widening of 256th, this road is used in stead of 272nd to get around traffic. The traffic has gotten so bad its like a 2 lane freeway. They did finally resurface but that is all they have done. In the 15 years we have lived here with new housing developmen and cars avoiding 272 the traffic is 10x havier.
Too many cars just passing through. Need two bypass highways, one going to Kent and one going to 18. Everything in Covington needs to be more walker friendly. The future is on foot.
3 roundabouts and 1 peanut roundabout
I believe the 156th street entry to SR516 requires a light! I have witnessed several accidents and hesitant/dangerous driving practices when cars attempt a left hand turn (eastbound) from 156th to SR 516.
That area is fine UNTIL you get lots of vehicles in the area. Wouldn't that be a matter of getting the lights timed right? Same thing happens in Auburn on Auburn Way at the 18 interchange. They've gotten timing pretty decent over the years. I travel both frequently. No need to spend 40 million or so. The real issue is 156th pl se/se 272nd st when it gets loaded up in the area.
Although roundabouts are efficient, drivers still struggle with them. I predict an increase in vehicular accidents the first year. I disagree with the traffic summary for the intersection of 164th and Hwy 516. Most of the time we consistently wait through two rotations of the light before we get through. During busy times (schools, then sports getting out), we wait for 3 and sometimes 4 rotations. The intersection at 516 and Covington Way is very slow coming from Kent from about 4:30-6:00; however, I can typically get through that intersection from Covington Way onto 516 in 1 light cycle (vs 2-4 cycles coming off of 164th). I drive both intersections daily, often 2-4 times a day. My question would be if the traffic survey was completed during the school year or during the summer. Summer traffic would not be a good indicator of actual traffic flow during most of the year. School arrival and departure time can impact driving times by adding 10-20 minutes.

As a Covington resident that commutes daily on these streets, my concern for using all roundabouts is speeding and larger vehicles such as trucks and buses. I live near Costco and constantly see people rushing in the roundabouts and have almost been hit multiple times. I would recommend speed bumps approaching roundabouts to slow cars down. Not only is it safety for drivers but also pedestrians. Buses and trucks need extra space to maneuver on curves and turns, so when placed on roundabouts I would be concerned about the accident rate increasing thus causing more traffic.
I have lived near this study area for about 35 years now and watched the congestion grow. In my opinion, the major mistake was made decades ago when Covington decided to develop the retail area on either side of SR516, thereby causing major congestion as through traffic on this State Route is in conflict with local retail traffic. This should have been with some kind of pass through highway that was completely separate from the local traffic. This study is trying to improve traffic just west of the retail area, and, might improve traffic through the current series of 5 traffic lights. However, traffic will still be impacted by the ix with retail traffic just past the study area. While this may yield some improvement, it does not address the total problem.
This is a great idea, and would better regulate the congestion in the targeted areas.
The intersection at 172nd Ave SE (Walgreens/T-Mobile/Taco Time/KeyBank) MUST be included. That intersection has a major design flaw that has been the root cause of so many serious accidents. The left turn lanes on SE 272nd/SR516 are offset so much that when a larger vehicle (SUV or larger) is in the opposite left turn late, you truly can't see what's coming from the opposite direction. The blinking yellow left turn light shouldn't be enabled here--at all. Either solid left-turn green or red light. Traffic control also needs to be considered at SR516 and 156th PL SE. This is a major bypass route people use to connect to SE 256th St and the northern side of Covington, mostly due to the congestion that occurs starting at Covington Way.
The main area of concern is lights #2 and #3 where they are not timed to work together and traffic backs up. Light #2 will be green while light #3 is red and traffic is just sitting, unable to go. Light #2 turns red and then #3 turns green so limited vehicles can progress. The turn light under the overpass gets congested backing up the left lane of traffic going west for the same reason. Re-timing these lights would solve the majority of problems without having to do such serious construction. If the lights work together to efficiently move traffic, congestion will be limited, and you could re-evaluate traffic flow without putting in so many consecutive roundabouts. Turning into traffic on 516 is a huge challenge without a light to stop traffic and create safe breaks. Without any lights and just having roundabouts I'm concerned that the continual flow of heavy traffic on the main road will congest side streets and business access, especially coming out of Fred Meyer and Safeway, where you have to wait for a light to turn red and create any stop in traffic to make a turn onto the main street safely. If it hasn't already been done, I would suggest comparing this section of Covington to similar areas with a highway and main shopping district in close proximity, both with and without roundabouts, to compare traffic congestion and accident rates to see how we compare and whether the changes have made a statistical difference.
I wish the plan included tearing down the storage building monstrosity by the library. The road is so narrow to squeeze by it. I am open to the idea of roundabouts if it will keep traffic moving.
I like this idea. I'm glad there are other options that can be mixed in if the five roundabouts don't end up fitting. I'd be concerned about the impact to businesses in this area, but fixing this stretch of road is probably more important. Thank you for studying this out and looking at different options!

Help is need on this road. This would be fantastic but PLEASE consider having an expert give you the best and most clear signage and instructions for use on these roundabouts,
Roundabout at intersection 1 would create a steady flow of traffic heading Westbound making it more difficult for the next intersection of SR516 & 156th Pl SE. Would recommend an additional Round-about or traffic light at that location. Round-abouts work in other countries so well, I agree that they would be a good solution for these intersections. Most opposed individuals claim driver error, which can be combated with additional round-abouts for practice, clear signage, and drivers education. Alternatively, SR-18 on/off ramps could be diverted to Covington Way with the Westbound traffic using Covington Way currently, and the Eastbound traffic use the old on/off ramps repurposed.
How many businesses will be forced out due to construction of these roundabouts? It sounds like a nightmare to me.
Not looking forward to the length of construction time this whole project will take but Iâ€™m glad something is being done to help the overall flow in/out of Covington.
If more roundabouts are put in there needs to be PSA to the public on how to use a roundabout.
Roundabouts are a horrible idea. Widen the roads. Time the lights correctly, get rid of the blinking yellow lights.
It is already very dangerous to turn left out of 156th on to 516 but the light at covington way does provide breaks in the traffic. If the light goes away the intersection of 156th and 516 will become more of a problem than it already is. As it stands right now, something needs to be done with this intersection but with the proposed rework it will create a MAJOR public safety issue. Something needs to be done with 156th and 516 as well. Ont he other and of the proposed work we have 172nd and 516 that has a flashing yellow turn light. The offset of the turn lanes prevent you from seeing oncoming traffic. At minimum the flashing yellows need to be deactivated at this intersection. opening the flow of traffic surrounding hwy 18 will cause the danger points at both ends of the proposed work to get worse. This study and work needs to be expanded from 156th to 172nd or things need to be left alone. this work will make things way more dangerous at 156th and at 172nd if these 2 danger points arent addressed in the work as well.
Left turns in and out of 156th need to be stopped if you take the light away from 272nd and covington way. Left turns in and out of 156th are already dangerous but without the light at covington to give breaks, 156th and 272nd wil be a very dangerous spot. its already dangerous but this will make it worse.
It feels like a peanut setup by another name. Iâ€™d also be interested in hearing project ideas that would simply eliminate the bulk of the traffic congestion: eliminating turns across lanes to enter and exit the highway. Based on my regular travel experience of the area, the biggest hold up is left onto 18 South from Covington. That rather tiny turn lane space is seemingly always and only what really backs up. Secondarily, the long lights in Covington down 516 East contribute to the rest. Outside of those two things, Iâ€™ve never felt like there was an issue otherwise.
The lights are too long. I sneak around at 156th to avoid the light.

I hope people can learn to use the roundabouts correctly. There's an awful lot of traffic that needs to be accommodated in these roundabouts and my experience with the ones we have gives me to believe it will just create a big case of road rage to use them to solve these intersection problems. A more appropriate solution would be to have parallel streets to SR 516 instead. Covington basically has no streets, only parking lots. Talk about unsafe!
I like the #1 but there are so many people that donâ€™t understand how to use it. They stop when non cars are even visible. If this is implemented, especially on a road as busy as this, I would suggest something to keep people from stopping completely for no reason at all.
What work is planned for 256th between soo creek Bridge and 155th this is both kent covington. Between new de elopement housing and school. And addition traffic to avoid 272 traffic is crazy on this road.
I feel widening WA516 past MultiCare and Home Depot, fixing timed lights and limiting yellow arrow turn signals would solve many traffic and accident issues. I as a resident of Covington since 1991, a participant of the last survey, and seen the city grow would not want the round abouts or other suggestions. I feel it is a waste of tax payers money and time. I meet slow downs at 45th in Seattle and Mountlake Blvd in Seattle driving to and from work and do not expect 55 million to be spent building round abouts, peanuts or diamond exchange lanes. I travel Puyallup South Hill often and experience slow downs through the intersections, again, round abouts and traffic revisions should not be completed there. I would actually avoid shopping in the city during this construction if this was done. The massive round abouts and peanut ones added to Hwy 9 Lake Stevens has actually increased accidents. I would say street widening, playing with light times and arrow are the way to go and lower cost. I would wait to the completion of the widening to see improvements. This is what people have been asking for for years and years. Not wasting millions on intersection revisions.
No more roundabouts! Covington already has several that add to traffic jams because too many drivers don't know how to use them. While safety is an issue, the larger issue is population growth without infrastructure improvements., which has caused major congestion. Widen the road instead!
Round about are a better option than all those lights but I like the peanut option between the library and 18 interchange. It would be nice if the survey would have included the folks that live in unincorporated king county that have to utilize these roads as well.
You're going to take a functional road and destroy it. I note that "leave it alone" was not an option presented or evaluated.
Love the 5 roundabout concept! Sooner the better!
I ope I will be moved out of the area be for yo start. Because it will take you years and years 10 or more.
All of the data makes sense, but instead of making a peanut intersection, whould it not be feasible to make a larger roundabout that would tie both the 164th and SR-18 southbound on/off ramps together into a non-peanut roundabout? While more destructive, it would allow for those two intersections to be combined into one from scratch rather then building around existing infrastructure (which increases time to build, and thus cost.) The 76 Station there is already delapitated and under maintained, and oddly set up very close to the on ramp adding more inflow to the already busy section. It would be doing the area a favor to have it removed to help with congestion.

People cannot navigate through roundabout at the Kentwood High School I just don't see people doing this at traffic hour
The stupidest thing I've heard in a while traffic and accident will get worse with out the signals lived out here 23 years just gets worse every year because more traffic and the idiots racing down 272nd every day 100%think bad idea
No round abouts
Good grief!! No roundabouts! Way too much traffic around there and too many trucks to make it work
Are younprople literally insane? More effing round a bouts? Put another check in the "I can't wait to leave this ridiculous state" column. For a department that's incapable of basic maintinance, you should all be embarrassed of these idiotic roundtable vput schemes - if you were capable of embarrassment, that is.
Very interesting idea. That is so many roundabouts for that close area! How will traffic be rerouted during construction and how long will it take to complete? How do pedestrians and cyclists navigate this swirling circle party?
My experience with roundabouts is that they work fine until the traffic starts to stack up at them. Once that happens the highest flowing inlet takes all available spaces shutting off access to the lesser inlets. When this happens drivers on the lesser inlets get frustrated and start driving aggressively causing flow issues including panic braking and wild lane changes. What about adding a light at 156th Pl to meter traffic better into the covington way intersection, and subsequent intersections.
I always appreciate the use of roundabouts rather than many other options due to the safety and flow aspects. The idea of 5 roundabouts in this area gives me a bit of a pause as it is rather compact already. However, given the other options, I believe this may be the best available.
Please no roundabouts
Folks donâ€™t know how to use roundabouts well, and I would be concerned that these areas would have more traffic with roundabouts
The Cubes self storage ruined fixing 164th. The best plan of action would be to demolish Cubes and extend the right turn lane on 164th. Long term, there should be a plan to connect Covington Way to 164th and eliminate the intersection/light at 164th. That intersection is too close to the hwy 18 interchange. Roundabouts are fine, but not solving the underlying side street problems feeding into kent-kangley.

APPENDIX B: DEMOGRAPHIC ANALYSIS

This section provides a demographic profile of communities for the SR 516 Corridor Study using data available in March 2024. This understanding of demographics identifies vulnerable populations and overburdened communities and allows WSDOT to prioritize outreach to and more effectively engage them.

1.1 Methodology

WSDOT conducted a data analysis from the United States Census Bureau (2022 American Community Survey 5-year data) to present the following key population characteristics:

- Age
- Race and Ethnicity
- Disability
- House ownership
- Income
- Internet subscription (to inform information distribution methods)
- Language spoken at home (to inform translation needs)
- Vehicles access

1.2 Engagement Area

The engagement area includes six census tracts within 0.5 miles of the study limit. The following 2020 Census Tracts are included:

- Census Tract 317.04
- Census Tract 317.08
- Census Tract 317.09
- Census Tract 317.10
- Census Tract 320.05
- Census Tract 320.06

1.3 Demographics

Table A-1. Age[1]

Age	Percentage of total population	Number of people (n= 28,121)
Youth Population (under 18)	28%	7,757
Senior Population (over 64)	14%	3,847
Under 5 years	1,950	7%
5 to 9 years	2,128	8%
10 to 14 years	2,243	8%
15 to 19 years	2,300	8%
20 to 24 years	1,698	6%
25 to 34 years	3,575	13%
35 to 44 years	4,904	17%
45 to 54 years	4,121	15%
55 to 59 years	2,159	8%
60 to 64 years	2,453	9%
65 to 74 years	2,412	9%
75 to 84 years	808	3%
85 years and over	627	2%

[1] *Data Source: U.S. Census Bureau 2022 5-Year ACS Table DP05*

Table A-2. Race and Ethnicity[2]

Race or Ethnicity	Percentage of population	Number of people (n=31,378)
Minority Populations	37%	11,521
White [a]	63%	19,857
Black or African American [a]	5%	1,493
American Indian and Alaska Native [a]	<1%	59
Asian [a]	13%	4,091
Native Hawaiian and Other Pacific Islander [a]	<1%	231
Two or more races [a]	6%	1,794
Some other race [a]	<1%	219
Hispanic or Latino	12%	3,634

a. Race alone and Non-Hispanic Populations

Table A-3. Poverty level[3]

Poverty level	Percentage of population	Number of people (n=31,284)
Below 200% of poverty level	16%	4,749

[2] Data Source: U.S. Census Bureau 2022 5-Year ACS Table B03002

[3] Data Source: U.S. Census Bureau 2022 5-Year ACS Table S1701

Table A-4. Languages spoken at home [4]

Languages spoken at home	Percentage of population	Number of people (n=29,428)
Limited English Proficient Populations [a]	10.8%	3,176
Speak only English	73.7%	21,678
Spanish	7.5%	2,207
(speak English less than very well)	2.4%	702
Russian, Polish, or other Slavic languages	3.7%	1,092
(speak English less than very well)	1.4%	401
Vietnamese	0.6%	162
(speak English less than very well)	0.4%	128
Other Asian and Pacific Island languages	3.4%	1,008
(speak English less than very well)	1.1%	332
Tagalog (incl. Filipino)	3.2%	955
(speak English less than very well)	1.3%	383
Korean	0.0%	14
(speak English less than very well)	0.0%	0
Arabic	1.6%	462
(speak English less than very well)	0.9%	253
Chinese (including Mandarin, Cantonese)	1.1%	335
(speak English less than very well)	0.7%	219

a. Includes ages 5 or older speaking English less than “very well”

[4] *Data Source: U.S. Census Bureau 2022 5-Year ACS Table C16001*

As illustrated in Table A-5; the median household income in the engagement area is approximately $115,203 per year.

Table A-5. Median Household income[5]

Median Household Income	Percentage of Households	Number of Households (n=10,728)
Less than $10,000	2%	192
$10,000 to $14,999	1%	128
$15,000 to $24,999	3%	272
$25,000 to $34,999	4%	443
$35,000 to $49,999	8%	833
$50,000 to $74,999	13%	1343
$75,000 to $99,999	13%	1365
$100,000 to $149,999	23%	2509
$150,000 to $199,999	16%	1693
$200,000 or more	18%	1950

Table A-6. Types of internet subscription[6]

Total Households	Percentage of households	Number of households (n=10,728)
No computer	3%	357
Cellular data plan with no other type of Internet subscription	7%	702
No Internet subscription	5%	578

[5] Data Source: U.S. Census Bureau 2022 5-Year ACS Table S1901

[6] Data Source: U.S. Census Bureau 2022 5-Year ACS Table S2801

Table A-7. Housing characteristics and vehicle access[7]

Total occupied housing units	Percentage of housing units	Number of housing units (n=10,728)
Owner-occupied	80%	8,553
Renter-occupied	20%	2,175
No vehicles available	5%	515

Table A-8. Disability[8]

Project Area	Percentage of population	Number of people (n=31,359)
With a disability	11%	3,535
With hearing difficulty	3%	935
With vision difficulty	2%	650
With cognitive difficulty	4%	1,352
With ambulatory difficulty	5%	1,603
With self-care difficulty	2%	595
With independent living difficulty	4%	1,184

Note: Disability data is self-report data from the ACS and does not include institutionalized populations.

- Hearing difficulty: Deaf or having serious difficulty hearing (DEAR)
- Vision difficulty: Blind or having serious difficulty seeing, even when wearing glasses (DEYE)
- Cognitive difficulty: Because of a physical, mental, or emotional condition lasting 6 months or more, the person has difficulty working at a job or business.
- Ambulatory difficulty: Having serious difficulty walking or climbing stairs (DPHY)
- Self-care difficulty: Having difficulty bathing or dressing (DDRS)

[7] Data Source: U.S. Census Bureau 2022 5-Year ACS Table DP04

[8] Data Source: U.S. Census Bureau 2022 5-Year ACS Table S1810

APPENDIX C: PLANNING LEVEL ENGINEER'S OPINION OF PROBABLE COST

Planning Level Engineer's Opinion of Probable Cost - SR 516 Corridor

Transpo Job No.: 1.18428.01

Description of Work:

This opinion of probable costs is based on the conceptual layout prepared for installation of a multi-lane roundabout at each intersection (5) along the SR 516 corridor within the project limits. Estimates for construction costs are based on the best information available at the time the estimate was prepared and will require adjustments as more detailed engineering/information becomes available.

Last Edit: KB - 06/22/2023
Checked: BMK - 06/26/2023

Item Description	Quantity	Unit	Unit Cost	Total
CONSTRUCTION SURVEY	1	LS	$ 250,000	$ 250,000
TREE REMOVAL	40	EA	$ 540	$ 22,000
CLEARING AND GRUBBING	1.55	AC	$ 25,000	$ 39,000
STREAM CHANNEL EXCAVATION INCL. HAUL	1	LS	$ 535,000	$ 535,000
REMOVAL OF STRUCTURES AND OBSTRUCTIONS	1	LS	$ 50,000	$ 50,000
ENVIRONMENTAL MEDIATION	1	LS	$ 1,000,000	$ 1,000,000
ROADWAY EXCAVATION INCL. HAUL	5,225	CY	$ 80	$ 418,000
REMOVE CONCRETE SIDEWALK	6,302	SY	$ 30	$ 190,000
REMOVE CURB AND GUTTER	7,527	LF	$ 10	$ 76,000
SAWCUTTING	7,500	LF	$ 15	$ 113,000
PLANING BITUMINOUS PAVEMENT	23,512	SY	$ 10	$ 236,000
CRUSHED SURFACING BASE COURSE	1,875	TON	$ 45	$ 85,000
FULL DEPTH HMA CL. 1/2IN. PG 58H-22	1,559	TON	$ 150	$ 234,000
OVERLAY HMA CL. 1/2IN. PG 58H-22	2,678	TON	$ 150	$ 402,000
CEMENT CONCRETE SIDEWALK	11,495	SY	$ 90	$ 1,035,000
CURB RAMP	30	EA	$ 3,000	$ 90,000
PEDESTRIAN HANDRAIL	1	LS	$ 100,000	$ 100,000
STRUCTURAL WALLS	1	LS	$ 2,000,000	$ 2,000,000
GUARDRAIL	300	LF	$ 55	$ 17,000
ROUNDABOUT CEMENT CONCRETE CURB AND GUTTER	6,245	LF	$ 55	$ 344,000
TEXTURED CEMENT CONCRETE TRUCK APRON (12")	660	CY	$ 500	$ 330,000
TEXTURED CEMENT CONCRETE SPLITTER ISLANDS (6")	986	CY	$ 500	$ 494,000
PERMANENT SIGNING	200	EA	$ 750	$ 150,000
CHANNELIZATION	1	LS	$ 250,000	$ 250,000
ROADWAY ILLUMINATION	1	LS	$ 1,300,000	$ 1,300,000
ROADWAY ITS	1	LS	$ 1,000,000	$ 1,000,000
STREAM BED IMPROVEMENTS	1	LS	$ 500,000	$ 500,000
3- SIDED BOX CULVERT	1	LS	$ 1,500,000	$ 1,500,000
$Subtotal_1$				$ 12,760,000
Right-of-Way Acquisition			30%	$ 3,828,000
Utilities Improvements (% of $Subtotal_1$)			10%	$ 1,276,000
Stormwater Improvements (% of $Subtotal_1$)			10%	$ 1,276,000
Project Temporary Traffic Control (% of $Subtotal_1$)			15%	$ 1,914,000
Landscaping (% of $Subtotal_1$)			5%	$ 638,000
Mobilization (% of $Subtotal_1$)			10%	$ 1,276,000
Temporary Erosion and Sediment Control (% of $Subtotal_1$)			5%	$ 638,000
$Subtotal_2$				$ 10,846,000
LOW ESTIMATE				
Contingency ($Subtotal_1$ + $Subtotal_2$)			10%	$ 2,361,000
Construction ($Subtotal_1$ + $Subtotal_2$ + Contingency)				$ 25,967,000
Design Engineering (% of Construction)			20%	$ 5,194,000
Construction Management (% of Construction)			15%	$ 3,896,000
TOTAL PROJECT PLANNING LEVEL ESTIMATE				**$ 38,000,000**
HIGH ESTIMATE				
Contingency ($Subtotal_1$ + $Subtotal_2$)			25%	$ 5,902,000
Construction ($Subtotal_1$ + $Subtotal_2$ + Contingency)				$ 29,508,000
Design Engineering (% of Construction)			20%	$ 5,902,000
Construction Management (% of Construction)			15%	$ 4,427,000
TOTAL PROJECT PLANNING LEVEL ESTIMATE				**$ 46,000,000**