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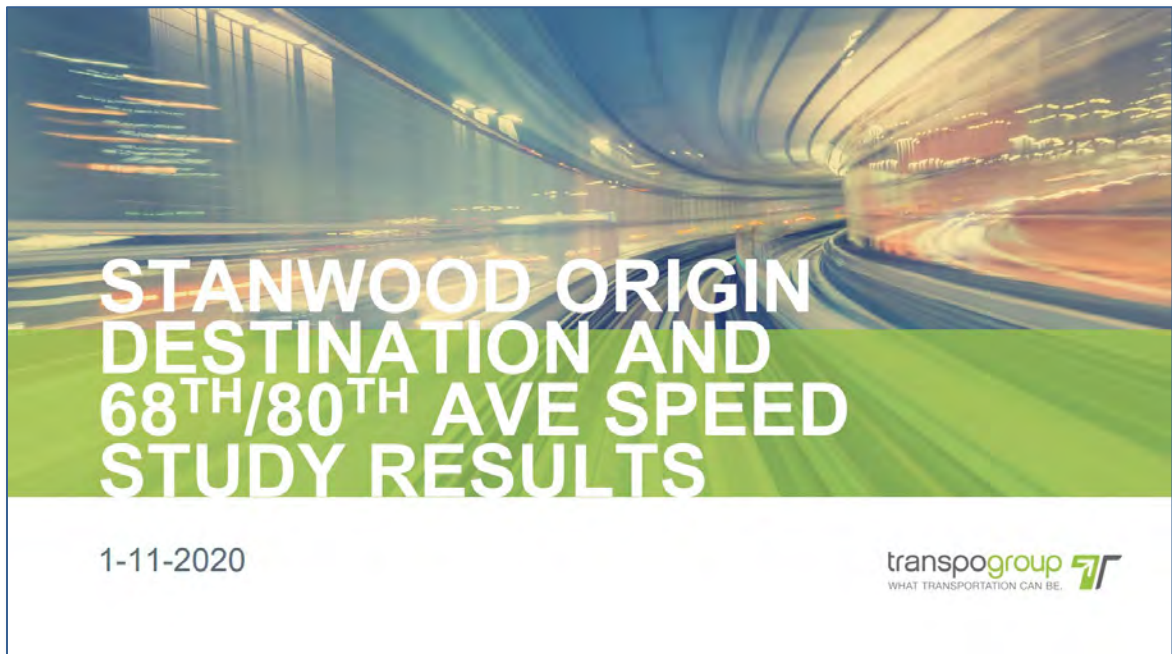
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MEMORANDUM

Date:	December 22, 2020	TG:	16542.00
To:	Patricia Love – City of Stanwood		
From:	Paul Sharman, PE – Transpo Group		
cc:	Patrick Lynch, AICP – Transpo Group		
Subject:	City of Stanwood Origin-Destination Study and Speed Study		

The purpose of this memorandum is to summarize the results of the origin-destination (OD) study conducted in the City of Stanwood. This study was done in order to understand the general traffic patterns around the City of Stanwood. The traffic patterns were analyzed for both years 2019 and 2020. Additionally, a speed study was conducted on 68th Avenue NW and 80th Avenue NW to understand vehicular speed distributions along these roadways.

To help answer these questions, Transpo Group leveraged *Streetlight Data*, a company that buys anonymized location-based services (LBS) cell phone data and GPS data, then runs machine learning algorithms to summarize information about travel behavior. The data is available in an online platform to help users query and summarize the results.

Streetlight Data Analysis Process

Streetlight Data works by collecting GPS data from a variety of sources, and then processing these data points to understand which roadways these GPS points are traveling on. Users can purchase access to their online platform where the analysis is conducted. The analysis is done by drawing 'zones' through which trips are measured. Zones are set up as either pass-through or non-pass through. Pass-through zones will count all traffic that moves through the zone, while non pass-through zones will only count trips that start or end within the zone. Figure 1 shows the zone layout in the City of Stanwood for this analysis.

Streetlight Data also has the capability to conduct other analytics, outside of general OD analysis. *Streetlight Data* can estimate average annual daily traffic (AADT) along roadways, showcase top routes between OD pairs, perform select link analyses like those done in a typical travel demand model, as well as leverage census data to build traveler profiles of those using roadways. This analysis is all done without roadside sensors, only using probe data and publicly available datasets (such as census data).

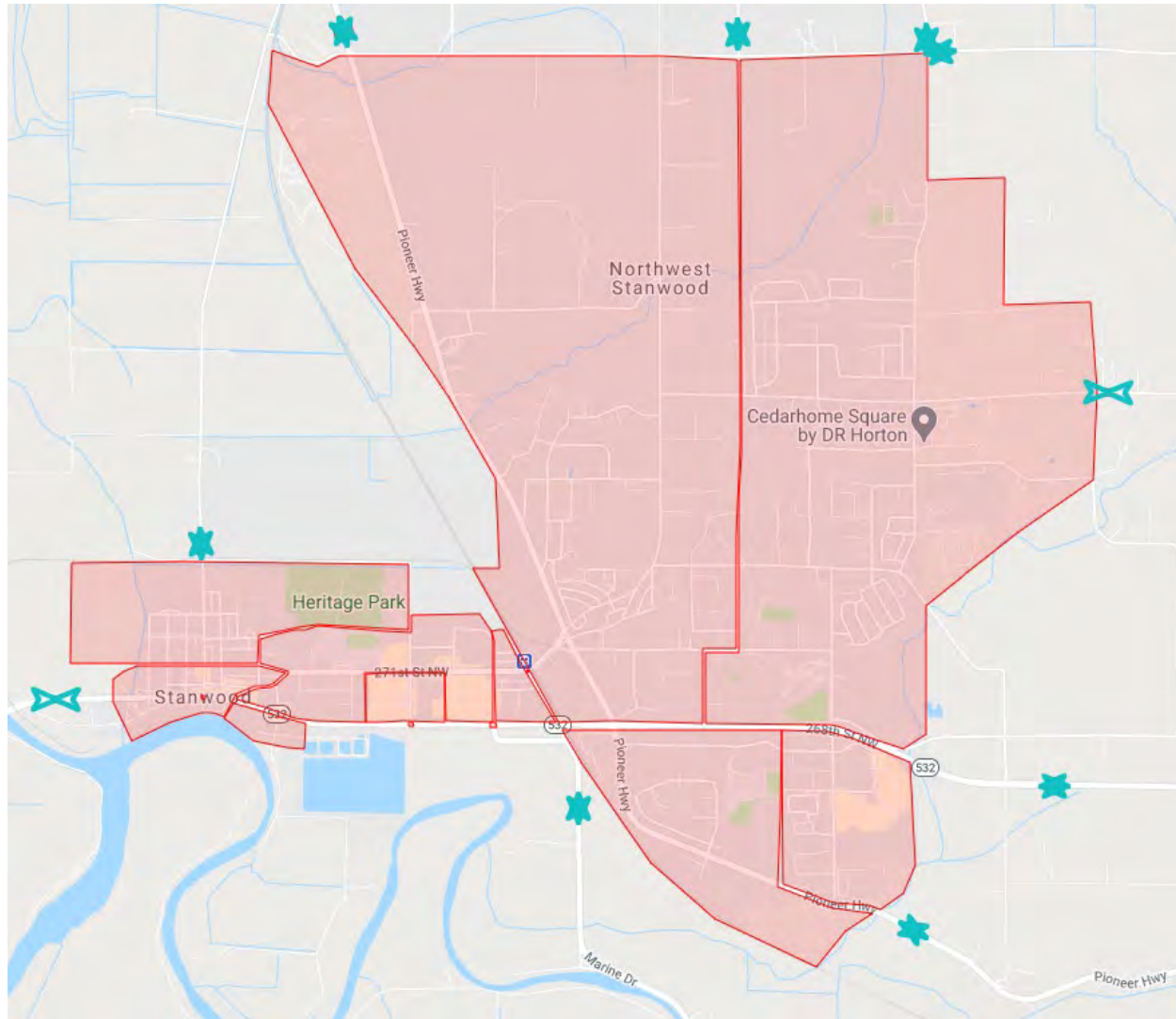


Figure 1 - City of Stanwood Streetlight Zones

As shown in Figure 1, there are 24 zones created for the OD analysis. The analysis was done using all weeks of 2019 data and January through November 15, for the 2020 data. The following time periods were analyzed for 2019 and 2020:

- Average Weekday (Monday - Friday) PM Peak Period (4-6 PM)
- Average Weekend Daily Period (24 hours)

For each of the time periods shown above, an origin-destination matrix was prepared. The results are summarized in the following section.

Origin-Destination Results

Generally, when completing an origin-destination study, the results are summarized in a series of tables and figures showing the number of travelers between each origin-destination pair. However, due to the number of zones included in this study (24), it was decided that a 24 x 24 table would not fit easily within this memorandum. These full OD tables are included in Appendix A.

During the 2019 weekday PM peak hour, the highest traffic volumes occur between the following zones and directions:

- 102nd Ave W / SR 532 intersection to SR 532 (west) zone with approximately 1,770 vehicles traveling during the 2019 PM peak period
- 268 St SW / SR 532 intersection to 92nd Ave NW / SR 532 intersection with approximately 1,665 vehicles traveling during the 2019 PM peak period
- 92nd Ave NW / SR 532 intersection to 102nd Ave NW / SR 532 intersection with approximately 1,335 vehicles traveling during the 2019 PM peak period
- 268 St SW / SR 532 intersection to 102nd Ave NW / SR 532 intersection with approximately 1,220 vehicles traveling during the 2019 PM peak period.
- There were approximately 3,440 trips destined to the downtown commercial core (Central, East End, QFC/Petco, and West End) on a typical weekday PM peak period (4-6 PM) in 2019

As seen above, the four largest O-D pairs in terms of traffic volumes all occur at the SR 532 zones, which are all located in the commercial areas of Stanwood as seen in Figure 1. Between the 2019 and 2020 PM peak hours, the largest changes in traffic patterns between zones occurred at the following:

- 102nd Ave W / SR 532 intersection to SR 532 (west) zone had approximately 215 fewer vehicles (~12 percent decrease from 2019)
- 268th St SW / SR 532 intersection to 92nd Ave NW / SR 532 intersection with approximately 205 fewer vehicles (~12 percent decrease from 2019)
- 92nd Ave NW / SR 532 intersection to 102nd Ave NW / SR 532 intersection with approximately 165 fewer vehicles (~12 percent decrease from 2019)
- 92nd Ave NW / SR 532 intersection to SR 532 (West) zone with approximately 130 fewer vehicles
- There were approximately 2,605 trips destined to the downtown commercial core (Central, East End, QFC/Petco, and West End) on a typical weekday PM peak period (4-6 PM) in 2020, a 32 percent decrease from 2019.

The largest decreases in vehicles traveling between zones generally occur at the O-D pairs with the highest traffic volumes as described previously. Due to the COVID-19 pandemic, most O-D pairs experienced a decrease in weekday PM peak period traffic volumes (see Appendix A). Vehicle traffic along SR 532 decreased about 12 percent during the weekday PM peak hour.

Surprisingly, there were O-D pairs that experienced increases in traffic volumes between 2019 and 2020, with trips destined for southbound I-5 from Stanwood having the largest increase. This may indicate an increase in regional travel, or an increase in freight activity during the weekday PM peak in 2020.

During 2019 weekends, the highest traffic volumes occur between the following zones and directions:

- 102nd Ave W / SR 532 intersection to 532 (west) zone with approximately 7,200 daily vehicles
- 268th St SW / SR 532 intersection to 92nd Ave NW / SR 532 intersection with approximately 7,430 vehicles daily
- 92nd Ave NW / SR 532 intersection to 268th St NW / SR 532 with approximately 7,520 vehicles per day
- SR 532 (west) to 102 and SR 532 zone with approximately 7,260 daily vehicles
- There were approximately 16,610 trips destined to the downtown commercial core (Central, East End, QFC/Petco, and West End) on a typical weekend in 2019

Like the weekday PM peak hour data, the four largest O-D pairs in terms of traffic volumes all occurred at the SR 532 zones, which are all located in the commercial areas of Stanwood as seen in Figure 1. Between the 2019 and 2020 PM peak hours, the largest changes in traffic patterns between zones occurred at the following:

- 102nd Ave W / SR 532 intersection to 532 (west) zone with approximately 900 fewer vehicles (~12.5 percent decrease)
- SR 532 (west) zone to 102nd Ave W / SR 532 zone with approximately 1,180 fewer vehicles
- 92nd Ave NW / SR 532 to 102nd Ave W / SR 532 with approximately 935 fewer vehicles
- 92nd Ave NW / SR 532 to 268th St NW / SR 532 zone with approximately 1,160 fewer vehicles
- There were approximately 13,710 trips destined to the downtown commercial core (Central, East End, QFC/Petco, and West End) on a typical weekend in 2020, a 21 percent decrease from 2019.

Similar to the weekday PM peak hour data, the largest decreases in vehicles volumes occurred between O-D pairs along SR 532 and in the commercial areas. Due to the COVID-19 pandemic, most O-D pairs experienced decreases in volume. However, unlike the PM peak hour, there was no clear observation of any destination zone that experienced consistently higher volumes. These findings may indicate that travel patterns on the weekends between 2019 and 2020 remained generally unchanged aside from expected decreases in traffic as a result of the pandemic.

Speed Study

The vehicular speed summary for each of the scenarios described previously, are summarized in Table 1 for 68th Avenue and 80th Avenue, respectively. Full speed summaries are provided in Appendix B.

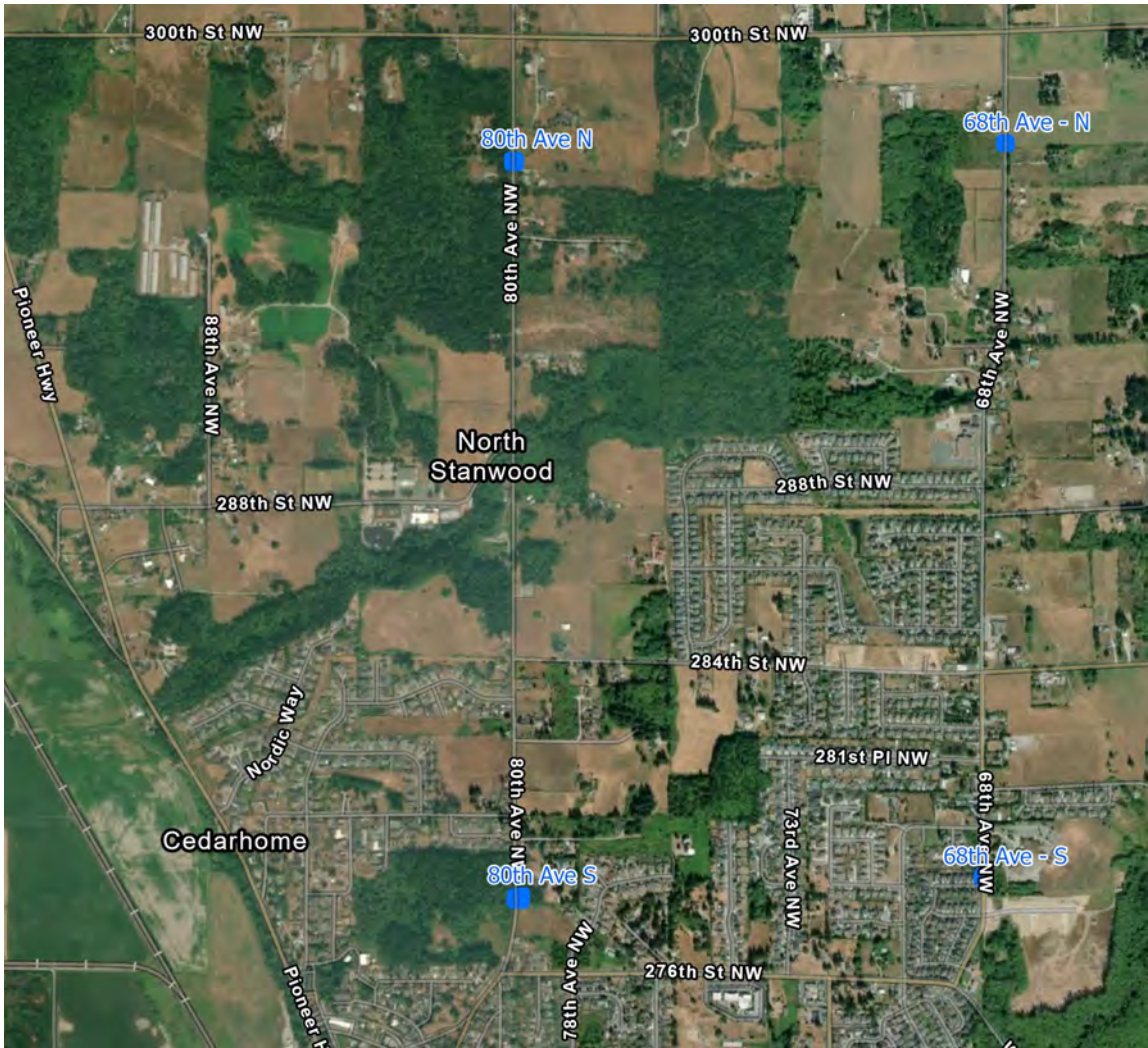


Table 1. 68th Avenue Speed Summary

Year	Direction	ADT ¹	Speed Ranges									
			0-10 mph	10-15 mph	15-20 mph	20-25 mph	25-30 mph	30-35 mph	35-40 mph	40-45 mph	45-50 mph	50+ mph
Weekday PM Peak Hour												
2019	Northbound	52	7%	5%	9%	19%	37%	15%	3%	1%	1%	2%
	Southbound	56	5%	8%	10%	13%	38%	19%	3%	2%	1%	2%
2020	Northbound	50	10%	8%	8%	16%	36%	14%	3%	2%	1%	3%
	Southbound	54	8%	8%	6%	11%	35%	21%	3%	3%	1%	2%
Weekends (24 hours)												
2019	Northbound	257	7%	9%	11%	18%	33%	14%	3%	1%	0%	3%
	Southbound	237	7%	7%	9%	17%	32%	18%	4%	2%	2%	2%
2020	Northbound	222	7%	8%	12%	16%	34%	16%	3%	2%	1%	3%
	Southbound	224	8%	7%	10%	14%	38%	14%	4%	1%	1%	3%

1. Average Daily Traffic (ADT) volumes shown are estimates of daily traffic volumes travelling between the two zones, not ADT values at each zone.

As seen in Table 1, most observed vehicles drive between 20 to 35 miles per hour along 68th Avenue in both directions, both during weekday PM peak hours and on the weekend. Generally, vehicles are driving at similar speeds regardless of direction on weekdays and weekends. Between 2019 and 2020, variations in percentages are observed in speed ranges but overall, the average speeds (approx. 25 mph) and observed speeds generally remain the same.

Average daily traffic (ADT) estimates are also shown for vehicles traveling along 68th Avenue. In the PM peak period, approximately 50-55 vehicles travel in each direction, with no major difference between 2019 and 2020. Weekend traffic volumes saw a slight decrease along 68th Avenue, with northbound daily volumes decreasing by approximately 35 vehicles per day (~15 percent), while southbound volumes decreased approximately 15 vehicles per day (~6 percent).

Table 2. 80th Avenue Speed Summary

Year	Direction	ADT ¹	Speed Ranges									
			0-10 mph	10-15 mph	15-20 mph	20-25 mph	25-30 mph	30-35 mph	35-40 mph	40-45 mph	45-50 mph	50+ mph
Weekday PM Peak Hour												
2019	Northbound	87	4%	6%	11%	9%	10%	21%	28%	8%	1%	2%
	Southbound	70	4%	6%	10%	9%	7%	13%	34%	13%	3%	2%
2020	Northbound	85	4%	5%	9%	9%	10%	23%	24%	7%	2%	6%
	Southbound	58	8%	5%	10%	8%	9%	18%	23%	12%	3%	4%
Weekends (24 hours)												
2019	Northbound	457	3%	4%	8%	10%	10%	21%	27%	11%	3%	3%
	Southbound	351	4%	5%	9%	11%	8%	15%	28%	14%	3%	4%
2020	Northbound	401	3%	3%	10%	10%	11%	22%	26%	9%	2%	4%
	Southbound	282	6%	5%	10%	12%	9%	17%	27%	8%	2%	4%

1. Average Daily Traffic (ADT) volumes shown are estimates of daily traffic volumes travelling between the two zones, not ADT values at each zone.

As seen in Table 2, most observed vehicles drive between 15 to 40 miles per hour along 80th Avenue in both directions. Generally, vehicles are driving at similar speeds regardless of direction on weekdays and weekends. Between 2019 and 2020, variations in percentages are observed in speed ranges but overall, the average speeds (approx. 30 mph) and observed speeds generally remain the same.

ADT estimates for vehicles traveling along 80th Avenue during the PM peak period show approximately 85 vehicles travelling in the northbound direction, and 70 vehicles in the southbound direction. No major change in volumes occurred between 2019 and 2020 in the northbound direction, while southbound volumes decreased from 70 to 58 vehicles (approximately 20 percent decrease). Weekend traffic volumes saw a slight decrease along 80th Avenue, with northbound daily volumes decreasing by approximately 55 vehicles per day (~14 percent), while southbound volumes decreased approximately 70 vehicles per day (~24 percent).

Summary

The purpose of this study was to better understand the traffic patterns of vehicles traveling to and coming from the City of Stanwood, and how these patterns may have changed from 2019 to 2020 during the pandemic. Traffic patterns show that vehicle volumes are greatest along SR 532 and primarily travel to/from the downtown commercial core and to I-5.

Traffic volumes decreased approximately 12 percent along SR 532 both during the weekday PM peak period, and on a typical weekend between 2019 and 2020. Traffic to the downtown commercial core area decreased approximately 32 percent during the weekday PM peak period, and approximately 21 percent during the weekend.

Regarding speed findings, no significant difference was observed for directional speeds or time period speeds. Overall, average speeds on 68th Avenue and 80th Avenue were observed to be 25 mph and 30 mph across all time periods and days, respectively. No significant patterns of speed changes were observed between 2019 and 2020 for either roadway.

Appendix E SR 532 Travel Time Reliability Analysis

TECHNICAL SUMMARY

Island County Camano Island / City of Stanwood / Snohomish County

MP 0.00 to 10.09

November 2022

- A. Study Segments
- B. Travel Time Reliability Analysis on SR 532

Memorandum

Date: September 9, 2022
To: John Shambaugh, WSDOT
From: Marissa Milam, Dan Grayuski, Fehr & Peers
Subject: **State Route 532 Travel Time Reliability Study**

SE22-0843

Overview

This study analyzes travel speed reliability for a 10-mile section of SR 532 from E. North Camano Drive to Interstate 5 (I-5). This roadway section connects Camano Island and the City of Stanwood and provides a connection to north/south travel via I-5. The goal is to understand the magnitude of travel speed variability and when and where it happens along this corridor during a typical weekday and weekend day. This data provides key insights into where congestion, accessibility, speeding, and reliability issues are occurring along this section of SR 532. Additionally, driving event data (e.g., harsh acceleration, hard braking) is used to locate potential areas of interest along the corridor where dangerous driver behavior is occurring. For this project, Wejo data is used to analyze the trends mentioned previously and is introduced in the next section.

Wejo Data

Wejo collects connected vehicle data (CVD) in the form of billions of GPS data points from millions of connected cars. CVD provides the opportunity to evaluate vehicle travel patterns and activity by summarizing travel speeds, congestion, and travel time reliability at defined roadway segment or corridor levels. This information is derived from two different data streams, one that provides periodic vehicle location updates and another that reports specific driving events. From



the location data, the following speed information can be derived for a specific roadway segment using multiple days of data within a given analysis period:

- Average and median speeds
- Minimum and maximum speeds
- Percentile speeds (5th, 15th, 85th, and 95th)

The event data tracks the number of specific driving events (e.g., harsh acceleration, hard braking) for each connected vehicle, which is then aggregated for a specific roadway segment. This allows for the identification of potentially dangerous locations where crashes could occur due to extreme driver actions. In addition to their spatial component, all Wejo data can be analyzed for a specific time period, such as one-hour bins. This allows for the analysis of travel speed reliability for entire corridors throughout the day or week.

The Wejo dataset evaluated for this study is for October 2019, which allows for the analyses mentioned above during pre-pandemic conditions.

Methodology

The following sections detail the methodology used for evaluating travel time reliability along SR 532.

Corridor Segmentation

The Wejo speed data was initially organized according to short Open Street Map (OSM) links (which are typically less than 0.25 mile in length) along the study corridor. The number of hourly speed observations on these segments ranged from less than 10 to over 15,000. Smaller observations are most typical for short segments during off-peak hours. To address areas with a small sample size, segments were aggregated into longer study segments. These segments vary from approximately 0.25 to 1 mile in length throughout the corridor, using intersections as logical dividing points. Shorter segments were chosen in dense areas (e.g., downtown Stanwood), while longer segments were selected in more remote areas. In total, 17 segments were created for the analysis, shown in **Figure 1**. For each of these segments, speed information is available for both weekday and weekend conditions in both travel directions (denoted as Eastbound and Westbound).



SR 532 Study Segments

Figure 1: SR 532 Study Segments

For the public survey, these segments were aggregated up into four sections. The crosswalk between the analysis segments and survey section is shown in **Table 1**.

Table 1: Crosswalk between Survey Section and Analysis Segments

Survey Section	Analysis Segments
A	1, 2, 3, 4, 5
B	6, 7, 8, 9



C	10, 11, 12
D	13, 14, 15, 16, 17

Travel Time Reliability

The Transportation Research Board’s (TRB) Strategic Highway Research Program 2 (SHRP2) published several reports on travel time reliability; the methodology used to evaluate travel times along SR 532 is based on this research. As stated in the SHRP2 Report, travel time reliability refers to how consistent, or variable, travel conditions are from day to day.¹

SHRP2 uses a Travel Time Index (TTI) to measure reliability. The TTI is the ratio of actual travel time to the free-flow travel time. In practical terms, a TTI of 1.3 means that a trip takes 30 percent longer than it would under free-flow travel conditions, i.e. traveling at the speed limit. The TTI is a useful metric since it normalizes for distance and allows segments with varying lengths and characteristics to be compared. Two different TTIs were calculated for this evaluation: the TTI of the average travel time (TTI_m) and the TTI of the 5th percentile travel time (TTI₅), which is also called the Planning Time Index (PTI). The 5th percentile travel time is the amount of time a traveler should plan for to reach their destination on time at least 95 percent of the time. WSDOT has used the same two measures (TTI_m and PTI) to analyze reliability on I-5.

Two pieces of information were estimated for each analysis period:

- PTI Rating (the travel time index of the 5th percentile travel time): This indicates how the actual speed compares to the free-flow speed. PTI less than 1.3 is rated as “Good”, PTI between 1.3 and 2 is rated as “Fair”, and PTI greater than 2 is rated as “Poor”.
- Difference between PTI and TTI_m (the travel time index of the average travel time): This indicates the travel time reliability of the segment. The greater the difference between the PTI and the TTI_m, the less reliable the segment is considered to be (i.e. the distribution among travel times is wider). For instance, a value of 1.0 in the “Difference vs. TTI_m” column indicates that the difference between the 5th percentile travel time and the average travel time is equal to the free-flow travel time of the segment.

¹ Analytical Procedures for Determining the Impacts of Reliability Mitigation Strategies, Strategic Highway Research Program, SHRP2 Reliability Research, Transportation Research Board, Report S2-L03-RR-1, 2013.



Figure 2 visualizes the metrics described above.²

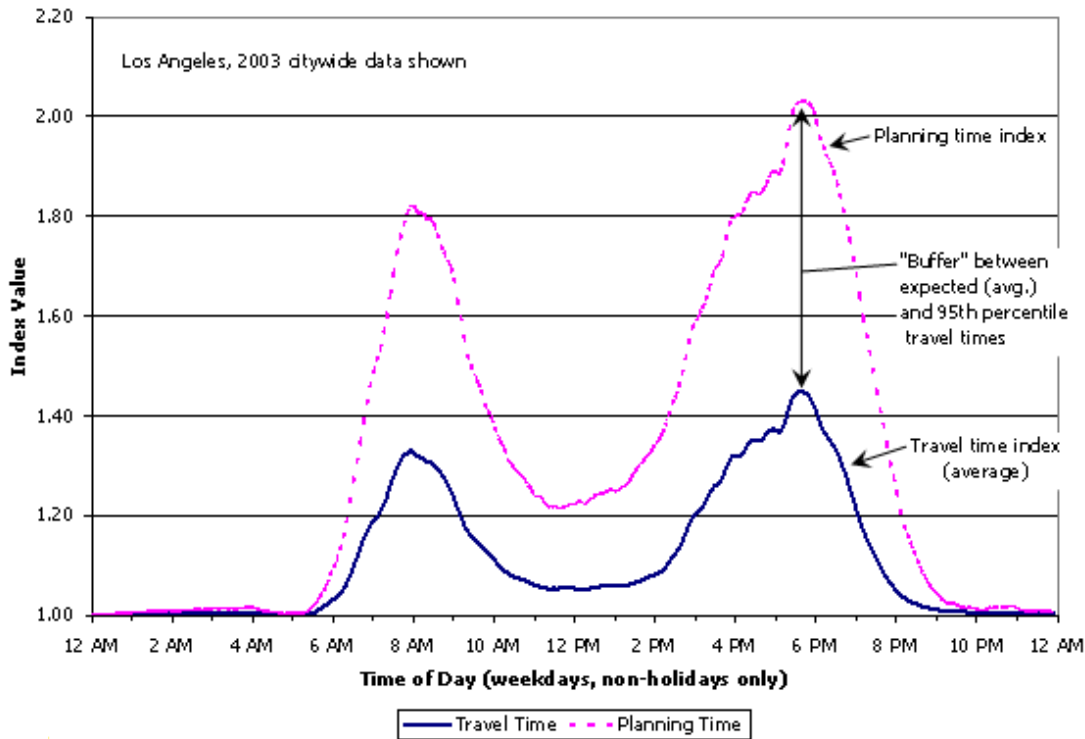


Figure 2: Reliability Metrics

Measuring travel time reliability is important because average travel times do not depict the variations that travelers experience on a corridor, especially for days with unexpected delays.

Figure 3 shows how the variation in travel time in the chart on the right is quite different than the annual average shown on the left.³

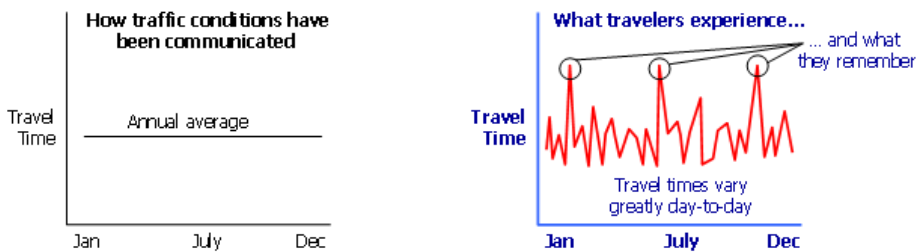


Figure 3: Averages don't tell the full story

² https://ops.fhwa.dot.gov/publications/tt_reliability/brochure/long_descriptions/figure3.htm

³ https://ops.fhwa.dot.gov/publications/tt_reliability/brochure/long_descriptions/figure1.htm#fig1



Results

Travel Time Reliability

Table 2 summarizes the travel time metrics described above along the entire SR 532 study corridor during peak hours on a typical weekday.

Table 2: Travel Time Reliability Along SR 532

	AM Peak Hour		PM Peak Hour	
	PTI Rating	Difference vs. TTI_m	PTI Rating	Difference vs. TTI_m
Eastbound SR 532	Poor	0.8	Fair	0.4
Westbound SR 532	Fair	0.5	Poor	0.8

Source: Fehr & Peers, 2022.

In general, AM and PM peak hour travel times are similar in the peak directions (Eastbound in the AM peak hour and Westbound in the PM peak hour), with the 5th percentile travel times representing about an 80% increase in travel time compared to the average travel time. Out of the 17 corridor segments, seven of them receive Poor PTI ratings during both the AM and PM peak hour.

To visualize the travel time reliability, we graphed the 5th percentile, average, and 95th percentile speeds across the entire day for six selected segments, shown in **Appendix A**. Six segments were selected to be representative of the different contextual sections of the corridor, such as on Camano Island, downtown Stanwood, and near the I-5 interchange. A wider gap between the average and percentile speeds (5th and 95th) indicate a higher speed variability for that location and time of day. We would typically expect these conditions during peak travel periods. Conversely, a smaller gap between the average and percentile speeds indicates a more uniform speed profile for that location and time of day, which we would typically expect during off-peak periods, or on the more rural segments of SR 532.

Corridor Comparison

Table 3 compares the percent difference between the average and 95th percentile travel times for multiple state highways and freeways across Washington. The SR 532 corridor is similar in its congestion trend to I-5 in Snohomish County, as well as SR 20 east of I-5.



Table 3: Comparison of Average and 95th Percentile Travel Times

Main Roadway	From	To	Direction	Average Travel Time (min)	95th Percentile Travel Time (min)	Percent Difference
I-5	US-2	116th St NE	Northbound	10	17	70%
US 2	I-5	88th St SE	Northbound	2.5	3	20%
SR 20	I-5	Fidalgo Bay Aquatic Reserve	Eastbound	14	21	50%
US 2	Reiter Rd	Old Owen Rd	Eastbound	10	13	30%
SR 161	I-5	SR 167	Southbound	13	27	105%
<i>SR 532</i>	<i>I-5</i>	<i>Terry's Corner</i>	<i>Westbound</i>	<i>16</i>	<i>26.5</i>	<i>65%</i>

Source: Wejo Data, October 2019 (PM Peak Period Average)

Hard Braking/Harsh Acceleration

The Wejo data for hard braking and harsh acceleration was also initially organized according to OSM links, however it was not aggregated further into segments (as was the case with the speed data). This is due to in part because the observed braking/acceleration events are less frequent at the hourly scale (since we would expect far less extreme braking/acceleration events compared to speed observations). As there are limited number of hourly occurrences of this driving activity, we focused more on where these events are occurring along the corridor at a smaller segment length scale. We also note that the event data does not contain information regarding the direction of travel, however there appears to be a few locations that could be further studied in coordination with the safety analysis, such as near Terry's Corner, downtown Stanwood, and the I-5 interchange. Key observations from the data include:

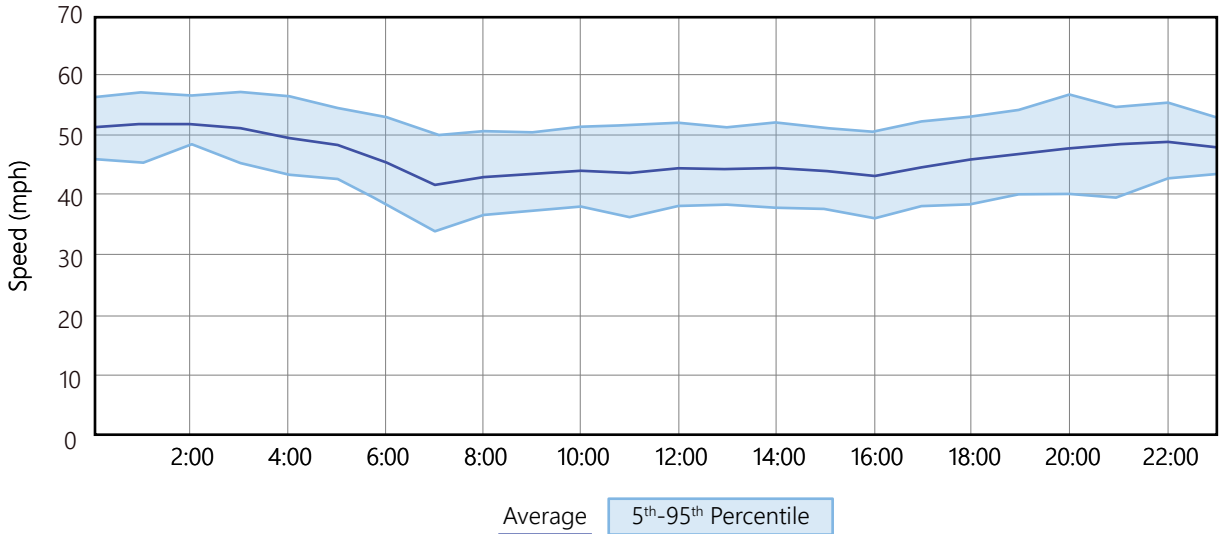
- Hard braking events on SR 532 occur mostly east of Stanwood, peaking at the following segments: between 72nd Ave NW and 64th Ave NW, preceding the 36th Ave NW intersection, and preceding the I-5 interchange.
- Harsh acceleration events peak between Pioneer Hwy and 72nd Ave NW, with some also occurring east and west of this segment.
- Hard braking and hard acceleration events overlap east of Stanwood, though hard braking events occur more often as SR 532 gets closer to I-5.

Maps of the hard braking and harsh acceleration events are shown in **Appendix B**.



Appendix A – Travel Time Reliability Graphs

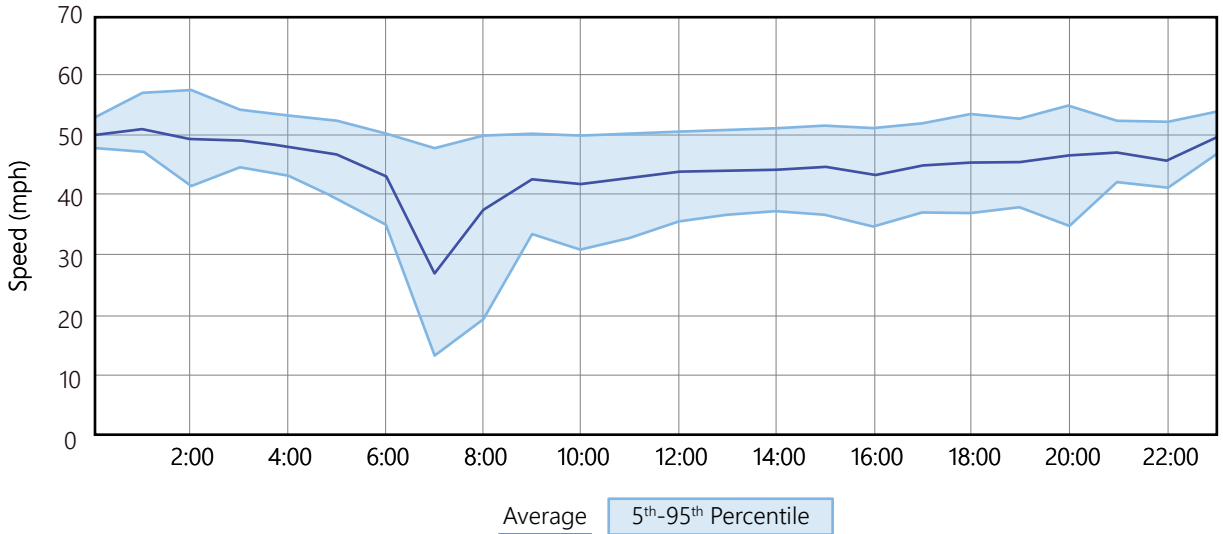
Segment 1 - SR 532 Eastbound Speed Distribution by Time of Day between NE Camano Dr and Hanstad Rd



Source:
Wejo Data
Tuesdays - Thursdays in October 2019

On the western end of the study area, next to Terry's Corner, eastbound travel speeds peak in the evenings and overnight, with lowest speeds in the early morning peak around 7am. Average speeds range from 52 mph at the high end to 42 mph at the low end. The range of travel speeds remains largely unchanged throughout the day.

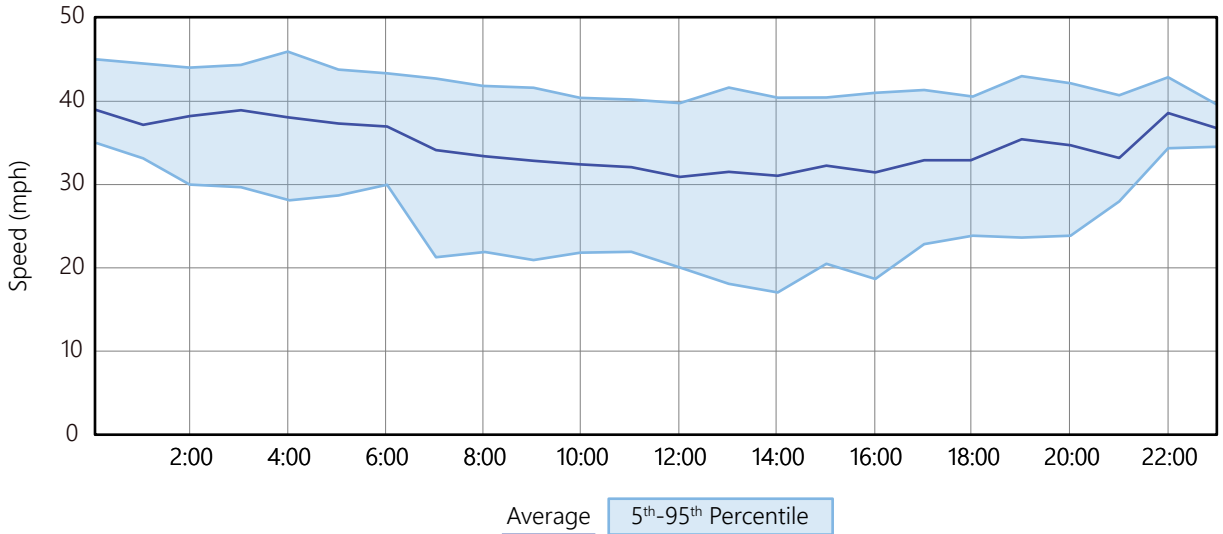
Segment 4 - SR 532 Eastbound Speed Distribution by Time of Day between Good Rd and N Smith Rd



Source:
Wejo Data
Tuesdays - Thursdays in October 2019

Further east on Camano Island, eastbound travel speeds vary considerably over the course of a day; average speeds hover around 45-50 mph for most of the day, but drop to under 30 mph in the early morning peak around 7am. The early morning peak shows a large range between the 5th and 95th percentile travel speeds, which shows degradation in the travel time reliability.

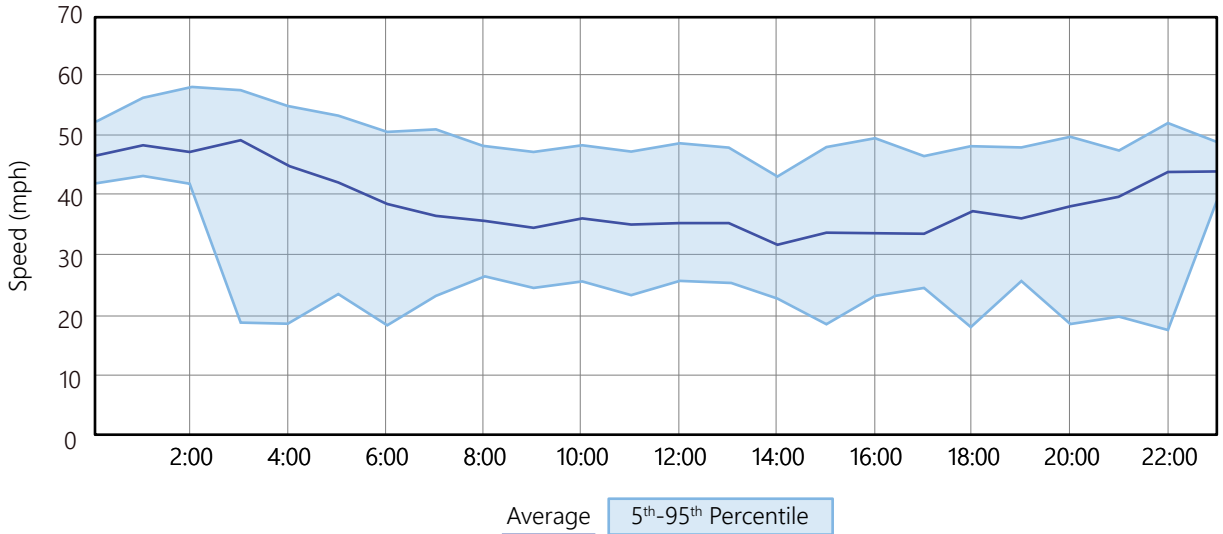
Segment 7 - SR 532 Eastbound Speed Distribution by Time of Day between 102nd Ave NW and 98th Dr NW



Source:
Wejo Data
Tuesdays - Thursdays in October 2019

Crossing eastbound into downtown Stanwood between 102nd Ave and 98th Dr, the range of travel speeds shows large variations. During uncongested time periods, motorists are traveling at about 35-40 mph, but could experience speeds as low as 20 mph during periods of heavy congestion.

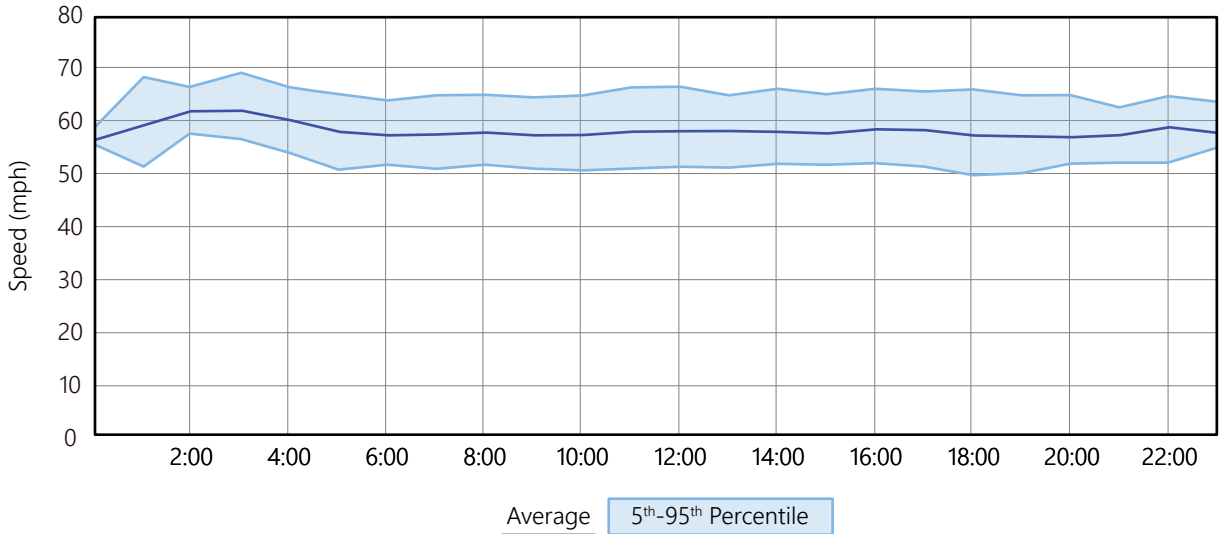
Segment 10 - SR 532 Eastbound Speed Distribution by Time of Day between Pioneer Hwy and 72nd Ave NW



Source:
Wejo Data
Tuesdays - Thursdays in October 2019

Eastbound between Pioneer Hwy and 72nd Ave NW, travel time reliability is poor during the morning peak period. Average speeds hover around 30-40 mph throughout the day.

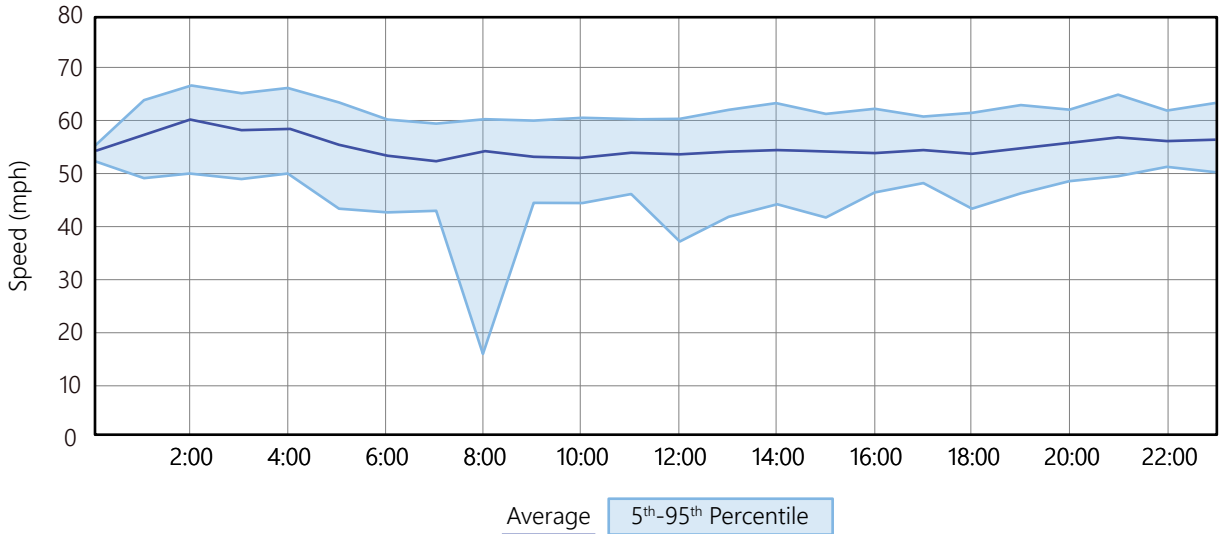
Segment 13 - SR 532 Eastbound Speed Distribution by Time of Day between 52nd Ave NW and 36th Ave NW



Source:
Wejo Data
Tuesdays - Thursdays in October 2019

Between 52nd Ave NW and 36th Ave NW, eastbound travel speeds are relatively stable with good travel time reliability as speeds hover around 60 mph.

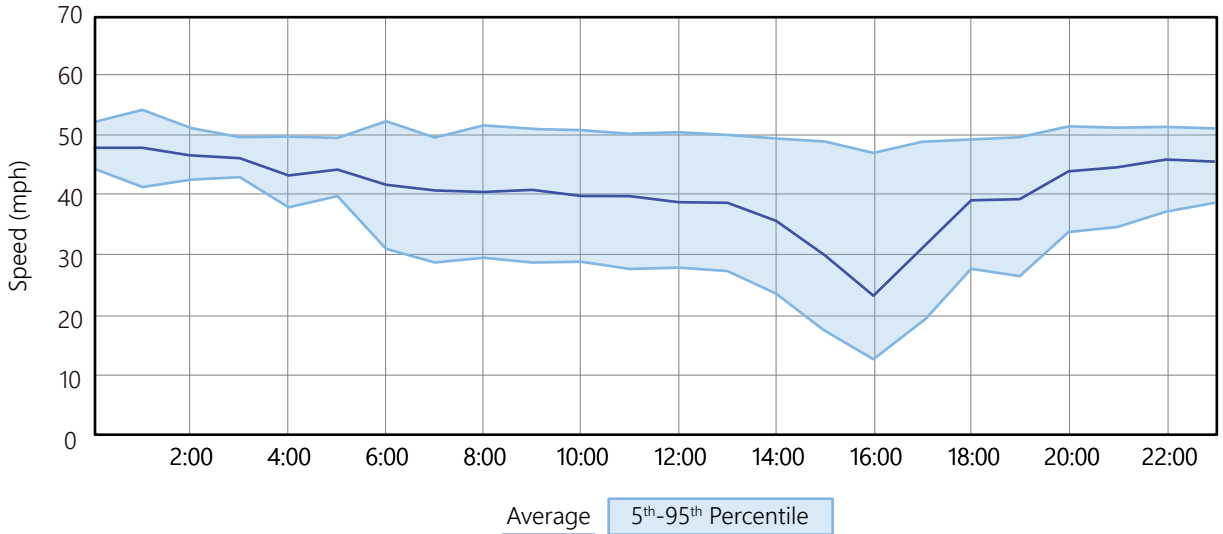
Segment 16 - SR 532 Eastbound Speed Distribution by Time of Day between 19th Ave NW and E Sunday Lake



Source:
Wejo Data
Tuesdays - Thursdays in October 2019

Albeit occasional congestion near the I-5 interchange in the morning peak, eastbound travel speeds between 19th Ave NW and E Sunday Lake stay around 50-60 mph.

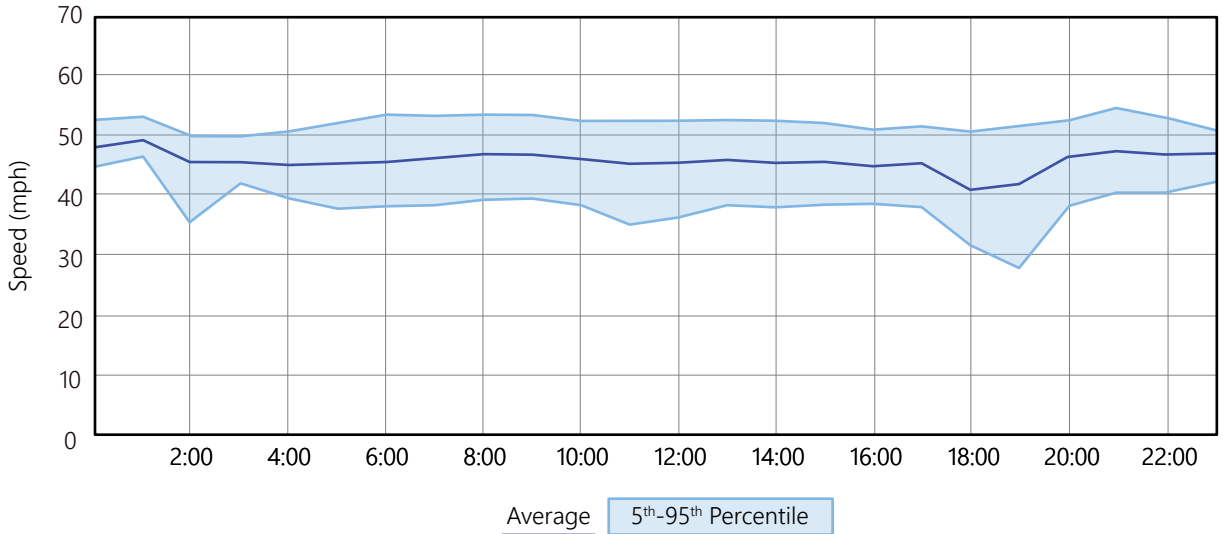
Segment 1 - SR 532 Westbound Speed Distribution by Time of Day between NE Camano Dr and Hanstad Rd



Source:
Wejo Data
Tuesdays - Thursdays in October 2019

Traveling in the westbound direction, speeds near Terry's Corner are around 40-45 mph for a majority of the day. Travel speeds have a sharp decrease in the afternoon peak, with average speeds close to 25 mph, and 5th percentile speeds close to 15 mph.

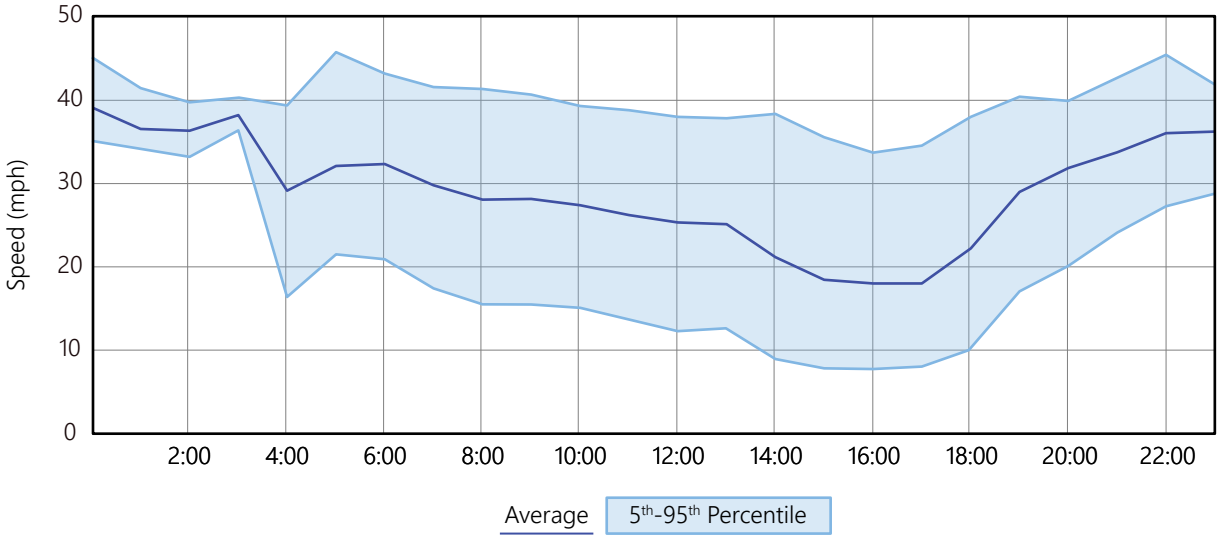
Segment 4 - SR 532 Westbound Speed Distribution by Time of Day between Good Rd and N Smith Rd



Source:
Wejo Data
Tuesdays - Thursdays in October 2019

Further east on Camano Island, westbound travel speeds remain stable throughout the day, hovering between 40 to 50 mph. The afternoon peak period continues to show decreases in travel time reliability.

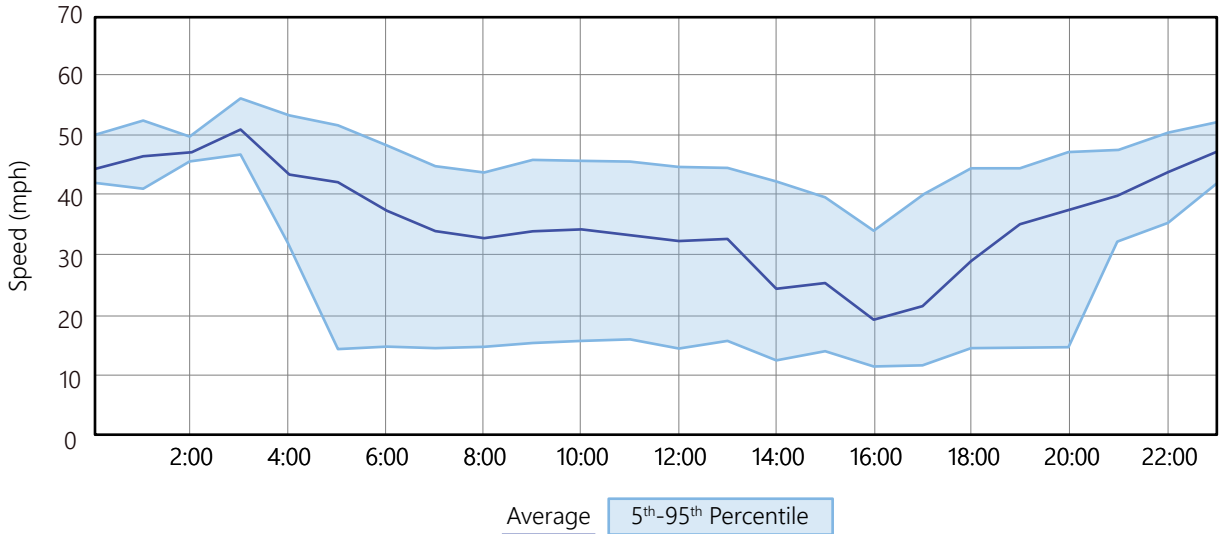
Segment 7 - SR 532 Westbound Speed Distribution by Time of Day between 102nd Ave NW and 98th Dr NW



Source:
Wejo Data
Tuesdays - Thursdays in October 2019

Traveling westbound in downtown Stanwood, motorists experience very poor travel time reliability, with large ranges in travel speeds throughout the day. During the afternoon peak, average travel speeds are under 20 mph, compared to about 35 mph free-flow speeds.

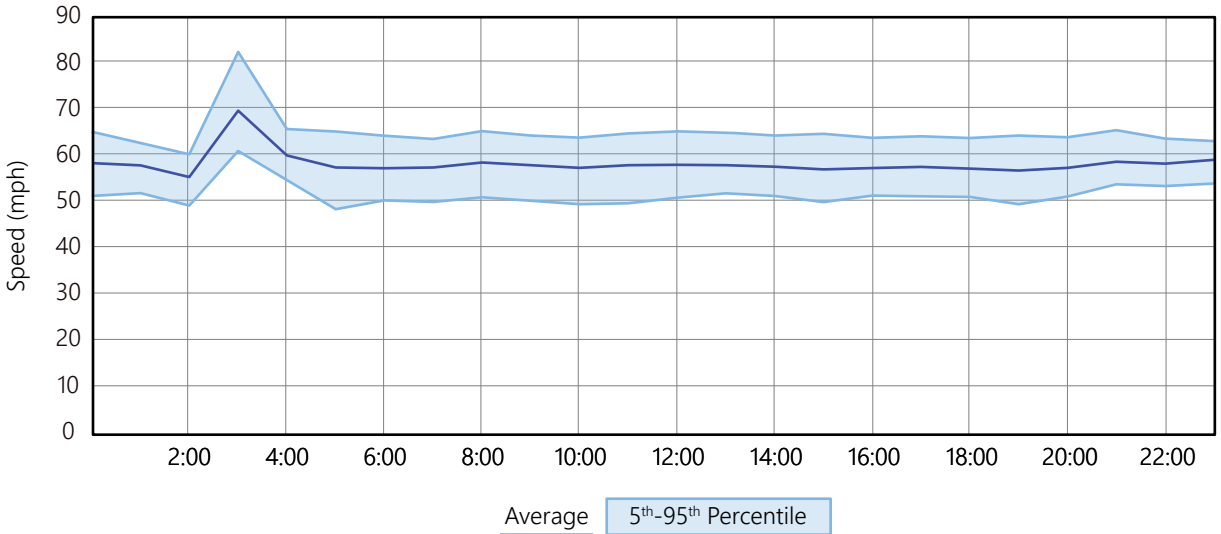
Segment 10 - SR 532 Westbound Speed Distribution by Time of Day between Pioneer Hwy and 72nd Ave NW



Source:
Wejo Data
Tuesdays - Thursdays in October 2019

Similar to Segment 7, travelers headed westbound between Pioneer Hwy and 72nd Ave NW experience poor travel time reliability over most of the day. The average speeds begin to decrease in the morning peak period, and are lowest during the afternoon peak at about 20 mph.

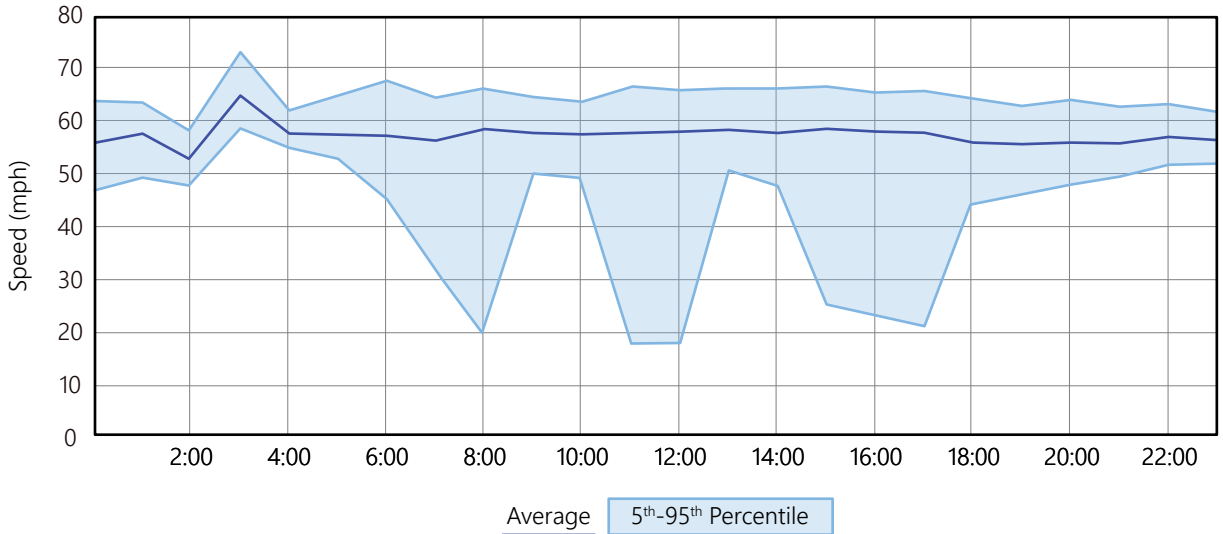
Segment 13 - SR 532 Westbound Speed Distribution by Time of Day between 52nd Ave NW and 36th Ave NW



Source:
Wejo Data
Tuesdays - Thursdays in October 2019

Between 52nd Ave NW and 36th Ave NW, westbound travel speeds remain constant around 60 mph, with little variation throughout the day. Average travel speeds are about 70 mph during the early morning period, above the posted speed limit.

Segment 16 - SR 532 Westbound Speed Distribution by Time of Day between 19th Ave NW and E Sunday Lake

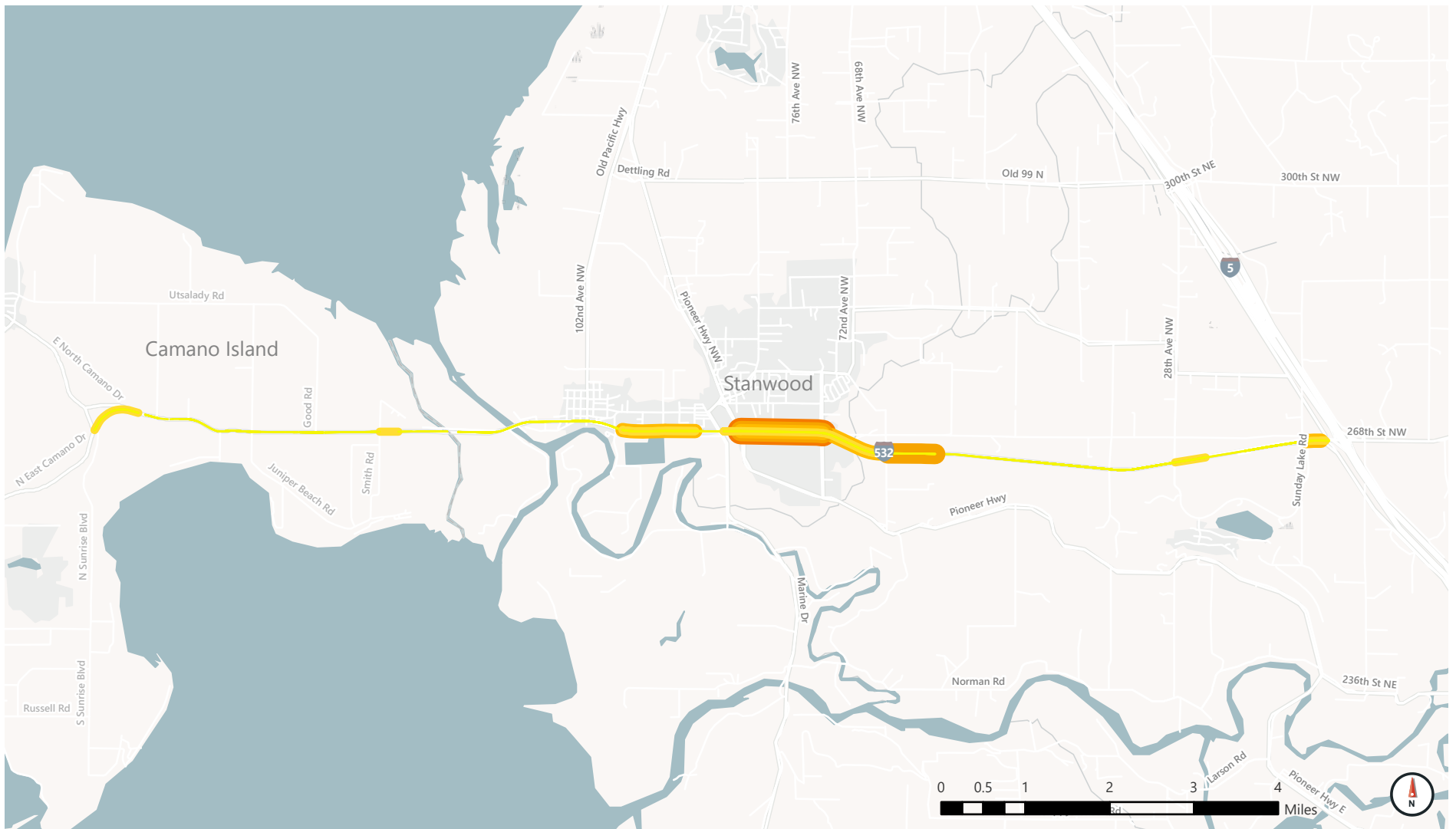


Source:
Wejo Data
Tuesdays - Thursdays in October 2019

Near the I-5 interchange, average westbound travel speeds are stable around 60 mph. However, travel time reliability is poor during peak periods, including the morning peak (8am), high noon (12pm), and the late afternoon (3-5pm), likely due to I-5 conditions.



Appendix B – Maps of Hard Braking and Harsh Acceleration



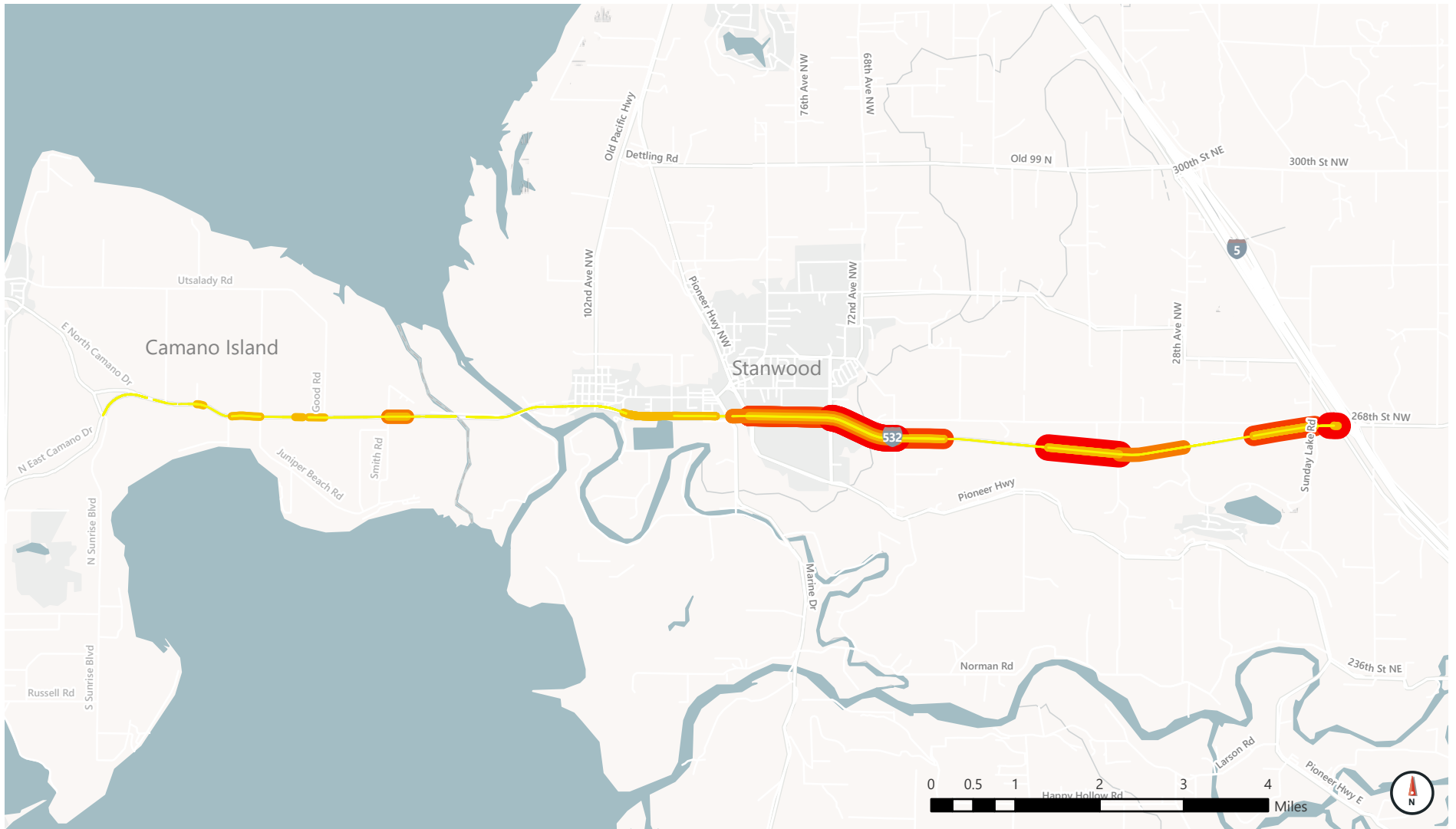
Number of hard braking events

- ≤ 4
- ≤ 8
- ≤ 12
- ≤ 16
- ≤ 20



Hard Braking on SR 532 Corridor

Tuesday-Thursday of October 2019 (PM Peak Period)



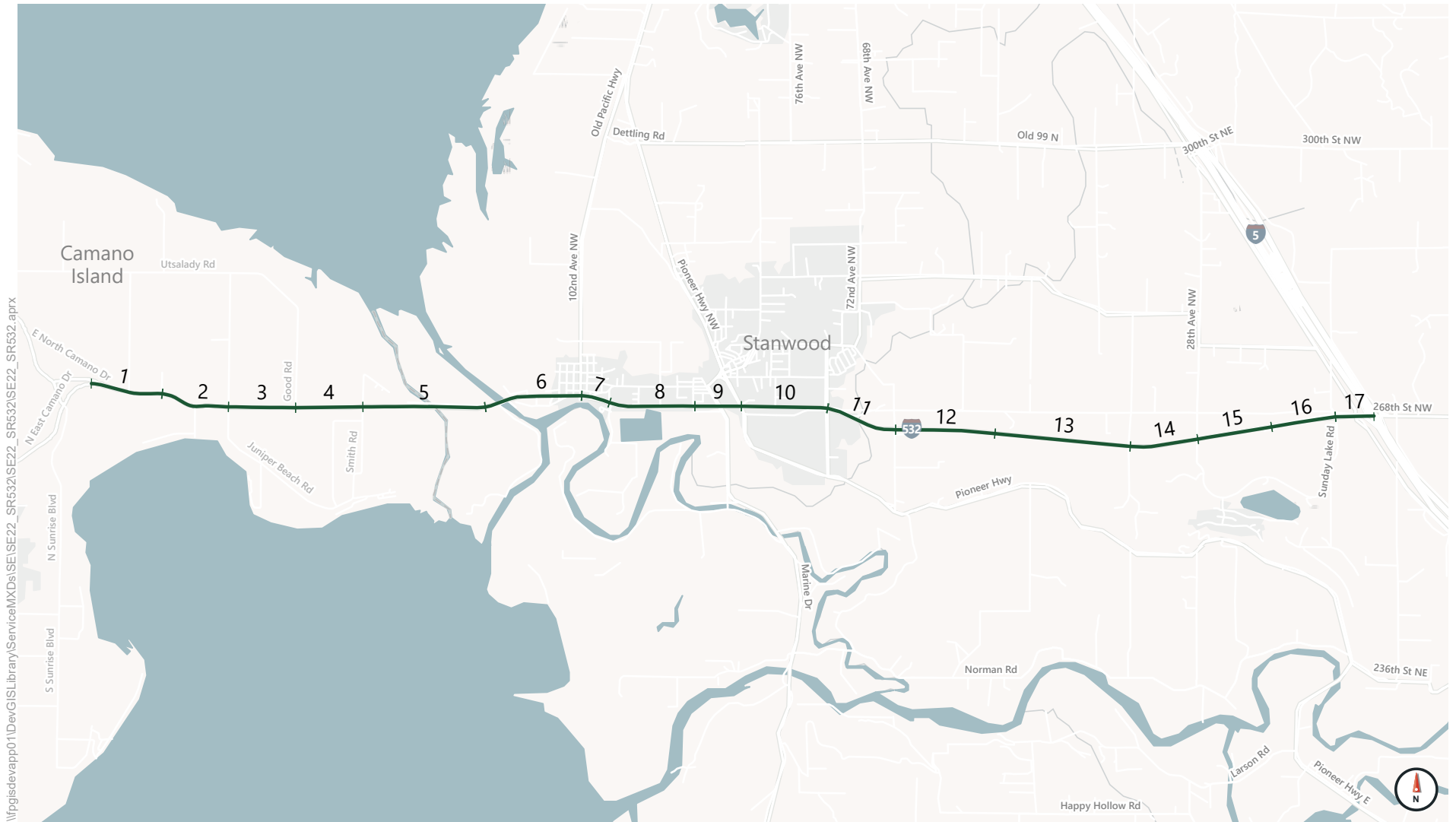
Number of harsh acceleration events

- ≤ 7
- ≤ 14
- ≤ 21
- ≤ 28
- ≤ 35



Harsh Acceleration on SR 532 Corridor

Tuesday-Thursday of October 2019 (PM Peak Period)



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Appendix F Public Transit Agency Summary

PUBLIC TRANSIT AGENCY SUMMARY

Island County Camano Island / City of Stanwood / Snohomish County

SR 532 MP 0.00 to 10.09

November 2022

Three public agencies provide public transportation services in the Study Area. They include:

- A. Community Transit
- B. Island Transit
- C. Snow Goose Transit



Public Transportation

Public transportation is an integral part of the multimodal transportation system in our region. The efficient movement of people, goods and services involves providing a range of transportation choices to serve and support social, economic, and cultural needs.

As part of the baseline analysis, we are working with transit providers to document existing services in the study area. This information will help to better understand how the overall transportation system aligns with the transit system and supporting facilities. Future transportation corridor recommendations will consider how to better link different transportation facilities and services to local and regional users with the objective to maximize people throughput on state highways and maximize the return on transportation investments.

There are three public transportation providers in the study area, and each agency provides a range of services and schedule options to the communities of Camano Island, City of Stanwood, and Snohomish County. A brief description of each provider and how they serve the study area is provided herein.

Public Service providers are as follows:

- A. Community Transit
- B. Island Transit, and
- C. Snow Goose Transit

A. Community Transit

Community Transit provides public transit services in Snohomish County, Washington, including service to the Stanwood area and commuter service to Boeing, Lynnwood, and Seattle. Convenience, reliability, and efficiency were the three most important objectives identified by Community Transit during the study.

Community Transit identified several challenges to meeting their service objectives. These included:

- Absence of development/infrastructure along SR 532.
- The park and ride lot in Downtown Stanwood was not in a convenient location for access by walking, biking, or driving.
- Old Highway 99 closure at Pilchuck Creek that has forced some route changes.

Service Types

- Swift Bus Rapid Transit – Swift is a frequent and reliable service that serves higher density areas with 5-to-10-minute intervals in locations where populations and jobs are growing.
 - Currently there is no service to Stanwood or north Snohomish County, however a new route is under consideration to provide a bi-directional connection from Stanwood to Smokey Point/Lynnwood.
- Innovative Services – designed to get people where they want to go (customized travel). Services may include:

- On-demand shuttles (ride hailing type),
- Community vans
- Bike- and car-share
- Regular Bus Service – Fixed route bus service

Park and Ride

In the study area Community Transit uses the park and ride facility at the I-5 / SR 532 interchange and the Stanwood downtown park and ride facility at 267 St SE. There are 138 spaces available at I-5 and 70 spaces in Downtown Stanwood.

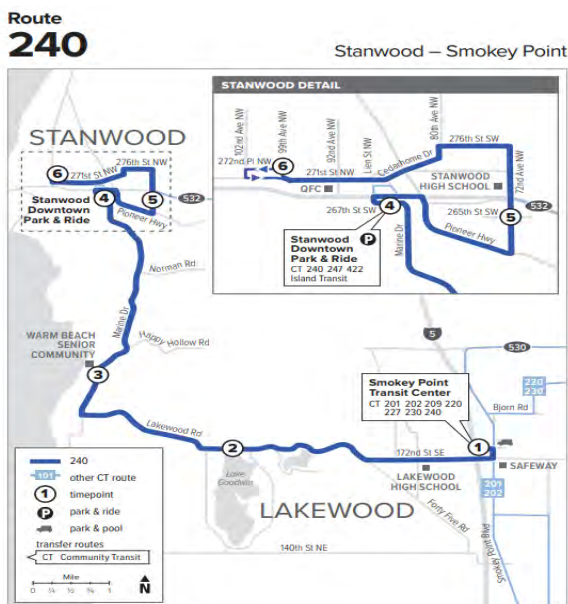
Long-Range Plans

In 2020, Community Transit conducted a Community Transit Travel Demand Market Evaluation to identify market trends to facilitate transit service improvements. One issue under consideration is bi-directional express service that would operate more regularly throughout the day between Lynnwood and Stanwood with potential stops at Smokey Point, Marysville and South Everett.

In addition to the potential expansion of fixed route services, Community Transit is continuing to explore the potential of microtransit as an option for various markets throughout Snohomish County. Existing Vanpool and Ride Match services will also continue to be available.

Community Transit Routes

Service is provided countywide except for the City of Everett and Seattle metropolitan area. In the Stanwood area Community Transit operates three routes. One route provides local service, and two routes provide commuter service. There are no transit stops provided on SR 532 or to Island County.

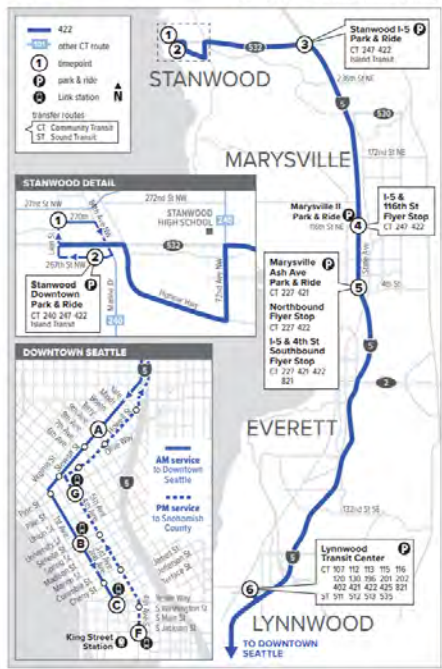


Route 240 (Local)

- This route is a local service route that travels on city streets and briefly uses SR 532 in town. It connects Stanwood, Warm Beach, and Smokey Point.
- Service is provided six days a week with buses every 57 to 60 minutes during the weekday and hourly on Saturday.
- There are six stops on this route.
- There are three transfer points with Island County.
- Schedule: [240 Route Schedule](#)

Route 422

Stanwood – Downtown Seattle

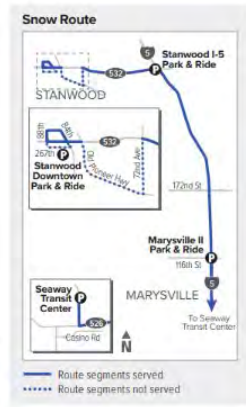
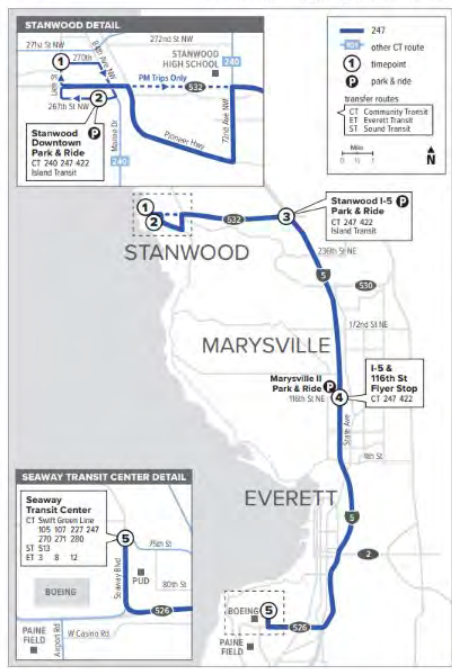


Route 422 (Commuter)

- This route is a commuter service route providing weekday service from Stanwood to Lynnwood and Downtown Seattle.
- The route has six stops with most stops located on I-5 at park and ride lots. Two lots in Marysville have associated Flyer Stops on I-5 in Marysville.
- Service is provided during peak afternoon travel periods.
- Schedule: [422 Route Schedule](#)

Route 247

Stanwood – Seaway Transit Center



Route 247 (Commuter)

- This route is a commuter route that operates a couple daily trips to/from Seaway Transit Center located next to the Everett Boeing plant.
- Service is provided weekdays during afternoon pm peak traffic periods.
- Serves Stanwood Park and Ride, Stanwood I-5 Park and Ride, I-5 116th St and Boeing
- There are five stops associated with this route.
- Schedule: [247 Route Schedule](#)

Effective: 9/18/2022
 Additional trip changes may occur. For the most up-to-date schedule information, visit [communitytransit.org/alerts](#).
 Visit [communitytransit.org/holidays](#) for a list of observed holidays and service impacts or call (425) 353-7433.



B. Island Transit

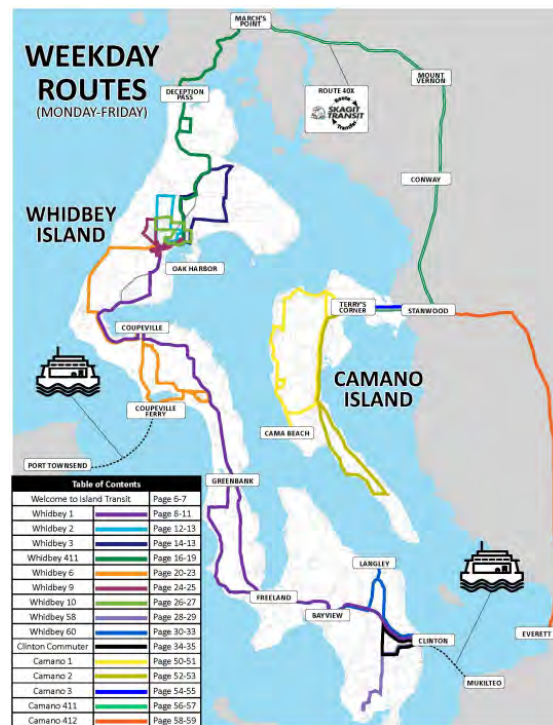
Island Transit provides service in Island County, serving Whidbey Island and Camano Island. Transit connections are also provided to Washington Ferries at Coupeville and Clinton, and neighboring transit agencies in Anacortes, Mount Vernon, Stanwood, and Everett. For the purposes of this report transit issues will only be reported for the Camano Island service area.

Service types

During the weekday there are five fixed routes and four fixed routes on Saturday. Three of these routes also have stops in Stanwood.

Regular Fixed Route Service.

- Route 1 and Route 2 provide service to Camano Island.
- Route 3 is a local service route that connects Stanwood and Terry’s Corner to Camano Island.
- Route 411C is a commuter route that uses limited stops Monday through Saturday in Stanwood and to Skagit Station in Mount Vernon.
- Route 412 is a commuter route that services Stanwood and I-5 Park and Rides traveling SR 532 from Terry’s Corner, Camano Island to Everett Station on weekdays.



Other Service.

- Paratransit service is an origin and destination service for eligible disabled persons unable to access regularly scheduled fixed routes.
- Rideshare (Vanpool) Program.
- RideLink – a pilot program that works with local service organizations to provide a flexible schedule to assist the elderly, veterans, disabled, low income and people with limited English proficiency.

Park and Ride

Island Transit uses the park and ride lot at Terry’s Corner on Camano Island adjacent to SR 532. There are 87 parking spaces available and room for expansion.

Plan highlights for 2023

- Island Transit is planning to implement new transit service, including Sunday service and late evening service to better meet the mobility needs of the public, business community, and visitors in a post pandemic world.

- One of Island’s primary objectives is to start design and installation of publicly accessible electric vehicle charging stations at Terry’s Corner Transit Center

Island Transit Routes of Camano Island and Vicinity



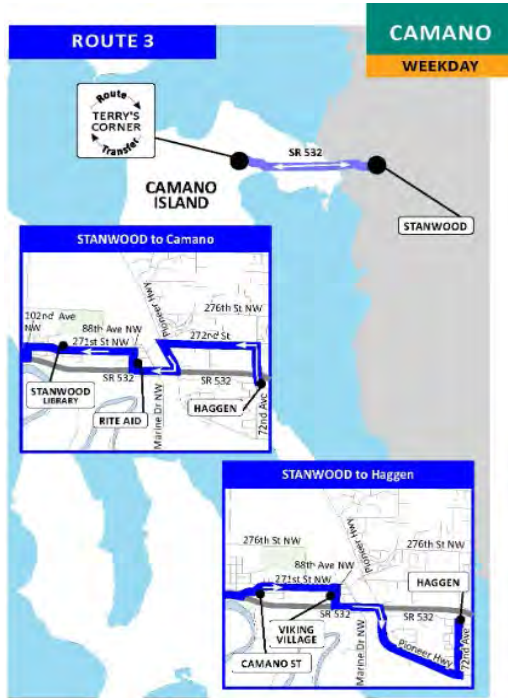
Route 1 West Camano (Local)

- This route is a local service route that services Camano Island.
- Service is provided Weekdays and Saturday.
- Service time between transit stops varies between 30 and 60 minutes.
- Eight stops are provided however, Island Transit has a policy to provide (wave-down) service along their routes.



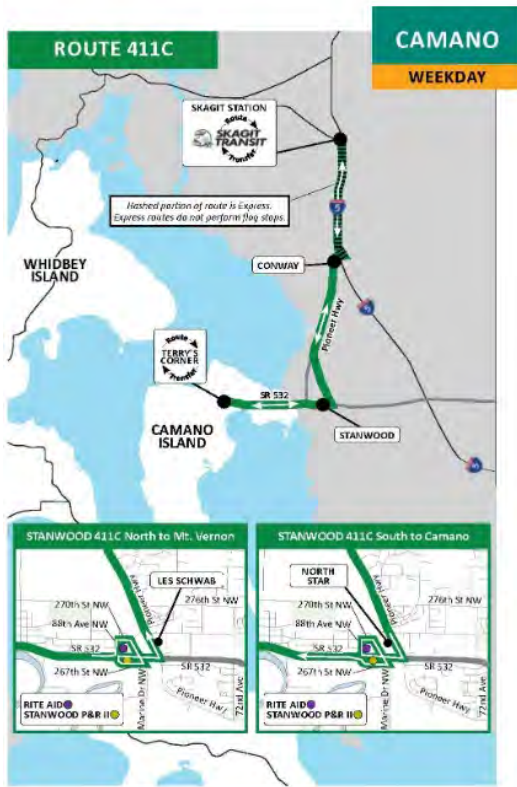
Route 2 East Camano (Local)

- This route is a local service route that services Camano Island.
- Service uses the park and ride lot at Terry’s Corner.
- Service is provided Weekdays and Saturday.
- Service time between transit stops varies between 30 and 60 minutes.
- Six stops are provided however, Island Transit has a policy to provide (wave-down) service along their routes.



Route 3 Camano to Stanwood (Local)

- This route is a local service route that provides service from Camano Island to Stanwood.
- Service uses the park and ride lot at Terry's Corner.
- Service is provided Weekdays and Saturday.
- Service time between transit stops varies between 30 and 60 minutes.
- This service provides access to the historic downtown, Haggen/72nd Ave and the High School.
- Three stops are provided each way. Additionally, Island Transit has a policy to provide (wave-down) service along their routes.



Route 411C Connector to Skagit Station

- This route uses limited stops Monday through Saturday in Stanwood and to Skagit Station in Mount Vernon.
- From Skagit Station service is provided by Skagit Transit to Anacortes/San Juan Islands Ferry, La Conner, Mount Vernon, and Bellingham.
- There are limited stops associated with this Connector Service, stopping at Stanwood, Conway, and Skagit Station via Pacific Hwy.



Route 412 Connector to Everett Station

- This route uses limited stops five days a week from Camano Island to Stanwood on SR 532 and then on to Everett Station on I-5.
- Saturday services are not provided.

C. Snow Goose Transit

For over the past year Snow Goose Transit has been serving the communities of Camano Island, Stanwood, Smokey Point and Arlington. They provide door-to-door service with a focus on serving people with disabilities, older adults, and low-income families.

Service type

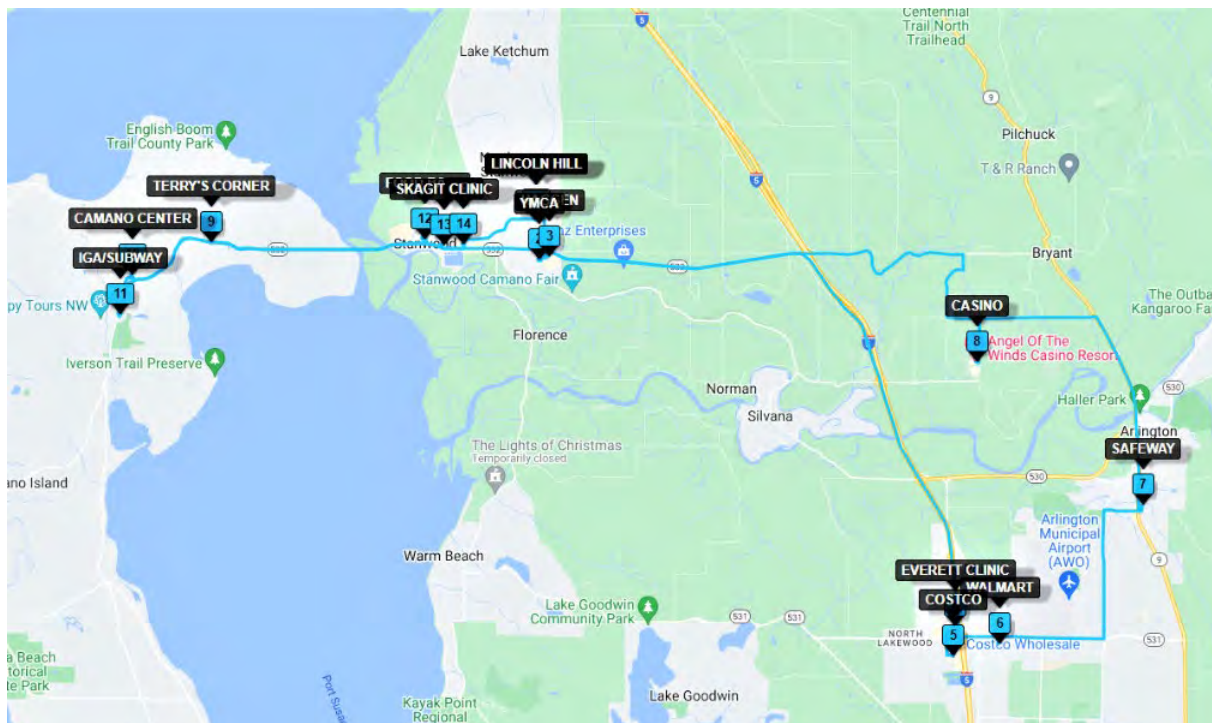
They have three 13-passenger mini-buses that operate on a “flex route” schedule. The buses can accommodate wheelchair access. Additionally, with prior scheduling they can deviate from the scheduled door-to-door pickup/drop-off schedule. They have 14 stops identified on their route schedule.

Coalition partners include:

- Camano Center
- Community Resource Center of Stanwood-Camano
- Community Transit
- Island Regional Transportation Planning Organization
- Skagit Transit
- Snohomish County Transportation Coalition
- Stanwood Community & Senior Center, and
- Stillaguamish Tribe



Snow Goose East Bound Route



Appendix G Existing Land Use

Land use summary

Island County Camano Island / City of Stanwood / Snohomish County
MP 0.00 to 10.08
November 2022

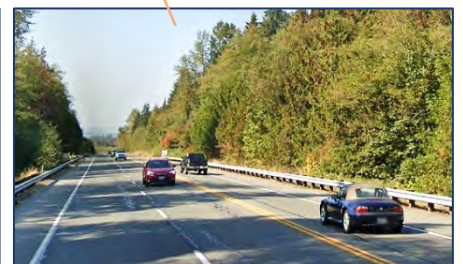
- A. Camano Island, Island County
- B. City of Stanwood
- C. Snohomish County



Terry's Corner, Camano Island



98th Dr NW, City of Stanwood



West of 36 Ave NW, Snohomish Co

Land Use Characteristics and Transportation Features

Land use plays an important role in the operational performance and safety of the transportation network along State Route (SR) 532. The state highway corridor is about 10-miles long and is located within three different jurisdictions: Camano Island in Island County, City of Stanwood in Snohomish County, and parts of unincorporated Snohomish County. Each jurisdiction is responsible for managing land uses and the local transportation network within their jurisdiction. All jurisdictions along the corridor are planning under the Growth Management Act (GMA) and are currently in the process of updating land use and transportation plans to accommodate their communities' long-term goals and objectives to meet future needs over the next twenty years.

The current transportation system is made up of bicycle, pedestrian, and transit facilities, together with local roads and streets that connect to State Route (SR) 532. Currently there are 24 public use intersections connecting to the state highway for a variety of uses including residential, commercial, industry and agriculture. Many of these local road and street intersections are defined as stop controlled, some with channelization. Eight intersections are signalized. In addition to the existing public road/street intersections there are 65 private driveways that access SR 532. Most of these private driveways are located on Camano Island and within the historic Stanwood downtown area. There are five private driveways located in unincorporated Snohomish County, one serving Lenz sand and gravel extraction.

The existing land use and the transportation network have many challenges, and it will take innovative ideas and engaged communities to improve land use features and road/street network connection to better serve existing and forecasted populations. There are many ways to improve the function of the transportation network and land use functions to meet local, regional and statewide needs. One way to help address this issue is the review of the existing land use patterns together with associated gaps in the transportation network within each jurisdiction.

Some challenges include:

- Spread out land use patterns.
- Unconnected local roads and street patterns.
- Uncontrolled driveway access on the state highway and/or major road and street arterials.
- Unconnected public road and street intersections to the local transportation network.

A. Camano Island, Island County

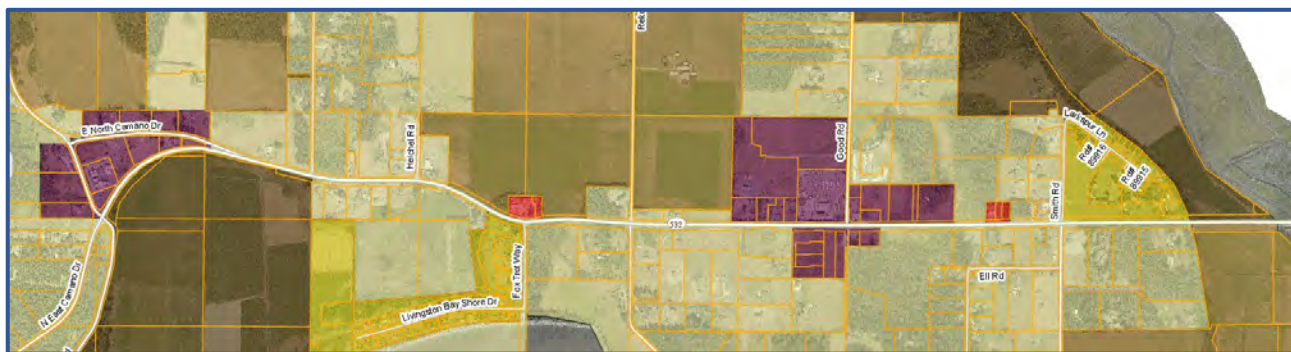
Camano Island is unique. It is in Island County and is the second largest island in the county. There are no incorporated towns or cities on the Island but there are several commercial shopping areas, schools, and other public facilities. Primary access is from SR 532 through Snohomish County; however, private access is also available by water or air. According to the 2020 US Census there are approximately 17,073 people with a total of 8,996 housing units or 2.3 people per household on the island. Home ownership was 90.3%. The median age is 54.8 which in general is older than the median age in the state or the nation. The

median household income is about \$85,811. Hispanics make up about 2.24% of the population. All households on Camano Island reported speaking English at home as their primary shared language. The average commute time was 44.2 minutes with most people driving alone to work.

Camano Island has a combination of rural and agricultural land uses together with pockets of scattered residential and commercial land use clusters. The existing land use patterns are adopted in the 2016 future land use map, which is consistent with the current development regulations. There are five identified land use zoning districts. Two allow commercial and mixed-use development, two allow various intensities of residential and public facilities development, and one is identified as commercial agriculture. Land use categories are noted in Exhibit 1.0.

The Camano Gateway Villages and Rural Service areas allow commercial and mixed-use development. Beginning at Sunrise Blvd / Terry’s Corner and moving east along the corridor there are two areas designated as Gateway Villages. These areas are about 1.5 miles apart and noted in purple on Exhibit 1.0. There are also two smaller Rural Service areas noted in red. The Rural Service areas are less than one mile apart from the Gateway Villages.

Exhibit 1.0 Camano Island Land Use Classifications



Legend

- Rural Residential** – single- and multi-family residential, bed and breakfast, general farming, public facilities (i.e., fire, police), schools. Base density is 2 units per acre with a minimum lot size of 0.5 acres. Lot size averaging allowed.
- Rural Lands** – single family, bed and breakfast, churches, schools, public facilities (i.e., fire, police), general farming, farm equipment storage/repair. Density one unit per 5 acres. 2.5-acre minimum lot size with lot size averaging. Planned residential development allowed with conditions.
- Commercial Agriculture** – general farming, farm worker housing, farm equipment repair/storage, schools, single family, farmers market, and winery. Minimum lot size 20-acres.
- Rural Service Area** – mixed use, restaurants, and retail sales/service. The zone permits limited mixed use and nonresidential uses. Lot size predicated by County Health Department but shall not exceed 2.5 acres.
- Camano Gateway Village** – mixed use, restaurants, banks, office, overnight lodging, storage, public facilities (i.e., fire, police), medical, and retail sales/services. Primarily nonresidential uses except as permitted through mixed use development and provided the density does not exceed 3 units per acre. Minimum lot size is 0.5 acres.

There are also two designated rural districts noted in yellow. The largest area is designated as Rural Lands and the other as Rural Residential. Both classifications allow residential development and public facilities. The Rural Lands classification is located throughout the corridor on both sides of SR 532 with existing residential clusters and some scattered residential development. Two areas are designated as Rural Residential in the study area. One area is located on the shore of Livingston Bay with access to SR 532 from Fox Trot Way, and the other is located further to the east on the bluff overlooking Davis Slough. Access is provided by Smith Road, which dead ends a short distance from the highway. Both areas allow a variety of residential density and public facilities.

The Commercial Agricultural classification is located on both sides of the corridor in several areas and consists of large lot agriculture. Allowed uses generally include agricultural uses together with single family homes.

SR 532 corridor is the primarily state highway that serves Camano Island and surrounding land uses. The facility is improved with one lane in each direction except for an additional truck climbing lane west of Smith Road. There are 4- to 6-foot-wide shoulders on both sides of the corridor except for the portion of the corridor crossing Davis Slough where shoulder width is sufficient for emergency vehicle access. Additionally, there are seven public use intersections providing local access to SR 532. All public use intersections have some channelization except for Hanstad Road, which is restricted to right in, right out movements. The intersection location, Average Daily Trips (ADT) and other key information are provided in Exhibit 2.0.

Exhibit 2.0 Local Public Use Intersections on Camano Island SR 532

Intersection	MP	ADT (2021)	Truck %	Posted Speed (mph)	Intersection Control	Access Control	Func. Class	Terrain
N Sunrise Blvd	0.00	19,000	2.8%	45	Signal	M2	R2	Rolling
Hanstad Rd	0.57	21,000	2.7%	45	TWSC	M2	R2	Rolling
Heichel Rd	0.82	21,000	2.5%	45	TWSC	M2	R2	Rolling
Fox Trot Wy	1.10	21,000	2.6%	45	TWSC	M2	R2	Rolling
Rekdal Rd	1.34	21,000	3.1%	45	TWSC	M2	R2	Rolling
Good Rd	1.85	21,000	3.2%	45	TWSC	M2	R2	Rolling
Smith Rd	2.38	21,000	3.1%	45	TWSC	M2	R2	Rolling

Other transportation features include a park and ride lot at Terry’s Corner. The park and ride lot has 87 parking spaces and is primarily used by Island Transit and commuters. Currently the parking area is underutilized. There are eight bus stops along SR 532, four in each direction. Good Road is designated as a minor arterial and connects to Utsalady Road that serves the north part of the island. Good Road would also serve the Camano Gateway Village located adjacent to Cascade Lumber.

B. City of Stanwood

The City of Stanwood is the only incorporated city on the SR 532 corridor. According to the 2020 U.S. Census there are approximately 7,228 people living in the incorporated area of Stanwood with a total of 2,979 housing units or 2.7 people per household. Home ownership was 69%. The median age is 32.0 with a median household income of \$71,306. Hispanics make up about 3.4% of the population. None of the households in Stanwood reported speaking a non-english language at home as their primary shared language. The average commute time was 29.9 minutes with most people driving alone to work. The largest industries in Stanwood include Manufacturing with 963 employees, Retail Trade with 949 people and Construction with 845 people.

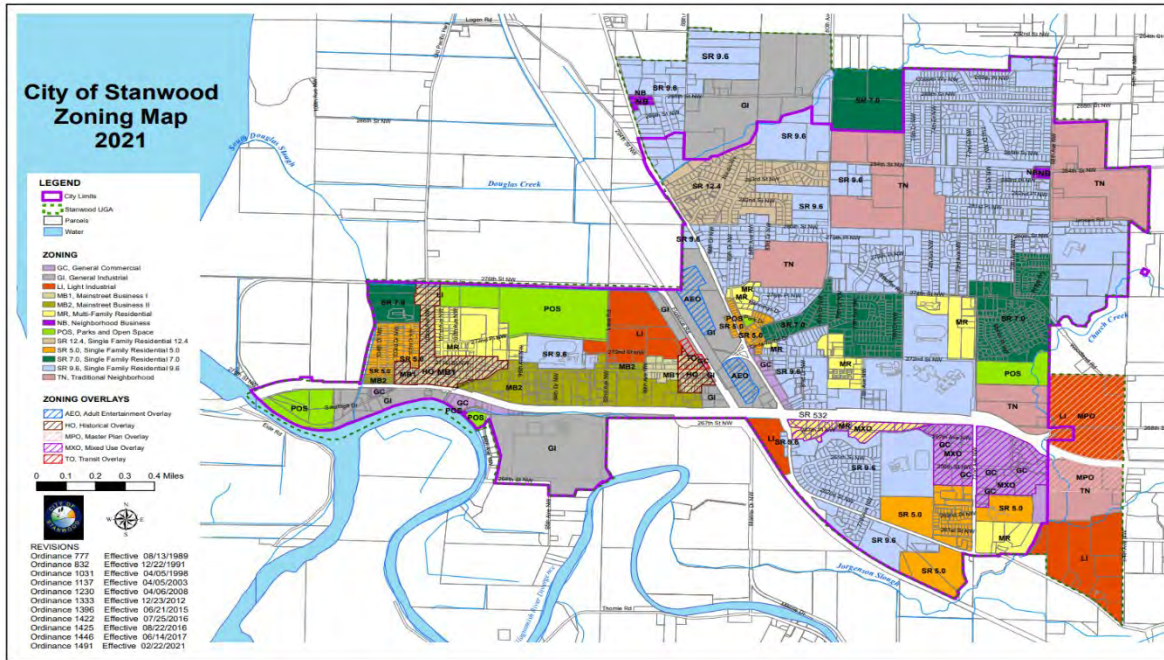
The city of Stanwood has a combination of residential, commercial, industrial, and recreational classifications. Existing land use patterns are consistent with the adopted 2016 future land use map, which is generally consistent with current development regulations. There are 12 identified zoning districts. Five are designated for various densities of residential development, four allow commercial retail and service businesses, and two allow industrial uses. There are also several overlay districts that have special considerations such as Mainstreet Business districts I and II, which are in the historic downtown area of Stanwood on the west end of the city north of SR 532. Exhibit 3.0 represents the different land use classifications and location for Stanwood.

When looking at Stanwood from the air you will quickly notice that there are three distinct areas along the highway within the city – each with various intensities of development and attributes. As indicated previously, the west end of the city is generally noted as the historic area and has a combination of old and new commercial land uses together with industry and older residential housing units. Sidewalks and on-street parking along SR 532 are also evident in the older district. A park and ride lot with 70 spaces is located on the south side of SR 532 adjacent to 267th St NW. The park and ride lots is used by Community Transit, but according official is underutilized. There are no bus stops on SR 532 in the city.

The east end of the city has larger scale commercial retail businesses, more intense recently constructed mixed-use housing, and additional housing planned. Sandwiched in between the historic district and the new shopping area is an area primarily designated for low to medium mixed use residential densities. Several public schools are also located here. A sidewalk is located on the south side of SR 532 and extends from Pioneer Highway to 72nd Ave NW.

In Stanwood SR 532 is improved primarily with two lanes, one in each direction. Exceptions include the historic downtown district that has a center turn lane and truck climbing lane east of Pacific Highway to 72nd Ave NW. There are ten intersections that provide local access to SR 532. Five intersections are stop controlled and five intersections have signals. All intersections are improved with channelization or center turn lane. See Exhibit 4.0 Local Public Use Intersections for more information.

Exhibit 3.0 Stanwood Land use Classifications.



Legend

- | | |
|--------------------------|--------------------------------|
| General Commercial | Neighborhood Business |
| General Industrial | Single Family Residential 12.4 |
| Light Industrial | Single Family Residential 5.0 |
| Mainstreet Business I | Single Family Residential 7.0 |
| Mainstreet Business II | Single Family Residential 9.6 |
| Multi-Family Residential | TN Traditional Neighborhood |
| *Overlay Districts (5) | |

Exhibit 4.0 Local Public Use Intersections on Camano Island SR 532

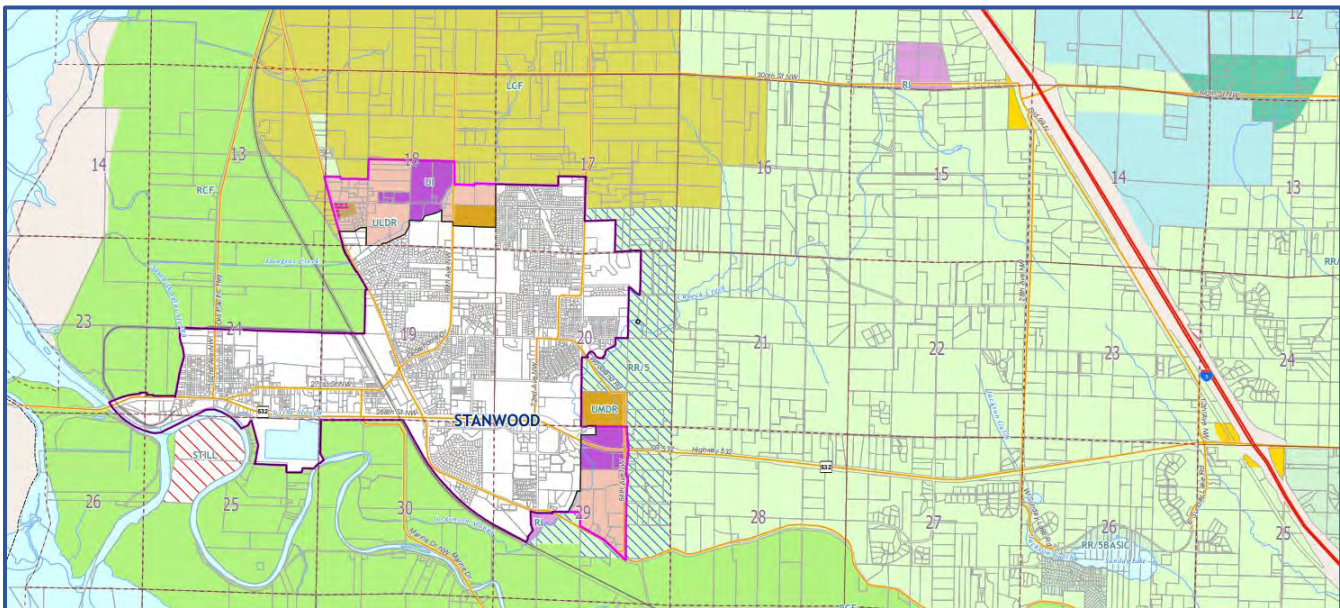
Intersection	MP	ADT (2021)	Truck %	Posted Speed (mph)	Intersection Control	Access Control	Func. Class	Terrain
104th Dr NW	3.86	22,000	3.3%	35	TWSC	M4	U2	Rolling
103rd Dr NW	3.92	22,000	3.6%	35	TWSC	M4	U2	Rolling
102nd Dr NW	3.97	22,000	3.7%	35	TWSC	M4	U2	Rolling
102nd Ave NW	4.03	22,000	3.7%	35	Signal	M4	U2	Rolling
Camano St	4.11	19,000	3.6%	35	TWSC	M4	U2	Rolling
98th Dr NW	4.25	19,000	3.7%	45	TWSC	LA - Partial	U2	Rolling
92nd Ave NW	4.65	19,000	3.4%	45	Signal	LA - Partial	U2	Rolling
88th Ave NW	4.90	19,000	4.2%	45	Signal	LA - Partial	U2	Rolling
Pioneer Hwy	5.25	19,000	4.7%	45	Signal	LA - Partial	U2	Rolling
72nd Ave NW	5.90	17,000	3.9%	45	Signal	LA - Partial	U2	Rolling

C. Snohomish County









This section of the SR 532 corridor extends from I-5 interchange, west through Snohomish County. According to the 2020 US Census there was an estimated population in the study area of about 6,300 people within the study area of unincorporated Snohomish County. It is estimated that there are about 2,300 housing units or 2.7 person per household. Hispanics make up an estimated 11% of the population.

There are eight land use classifications in the study area that allow a range of residential density, commercial development, industry, and agricultural use. Exhibit 5.0 represents the different land use classifications and location. Three classifications are located within the urban growth area of Stanwood and are under Stanwood’s development code. Land use classifications in the urban growth area include Urban Low Density Residential, Urban Medium Density Residential, and Urban Industrial. The Urban Low and Medium designations primarily allow increased residential development from 5 units per acre up to 22 units per acre. The other five classifications allow rural levels of development for residential uses, commercial and farming. The predominate classification along the SR 532 corridor is rural residential, which allows large lot single family development. The Rural Freeway Service classification is located at the interchange of I-5 and SR 532. There is also a rural industrial classification which is noted on the exhibit as light purple and is located northwest of Stanwood on 300th St NW. Agricultural classifications are located north, west, and south of Stanwood.

Exhibit 5.0 Snohomish County Land Use Classifications.



Legend

-  **Riverway Commercial Farmland** – general farming, bed & breakfast, farm worker housing, farm equipment repair/storage, schools, single and duplex residential, farmers market, and winery.
-  **Local Commercial Farmland** – general farming, bed & breakfast, farm worker housing, farm equipment repair/storage, schools, single and duplex residential, storage, and farmer market.
-  **Rural Freeway Service** – small-scale oriented commercial services that are dependent on highway users.
-  **Rural Residential** – agriculture, single and duplex residential, bed & breakfast, church, public facilities, schools. Minimum lot size 5 acres. Greater density allowed by planned development (1-8 units and 9-24 units).
-  **Rural Urban Transition Area Overlay** –
-  **Urban Low Density Residential** – 5 to 10 units per acre. Stanwood code
-  **Urban Medium Density Residential** – 10 to 22 units per acre. Stanwood code
-  **Urban Industrial** – Stanwood code

The SR 532 corridor primarily has two lanes, one in each direction except for the westbound truck climbing lane beginning at Sunday Lake Drive and an eastbound truck climbing lane east of Lenz sand and gravel extraction site. There are no bus stops on this section, however there is a park and ride lot with 138 spaces at the I-5 interchange. Shoulder width is about 6 feet wide from the I-5 interchange to Stanwood. There are eight public use intersections. Two intersections are located at the I-5 interchange and make up the northbound and southbound on and off ramps. All intersections except 19th Ave NW are improved with channelization. Six public use intersections provide local access to SR 532. One intersection - 64th Ave NW - is in the urban area of the City of Stanwood and is currently under consideration for a roundabout improvement. Channelization is also located on SR 532 at the entrance to the Lenz mineral extraction site.

Exhibit 6.0 Local Public Use Intersections on SR 532

Intersection	MP	ADT (2021)	Truck %	Posted Speed (mph)	Intersection Control	Access Control	Func. Class	Terrain
64th Ave NW	6.45	17,500	4.0%	55	TWSC	LA - Partial	R2	Rolling
36th Ave NW	8.22	18,000	4.3%	55	TWSC	LA - Partial	R2	Rolling
28th Ave NW	8.74	18,000	4.4%	55	TWSC	LA - Partial	R2	Rolling
19th Ave NW	9.30	18,000	4.3%	55	TWSC	LA - Partial	R2	Rolling
12th Ave NW	9.79	18,000	4.7%	40	TWSC	LA - Partial	R2	Rolling
Old 99 N	9.94	18,000	4.8%	40	Signal	LA - Partial	R2	Rolling
I5 SB Ramps	10.00	18,000	5.2%	40	TWSC	LA - Full	R2	Rolling
I5 NB Ramps	10.09	12,000	4.9%	40	Signal	LA - Full	R2	Rolling