

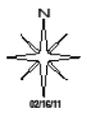
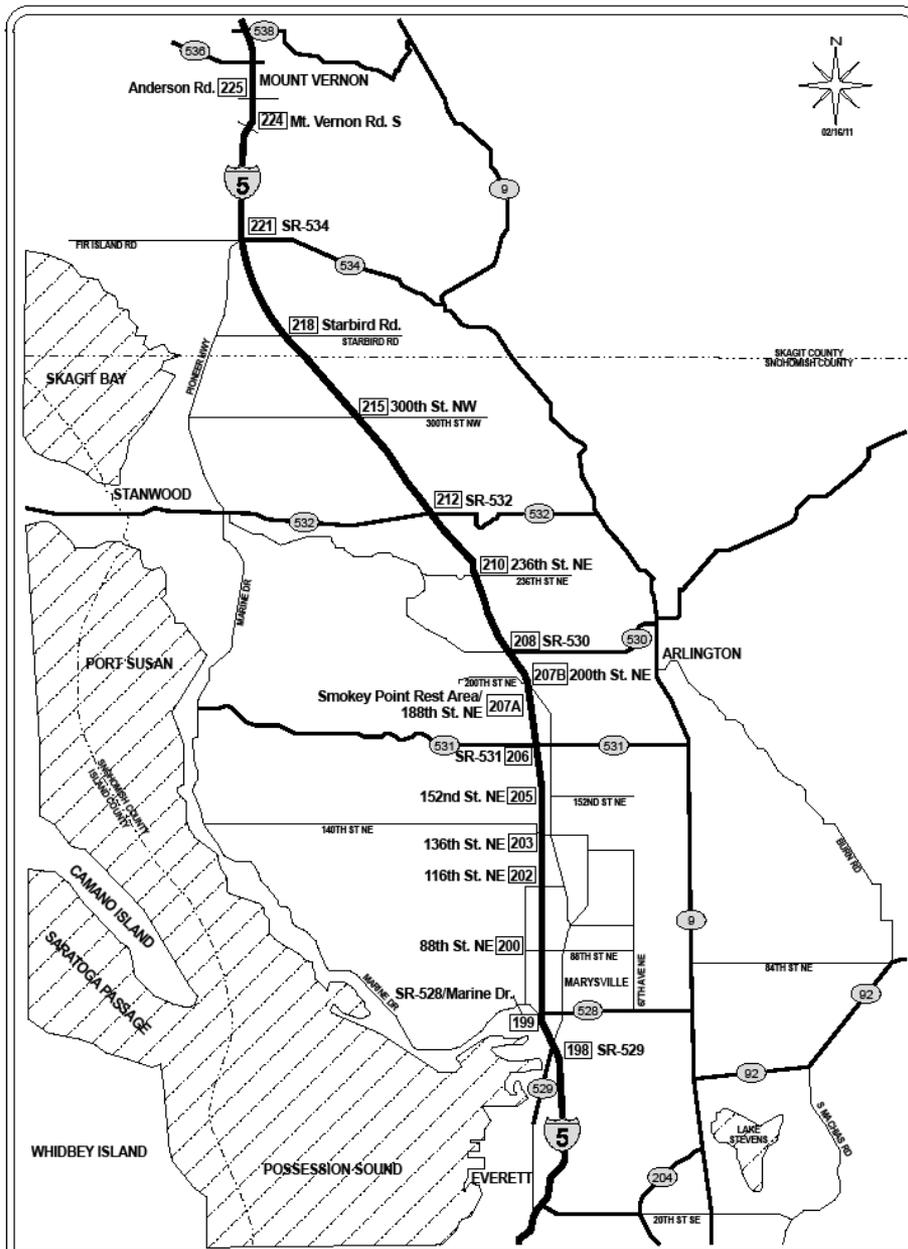
Stillaguamish Tribe

I-5 HOV Study

GTC

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- Provide an inventory of existing physical accommodations for High Occupancy Vehicle (HOV) as well as programmed or planned HOV facilities and transfer points along the I-5 corridor from north Snohomish County (Marysville) to south Skagit County (Mount Vernon).
- Identified local/national and international strategies/improvements that have been used to improve/enhance HOV access to the Freeway.
- Contacted the relevant agencies to see what existing data they have available and what adopted plans or draft plans may be available for future HOV accommodations.
- Identify what further steps could potentially be taken in order to enhance HOV facilities/transit service in this area.



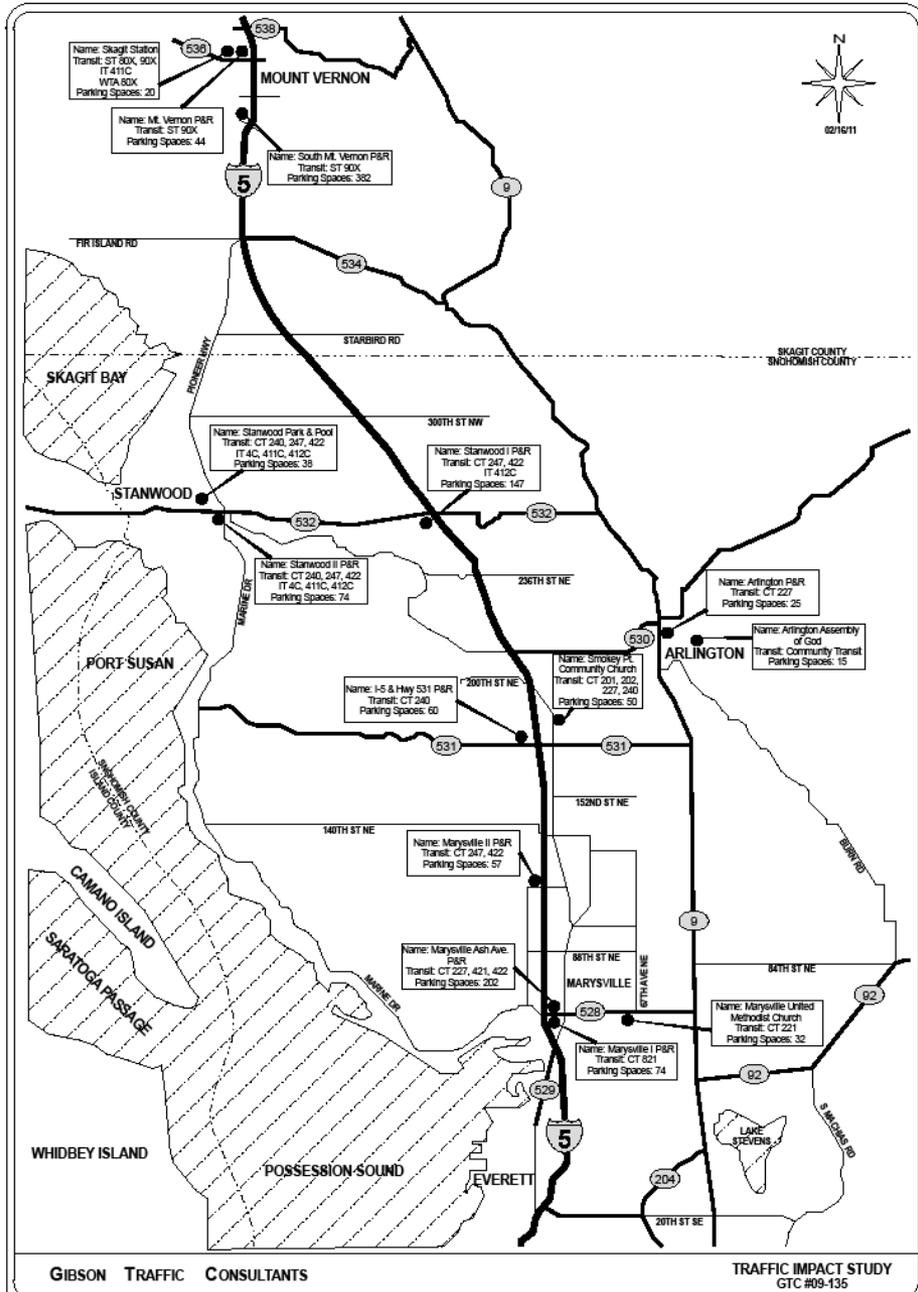
GIBSON TRAFFIC CONSULTANTS

TRAFFIC IMPACT STUDY
GTC #09-135

INTERSTATE 5
HIGH OCCUPANCY VEHICLE STUDY
STILLAGUAMISH TRIBE OF INDIANS
NORTH SNOHOMISH/SOUTH SKAGIT
COUNTIES

LEGEND
 XXX Potential high-occupancy vehicle (HOV) changeover point

FIGURE 1
PROJECT OVERVIEW MAP



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LEGEND

● Park-n-Ride Location
Name of Park-n-Ride Location
Transit Agency/Routes, Serving Location
Number of Parking Spaces

CT = Community Transit, IT = Island Transit
ST = Skagit Transit, WPA = Whatcom Transportation Authority

FIGURE 2

PARK-N-RIDE LOCATIONS

- PSRC data/models for 2006, 2025, and 2040 between SR-528 and 88th Street NE (Marysville) shows the mainline ADT and the Percentage of HOV and are:
 - 2006 – 108,989 ADT with 17% HOV or 18,528 HOV trips in a day
 - 2025 – 132,580 ADT with 15% HOV or 19,887 HOV trips in a day
 - 2040 – 149,096 ADT with 14% HOV or 20,873 HOV trips in a day
- The existing volumes from the I-5 roadway along the study corridor are:
 - 36th Street SE (Everett) – 169,000 ADT
 - North of US 2 (Everett) – 141,000 ADT
 - 79th Street NE (Marysville) – 119,000 ADT
 - 160th Street NE (Arlington) – 91,000 ADT
 - Stillaguamish River (Stanwood) – 67,000 ADT

Existing Conclusions

- No plan in place to provide HOV facilities along I-5 north of Marysville or more transit service specifically along I-5 in the North Snohomish County/South Skagit County vicinity.
- There are agreements in place between Skagit Transit and Community Transit which preclude Skagit Transit from picking up riders that would both board and de-board in Snohomish County.
- No single responsibility coordination/planning between the transit agencies, WSDOT, and the counties/cities along the corridor-
- Many physical and jurisdictional barriers .

Downtown Bellevue HOV Access (Bellevue Transit Center)

- This facility is located at Interstate (I)-405 and NE 6th Street in Bellevue, WA.
 - ▣ Direct transit and HOV access
 - ▣ Services a nearby Downtown Bellevue Transit Center
 - ▣ Connects to local transit service
 - ▣ Serves only the west side of the freeway (future plans to connect to east side)



Bothell Pedestrian Crossing over I-405

- This facility provided:
 - ▣ Greater pedestrian safety and connection across the interstate
 - ▣ The option to be integrated with median in flyer stops



Montlake Terrace Freeway Station

- This flyer stop linked with a parking structure is located at I-5 and 236th Street SW.
 - Flyer stop located in the median
 - Five level parking structure and Moutlake Terrace Transit Center located nearby
 - Covered pedestrian overcrossing connected parking structure to access flyer stop



92nd Avenue NE Transit Stop

- An example of a signalized transit stop is on the SR 520 corridor at 92nd Avenue NE. Commuters can access this bus stop by using the sidewalk down the westbound on ramp from 92nd Avenue NE and hit a button to signalize a bus driver that someone is waiting at this bus stop.



- Kiss and Ride
 - ▣ Passenger drop off and pick up areas
- Optical Emitter
 - ▣ When using the Optical emitter, the intersection receives a priority call only if the bus is late. After the bus passes the intersection detector, the priority call is dropped and the intersection controller returns to normal operation.
- Dedicated Bus Lanes
 - ▣ Dedicated bus lanes are lanes restricted to bus use only, generally to improve transit speed in a normally traffic congested area. Bus lanes can vary in length; from one stretch to bypass a single congestion point to large stretches leading to bus rapid transit (see Bus Rapid Transit on previous page for more information).

- Shared HOV and Transit Lanes
 - ▣ Lanes reserved with a driver and one or more passengers..
- Reversible Lanes
 - ▣ Provides additional lanes for commuters in the direction of traffic, used on I-5 and I-90
- Vanpool
 - ▣ Cost-effective way for groups of 5 to 15 commuters who can share a ride to work. On average, a vanpool can save the average commuter over \$6,000 annually.
 - ▣ <http://www.rideshareonline.com/Commuters/vanpoolproviders.html>
- Rideshare and Carpooling
 - ▣ Formal carpooling tool used to provide commuters an option to find other commuters within the same area to carpool.
 - ▣ <http://www.rideshareonline.com/Commuters/carpool.html>
- On-Demand Transit Service
 - ▣ Connect passengers from one specific location to another. On-demand options can vary from single passenger in a taxi to a company using corporate shuttles.

- On-Demand Veola Transportation
 - ▣ This company is worldwide which manages and operates multiple modes of transportation.
- Flexible Transit Route Linking to Regional Routes
 - ▣ Alternative to park and rides which service the local sector with a general route but are allowed to venture off route for special pick-ups.
- Flexible Demand Response (FDR)
 - ▣ In Southern Nevada, FDR is an operation to provide curb-to-curb transit service that intersects with regional transportation fixed route to take commuters outside of the local community. The result was the addition of loop routes on a schedule that operates two days a week in a limited area. The service is open to the entire community, but was designed with senior citizens in mind including stops at assisted living and senior community centers and various shopping locations. Currently available in the Sun City Anthem, Sun City Summerlin, and Centennial Hills communities.

□ Study Intersections

- GTC has identified the following study interchanges as potential locations for HOV improvements. The study interchanges are included below:

Mile Post – Intersection Roadway

- 198 – SR-529 (North Everett)
- 199 – 4th Street/Marine Drive
- 200 – 88th Street NE
- 202 – 116th Street NE
- 203 – 136th Street NE
- 205 – 156th Street NE (Proposed by Marysville)
- 206 – SR-531
- 207A – Smokey Point Rest Area/188th Street NE
- 207B – 200th Street NE
- 208 – SR-530
- 210 – 236th Street NE
- 212 – SR-532
- 215 – 300th Street NW
- 218 – Starbird Road
- 221 – SR-534
- 224 – Hickox Road
- 225 – Anderson Road (Mt Vernon)

□ Findings

- There is no adopted HOV plan along I-5 for the study area of Marysville to Mt Vernon. Therefore, any interchange modifications to the system within this area are not required to comply with an overall HOV plan. WSDOT NW Region and ultimately Olympia Headquarters are responsible for adopting such a system plan. An area wide HOV plan for I-5 in the study area needs to be developed and adopted by WSDOT.
- The area between North Snohomish County and South Skagit is a jurisdictional and organizational vacuum. It is:
 - Between counties (Snohomish-Skagit)
 - Between cities centered on the corridor (Everett to the south Mt Vernon to the north,
 - Between transit agencies (Community Transit service area stops at Stanwood/SR-532 and there are specific restrictions on north county (Skagit/Whatcom) transit agencies preventing them from stopping to pick up passengers in north Snohomish County)
 - North of the regional transit authority voter approved area
 - Between regional planning authorities (PSRC-WCOG)
 - Between even joint transit agency organizations such as Snotrac in Snohomish County and the Farmhouse Gang to the north
 - Even within the organizational structure of WSDOT the area lays between the outskirts of the MT Baker district located in Burlington and the outskirts of the Snohomish area which is actually located in Seattle

□ Conclusion/Recommendations

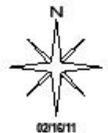
- The study corridor is in the rural area between major employment centers but slowly going through a transition as areas such as Island Crossing are annexed into city urban growth areas.
- However, based on existing traffic counts there is an increase of approximately 70,000 daily trips from Stanwood (67,000ADT) to the south end (north Everett (141,000 ADT) . Based on PSRC approximately 17% of the existing traffic on I-5 is HOV. Therefore, a potential ridership base of 11,900 would benefit from HOV/transit improvements.
- The area is not part of the regional HOV system plan and only part is covered by the CT service area
- WSDOT could provide a single reference point for the Transit Agencies, Counties, Metropolitan Planning Organizations' (MPOs), Farmhouse Gang, PSRC, and WCOG to provide better service for this area.
- GTC also believes that the best use of resources would be the construction of added flyer stops to the existing diamond ramps that would be tied to new Park & Ride facilities or Shared Use Parking Lots with either the rest stops or commercial centers. These facilities could utilize Dial-a-Ride or On-Demand technology to coordinate with Community Transit, Skagit Transit, and Island Transit.
- The agreements in place between Skagit Transit and Community Transit which preclude Skagit Transit from picking up riders that would both board and de-board in Snohomish County would need to be removed in order to add service without adding additional routes. Improved services for this study area are going to be very difficult without a single focal point to meld existing services/organizations recourses and dedicate attention to this in between area.



Flyer stops were identified as the best option at this interchange. The existing southbound on-ramp likely is wide enough to provide for a flyer stop with minimal modification. The northbound on-ramp would need to be widened.

There is currently no park-n-ride lot near this interchange; however, there are a number of retail uses on both sides of I-5 that could provide for joint/shared use parking.

Additional transit agencies, such as Island Transit, Skagit Transit, Everett Transit and Whatcom Transit Authority, should consider using the potential flyer stops to provide enhanced service. Reverse commute routes should be considered along with reducing the number of deadhead routes.



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MP 200 - 88th St. NE
Serves Quil Ceda Village commercial
center and central Marysville.

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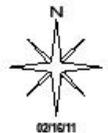
There are existing flyer stops at this location. The southbound stop is not in the preferred location based on WSDOT standards, which call for the stop to be located on the on-ramp rather than the off-ramp. However, the southbound stop is adjacent to the existing park-n-ride lot.

Additional transit agencies, such as Island Transit, Skagit Transit, Everett Transit and Whatcom Transit Authority, should consider using the existing flyer stops to provide enhanced service. Reverse commute routes should be considered along with reducing the number of deadhead routes.

The 116th Street APDR addresses the potential for a new interchange at this location. The interchange may be redesigned as a single-point urban interchange (SPUI). This type of interchange does not support the design of flyer stops because it eliminates the ability for vehicles to pass straight through the intersection and back onto the freeway on-ramp.

CT is considering the potential for a new area park-n-ride lot to the north of this location.

Potential options should consider making use of the nearby commercial parking lots.



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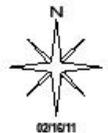
MP 202 - 116th St. NE
Serves Tulalip Casino, 116th St. NE
park-n-ride and residential areas to the
east and connects to Smokey Point Blvd.
to the west.



This location also requires further investigation. It would provide good east/west connectivity and is near the industrial areas of Marysville and Arlington. It could provide a connection to 51st Avenue NE via Smokey Point Boulevard. The railroad tracks are significantly farther away from the freeway than at 136 Street NE. I-5 could potentially be widened to accommodate transit under the potential future bridge structure or direct access transit ramps could be constructed.

Marysville has an overcrossing project in its 6-year Transportation Improvement Plan. Any crossing should not preclude the ability to do at-grade flyer stops under the new bridge structure or even direct access HOV ramps.

Additional transit agencies, such as Island Transit, Skagit Transit, Everett Transit and Whatcom Transit Authority, should consider using the potential flyer stops to provide enhanced service. Reverse commute routes should be considered along with reducing the number of deadhead routes.



02/16/11

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MP 205 - 156th St. NE
Potential crossing would provide access to
retail areas along Twin Lakes Ave. and Arlington

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The location is set up well for future flyer stops. The southbound on-ramp is likely wide enough for a stop; however, the northbound on-ramp would need to be widened.

Additional transit agencies, such as Island Transit, Skagit Transit, Everett Transit and Whatcom Transit Authority, should consider using the potential flyer stops to provide enhanced service. Reverse commute routes should be considered along with reducing the number of deadhead routes.

There is an existing 60 space park-n-ride lot and a significant amount of commercial parking spaces near the ramps for future park-n-ride use agreements

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MP 206 - SR-531
Connects to Marine Dr. to the west and
Arlington and SR-9 to the east.

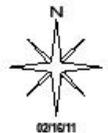
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The existing rest area ramps could be used to provide transit access to this interchange. The existing rest area parking spaces could be converted to full park-n-ride use and additional spaces could potentially be added on the east side of I-5 for park-n-ride use.

A full-access connection to Smokey Point Boulevard could be added.

A pedestrian overcrossing should be evaluated as an option to provide connectivity between the transit stops and parking areas on both sides of the freeway to provide for two-way access to park-n-ride lot.



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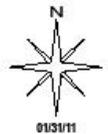
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MP 207A - Smokey Point Rest Area/188th St. NE
Serves rest area and could potentially
accommodate transit vehicles.

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Flyer stops could be added at this location in both the northbound and southbound directions.



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MP 212 - SR-532
Provides access to Starwood and Camano
Island and connects to SR-9 to the east.

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Questions?



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