SR 305 Corridor Vision

Transportation Choices for Tomorrow—Connecting Communities

KT 05-348

EXECUTIVE SUMMARY

JULY 2007

Kitsap Transit

otak

The Otak Team

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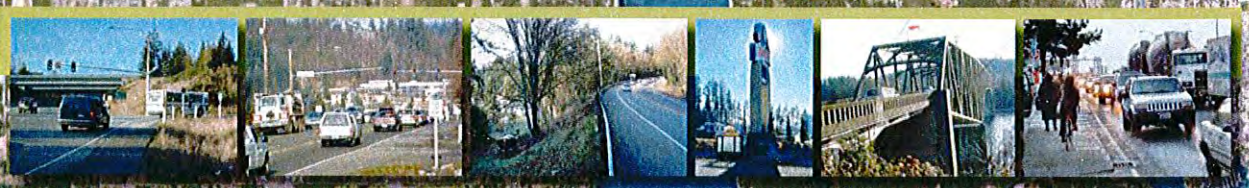

City of Bainbridge Island

PLANNING & COMMUNITY DEVELOPMENT

MEMORANDUM

TO: Darlene Kordonowy
Mary Jo Briggs

FROM: Greg Byrne, AICP

DATE: April 6, 2007

RE: Review of SR 305 Corridor Vision -- Draft for Partnership Agency Review

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I've quickly reviewed the draft document, and the comments provided by Randy Witt and Molly Johnson. (Libby and Kathy are both on vacation; I don't have the benefit of their perspectives.)

Generally, I concur with their comments and would like to add some addition perspective on the portions of the Draft that touch on land use.

It's clear that the main focus of the entire project is through traffic from off-island to the ferry terminal. (Sixty-five percent of trips.) This central focus is evident in several of the study's assumptions and findings. For example:

- Limited access to SR 305 is proposed, and an access control plan is called for in cooperation with COBI. The study notes that land division approvals by COBI will complicate achievement of the access control, especially in the area of the Day Road park and ride. However, the City's comp plan calls for increased density in the area, implying **more** land division. This sets up a tension that will require careful consideration, both by COBI in approving land development activity, and by WDOT and Kitsap Transit in the design of their facilities.

- Only one park and ride facility is proposed for BI, at Day Road. This will facilitate the goal of limiting transit stops, and shortening long-distance commute times; it will not facilitate on-island use of the system. It will likely increase parking pressures on Winslow, see below.

- There is little evident support for other neighborhood service centers in the COBI comp plan. Indeed, these are acknowledged in the Draft as being off the main alignment of SR 305 and difficult to serve. Connecting transit, or other alternative modes, will be required to make successful inter-island use of the new system.

The Draft seems to me to avoid the thorny issue of parking in Winslow by either assuming as solution or embracing unrealistic goals (e.g., *reduce* parking demand in Winslow, page 5-2). The City's plans for increased intensity in the Core, and the ferry system's assumption of

proportionally greater foot traffic, will require that people put their cars somewhere. Some of this burden will almost inevitably fall on the Winslow area, where people will compete (sometimes illegally) for scarce spaces. Anecdotally, I recall stories in the Washington Post almost 40 years ago about commuters parking at 2 am, and sleeping in their cars until time to go to the office.

Continuing with the parking theme: In the cost estimating section, adding structured parking almost doubles the cost of the overall project (from $55M to $96M). In the face these kinds of capital costs, it's likely that surface parking will be there for a long, long time. As a land use, surface parking is difficult to integrate into the neighborhood service center concept of higher density, walkability, and pleasing urban design. This would further complicate the task of successfully creating a NSC in the Day Road area.

The scale and style of a sophisticated, urban transit system is likely to be jarring to many island residents. It's not a comfortable fit with the vision of rural, low-density patterns of development, particularly since the vast majority of customers will 'just be passing through'. To the degree that it's contained in the 305 corridor, and buffered from view, it will be easier to accept.

These comments are not intended to be overly-negative. BI's location between the population of the peninsula and the draw of Seattle is inescapable. High capacity transit is essential in the transportation mix. Managing its impacts on the island will require some determination.

Executive Summary

Introduction and Background

Envisioned as an update to the SR 305 Corridor Analysis and Major Investment Study (MIS) completed in 1997, Kitsap Transit worked to once again bring the regional partners together to take a new look at the SR 305 corridor, with a more specific focus on high capacity transit (HCT) options for the corridor. Funding for this study was provided through a federal grant and matching funds administered by Kitsap Transit.

The partners determined that since nearly ten years has passed since the 1997 MIS, it was time to reevaluate the long-range vision for the corridor, with a particular emphasis on opportunities related to high capacity transit as a tool for relieving increasing congestion, reducing environmental impacts, and improving the quality of life for the region.

Study Context

Similar to the focus of the 1997 MIS, the SR 305 Corridor Vision focuses on the corridor from the Bainbridge Island ferry terminal in Winslow to near the junction of SR 305 and SR 3 (more specifically the proposed Park & Ride facility at College Marketplace in Poulsbo). Figure 1 provides a detailed vicinity map of the project area.

Study Partners

The SR 305 Corridor Vision study process has been guided by representatives from Kitsap Transit, Kitsap County, the City of Bainbridge Island, the City of Poulsbo, the Suquamish Tribe, and the Washington State Department of Transportation.

The study effort has been a community-based project, directed by an executive steering committee of leadership representatives from these agencies and governments. This project leadership team has been committed to a strong ongoing partnership and fostering a regional perspective and approach to the development of the SR 305 corridor.

Project Purpose

The general purpose of this project has been to identify and evaluate potential long-range (20 to 50 years) high capacity transit opportunities along the SR 305 corridor to serve the growing transportation demand of the region. Options such as bus rapid transit (BRT), light rail transit (LRT), and fixed guideway transit technologies (such as the emerging LEVX® system) have been evaluated. Concurrently with this long-range look, the study has also identified interim interim objectives and actions to support implementation of the longer-term vision for the corridor.

Figure 1 – Project Map

Project Goals

The following general goals provide a basis and direction for the SR 305 Corridor Vision planning process and potential study outcomes. These goals were developed by the executive steering committee for the SR 305 Corridor Vision project over the course of multiple meetings. The leadership committee, which included elected officials from Bainbridge Island, Poulsbo, the Suquamish Tribe, and Kitsap County, and management staff from Kitsap Transit and the Washington State Department of Transportation, agreed to take a cooperative, regional approach to evaluating conditions and making recommendations for the SR 305 corridor. These goals served as the committee's first step in setting a direction for the study and future planning, management, and implementation activities within the corridor.

Public and Community Involvement

Ensure broad and meaningful public and community involvement in the planning process.

Regional Coordination in Land Use and Transportation Planning

Foster regional partnerships and coordination between agencies, communities, and project stakeholders.

Community Vitality, Livability and Sustainability

Ensure that corridor options strengthen economic vitality, livability, and sustainability.

Serving Regional Transportation Needs

Provide safe and efficient transportation opportunities for residents, students, commuters, and visitors of the region, including viable high capacity transit options.

Funding and Implementation

Identify transportation and high capacity transit options and alternatives that can be realistically implemented within desired timeframes.

Study Process

The study process began in early 2006 with collection and review of data and information, as well as analysis of existing conditions. The project scope called for the use of existing data available from various sources, including the Washington State Department of Transportation and Washington State Ferries, as well as information available from Kitsap County and the local cities.

The study team then completed a comprehensive review of high capacity transit options and facilitated a screening process to eliminate technology options that were not feasible for the corridor over the long term. The team then proceeded to further refine and evaluate the range of potential long term options, as well as needed short term, interim actions and implementation steps for the corridor. This information was compiled into a preliminary draft report and then further refined to be included in this final draft report.

Significant public involvement and community outreach has shaped the outcome of the corridor vision. Public involvement has been facilitated through a variety of activities such as workshop sessions with community focus groups and the general public in each of the three major communities of the corridor. Involvement of students in the region has also occurred to provide "Next Generation" perspectives.

The project team worked closely with the executive steering committee at every step in the study process. Committee members helped the team determine and evaluate potential high capacity transit options appropriate for the corridor for both the interim and long term.

Committee members also helped to define necessary interim actions and strategies for the corridor. In addition to holding monthly meetings with the executive steering committee throughout the duration of the study process, the project team also has outreached to technical experts and transportation agency representatives involved in current and future project planning, design, and implementation along the corridor. Representatives from Washington State Department of Transportation, Washington State Ferry System, the Bainbridge Island Gateway District urban design team, emergency service providers, representatives from the Federal Transit Administration, and others were involved during the study process.

Figure 2 illustrates the SR 305 Corridor Vision study process and schedule.

Public Involvement – A Focus on Community Input

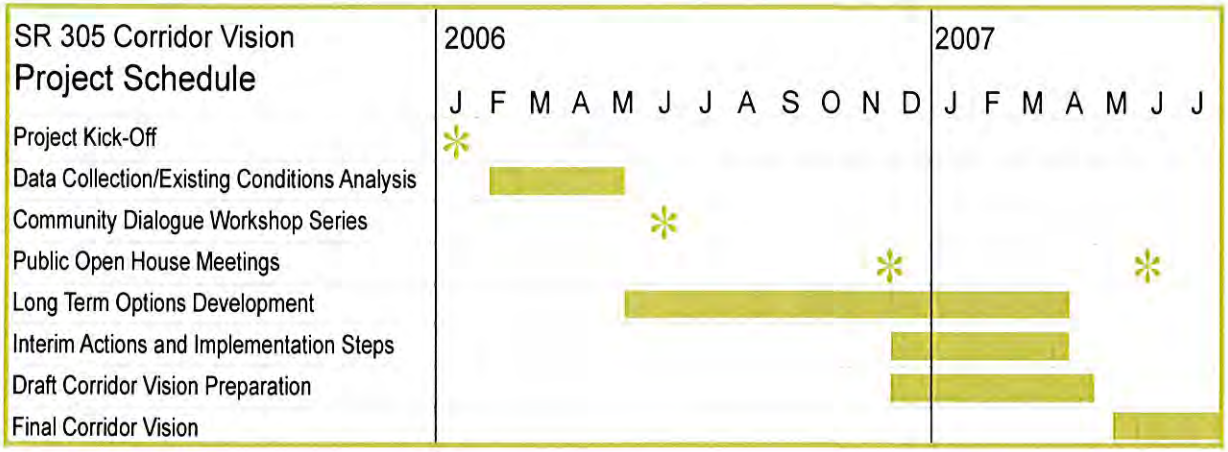
The SR 305 Corridor Vision is a community driven project, directed by an executive steering committee of leadership representatives from Kitsap Transit, Kitsap County, the Suquamish Tribe, the cities of Bainbridge Island and Poulsbo, and the Washington State Department of Transportation. This project leadership team has been committed to a strong partnership and fostering a regional perspective and approach to the development of alternatives. Extensive coordination with stakeholders, including Washington State Ferries, has been an important part of this process.

The purpose of the outreach process has been to involve a broad spectrum of interests and regional perspectives in the development of the SR 305 Corridor Vision. This level of involvement helps to ensure project success by building community interest and support, and also helps to ensure that the SR 305 Corridor Vision can be successfully implemented over the long term.

Community Dialogue Workshops

Community dialogue workshops provided an effective environment for project leaders and community members in the project area to come together and share ideas. Through the aid of presentation materials and maps, team members were able to share a variety of alternatives and ideas with the community. The SR 305 Corridor Vision project has served as a great example of how this approach has been used to benefit community members, decision makers, and the public-at-large.

Figure 2 – Project Schedule



The first stage of outreach involved a week-long (June 3-10, 2006) interactive community dialogue workshop series, which included a regional forum and leadership roundtable, focus group workshops, evening public meetings, and an open house. More than 150 people participated in this first workshop series.

As the project evolved, another series of evening workshops/open houses was held during November and early December 2006.

Corridor Visioning Exercise

The visioning exercise was designed to lead participants through a brainstorming session where they could imagine a preferred future for the SR 305 corridor between Winslow and Poulsbo. This exercise was done at each daytime focus group workshop and evening public meeting. Each group was assured there were no wrong answers and then presented with the following scenario:

"You move away from the area for 20 years. When you return, all of the transportation issues we've talked about today are fixed. You like what you see! What do you see?"

Participants were asked to take a few minutes to consider the question before the brainstorming session began. Each idea that was shared was written down on flip chart boards. Common themes are summarized below.

Common Themes

The comments and ideas shared throughout the project were pulled together and analyzed to find those messages that were most commonly expressed by workshop attendees. These common themes are summarized below for the corridor and each segment.

General Comments for the Entire Corridor

- Don't widen the highway/don't add additional lanes.
- Strengthen community connectivity (reinforce the transportation network at the local level).
- Preserve access to businesses and properties (strengthen the area's economic vitality).
- Respect, preserve and enhance community character.
- Future transit should integrate with local community planning/transportation planning for future development.
- Get people out of their cars – focus on moving people, not on moving cars.
- Work closely with the Washington State Department of Transportation and Washington State Ferries to ensure cohesive planning, particularly at the Winslow Ferry Terminal.
- Consider ferry system parity implications. What if more runs were added to Kingston and Bremerton routes? What will happened with passenger only ferry service from Kingston to Seattle? What about a passenger ferry out of Suquamish? Ferry parity will help take pressure off SR 305 and the Winslow terminal.
- Consider intersection improvements to increase capacity, such as:
    - Signal synchronization
    - Roundabouts
    - More left turn and right turn lanes
    - Longer turn lanes
    - Underpasses or overpasses at congested intersections
- Workshop participants stated that the most congested intersections and corridor segments were:

- SR 305/SR 307 (Bond Road)
- Poulsbo – from Hostmark, north to Highway 3
- Totten Road and SR 305
- Suquamish Way and SR 305
- North of the Agate Pass bridge
- Day Road and SR 305
- Sportsman Club Road and SR 305
- Madison and SR 305
- High School Road and SR 305

- Workshop participants also stated that they have a difficult time turning left at intersections and pulling out of driveways, particularly during peak commute hours. Some of the most difficult stretches mentioned were at the north end of the Island (Hidden Cove, Seabold, etc.) and through the Port Madison Reservation.

Winslow to Agate Passage

- Consider the needs of pedestrians, bicyclists, and small personal vehicle use both on and off the highway. Consider possible locations for future pedestrian/bicycle pathway underpasses (under SR 305).
- Even with an off-street network of pedestrian and bicycle pathways, continuous bike lanes will be needed on the highway.
- High capacity transit should have both local and express runs. The local runs should include stops on Bainbridge Island (such as for Downtown/Winslow Way, High School Road, Day Road, etc.).
- Coordinate high capacity transit planning with the City's Ferry District Urban Design Study, Winslow Tomorrow Plan, 2025, and nonmotorized planning efforts underway. Also, it will be critical to coordinate with WSF on Winslow Terminal master planning.
- Coordinate transit planning with potential locations for new neighborhood service centers on the island.
- Reinforce the planning principles of "Green Island" and "Compact City Center."
- Strengthen the Island's existing street network off-highway through development of underpasses or overpasses and street extensions.

Agate Pass to Poulsbo South City Limits

- One of the most significant concerns is access to multiple properties – businesses and residential areas in this vicinity.
- Preserve and enhance business property access and improve safety getting into and out of businesses through a continuous center turn lane/access lane.
- Add additional turning capacity, as well as deceleration and acceleration lanes at major intersections such as Suquamish Way, Sandy Hook Road, Totten Road, etc.
- Improving pedestrian safety and access to transit stops is critical for encouraging more transit ridership; bicycle safety and providing continuous bike lanes is also important.
- Pedestrian safety improvements are needed; many people walk along the highway and cross the highway in this vicinity.
- There was support from Port Madison Enterprises for development of a major "park and ride" parking area at the casino and also for the potential development of a major high capacity transit station/hub there in the future.
- If a high capacity transit system is developed it should be located along the south side of the corridor and should connect directly to the casino.

Poulsbo South City Limits to Highway 3

- The SR 305 widening project needs to proceed. Noise attenuation and construction of noise walls need to be part of the project.
- Reduction of traffic noise of SR 305 is an ongoing concern.
- Need traffic calming as you head south on SR 305, where the speed limit increases to 45 mph. Can the speed limit be lowered in this area?
- Consider roundabouts instead of signals at select intersections – we are ready for roundabouts here and we like using them!
- Business access along SR 305 must be preserved and enhanced.
- Intersection improvements are needed to keep traffic moving.
- The City's transportation system/network needs to be expanded to take pressure off of SR 305 (extension of 7th Street, Noll Road as an alternate route, etc.).
- We like the idea of high capacity transit but how long will it take to implement? Where will the funding come from? What will it look like? If it is elevated, it may impact homes and properties along SR 305.

Next Generation Perspectives

Obtaining input, comments, and ideas from the "next generation" of drivers and commuters on the SR 305 corridor has been an important element of the public involvement for this study. Team members met with high school students and youth groups from the region, including students from the West Sound Academy, an independent college preparatory school with high school and middle school students located near Suquamish.

Following are some of the common perspectives shared by students and youth related to the SR 305 Corridor Vision.

- Thank you for inviting us to participate in planning for our future.
- We need to think outside the norms as we look toward the future of transportation – with fuel prices going up dramatically and major concerns about climate change and the environmental effects of traffic congestion, clean, green transit solutions will be the best options for the future.
- Be sure to preserve the trees along the corridor – won't the elevated transit system require trees to be removed?
- I ride transit, and I would ride it even more if there was more local service in this area.
- The proposal for a transit/pedestrian/bicycle only bridge crossing at Agate Pass, adjacent to the existing bridge would really show that our region is forward thinking when it comes to transportation and that we are fully committed to minimizing impacts to the environment.
- I like the idea of the LEVX system, but it will take awhile to build it. Bus rapid transit seems like the best interim option for getting a mass transit system going in our area.
- Please don't wreck the green beauty of Bainbridge Island and the forested landscape along the corridor.
- I think bus rapid transit in the center that might someday be replaced by a LEVX or other elevated system would be the best option.
- Provide incentives to increase transit use! Make the system affordable and use an advertising campaign.
- SR 305 MUST remain two lanes.

- A mass transit system needs to be instituted as soon as possible on the 305 corridor.
- The long term solution needs to be compatible with local traffic needs, as well as flexible and adaptable to meet peoples' needs in the future.
- Other interim ideas need to be considered, such as increasing the hours the buses run on the corridor; encouraging telecommuting; offering incentives to ride transit; and other things.
- I think it is important to make transit more effective while expanding the roadway as little as possible. Is important to preserve the vegetation, wildlife and stream corridors along SR 305.
- I live on North Bainbridge Island and find myself using a vehicle to travel to town for errands. I want to use my car as little as possible. If I could use transit more, such as through a mass transit system on SR 305 – I would!
- I like the idea of making a lane for buses or shuttles. I think that if there was some way to decrease the number of people commuting in vehicles, that would be the best solution.
- Light rail and bus lanes seem smart. I would really like to see buses and transit in non-commuter hours as well (i.e. afternoons and weekends). Added times would encourage me and many people in my age bracket to use mass transit.
- Mass transit would be more economically and environmentally sustainable and beneficial.
- Create space for mass transit only and do not encourage more driving.
- Great presentation! Thank you – that was fun! Good luck!

Existing and Projected Conditions

Since the implementation timeframe for this study extends up to 50 years, it is important to realize that criteria and considerations used to evaluate potential high capacity transit (HCT) options may change significantly over time. Transit and transportation technologies will also evolve over time, providing Kitsap Transit with options that may not have been imagined today. Likewise, prices for traditional energy sources are likely to rise, forcing new fuel technologies and more efficient transport systems.

The physical characteristics of the SR 305 corridor and public sentiment regarding preservation of its natural resources, however, are not likely to lessen or change dramatically over time. This study attempts to balance what we know about the corridor today, to project changes in demographics, to understand the implications of land use and travel patterns, and to develop a progressive vision of what evolving public transportation technologies can offer 15 years from now and as far as 50 years into the future. The following section addresses a number of critical issues important to all potential HCT options and are useful in setting a conceptual framework for the more detailed analysis of these options.

Population and Growth

In addition to the travel patterns that are heavily influenced by the ferry service to and from Bainbridge Island, communities along and in proximity to the SR 305 route are experiencing above average growth in population and employment, influencing traffic congestion on SR 305 and connecting streets.

Kitsap County's population is 244,800 in 2007, and the Washington State Office of Financial Management (OFM) reports that the county grew by 6.71 percent between 1997 and 2007, tracking slightly higher than the mid-range of OFM's projections for the county, forecasted in 2002.

Poulsbo's urban growth area is projected to grow at an average annual rate of 6.41 percent through 2025 compared to the projected growth rate of the county overall of 1.44 percent (also OFM statistics). Bainbridge Island is projected to grow at a rate of 1.39 percent, slightly below the county's projected growth rate. Kingston is projected to 4.02 percent by 2025, and areas in the South Kitsap UGA are expected to grow 8.37 percent by 2025, also higher than the county's projected growth rate overall.

Kitsap County, Poulsbo, and Bainbridge Island have shown a strong commitment to smart growth and growth management, ensuring that comprehensive planning adequately anticipates and serves identified growth areas, while at the same time preserving sensitive resource areas and maintaining the quality of life and strong sense of community North Kitsap citizens cherish.

Existing Bicycle and Pedestrian Conditions

SR 305 corridor communities are working hard to improve pedestrian and bicycle conditions (often called non-motorized transportation) throughout their areas, including along SR 305. A lot of progress has been made to implement projects, but much more is needed in order to make the SR 305 corridor and the existing and future transit system in the corridor more accessible to bicyclists and pedestrians.

The Agate Passage bridge is a significant barrier to non-motorized transportation, with inadequate/substandard shoulder widths for bicycling and narrow sidewalks directly adjacent to the travel lanes. Refer to Sections 5 and 6 for recommendations related to a development of a new transit/pedestrian/bicycle crossing at Agate Passage in the SR 305 adjacent to the existing bridge, either within the current right-of-way or in close proximity.

SR 305 Corridor Travel Demand Projections

Transit demand in the SR 305 corridor is predominantly influenced by ferry terminal-based trips. This is evident by the number of existing Kitsap Transit routes serving the terminal and the peak-hour orientation of routes on and through Bainbridge Island. Demand growth over the next 15 to 25 years, while potentially influenced by population and job growth along with transit service improvements, will be largely a function of ferry ridership growth. This is particularly true of peak demand, which is a key consideration in selecting an appropriate technology capable of efficiently accommodating heavy peak loads. Ferry ridership projections, which are based on the Washington State Ferries Long-Range Strategic Plan, account for a majority of the expected changes in North Kitsap County demographics including population projections and forecasted jobs-housing ratios – the most accurate predictors of transit travel demand. The projections also account for some future development of a passenger only ferry (POF) system, in particular the institution of POF service between Kingston and Seattle.

While ferry service levels are expected to remain constant over the next twenty years, Washington State Ferries (WSF) is forecasting double-digit percent growth in vehicular boardings and a doubling of walk-on boardings at the Bainbridge Island terminal. It is important to recognize that peak hour, peak direction ferries are already operating close to their vehicular capacity. This means that most of the growth in vehicular boardings will come at the off-peak times or on the fringe of the traditional peak. WSF projections are largely based on population and employment growth numbers coupled with vehicular capacity limitations on ferry vessels. WSF cites a large population increase in Kitsap County coupled with lower growth in county employment as the primary drivers of the large projected increase in commuters heading to Seattle each day.

The vehicular capacity limitations, both on board and at local parking facilities, result in walk-on boardings increasing from an estimated 45 percent of total boardings today to over 60 percent by 2020. (See Table 1 on page 12.) A recent vehicle license plate survey[1] indicates that 48 percent of passengers with cars live off the island in North Kitsap County. This trend is likely to continue as the Poulsbo area is expected to grow more than Bainbridge Island.

It is important to note that WSF will be updating its long-range plan within the next few years. PSRC also will be updating population projections. It will be important for the next stage of study on the SR 305 corridor to reaffirm projections based on updated data. Refer to Section 3 for more detail related to the travel demand analysis.

Roadway and Traffic Conditions

Following is a general description of roadway and traffic conditions in the corridor, including both existing and projected traffic levels. For additional detail related to roadway conditions, refer to the SR-305 Corridor Analysis Major Investment Study (MIS), completed in 1997. Many of the original recommendations of the 1997 MIS have been implemented. This current study focuses on the high capacity transit vision for the SR 305 corridor as an update to and expansion of the 1997 MIS.

Existing Right-of-Way and Topographic Conditions

Existing right-of-way (ROW) plans available from the Washington State Department of Transportation for the SR 305 corridor indicate that the ROW varies throughout the 13.5 mile length. This variation in the existing ROW width accommodates drainage features and slopes, roadway approaches, intersection widening, bridges, and other features.

Generally the existing ROW width ranges from 150 feet to 200 feet throughout the length of the corridor. The ROW at the Agate Passage crossing is 200 feet, reducing to 120 feet wide at the casino side of the bridge. Other locations in the Port Madison Indian Reservation segment of the corridor are also 120 feet, with some narrower sections at approximately 100 to 110 feet.

The existing ROW generally appears to be sufficient to accommodate most potential configurations of high capacity transit options (see Section 5). However, although the ROW width is available, physical conditions, such as steep slopes that drops or rises on either side of the roadway edge, becomes a limiting factor when considering the potential for a fully at-grade system.

Existing Roadway Conditions

The SR 305 corridor is part of Washington's principal arterial system, connecting the Seattle urban area with the central and northern parts of Kitsap County. The corridor is generally a two lane highway, with one travel lane in each direction for its entire length with the following exceptions:

- Two lanes in each direction south of Winslow Way at the Bainbridge Island ferry terminal
- Two northbound lanes from Winslow way to High School road merging to one lane north of the intersection
- A center two way left turn lane in various segments of the corridor (existing, under construction, and planned)
- Two lanes in each direction through Poulsbo from the Hostmark vicinity to Highway 3 (existing and under construction; outer lanes are designated for high occupant vehicle priority use)
- Intersection left and right turn lanes at various locations

1 License plate survey at Winslow ferry terminal was conducted in March 2002 as part of City of Bainbridge Island – Island Wide Transportation Study

Posted speed limits on the corridor range from 30 mph in core city areas to 55 on more rural stretches of the highway. Access management classifications very throughout the corridor, with the most restrictive being applied on Bainbridge Island.

Existing Traffic Conditions

Reducing or stabilizing traffic volumes in the SR 305 corridor and eliminating the need for significant roadway widening in the future are important goals for the SR 305 HCT project. As such, it is important to understand current conditions and the implications of future demand growth given no change in the availability of attractive, high-capacity transit in the corridor.

Existing and future traffic conditions in the SR 305 corridor are summarized in more detail in Section 3 and in two reports produced as appendices to this study: (1) SR 305 Corridor Existing Conditions and (2) SR 305 Corridor 2030 Baseline Conditions. Future (2030) traffic conditions consider all funded roadway improvements, including the addition of peak-hour HOV lanes in Poulsbo.

Figure 3 depicts the projected 2030 distribution of ferry transit riders.

Of Bainbridge Island vehicle traffic, 50 percent is from northern Bainbridge Island locations, 30 percent from southern Island locations, and 20 percent from the greater Winslow area. It is not surprising that those living nearer to the ferry terminal arrive by car less than those originating from more distant locations.Projected 2030 Traffic Conditions

- The growth in traffic from 2006 to 2030 varies dramatically by roadway segment and is estimated to be between two percent and 44 percent during the PM peak hour. It is notable that peak hour traffic volumes on the northbound segment of SR 305 between Winslow Way and High School Road is only projected to grow by two percent during this time. Again, this shows that peak hour traffic growth in the corridor is more a result of in county travel demand growth than increased auto travel from the ferry terminal.
- The heaviest traffic growth is expected in the northbound direction within the City of Poulsbo and on Bainbridge Island, north of High School Road.
- Under the 2030 future conditions, there will be heavy congestion throughout the corridor during the PM peak hour. Out of the ten study intersections, four would operate at LOS F and two at LOS E during the PM peak hour. This suggests that transit will need special treatment to operate effectively and that projects that improve transit speed and reliability will create additional incentive for people traveling the corridor to ride.
- Vehicle queuing will continue to be a problem at many of the study intersections during the PM peak hour. Extensive queues are projected at SR 305/Bond Road NE, SR 305/Suquamish Way NE, SR 305/NE Day Road and SR 305/Sportsman Club Road NE adding to the travel delay along the corridor. Queues are expected to extend over 1,200 feet in length at all these intersections by 2030.
- Travel times will continue to increase between 2006 and 2030. During the weekday PM peak hour, the northbound travel times will increase from 50 to 70 minutes and southbound travel times from 30 to 33 minutes between the Bainbridge Island ferry dock to SR 3.

Existing Transit

Kitsap Transit (KT) operates 14 fixed-route bus lines in the study area. KT provides connections with Jefferson Transit at the Poulsbo Transfer Center and with WSF service at the Bainbridge Island Ferry Terminal. The identified routes primarily serve the Bainbridge Island Ferry Terminal, where 12 KT routes terminate. Ten routes only operate during the peak commute times on weekdays, providing service for the

rush of commuters using the ferry system. Kitsap Transit maintains a high mode-share (30 percent) during rush hour in the corridor. Route 90 to Poulsbo serves the entire SR 305 corridor all day, six days a week. This route carries half of the daily ridership in the corridor and over a third of the ridership on ferry-based routes.

Table 1 provides a summary of 2003 and projected 2030 Bainbridge Island ferry ridership calculations. Figure 3 depicts the projected distribution of transit riders from the Bainbridge Island Ferry Terminal.

Preliminary Technology Review

Screening Process Overview

The project consulting team developed a preliminary screening process to analyze a wide range of high capacity transit (HCT) technology options for the SR 305 Corridor in May 2006. This process was similar to that required in early stages of a the "Alternatives Analysis" process required by the Federal Transit Administration. The preliminary screening document was presented to the public at a series of workshop meetings and evaluated and approved by the SR 305 Corridor Vision steering committee, a group of local officials and agency staff. The preliminary evaluation of alternatives for the SR 305 Corridor Vision includes three basic screens:

1. A physical *suitability* screen to determine whether modal options were viable within the known physical constraints of the project corridor.
2. A *policy screen* to determine whether remaining options were within the bounds of key local and regional policy goals.
3. An *impacts screen* to ensure that the alternatives resulting from the physically

Table 1 – Summary of 2003 and Projected 2030 Bainbridge Island Ferry Ridership Calculations

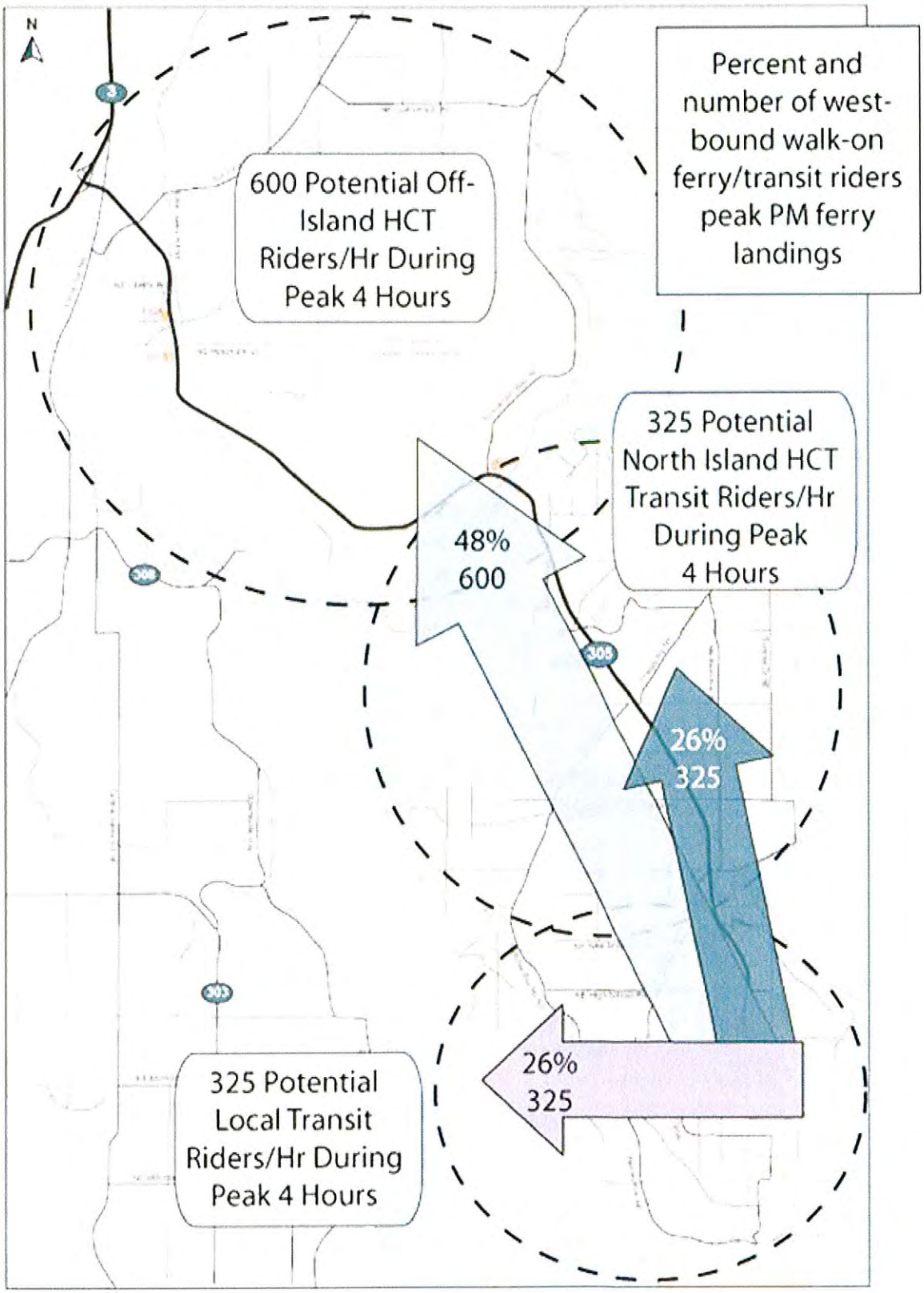
	Existing (2003) Walk On Passengers and Transit Ridership	
A	**Total Walk On Passengers (2003)** – per ferry landing during the PM peak period*	648
B	**Existing Transit Ridership (2003)** – per ferry landing during the PM peak period [A x 34% (transit mode share)]	220

	Projected (2030) Walk on Passengers and Transit Ridership	
C	**Total Walk On Passengers (2030)** – per ferry landing during the PM peak period	1,702
D	**Additional Walk On Passengers (2003 - 2030)** – per ferry landing during the PM peak period [C-A]	1,054
E	**Estimated Transit Ridership (2030)** – per ferry landing during the PM peak period [B+D]**	1,274

* This figure is based on 3,045 total walk on passengers during the 4-hour PM peak period. This figure is then divided by 4.7 ferry landings per 4-hour period to arrive at 648 passengers per ferry landing. Source: Washington State Ferries Long-Range Strategic Plan.

** Not all projected walk on passengers would necessarily ride transit. However, in the future, there likely will be less parking and Kiss and Ride capacity than under existing conditions.

Figure 3 – 2030 Distribution of Ferry Transit Riders



suitability screen and policy screen did not have obvious undesired impacts on the local communities or the environment.

Several policy considerations identified by the steering committee, public outreach and past planning efforts helped shaped potential options for HCT in the SR 305 corridor:

- The proposed transit system should **fit within existing right-of-way** (ROW) where possible.
- The proposed transit system should be **compatible with ferry system demand and loading** requirements.
- The proposed transit system should be **compatible with urban components** of the study area.
- The proposed transit system should **minimize visual impacts** to the rural portions of the corridor.
- The proposed transit system should **improve local mobility** and **reduce future travel demand growth in the SR 305 corridor.**

Initial Screening

The SR 305 study process included an initial screening of a broad range of high capacity transit options for the corridor. Several options were evaluated initially. This screening process yielded a narrower range of potential alternatives that were studied in greater detail. The results of the initial screening process are described later in this section. The results of evaluation of the narrowed range of potential HCT alternatives that moved forward in the study process are described in Sections 5, 6 and 7 of this document.

Table 2 summarizes the results of the preliminary screening of HCT options. This screening process yielded a narrowed range of potential alternatives that are defined in greater detail later in this section and will be evaluated through the remainder of the study.

Description of Alternatives Identified for Further Study

High capacity transit (HCT) alternatives for the SR 305 corridor that moved forward from the initial screening were evaluated in more detail during the study process. The alternatives are combinations of technology, operating parameters and alignment options and include:

- **No Action/Baseline Alternative**
- **Fixed Guideway Alternative** including Light Rail Transit (LRT) and LEVX®
- **Bus Rapid Transit (BRT) Alternative** including a range of options

A description of each of these alternatives, along with a framework for evaluating them, and the results of that evaluation are provided in Section 5. Within the fixed guideway and bus rapid transit alternatives, multiple technology and alignment options are considered. Results of the preliminary analysis of fixed guideway (LRT and LEVX®) and BRT alternatives are summarized in Tables 3, 4, 5, and 6. The description of each alternative includes the following:

- Detail of Alignment
- Service Characteristics
- Passenger Stations/Park & Ride Facilities
- Roadway Improvements
- Vehicles
- Storage and Maintenance Facilities

Alignment Description

The SR 305 Corridor is defined by the WSDOT right-of-way that stretches from the Bainbridge Island ferry terminal to SR 3 to the north of Poulsbo. State right-of-way within the corridor ranges from 150 feet to over 200 feet, providing available land for corridor expansion for purposes

Table 2 – High Capacity Transit Modes Initially Considered and Screening Decisions

Technology	Physical Screen	Policy Screen	Suitability Screen	Retained for Further Evaluation
Light Rail (LRT)	Low – two way system may require significant ROW expansion in corridor; new rail bridge required	Medium –fits scale of urban/rural environment; clean operations; high costs	Medium – typically urban/high density suburban mode; demand may be too low to justify; suitable for peak ferry loading	**Yes (As part of fixed guideway)**
Monorail	Medium – elevated structure feasible in corridor/ reduces potential ROW expansion needs	Low -high aesthetic impacts; not desired by community; very high costs	Low – reliability issues; typically mode for high density urban environment	No
Automated Fixed Guideway (AFG) Transit (Includes LEVX®)	Medium – elevated structure feasible in corridor/ reduces potential ROW expansion needs	High – significant community interest in AFG LEVX®	Low to Medium – (LEVX® is an untested technology)	**Yes (As part of fixed guideway)**
MagLev	Medium – elevated structure feasible in corridor/ reduces potential ROW expansion needs	Low – low community acceptance; very high costs	Low – poor reliability in previous applications	No
Commuter Rail/ Heavy Rail or Diesel Multiple Unit	Low – no existing rail corridor/ trackage; new rail bridge required	Low- not conducive to terminal; high aesthetic impacts safety concerns; high costs	Low – poor integration at ferry terminal; roadway crossing issues	No
Bus Rapid Transit (Busway)	Low – two way system requires significant roadway widthe expansion in corridor	Medium* – provides flexibility to travel off corridor; scaleable to demand; moderate costs	Medium* – reversible lane option in particular	**Yes**
Bus Rapid Transit (In-Corridor Enhancements)	High – can operate in mixed traffic limiting need for roadway expansion	Medium* – provides flexibility to travel off corridor; scaleable to demand	High – one of few modes that would not require new bridge	**Yes**

Rankings: Low = poor application in corridor, Medium = reasonable application in corridor/may have some issues, High = good application in corridor

* Note: Certain BRT technologies have better applicibility in various segments of the corridor (i.e. the reversible lane concept works better on Bainbridge Island where there is limited access).

Table 3 – Strengths and Weaknesses of LRT Operation

Criteria	Strength/ Weakness	Comments
Ability to meet peak loading requirements at ferry terminal & Park & Rides	+++	A LRT train can carry in excess of 300 seated passengers with a single operator. Four to five articulated BRT vehicles would be required to match this loading capacity.
Ability to improve local mobility by providing access to key destinations in corridor	-	Narrow street widths and land use patterns would make it difficult to align LRT outside the corridor.
Flexibility to meet demand for trips originating outside corridor	-	LRT is a corridor service that would require feeder bus service to connect transit passengers with off-corridor destinations. It would not be cost effective to serve lower density off-corridor markets via branch lines.
Ability to influence mode shift/reduce auto travel demand in corridor	++	Steel rail technologies have been shown to attract more passengers than rubber-tired alternatives in situations where all other service attributes are held equal.
Ability to influence nodal land use (high density/mixed use) & economic development	+++	LRT provides a sense of permanence that encourages investment at and around rail stations.
Ability to manage grades in corridor	+	LRT can manage grades up to 10 percent.
Ability to provide travel time and reliability competitive with auto	++	Travel time benefits and reliability are strengths of dedicated guideway LRT. Long distances between stops, possible in the SR 305 corridor, increase travel speeds.
Ride quality & passenger comfort	++	LRT provides a smoother, more stable ride than rubber-tired alternatives. AGT technology using magnetic levitation could provide an improved ride over LRT.
Intersection / roadway operational impacts	-	Crossing gates and traffic control signals would be required at all intersections.
Local impacts	-	LRT would require significant width within the existing right-of-way, and may require the loss of greenspace and trees. Elevated segments could have negative visual impacts.

KEY: +++ is highest rating, - - - is lowest rating, **O** is neutral rating.

Table 4 – Strengths and Weaknesses of AGT/LEVX® Operation

Criteria	Strength/ Weakness	Comments
Ability to meet peak loading requirements at ferry terminal & Park & Rides	++	The proposed LEVX® vehicles, typically have seated passenger capacity in the range of 25 to 40 per car. Even if the technology allows multiple car trains, AGT systems may not compare favorably to LRT in their ability to accommodate seated passengers. However, the potential to efficiently loop LEVX® vehicles in and out of the terminal area should be further examined. The speed of loading and departing may compensate for the smaller capacity vehicles.
Ability to improve local mobility by providing access to key destinations in corridor	+	Elevated guideways required for AGT systems, such as LEVX®, provide a high degree of flexibility for different alignments. Systems are conducive to frequent service operations.
Flexibility to meet demand for trips originating outside corridor	- -	Designed as single lines. Not cost effective to serve lower density off-corridor markets via branch lines.
Ability to influence mode shift/ reduce auto travel demand in corridor	++	Rail technologies have been shown to attract more passengers than rubber-tired alternatives in situations where all other service attributes are held equal. AGT technologies, such as LEVX®, should produce a similar response if comfort and reliability is good.
Ability to influence nodal land use (high density/mixed use) & economic development	+	Permanence of infrastructure should encourage investment at and around stations. Elevated stations compatible with multi-story commercial development.
Ability to manage grades and geographic impediments in corridor	++	Elevated trackage could be designed to manage grades. It is anticipated that the LEVX® magnetic drive system could manage relatively steep grades.
Ability to provide travel time and reliability competitive with auto	+++	Elevated guideway systems remove conflicts with at-grade use and provide the most rapid corridor travel times of any HCT alternative.
Ride quality & passenger comfort	++	AGT technologies that use magnetic levitation, such as LEVX®, could provide an improved ride over LRT.
Intersection/roadway operational impacts	+++	AGT/LEVX® options would have minimal operational impacts on existing roadways as traffic should travel unimpeded below guideways.
Local impacts	+	Minimal widening within the existing right-of-way would be required for LEVX®, but elevated guideways could have negative visual impacts.

KEY: +++ is highest rating, - - - is lowest rating, O is neutral rating.

Table 5 – Strengths and Weaknesses of BRT Operation

Criteria	BRT LITE Strength/ Weakness	BRT FULL Strength/ Weakness	Comments
Ability to meet peak loading requirements at ferry terminal & Park & Rides	+	++	Double-articulated or double-decker BRT vehicles can carry up to 85 seated passengers. Four to five articulated BRT vehicles would be required to match the loading capacity of a 5 car LRT train.
Ability to improve local mobility by providing access to key destinations in corridor	+++	++	BRT's ability to flex to serve local markets off the corridor is a major benefit since most local demand centers are not located on SR 305
Flexibility to meet demand for trips originating outside corridor	++	++	BRT provides flexibility to deviate from the primary corridor to serve other markets. However, this could denigrate service levels and may be better accomplished with Express Bus operations.
Ability to influence mode shift/reduce auto travel demand in corridor	+	++	Studies have shown that bus-based modes are less effective than rail in attracting riders, all other factors held equal.
Ability to influence nodal land use (high density/ mixed use) & economic development	- -	O	Heavy investment in BRT station facilities could create a sense of permanence that encourages land use investment, but likely would not match LRT in this area.
Ability to manage grades in corridor	++	++	BRT vehicles can manage all grades in SR 305 corridor.
Ability to provide travel time and reliability competitive with auto	-	+	BRT LITE would provide minimal travel time incentives over auto travel. BRT FULL should provide substantial travel time benefits, more comparable to LRT.
Ride quality & passenger comfort	-	+	New BRT vehicle technology provides much better ride comfort and stability than traditional transit coaches. However, the ride is dependent on road surface conditions and is not as reliable as rail.
Intersection/ roadway operational impacts	-	-	Traffic control signals, Transit Signal Priority and/ or turning restrictions would be required at all intersections.
Local impacts	++	+	BRT FULL would require moderate widening within the current right-of-way, and could result in the loss of greenspace and some trees.

KEY: +++ is highest rating, - - - is lowest rating, O is neutral rating

Table 6 – Evaluation Criteria and Measures of Effectiveness

Evaluation Categories	Criteria/Measurement	No Action	Fixed Guideway		BRT FULL	BRT LITE	BRT LITE w/ Reversible Lane on Bainbridge	Notes
			LRT	AFG/ LEVX®				
Transit System Operations	2030 Travel Time SR 3 to ferry terminal	75 min	37 min	33 min	37 min	61 min	56 min	Avg. speeds of: 2030 SOV – 12 mph BRT Lite and Express – 15 mph BRT Full and LRT – 30 mph LEVX® – 35 mph With 5 min dwell time for stops
	Peak Loading Capacity (seated pass. per operator)	44	480 (Six-car train)	100 (Four-car train)	Double articulated = 85 Articulated = 69 Standard transit bus = 44 Double-decker = 80-100			
Station Siting	Local Mobility Improvement (H/M/L)	High	Low	Moderate	High	High	Moderate	High rating reflects a positive ability to meet mobility need away from corridor
	Station Spacing Limitations (H/M/L)	Low	High	Moderate	Low	Low	N/A	High rating reflect negative impacts on travel time from closely spaced stations
	P&R Location Approach (CONCentrated/DISPersed)	DISP	CONC	CONC	DISP	DISP	DISP	
Ferry Terminal Integration	Trains Required at peak of the peak	N/A	2	10	N/A	N/A	N/A	Train Lengths of: LRT – 510 ft (six-car) LEVX® – 100 ft (four-car)
	BRT/Coach Buses Required at peak of the peak	22	N/A	N/A	22	22	22	Based on 44-seat capacity vehicles. High Capacity vehicles will reduce the number of vehicles required if ferry terminal can support them.
	Local Buses Required at peak of the peak	11	11	11	11	11	11	
	Platform (linear ft of platform)	N/A	1,020	1,000	N/A	N/A	N/A	
	Bay Requirements (linear ft of bays)	2,145	715	715	2,145	2,145	2,145	65 feet per 40 foot bus capacity
	Bay Requirements (sq ft of bays)	51,480	17,160	17,160	51,480	51,480	51,480	1,560 sq st per bay ignoring travel lanes and platform space

Table 6 – Evaluation Criteria and Measures of Effectiveness (continued)

Evaluation Categories	Criteria/Measurement	No Action	Fixed Guideway		BRT FULL	BRT LITE	BRT LITE w/ Reversible Lane on Bainbridge	Notes
			LRT	AFG/ LEVX®				
Safety, Reliability & Comfort	Integration with ped/bike modes (H/M/L)	High	Moderate	Moderate	High	High	Moderate	High rating reflects a positive ability to integrate between modes
	Equipment Reliability (H/M/L)	Moderate	High	Unknown	Moderate	Moderate	Moderate	
	Ride Quality (H/M/L)	Low	High	High	Moderate	Moderate	Moderate	
Estimated Costs	Operating Costs ($/Rev Hour)	$116 (KT 2005 actual)	$100 - $200 (typical) up to $400	Unknown	$75 - $125 per revenue hour			
	Capital Costs ($/Mile)	N/A	$15-$60 M	Unknown	$0.1-0.29 M (shared travel lane) $2.5-2.9 M (dedicated travel lane) $6.5-10.2 M (at-grade guideway)			Capital costs include estimated environmental, permitting, design, construction, and mitigation costs.
Environmental/ Aesthetic Impacts	Right-of-Way Requirements (width in feet)	40 feet	68 feet	62 feet	64 feet (outside HOV lanes) 54 feet (inside reversible lane)			With two auto travel lanes, no center median
	Aesthetic Impacts in Rural Corridor (H/M/L)	High	Moderate	Moderate	Moderate	High	High	High rating reflects minimal aesthetic impacts
	Loss of Greenspace/Trees (H/M/L)	High	Low	Moderate	Moderate	High	High	High rating reflects minimal loss of greenspace and trees
	Integration in Urban Areas (H/M/L)	High	Moderate	Moderate	Moderate	High	High	
Community Goals	Supportive of Future High Intensity Land Uses (H/M/L)	Low	Moderate	Moderate	High	Moderate	Low	LRT and LEVX® supportive if development in corridor
	Consistency with Adopted Local Plans (H/M/L)	Low	Moderate	High	High	High	Moderate	Includes consistency with local comprehensive plans
Roadway Operational Impacts	Traffic Signal Impacts and Turn Restrictions	High	Low	High	Moderate	High	Moderate	High rating indicates minimal impacts on current operations.

of high capacity transit, such as the addition of a separated HCT running way. Appendix D to this study includes maps displaying existing right-of-way and topographic conditions throughout the corridor. In-corridor operation is the simplest solution for delivering express service from Park & Ride lots in Poulsbo to the ferry terminal. However, this solution limits stops outside the immediate corridor and bypasses opportunities to directly serve most of the Neighborhood Service Centers on the Island.

Developing a viable alignment requires the balancing of a number of goals, many of which are inherently contradictory. For example:

- Creating a fast, efficient way to move commuters from the ferry terminal to Poulsbo area Park & Rides

  versus

- Improving local mobility in and between North Kitsap County communities by connecting key service centers and business districts

A system optimized to meet the first goal would be very different than one optimized for the second. Generally, public input and demand analysis points toward a system that focuses on the former goal, moving people between the ferry terminal to corridor Park & Rides or stations as efficiently as possible. Feeder transit and circulator transit potentially operated with smaller vehicles could then link passengers between HCT stations and residential areas or job centers.

There are wide ranging options for HCT alignments within the right-of-way. All of the following were considered in one or more potential alternatives.

- **Surface** – running way is at grade
- **Elevated** – running way is either completely grade separated or portions are elevated reducing all conflicts with traffic
- **Dedicated Right-of-way** – transit operates in its own separated and protected lane or track
- **Mixed Traffic Right-of-way** – transit operates in traffic lanes with automobiles
- **Curb or Median** – at grade alignments in the roadway can be situated on outside of the roadway (curb) or in the median
- **Reversible Lane** – a lane, typically in the median or center of the roadway, that is controlled to allow only peak direction flow for use only by transit vehicles operated by professional drivers

Figures 4 and 5 illustrate the right-of-way requirements for the various alternatives. These figures show the potential corridor conditions related to each alternative in terms of overall facility width and potential vegetation removal (this map uses a two-lane segment of the corridor on Bainbridge Island).

Potential Major Capital Projects

Under any of the alternatives that propose major expansion of HCT service in the corridor, it is anticipated that various major capital projects would be required, including improvements at the SR 305 interchange, a new bridge or expanded bridge at Agate Passage, and several stations with nearby Park & Ride lots to serve them. These potential improvements are described in more detail below.

Crossing SR 3

Crossing SR 3 and entering the new College Marketplace Park & Ride create challenges and the potential need for additional right-of-way. BRT alignments likely could follow SR 305 and connecting roadways into the Park & Ride facility. The use of dedicated transit lanes would require the widening of the SR 305 travel lanes under the SR 3 overpass. The fixed guideway options could use a direct alignment into the site but this would require additional right-of-way acquisition and elevated segments to cross SR 3. See Section 5.

Crossing Agate Passage

The existing bridge at Agate Passage is currently limited to two travel lanes. There is the potential to operate BRT in existing lanes or options to build a new bridge for high capacity transit operations. A new bridge could be constructed to the south or north of the current bridge, creating opportunities and constraints with respect to crossings of SR 305 and/or serving the casino. Adding transit capacity at the Agate Passage crossing will be a critical long term priority for HCT transit operations. See Section 5.

While public comments received related to this study effort have indicated a potential lack of support for a new bridge across Agate Passage for use by automobiles and trucks, public participants have expressed a high level of support for a new bridge that might be for use by transit vehicles, pedestrians, and bicyclists only. An expansion in crossing infrastructure is not only needed to support transit, but also to support bicycling and pedestrian access since the current bridge does not adequately serve bicyclists and pedestrians.

New Stations and Park & Ride Facilities

As described in Section 4, all HCT modes of operation benefit from a limited number of stations. Express focused service would benefit from a minimal number of stops located at key Park & Ride sites. A service designed primarily as an express service to the Bainbridge Island ferry terminal likely would best operate with station stops at:

- College Marketplace Park & Ride (Terminus)
- Poulsbo Transfer Center (SR 305 west of Lincoln) and a new large Park & Ride located south of Hostmark in Poulsbo with immediate access to and visibility from SR 305 (could be multiple parking areas located within walking distance of the station)

Note: Some discussion about the potential need for two stations in this vicinity of Poulsbo has occurred – one at the Poulsbo Transfer Center and one south of Hostmark. Since these locations are fairly close in proximity, further analysis is necessary to determine the need for two stations.

- A new Park & Ride located at Suquamish Way and SR 305
- A new Park & Ride located in the vicinity of Day Road and SR 305
- Bainbridge Island ferry terminal (Terminus)

Refer to Figure 6 for a depiction of these locations.

Preliminary Alternatives Evaluation

No Action Alternative

The No Action Alternative serves as a baseline for developing HCT alternatives for the SR 305 corridor. The No Action Alternative consists of the existing highway and transit networks, plus committed improvements from the region's Transportation Improvement Program (TIP). It is instructive for HCT development alternatives to be evaluated against the No Action/Baseline Alternative, which includes projects listed in regional transportation plans likely to be built, and all reasonable service improvements in the corridor.

Fixed Guideway Alternative

This alternative examines various fixed options to deliver high capacity transit (HCT) service in the SR 305 Corridor via a fixed guideway system. Based on a preliminary technology screening (see Section 4) two fixed guideway alternatives were retained for consideration (see Table 7 on page 26).

Light Rail Transit (LRT): LRT was initially retained because it can efficiently accommodate heavy peak loads, deliver a stable, comfortable ride, use environmentally friendly electric

Figure 4 – Transit Technology Width Requirements

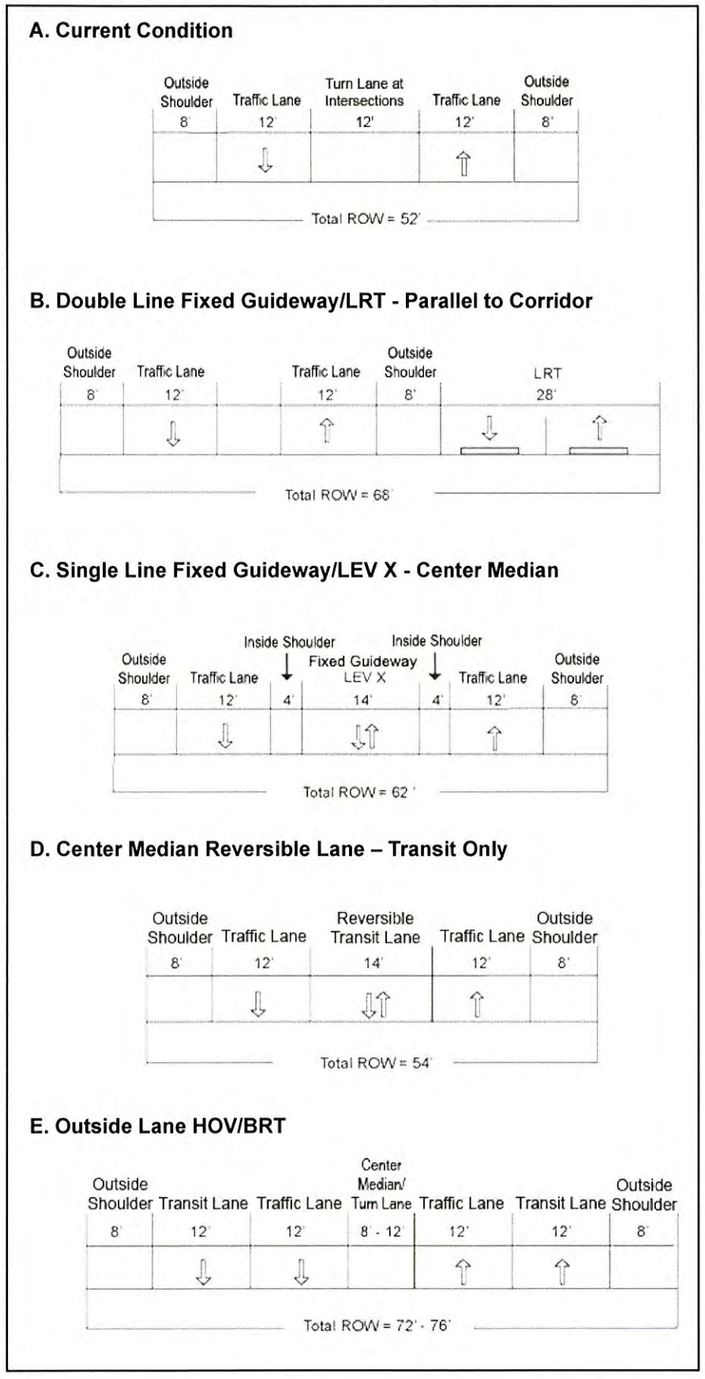


Figure 5 – Example Layouts in SR 305 Corridor

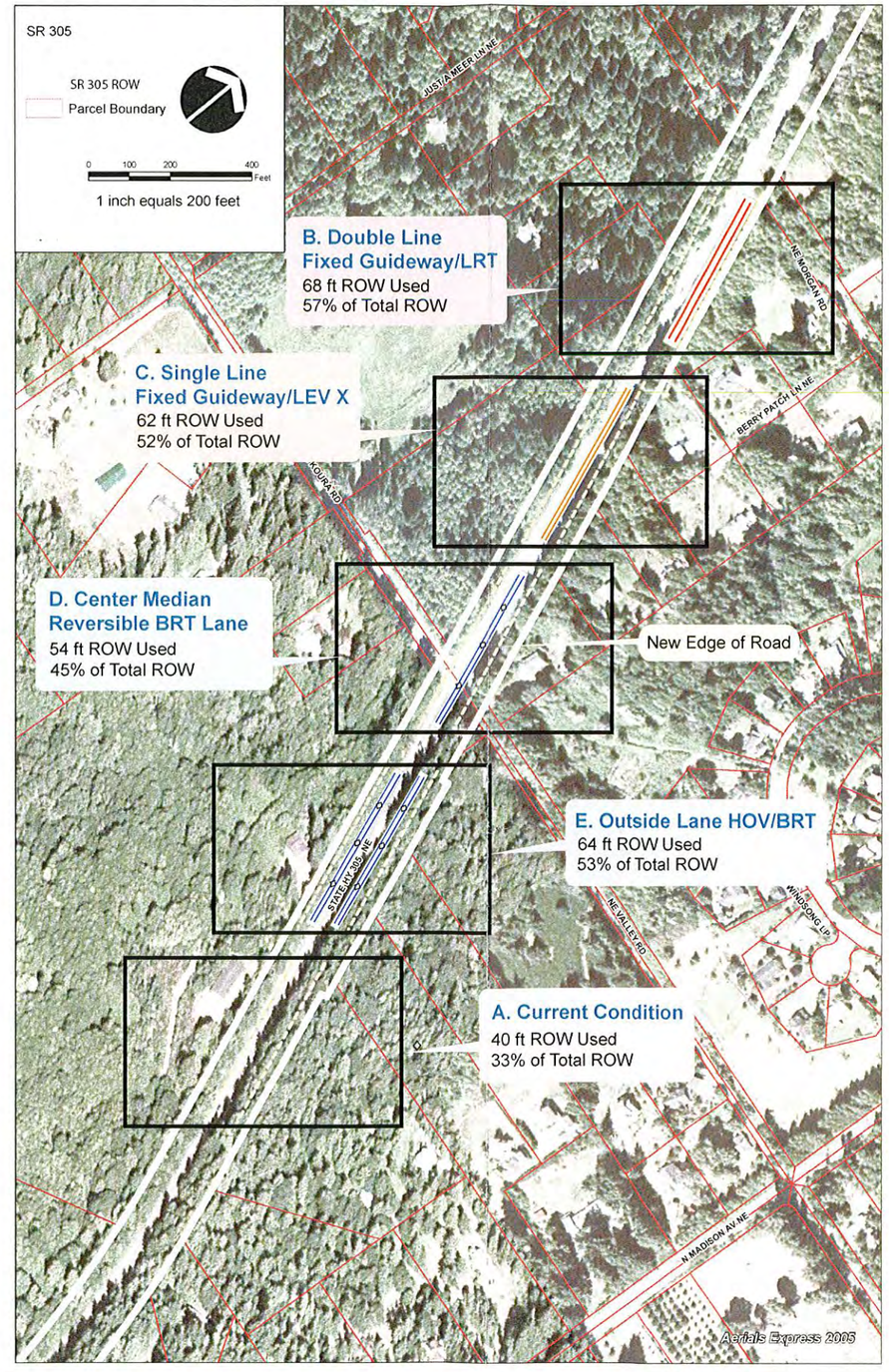
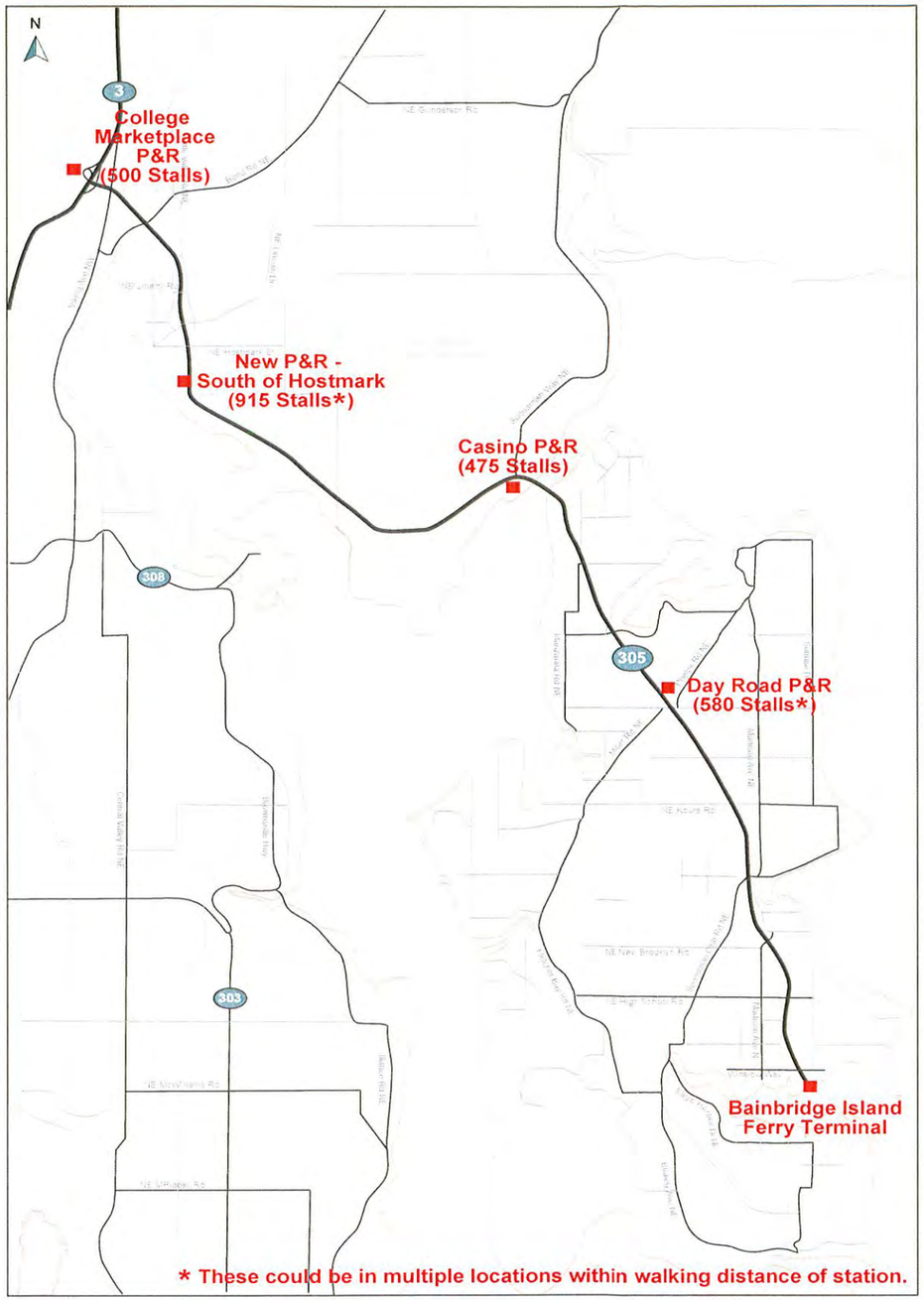


Figure 6 – Proposed Park & Ride Location and Capacity to Meet Projected Demand



propulsion and has the potential to drive high-density nodal development.

A fully elevated LRT system was considered, but likely would not be feasible for this corridor due to extremely high capital construction costs. Only in very dense urban environments such as Vancouver, BC or large Asian cities can the cost of extended elevated LRT system be justified. Sound Transit's first LRT line, now under construction, is instructive; elevated segments of the track will cost approximately $180 million per mile in 2006 dollars. However, some segments of any LRT system in the SR 305 corridor would need to be constructed on elevated structures to bypass at-grade roadways, traverse steep grades or overcome difficult topography.

LEVX® / Automated Guideway Transit (AGT): LEVX®/AGT was retained due to its projected ability to provide cost effective operations, high speeds in the corridor, relatively low aesthetic impacts, and low capital construction costs.

LEVX® systems or other automated guideway technologies must be constructed primarily as elevated systems. However, certain sections where there are no automobile or pedestrian crossings could be constructed close to grade to reduce visual impacts.

Bus Rapid Transit Alternative (Includes Various Options)

This alternative examines various options for utilizing rubber-tired transit technology to provide high capacity transit (HCT) service in the SR 305 corridor. Several levels of what is often referred to as bus rapid transit (BRT) are considered under this scenario.

Bus rapid transit (BRT) is a strategy to reduce travel time for bus riders and improve bus efficiency in congested corridors. BRT has become one of the most popular high-capacity transit modes in the country, primarily because of its cost advantages. BRT often incorporates technologically advanced buses, in-line station platforms and rider and fare collection technologies that mimic light rail in many ways. A key advantage of BRT is that it can operate in corridors with a mixture of enhancements such as exclusive lanes, traffic signal priority, queue jumps and high service frequency. These in-corridor enhancements result in faster and more reliable bus service that can be designed to deliver comparable service quality to a fixed guideway system.

BRT can operate as an express operation, carrying passengers between high demand terminals with few interim stops, or as a local service. Many BRT systems have local and express components.

BRT systems are more flexible than fixed guideway rail transit because a BRT bus can enter and leave a bus lane at specific points and can operate on regular city streets. BRT vehicles can thus provide a passenger collection function (e.g., pick up passengers close to their home) and can also provide fast "trunk line" or "express" service in managed or exclusive lanes.

Three distinct levels of BRT service were considered within this alternative.

Table 7 – Fixed Guideway Mode & Alignment Options

Alignment → / Mode ↓	At Grade, Separated	Elevated
Light Rail Transit (LRT)	Option 1a	
Automated Guideway Transit (LEVX®)		Option 1b

BRT LITE: is a minimal level of BRT service and amenity that includes all-day bus service that can operate in exclusive, managed, or general purpose lanes, and which may or may not have in-line stations and special vehicles. BRT LITE provides travel time benefits over traditional transit operations through the implementation of intersection improvements, traffic signal priority, ITS applications and other improvements. Vehicle fleet and operating plan components would be such that high capacity service is provided in conjunction with ferry demand. However, this level of BRT typically would not include the extra level of capital investment in stations, facilities and high-tech vehicles included in BRT FULL.

BRT FULL: is conceptually similar to BRT LITE but provides the following additional enhancements:

- Operations in exclusive right-of-way for a significant distance
- In-line stations and special vehicles
- High-end technologically advanced vehicles, which often mimic the look of rail vehicles
- Distinct brand identity, similar to most light rail systems

Interim Recommended Direction

The recommended interim direction for the SR 305 high capacity transit concept consists of bus rapid transit (BRT) technology operating from the Bainbridge Island ferry terminal to the College Marketplace Park & Ride in Poulsbo. The long term direction would potentially include implementation of LEVX® (or some other grade-separated fixed guideway system) and will be discussed in Section 7. For the purposes of this study, "interim" represents the period up to approximately 2020, or when conditions reach certain thresholds that make a grade separated system viable (i.e. an affordable grade separated system can be implemented, and technical and environmental analysis indicate that it is the preferred alternative for the corridor).

The process for determining the interim recommended direction (and the long term recommended direction) for the SR 305 corridor was based on consideration and analysis of existing and projected conditions in the SR 305 corridor and related key decisions discussed below. The executive steering committee reviewed the analysis completed by the study team and accepted these recommendations with the understanding that they are conceptual and preliminary, and additional technical and environmental analysis will need to be completed before actual implementation of HCT improvements in the corridor.

As the study of HCT alternatives moves into the next more detailed stage, analysis of potential environmental affects and impacts in compliance with National Envrionmental Policy Act (NEPA) and State Environmental Policy Act (SEPA) requirements will be need to be completed, as discussed in Section 8, Next Steps. This analysis will include more specific evaluation of potential impacts to the SR 305 corridor and local roadway network traffic circulation and operations, potential land use development patterns that might result from HCT development; consistency with local, regional, and state land use and transportation plans and policies; and other elements. Although the early stage of study in this Vision document has preliminarily addressed these issues, additional more detailed analysis will be required before actual implementation of interim or long term improvements.

Interim High Capacity Transit System

This section addresses physical improvements that can be made in the SR 305 corridor to improve transit speed and reliability and sets out a conceptual operating plan to meet projected interim demand for HCT between the Bainbridge Island ferry terminal and College Marketplace

Park & Ride. The direction for the near term HCT service was shaped by the following key decisions:

- **Current insufficient demand for higher cost LEVX®/fixed guideway system in the near term** – Based on the demand estimates presented in Section 3, the higher capital costs associated with a fixed guideway system, such as LEVX®, are not justified in the near term. For this reason, BRT was selected as a near term, interim solution because it is less expensive and can still accommodate higher passenger volumes.
- **LEVX® not likely to be operational in the near term** – Although the technology required to operate LEVX® has been tested extensively, it has yet to be implemented for public use. The technical, legislative and funding challenges required to introduce LEVX® on a large scale are time-consuming and unlikely to be available for several years.
- **Demand in the corridor will increase significantly by 2020** – As discussed in Section 3, this increase in demand will justify a higher investment in transit than what is currently provided. Transit service in the corridor will suffer without a significant investment in dedicated transit facilities and treatments that give priority to transit at major intersections.
- **Service flexibility is important** – Because of varying levels of delay at intersections along the corridor, a flexible transit service such as BRT allows for varying transit priority treatments at intersection corridors. This flexibility will also keep project costs down by investing only where priority treatments are needed.
- **HOV lanes in Poulsbo under construction** – The interim approach takes advantage of the HOV lanes through Poulsbo, which ultimately saves project costs.
- **Minimize the impacts of HCT in the scenic SR 305 corridor** – Although any form of HCT service will have an impact on the scenic beauty in the corridor, utilizing as much of the existing built roadway area as possible will minimize those impacts in the interim.
- **BRT service ensures right-of-way for the long term vision** – Implementing a BRT service with various transit priority treatments and exclusive right-of-way can improve the likelihood of accommodating the long term vision for the corridor (LEVX® or other fixed guideway system).

Figure 7 illustrates the corridor segments and summarizes what improvements are recommended.

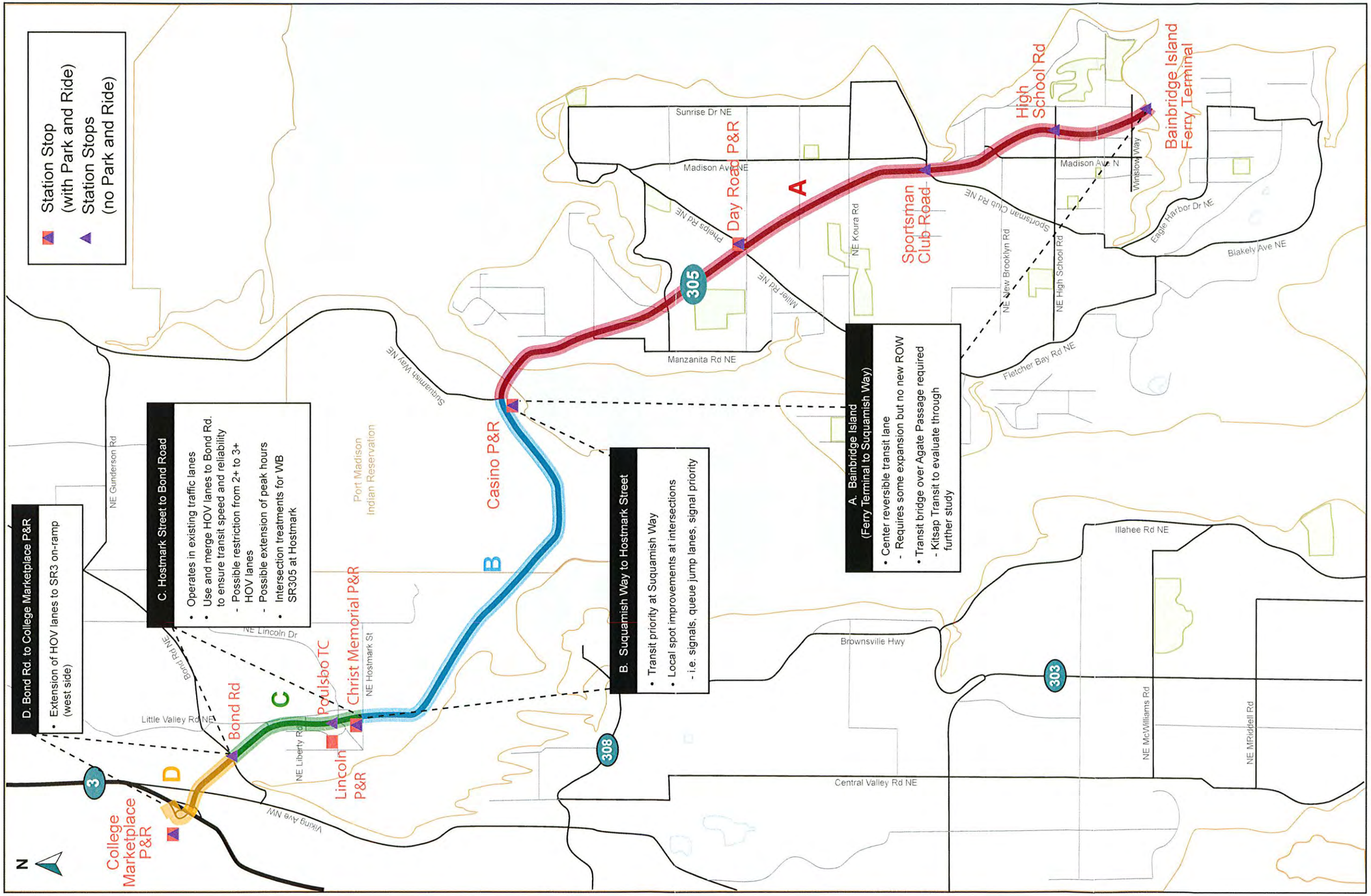
Interim Roadway and Transit Priority Treatments

This section details specific transit facility and intersection treatments required to ensure a high level of transit speed and reliability in the SR 305 corridor assuming up to 2020 projected conditions.

From an operational perspective, service in this corridor is designed to meet every landing of the Seattle – Bainbridge Island ferry and to provide corridor service for local travel at increments between ferry landings. The system would travel exclusively in the SR 305 corridor, but would be supported by an improved network of local bus routes, demand responsive service and bicycle and pedestrian access improvements. An operating plan is presented in Section 6. The physical improvements required to ensure adequate operating speed and reliability, however, vary throughout the corridor. For this reason, the corridor has been broken into four separate segments:

- **Segment A:** Bainbridge Island Ferry Terminal to Suquamish Way

Figure 7 – Interim Transit Priority Improvements



- **Segment B:** Suquamish Way to Hostmark Street
- **Segment C:** Hostmark Street to Bond Road
- **Segment D:** Bond Road to College Marketplace Park & Ride

Six different types of intersection treatments have been proposed along the corridor to ensure transit speed and reliability. These include:

- Travel restrictions on cross-traffic at un-signalized intersections;
- Transit Signal Priority;
- Signal controls allowing buses to access far-side stops;
- Signal controls allowing buses to enter and leave reversible lane; and
- Signal controls allowing buses to enter and leave Park & Rides.

Appendix C provides a brief analysis of potential intersection improvements that would be needed with implementation of BRT in the corridor.

Long Term Vision

The SR 305 Corridor Vision addresses the growing transportation demands of the region and the need for future development of high capacity transit (HCT) service to achieve the following long term transportation and land use goals.

- Increase corridor capacity without adding auto travel lanes.
- Encourage transportation efficient land use.
- Protect the scenic value of SR 305 corridor and surrounding areas.
- Provide an environmentally and community friendly travel option.
- Limit the impacts of traffic and parking.

In addition to the interim improvements identified in Section 6, a critical outcome of this project is a vision for a future (up to 50 years from now) high capacity transit system connecting Winslow and Poulsbo via the SR 305 corridor. This study process carefully evaluated technologies such as bus rapid transit, light rail transit, and fixed guideway transit among others through a technical study and an extensive public outreach process. Decision making and outreach was directed by an executive steering committee of leadership representatives from Kitsap Transit, Kitsap County, the Suquamish Tribe, the cities of Bainbridge Island and Poulsbo, and the Washington State Department of Transportation. This project leadership team has been committed to a strong partnership and fostering a regional perspective and approach to the development of alternatives.

Section 7 describes the long term vision for HCT in the SR 305 corridor developed through this process. The long term HCT vision builds on interim improvements recommended in Section 6 and provides a conceptual framework that will allow Kitsap Transit and its partners to pursue funding for additional study of HCT in the SR 305 corridor. Refer to Figure 8 for a depiction of the long term vision of HCT improvements in the corridor.

Next Steps

As we finalize this phase of study, it is time to define the next steps related to implementing transit improvements in the SR 305 corridor.

Detailed Technical Review and Environmental Analysis

The project next needs to move into formal alternatives analysis based on updated data and technical information from various sources, including new data and information on transit ridership and ferry passenger origins and destinations, as well as general SR 305 traffic origin and destination information. This technical review needs to assess in more detail the potential

implications of passenger only ferry (POF) service provided in the region, in addition to the proposed POF service in Kingston, which is already assumed in the Washington State Ferries System projections.

The technical review also will need to include detailed feasibility study of potential solutions for the Suquamish Way/Agate Passage bridge area of the corridor. A detailed evaluation of potential options for intersection improvements and expansion of crossing capacity for transit, bicycle, and pedestrian use only needs to be considered. As the current phase of study outlines, the crossing improvements should evaluate the potential for an additional transit/bicycle/pedestrian only bridge at the crossing, adjacent to the current bridge.

Various jurisdictions are in the process of updating their growth projections, land use plans, and transportation plans, including both the City of Poulsbo and the City of Bainbridge Island, currently involved in comprehensive plan updates. The town of Suquamish is also completing a community master plan that emphasizes the vision for future development and transportation linkages. Regional plans also have recently been updated, and the Washington State Ferries System also will be updating its master plan in the near term. All of these evolving planning efforts will need to be factored into the next phase of analysis for SR 305.

Since federal funding likely will be involved in this project, the next phase of study will need to continue to move forward in compliance with National Environmental Policy Act (NEPA) as well as applicable State Environmental Policy Act (SEPA) procedures and requirements. Formal public scoping of issues related to potential transit improvements in the SR 305 corridor will need to take place in accordance with NEPA.

Eventually, alternatives analysis will need to analyze and address a full range of potential environmental effects and impacts associated with the project. See additional discussion below.

Ongoing Study Roles and Responsibilities

Since the project likely will involve federal funding, and there is the potential that federal jurisdictions will be affected by high capacity transit improvements, the project will need to move forward in compliance with FTA procedures and requirements (including ongoing NEPA compliance as stated above), even if a specific segment of the work or study is funded through local and/or state sources. As such, the FTA should act as the lead agency for the next phase(s) of study on the project, with Kitsap Transit serving as the supporting agency administrator, guiding the process and the lead local sponsor.

Other local and state agencies should continue to be involved as partners and supporting sponsors, including the cities of Poulsbo and Bainbridge Island, the town of Suquamish and the Suquamish Tribe, Kitsap County (and the Kitsap Regional Coordinating Council), Washington State Department of Transportation and Washington State Ferries. The future study team will need to continue to coordinate with ongoing project efforts that affect the corridor, such as improvements to the Bainbridge Island ferry terminal, and other efforts, just as the current study effort has done.

Ongoing Public Involvement

Just as public involvement has helped to shape the outcome of this Vision for the SR 305 corridor, ongoing public involvement will be critical in the corridor's future development for high capacity transit. The future study phases will need to closely follow NEPA and SEPA procedures related to public involvement. Consistent with the current process, ongoing phases of study will need to actively seek out continuous opportunities for the public and corridor stakeholders to be involved to provide comments and input.

Ongoing Coordination with FTA

Project leaders should continue to coordinate with and meet with FTA Region 10 representatives in Seattle as study efforts move forward for the SR 305 corridor. FTA discussions should include evaluation of the project's eligibility for programs such as Alternatives Analysis, New Starts, Small Starts, or Very Small Starts. FTA Tribal Transit funding programs also should be considered and evaluated for applicability to the corridor.

FTA-Compliant Alternatives Analysis

A Major Investment Study (MIS) Alternatives Analysis that complies with FTA requirements, as well as ongoing NEPA requirements should be formally completed. Much of the work that has been completed as part of this Vision document can be folded into the MIS process. Also information contained in the 1997 MIS completed for the corridor should be included as background. New data and information, as well as updated planning information from jurisdictions in the corridor, should be integrated into the new MIS Alternatives Analysis.

At local discretion, the alternatives analysis may include the undertaking of detailed environmental analysis, and this is FTA's preference. The Alternatives Analysis process needs to formally result in a locally preferred alternative (LPA), selected by local and regional decision makers and adopted by the Metropolitan Planning Organization (MPO).

FTA may evaluate, rate, and approve the Alternatives Analysis before the project can move forward into Preliminary Engineering. Ongoing FTA involvement and evaluation will be important.

Preliminary Engineering/ Detailed NEPA Environmental Analysis

During preliminary engineering, local sponsors will need to refine the design of the proposal, taking into consideration all reasonable design alternatives. Preliminary engineering results in estimates of project costs, benefits, and impacts at a level of detail necessary to complete the NEPA process. The NEPA process must go through very specific steps to determine if an EA or an EIS should be prepared. If an EIS is required, the process includes:

- Notice of Intent and Scoping Procedures
- Development of Draft EA or EIS Document
- Agency/Public Review and Comments
- Development of the Final Decision Document
- Record of Decision
- Agency Action

NEPA/SEPA environmental impact analysis likely would evaluate potential affects and environmental consequences to:

- Land Use/Compliance with Adopted Plans and Policies
- Farmland
- Social/Environmental Justice/Relocation
- Economic/Joint Development
- Considerations Related to Pedestrians and Bicyclists
- Air Quality
- Noise
- Water Quality
- Wetland Impacts
- Water Body Modification
- Fish and Wildlife (BA/BE process)

- Threatened and Endangered Species
- Permitting Requirements
- Historic and Archeological Preservation
- Hazardous Waste
- Visual Impacts
- Energy
- Construction Impacts
- Relationship of Local Short-term Uses vs. Long-term Productivity
- Irreversible and Irretrievable Commitment of Resources
- Concurrent 4 (f) and 6 (f) Evaluation

This list is generated by the FHWA and referenced by FTA as the list of potential environmental consequences to be considered in the NEPA process.

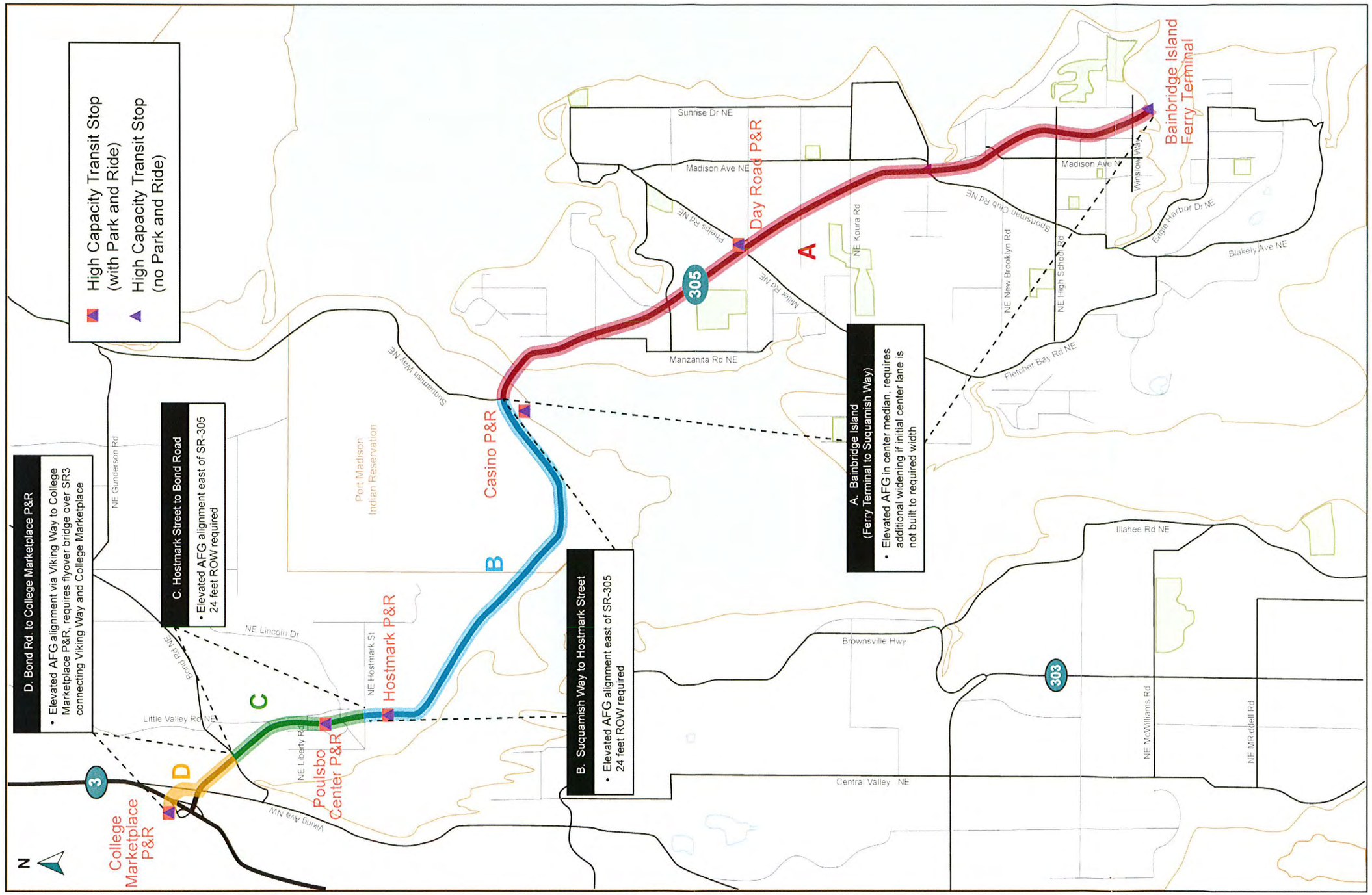



Figure 8 – Long-Term Vision