Chapter 4. Corridor Alternatives

What is the purpose of developing a broad range of corridor alternatives?

Corridor alternatives were developed during this phase of the SR 302 Corridor Study with just one key objective:

- Identify a slate of potential east-west corridors that includes all reasonable options for travel between SR 16 and SR 3.

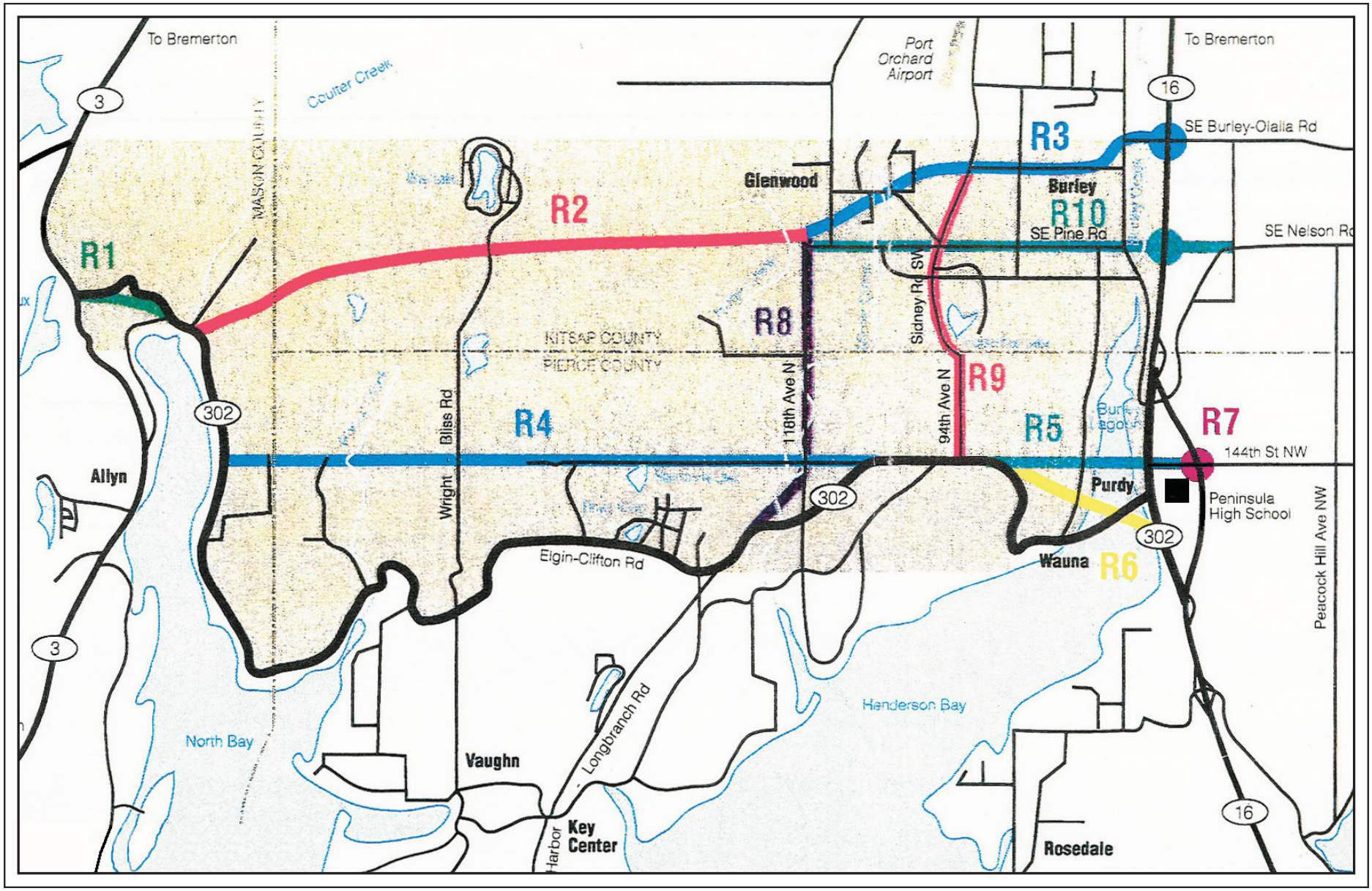
This phase of the Study is focused on identifying corridors that could potentially meet the travel needs served by SR 302. The slate of corridors will ultimately be narrowed to a smaller number of alternatives that best meet the overall Project objectives. These in turn will be refined into specific alignment alternatives that will be carried into the environmental document for more detailed evaluation.

How were the corridor alternatives developed?

In 1993 WSDOT published an initial corridor study examining options for the SR 302 Corridor. This study identified eight potential build alternatives that were judged to merit additional study (see Figure 4-1). In 2007 WSDOT received additional funding to advance the corridor study. The study team has gathered ideas for additional alternatives from public workshops and stakeholder interviews. These ideas have been added to the alternatives previously identified, with the goal of preparing a broad slate of alternatives that would include all reasonable options.

Roadway Corridor
A general geographical area or band within which a roadway could be located.

Roadway Alignment
A specific, exact roadway location, often defined within a broader roadway corridor.



Washington State Department of Transportation

DATE: December 17, 2007

Source: SR 302 Corridor Study
Washington State Department of Transportation (District 3/Transportation Planning Office)
July 1993

Suggested Improvements

- Do Nothing
- Improve Existing Route
- R1: Improve the Alignment of the Victor Cut-Off
- R2: New NorthernRoute: Coulter Creek to SW Pine Rd
- R3: New Route on SE Pine Rd up Sidney Rd NW to SE Burley-Ollala Rd SE
- R4: New Route on the Power Line Right-of-Way
- R5: New Bridge Across Burley Lagoon (144th St NW)
- R6: New Bridge Across Burley Lagoon (along power lines)
- R7: New Interchange with SR 16 at 144th NW
- R8: Connector Route on 118th Ave N between SR 302 and the new northern route
- R9: Connector Route on 94th Ave N and Sidney Rd SW
- R10: SE Pine Rd to SR 16 includes a new interchange at SR 16/SE Pine Rd and Nelson Rd

0 N 1
Scale in Miles

Figure 4-1
SR 302 Proposed Alternative Routes
SR 302 Corridor Study

What are the elements of the corridor alternatives?

The existing SR 302 facility can be thought of as consisting of three main elements:

1. A connection to SR 16 (the existing interchange).
2. A crossing of Burley Lagoon/Henderson Bay (the existing bridge and spit).
3. A corridor extending west to SR 3 (the existing highway).

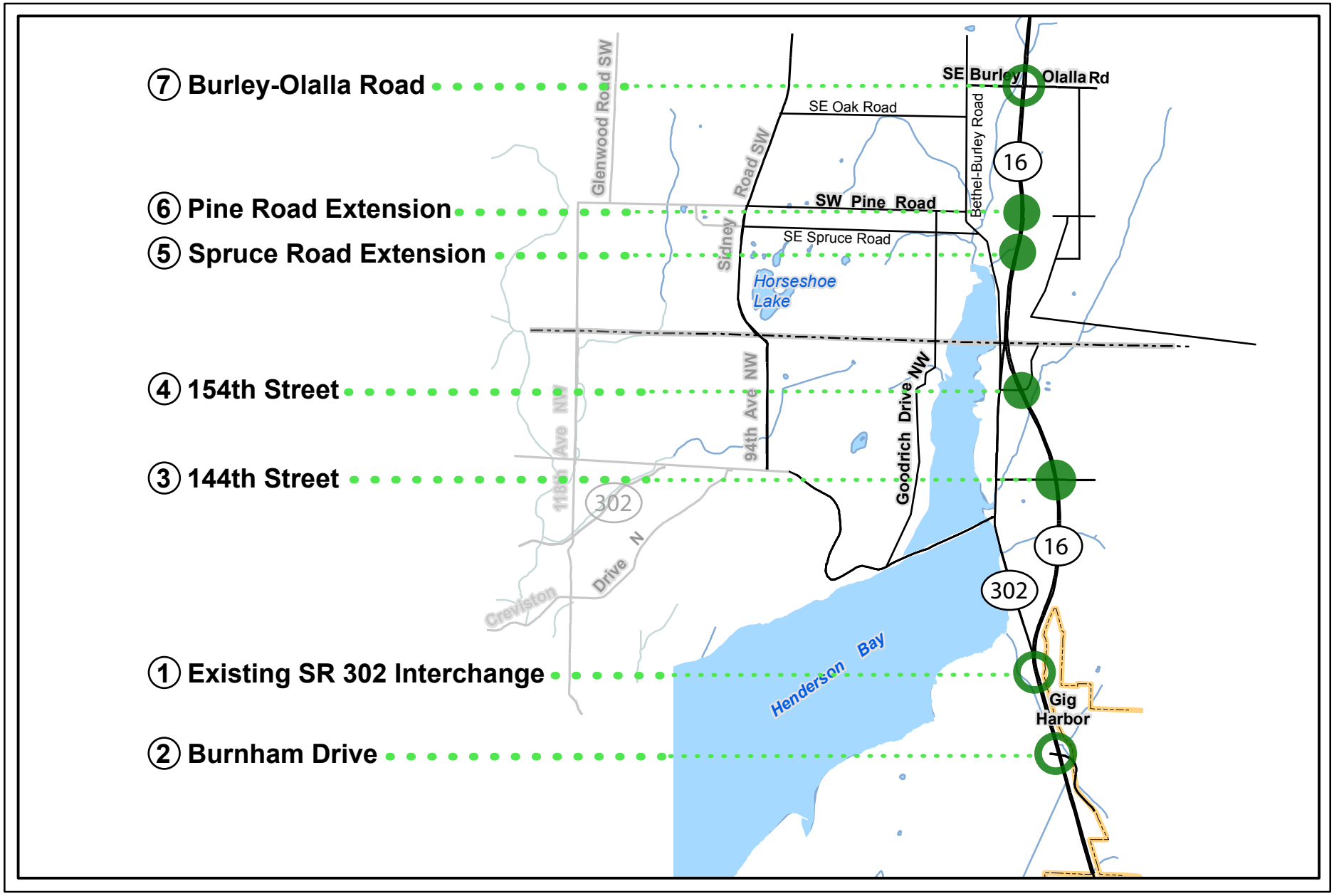
All of the corridor alternatives include a connection to SR 16 and a corridor to reach SR 3. Most alternatives include a crossing of Burley Lagoon/Henderson Bay, though some alternatives are located far enough north to avoid the crossing.

Connections to SR 16

Figure 4-2 shows the following seven interchange locations reflected in the corridor alternatives:

- Existing SR 302: existing interchange – to be expanded if needed *(option identified in 1993 Corridor Study).*
- Burnham Drive NW: existing interchange, to be expanded if needed *(option developed from community feedback).*
- 144th Street NW: convert existing overcrossing to interchange *(option identified in 1993 Corridor Study).*
- 154th Street NW: convert existing overcrossing to interchange *(option developed from community feedback)*
- SE Spruce Road: new interchange at extension of Spruce Rd. *(option developed from community feedback).*
- SE Pine Road: new interchange at extension of Pine Rd. *(option identified in 1993 Corridor Study).*
- SE Burley Olalla Road: new interchange in process – completion scheduled in 2009 *(option identified in 1993 Corridor Study).*

For the new interchange locations listed above, a conceptual interchange design was developed. This was done to allow the interested public to visualize how the new connection to SR 16 might operate. The conceptual interchange designs are shown in Appendix B.



Washington State Department of Transportation

DATE: December 17, 2007

County Boundary
City Limits
Major Road
Water Course

New Interchange
Existing Interchange

0 N 1
Scale in Miles

Figure 4-2
Potential Interchange Locations
SR 302 Corridor Study

Figure 4-3 shows the range of corridor segments that have been defined in the broad range of corridor alternatives. The different segments shown in the figure are described as follows.

Crossings of Burley Lagoon/Henderson Bay

There are five different methods being considered to cross Burley Lagoon or Henderson Bay:

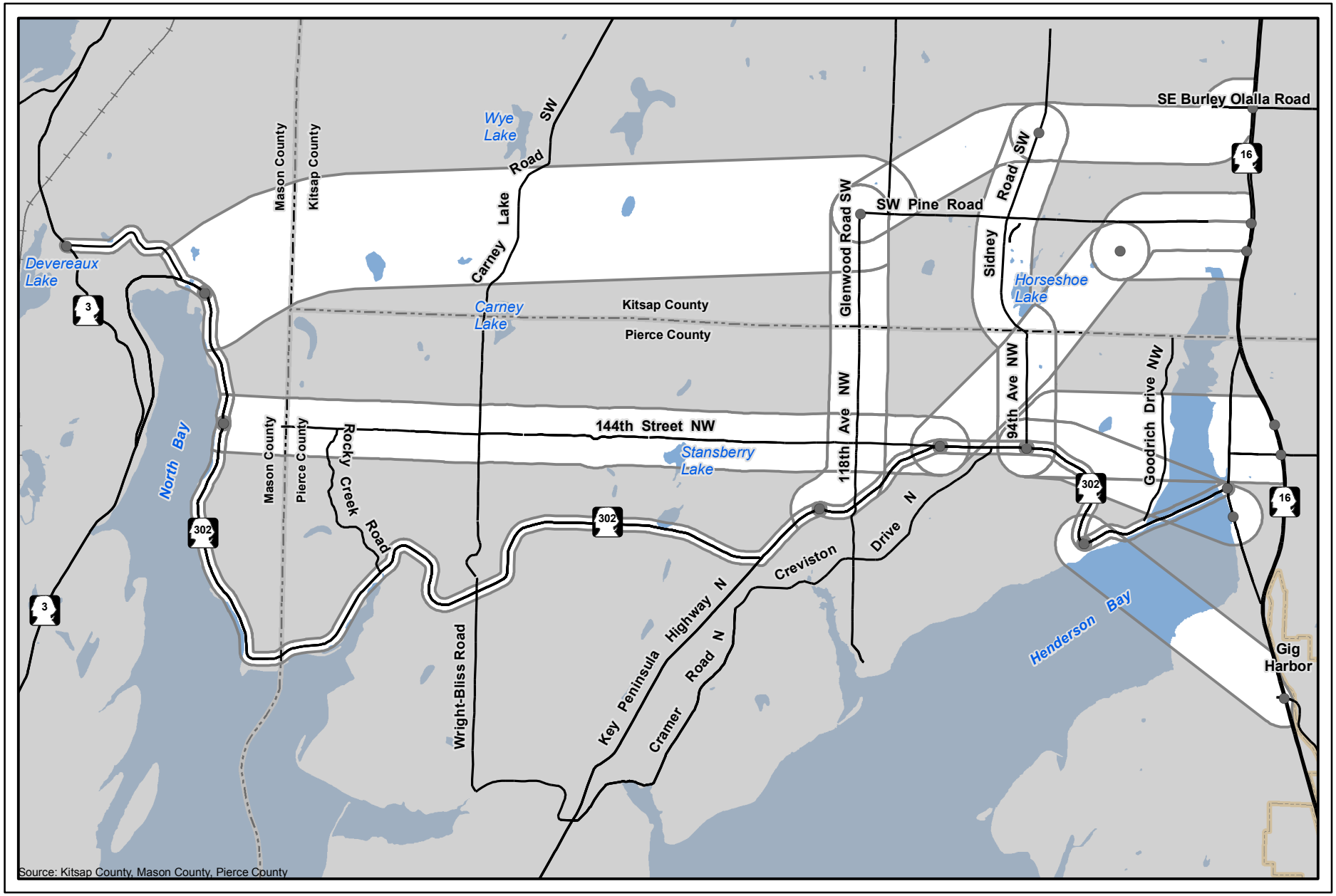
- Replace the existing bridge and widen the roadway across the existing spit *(option identified in 1993 Corridor Study).*
- Build a new bridge parallel to the existing bridge and widen the roadway across the existing spit *(option developed by the WSDOT Study Team).*
- Build a new bridge across Burley Lagoon on a route extending 144th St. NW *(option identified in 1993 Corridor Study).*
- Build a new bridge across Burley Lagoon on a route along the TPU Power line corridor *(option identified in 1993 Corridor Study).*
- Build a new bridge across Henderson Bay on a route to connect to the Burnham Drive NW interchange *(option developed from community feedback).*

Regional corridors between SR 16 and SR 3

Several alternatives are currently under consideration, due to the large number of options for the east-end interchange connection of SR 302 to SR 16 (Figure 4-2). On the east side of the study area, there are also several different corridor segments being considered, as shown on Figure 4-3. These segments are essentially the "building blocks" for complete east-west corridors. However, west of 118th Ave. NW, only three main corridor segments are being considered.

The maps in Appendix C show the corridor alternatives. To help identify the various alternatives, each one is labeled in three ways. The east-end interchange location is indicated by a number that matches the interchange location on Figure 4-2, while the western corridor between 118th Ave. NW and SR 3 is indicated by a letter and a color choice:

- The existing SR 302 route – labeled as A and shown in green *(option identified in 1993 Corridor Study)*.
- The 144th Street NW/Power line corridor – labeled as B and shown in yellow *(option identified in 1993 Corridor Study).*
- The extension of Pine Road – labeled as C and shown in purple *(option identified in 1993 Corridor Study).*



Washington State Department of Transportation

DATE: February 5, 2008

0 N 1
Scale in Miles

- Corridor End Point
- Major Road
- Corridor Segments
- County Boundary
- Railroad

Figure 4-3
Corridor Segment Alternatives
SR 302 Corridor Study

For example, Alternative 1-A uses the existing SR 302-SR 16 interchange location (location 1) and the existing SR 302 alignment west of 118th Ave. NW (corridor A), and is shown in green. A final letter second number behind the letter is used to distinguish alternatives that use the same interchange location but have different corridors or crossings.

Is there an alternative that does not involve roadway construction?

Yes. The Study includes consideration of a No Build alternative. Potential benefits and adverse effects that are projected under any Build Alternatives that are defined will be compared to conditions under the No Build scenario.

What have we learned in the development of the broad range of corridor alternatives?

All of the potential SR 16 interchange locations appear to be feasible to construct, although some would be more costly due to steep topography and right-of-way costs. All of the potential new interchanges would need to be examined to ensure that they would not degrade the operation of other existing facilities on SR 16. For example, the Pine Road interchange location would likely not comply with standard ramp spacing requirements with the new Burley-Olalla interchange to the north, although design deviations could be considered. More detailed engineering work would be needed to determine whether this interchange spacing requirement could be implemented.

All of the potential bridge crossing locations of the Burley Lagoon would require long span lengths and high columns due to the crossing distance and steep grades on the west side approaches. This would result in a high costs for any new bridge. Requirements for bridge piers in the water would also be challenging to permit due to potential impacts to aquatic resources. A more detailed evaluation of the bridge alternatives including costs will be conducted to provide information to support the corridor screening process.

The potential SR 302 corridor alignments in the 144th Street /Power Line corridor and Pine Road Extension corridor both have areas with steep topography. These alignments would require relatively extensive earthwork to maintain reasonable uphill and downhill grades. The extensive earthwork in turn would require large amounts of new right-of-way to be acquired.

How will the broad range of corridor alternatives be used in the next steps of the SR 302 Corridor Study?

The broad range of corridors will be narrowed based on more focused analysis of transportation planning, engineering feasibility, and environmental factors. The screening process could use three basic methods to narrow the range of corridor alternatives:

- Identifying alternatives with "fatal flaws". For example, some of the potential interchange locations may be too close to existing interchanges to meet design standards for merging traffic. If this proves to be the case for a particular interchange location, then the corridor alternatives that depend on that interchange will be eliminated from further consideration.
- Identifying alternatives with "unreasonable costs". All of the build alternatives will be costly. However, some alternatives may have very high costs yet provide little benefit relative to other alternatives. This would be a basis for eliminating the more costly alternatives.
- Identifying alternatives with "unreasonable impacts". Some of the alternatives may only be possible to build with extremely high impacts to natural features such as wetlands and marine areas, or extremely high impacts on homes and businesses. Some corridors may be eliminated on this basis.

Once the corridors have been screened down to a range of feasible alignment alternatives, they will be examined in more detail in an environmental document. This analysis will include both engineering to better define the elements and construction limits of alternatives, and environmental analysis to define the impacts of alternatives. The engineering and environmental analyses will provide the information to make a decision on the preferred alternative for the corridor.