



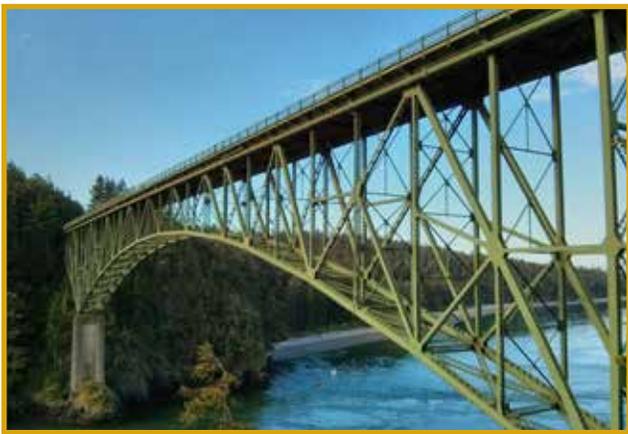
Section 6 Environmental Constraints

Section 6: Environmental Constraints

A programmatic-level review of potential environmental constraints was conducted as part of Skagit 2045. Federal law requires such planning efforts protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and anticipated growth and economic development patterns. A scan of potential environmental constraints is a key component of this review, and can help inform SCOG's Transportation Policy Board, interested parties and others as to the potential limitations that may present themselves as projects move through the development process.

Further, Washington's State Environmental Policy Act provides the context for environmental constraints analysis along with the applicable federal and local regulations. Generally, the environmental analysis for the Plan looked at the potential for impacts from transportation construction projects, in addition to a cursory review of non-construction projects.

This environmental constraints assessment can also help the Transportation Policy Board and their members agencies identify the



Deception Pass Bridge to Island County

types of pitfalls that may be encountered through the project development process. Through early screening and identification, it is possible that planning and financially based decisions could be made to better align programming, or prioritization of projects. For example, if a bridge replacement and widening project has several

constraints identified, it may be advisable for the Transportation Policy Board to work with local jurisdictions or the Washington State Department of Transportation to identify other projects to potentially fill the gap if the bridge project experiences considerable delays.

Environmental constraints may be encountered during the design, right of way, and construction phases of future transportation improvement projects identified in Skagit 2045.

Through the priority identification process for the Plan, which included input from a variety of interested parties within the Skagit region as well as the public, the Environment priority from **Section 4** is:

- To enhance regional quality of life through transportation investments that promote energy conservation, enhance healthy communities and protect the environment.

It was determined this priority would be accomplished by improving the environmental quality of our neighborhoods and communities to create a sustainable transportation system, while also promoting economic vitality in the Skagit region. This includes finding ways to reduce environmental impacts that could potentially result from a transportation project, as well as taking advantage of opportunities for ecological restoration, and promoting environmentally efficient modes of transportation, such as transit, vanpooling, car-sharing, bicycling and walking.

While the project list generated for Skagit 2045 reflects these principals, a more discrete analysis of the actual environmental impacts of these projects will be conducted on a project-by-project basis. The environmental constraints assessment for the Plan is not intended to identify specific environmental impacts of road projects, nor is Skagit 2045 to be used in determining environmental mitigation. Analysis of specific direct and indirect impacts and potential

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mitigations will occur as individual transportation projects are further defined and permitted.

Environmental Considerations

When making decisions about transportation projects, services and programs, the ecosystem services provided by nature that sustain healthy human communities should be considered. Where ecosystem services are recognized, valued, and protected, communities are more likely to:

- Avoid impacts to sensitive environmental resources and species, particularly those that need protection due to their high quality, sensitivity, rarity and irreplaceability;
- Protect open space, resource lands, air and water quality;
- Provide ecological connectivity to ensure species movement and natural processes continue unimpeded; and
- Ensure quality of life is maintained, and the need for costly constructed solutions to replace lost natural functions is minimized.

As noted, the environmental analysis for Skagit 2045 identified potential impacts through a geographic information systems (GIS)-based evaluation of several aspects of the region’s environmental features. Where available, GIS files were compiled to measure potential impacts to:

- Geologic hazard areas;

- Air quality;
- Water resources and wetlands;
- Floodplains;
- Plant and animal habitat areas;
- Land use and housing;

The agencies with responsibilities for the projects in Skagit 2045 are:

- City of Anacortes;
- City of Burlington;
- City of Mt. Vernon;
- City of Sedro-Woolley;
- Town of Concrete;
- Skagit County;
- Skagit Transit; and
- WSDOT.

- Shoreline use;
- Noise;
- Aesthetics/light and glare;
- Environmental justice;
- Recreation; and
- Historic and cultural resources.

The environmental constraints analysis focused on projects that will significantly add to the footprint of roadways by expanding the capacity of the regional transportation system, including projects identified for state highways, as well as regional transportation projects under the responsibility of the associated city, county, tribal government, transit agency or

WSDOT. These projects were analyzed individually at a programmatic level. Projects in Skagit 2045 that could significantly add to the footprint of roadways were described by the project sponsor.

Projects such as Intelligent Transportation Systems improvements, preventive maintenance, operational improvements and projects that do not involve significant increases in roadway surface may not have

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Exhibit 6-1 Overview of Environmental Elements

Environmental Element Type	Overview of Environmental Elements
Geological Hazard Areas	Projects will cross or be adjacent to mapped steep slopes, landslide and avalanche risk areas, stream undercutting, and earthquake activity areas. Suitability of soils to be assessed with project level environmental review and permitting.
Air Quality	Conformity standards established through National Ambient Air Quality Standards (NAAQS) and analyzed on an area-wide basis.
Water Resources and Wetlands	Projects will cross or be in the immediate vicinity of rivers, streams or lakes, or in the immediate vicinity of identified wetlands, however the actual presence and location of wetlands must be field verified. Groundwater issues, stormwater management, and any necessary mitigation for protection of aquifers will be evaluated and determined at the project level.
Floodplains	Projects are located within mapped floodplains.
Plant and Animal Habitat Areas	Projects are adjacent to terrestrial (land) or aquatic (water) habitat areas for state- or federal-listed endangered, threatened, or candidate, sensitive or other vulnerable or important species. Where a project may affect an identified habitat area, more investigation is required to confirm the actual, current use of the identified area as habitat.
Land Use and Housing	Projects that may have potential for direct disturbance of an existing land use, land use incompatibilities, or the need to relocate housing units. Actual impacts will likely be fewer where there is existing right-of-way to accommodate road expansion, or where there are intervening topography, buildings or vegetation.
Shoreline Use	Projects that may be located within a shoreline jurisdiction area (i.e. within 200 feet of shorelines of Washington state) and therefore subject to the Washington's Shoreline Management Act (SMA). The SMA is implemented by the shoreline master program in effect in the local jurisdiction.
Noise	Projects are located in proximity to residences, habitat areas, parks, schools, and hospitals, which are considered sensitive to noise. All widening and extension projects, and some other improvement or upgrade projects, will result in increased noise during construction.
Aesthetics/Light and Glare	Changing visual conditions, or added light or glare due to road extension or increased capacity may affect sensitive land uses and/or priority habitat areas.
Environmental Justice	Projects in immediate proximity of concentrations of low-income and/or minority populations, particularly in the vicinity of projects that may generate substantial noise, land use/housing disturbance, land-use incompatibility, aesthetic impacts, light and glare or impacts to recreational resources.
Recreation	Projects in the immediate vicinity of parks or recreational resources.
Historic and Cultural Resources	Projects in the immediate vicinity of state- or federal-designated historic properties (Washington Heritage Register or National Register of Historic Places). The potential for impacts to archaeological resources will be evaluated at the project level due to sensitive nature of the locations of archaeological resources.

environmental constraints that will create notable environmental impacts. Significant impacts that could lengthen the project approval process, increase the cost of project design and approval, require extensive mitigation to offset the impacts, or make the project infeasible. Even though there may be less impacts in terms of roadway surface area, there may be some potential for temporary construction impacts, such as noise and air quality, associated with these projects. It is also possible that projects could have a positive impact on the environment.

Environmental Elements

A brief summary of each element of the environment for which constraints may exist is presented in **Exhibit 6-1**. The discussion of environmental elements is followed by a summary of the potential for environmental impacts that could occur with implementation of projects included in Skagit 2045. Not all of these elements were evaluated due to limited data sets, but are presented to provide examples of environmental constraints that may impact a project.

Exhibit 6-2 provides a classification of environmental constraint, depending upon how likely constraints occur in the vicinity of any project.

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Potential for Environmental Impacts of Major Improvement Projects

The exhibits and text that follow summarize the potential for environmental impacts of the transportation improvement projects identified in Skagit 2045 that will have the greatest potential for significant environmental impacts. Two categories were used to identify the potential for environmental constraints: possible constraint and probable constraint.

The project assessment is summarized for each of the 10 urban growth areas and all non-UGA areas, consistent with the Plan. **Exhibit 6-3** shows the location of all funded, planned, and illustrative transportation projects in relationship to possible environmental constraints. This exhibit summarizes potential constraints and impacts related to regionally significant projects in the Skagit region.

The project assessment was limited to the GIS environmental constraints data available at the time of the Plan update. These data sets were primarily limited to a predictive model of archeological resources, steep slopes, wetlands and other water bodies. As discussed earlier, the environmental constraints assessment for Skagit 2045 is not intended to identify specific environmental impacts of transportation projects included in the Plan, or to be used in determining environmental mitigation. Analysis of specific direct and indirect impacts and potential mitigations will occur as individual transportation projects are further defined and permitted.

Exhibit 6-2 Level of Environmental Constraint

Level	Definition
Possible Constraint	Constrained areas or resources were identified in the vicinity of the project(s) and could potentially be affected based on the actual alignment and design of the project(s). This category indicates any potential ranging from limited to great, but not certain.
Probable Constraint	A resource or constrained area is definitely located in the project(s) area or immediate vicinity, and will likely require further review. Identification of a constraint does not mean that the project(s) will definitely result in impacts, or that impacts will be of a significant degree; instead, it indicates that the potential for impacts will need to be evaluated further at the project level.



Skagit Valley Tulips

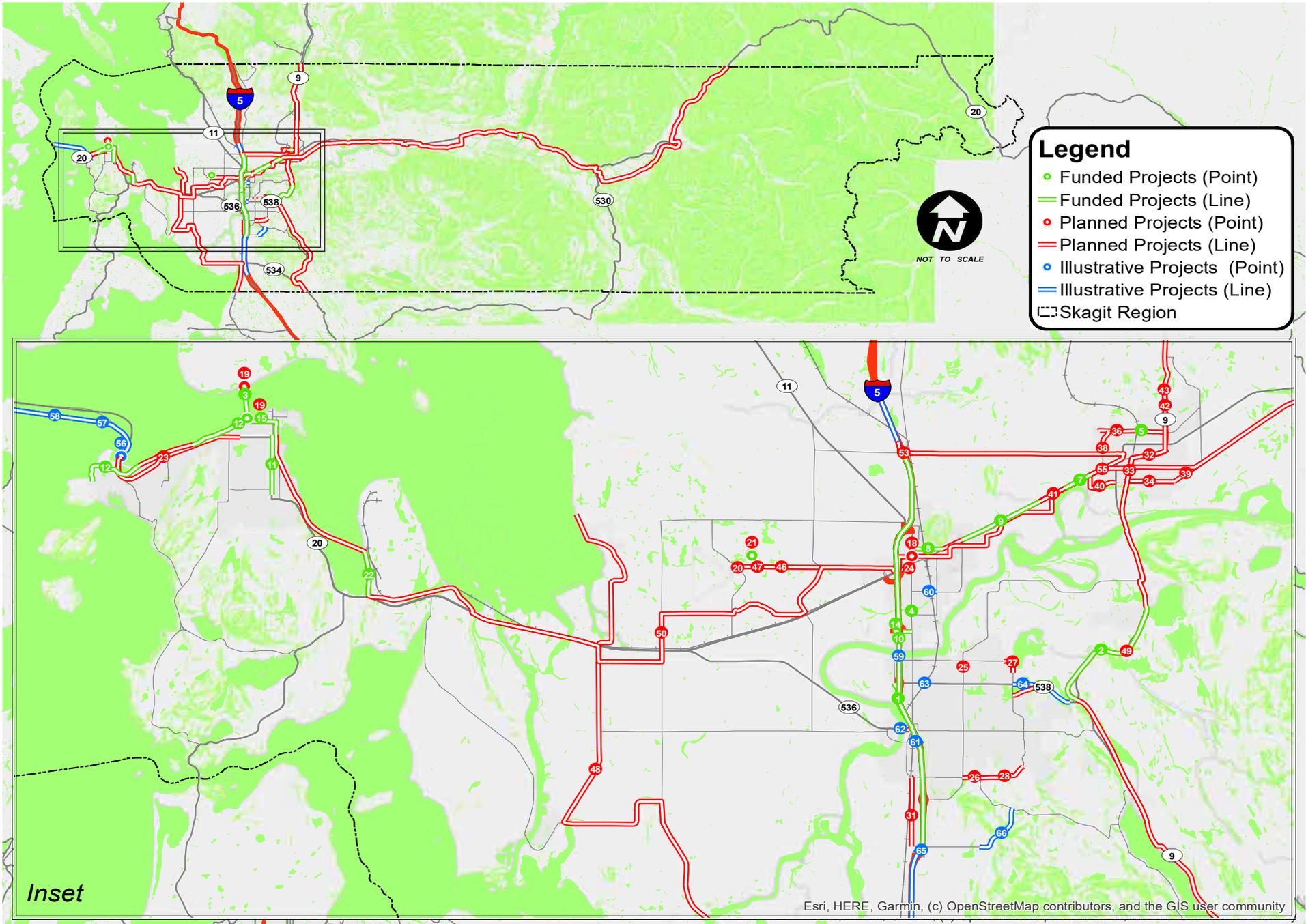


Exhibit 6-3 Potential Environmental Constraints for Regionally Significant Transportation Projects

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Washington State Department of Transportation Projects

In general, widening projects located near rivers, Puget Sound or bays and inlets may affect shoreline jurisdiction area, archeological resources, floodplains, habitat area, aesthetic conditions, wetlands (where they may exist adjacent to rivers), and water quality. Some geologic hazard areas may also be affected. There is also potential to affect park and recreation sites where they are located adjacent to these rivers. Increased noise associated with these projects also has the potential to affect both habitat areas and parks where they are located in the immediate vicinity.

Following are other generalizations derived from past project experience in the Skagit region:

- Projects that will increase capacity through widening or extension of roads will have the greatest effects as they generally involve the most land disturbance, require additional impervious areas and can impact land use over a wider area;
- Projects that will add impervious surface area without increasing capacity are less likely to have land use impacts; and
- Projects located in urban areas are expected to have lower impacts than projects in rural areas, due to existing levels of urbanization, impervious surface area, and habitat disturbance.

Regional Transportation Projects by Urban Growth Area

The potential impacts and constraints of regional transportation projects identified in Skagit 2045 are summarized below by urban growth area (UGA). The locations of these projects in relationship to possible environmental constraints are shown in **Exhibit 6-3**. Environmental constraints associated with Skagit Transit fleet expansion is not analyzed as the expansion is anticipated for the

entire public transportation benefit area, and not any one urban growth area.

Evaluation of environmental constraints was conducted for reach project with results included in Section 5, which includes priorities for each project across the six regional priorities, including “Environment”. Results are summarized below, organized by urban growth area. Projects fully funded or partially funded are not included in the environmental analysis, due to funding decisions already made on these projects. Environmental review is conducted for these funded projects, and all projects in Skagit 2045, through relevant federal and Washington state requirements.

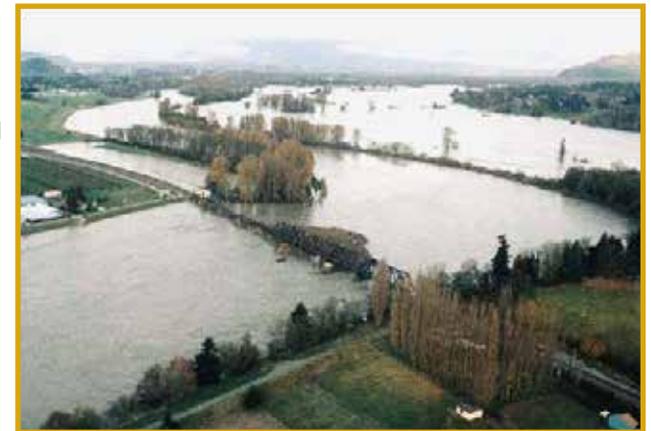
Urban Growth Areas

Anacortes

Many of the projects in this urban growth area have identified environmental constraints, primarily due to their proximity to shorelines or stream crossings.

Bayview Ridge

Projects for Skagit Transit’s new maintenance, operations, and administration base do not have identified environmental constraints, as the footprint of the existing structure that will become the base is not anticipated to substantially change. The Peterson Road projects have potential identified environmental constraints.



BNSF Skagit River Bridge during Flooding

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Burlington

The Railroad Overpass Project in the Burlington UGA cross Gages Slough and is expected to have environmental constraints. Other Burlington projects are expected to have negligible environmental impacts.

Concrete

No projects are identified in the Concrete UGA, other than the Secondary Access project which has secured partial funding.

Hamilton

No projects are identified in the Hamilton UGA.

La Conner

No projects are identified in the La Conner UGA.

Lyman

No projects are identified in the Lyman UGA.

Mount Vernon

In the Mount Vernon UGA, many projects have anticipated environmental constraints – primarily river/stream crossings and steep slopes. A few projects with anticipated minor land disturbances are not expected to have environmental constraints, such as adding a bike lane on Old Highway 99 South and Martin Road Improvements.

Sedro-Woolley

In the Sedro-Woolley UGA, the projects south of State Route 20 appear to have less potential for environmental constraints as they are generally in already developed parts of the city where few environmental constraints are present. Several projects north of State Route 20, however, have identified environmental constraints, primarily stream crossings within the project extent.

Swinomish

No projects are identified in the Swinomish UGA.

Non-Urban Growth Areas

Several trail projects outside of UGAs have identified environmental constraints, including the Centennial Trail project, which cross several streams/ivers. Potential environmental impacts for the Skagit County and WSDOT projects planned in the vicinity of the Cook Road/Interstate 5 interchange include a stream in the vicinity of the southbound off-ramp and potential of archeological resources in the area.

Skagit Transit

The nature of transit improvements generally means less physical construction in undeveloped areas and generally has less potential for adverse impact than roadway capacity expansion projects, such as widening or extensions. Additionally, the alignments for new bus routes are not identified in the Plan, instead they are planned for the public transportation benefit area as a whole.

Washington State Department of Transportation

The I-5 Active Traffic Management project includes a range of technologies and strategies along a 14-mile stretch of Interstate 5 through Mount Vernon and Burlington. There are several potential environmental constraints along this corridor that travels through two urban growth areas, and areas north and south of these UGAs. As this project is further scoped, the precise environmental impacts will become evident through project-specific environmental review, which is outside of the scope of Skagit 2045.

There are also several WSDOT ferries projects in the Plan, including a terminal replacement in Anacortes and replacement of six vessels. Vessel replacements are anticipated to have environmental benefits,

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as diesel-powered ferries are replaced with diesel-electric hybrids. Environmental impacts associated with the Anacortes Terminal Replacement project include potential archeological resources, wetlands, and saltwater related impacts.

Environmental Impacts of Operations, Preservation and Maintenance Projects

Skagit 2045 includes a number of programmatic projects that, due to not expanding the regional transportation system, are not highlighted individually in this summary, nor included in **Appendix A**. These include general operations, maintenance and preservation projects, such as:

- Roadway reconstruction projects that are not regionally significant;
- Signage modifications;
- Sidewalk completion;
- Lighting improvements;
- Minor rail-crossing improvements;
- Safety improvements, such as installation of guardrails; and
- Installation of roadway curbs and gutters.

Many of these projects are categorically excluded from environmental review, while other projects are limited as to what can be specifically identified at the planning level, before preliminary engineering has begun. Projects such as intersection improvements, may result in improved environmental conditions. And fish passage projects improve barriers that restore ecological function, replacing culverts with structures providing habitat gain to fish species.

Some of these operations, preservation and maintenance projects

apply to specific road segments, or local areas, while others are area-wide improvements. Area-wide operational and maintenance strategies included in the Plan are not analyzed individually because specific locations are not identified and they do not considered regionally significant in Skagit 2045. These operational and maintenance strategies improve the performance of the existing system by reducing vehicular congestion, improving safety and mobility. For Skagit 2045, projects associated with implementing these strategies are not anticipated to result in increased impervious surface area.

Climate Change

In Washington state, transportation accounts for nearly half of the total greenhouse gas emissions, including emissions from cars, trucks, planes and ships. Emission reduction strategies can help create more efficient driving conditions, reduce the amount of driving and introduce more fuel-efficient vehicles.

Washington state has set the following vehicle miles traveled (VMT) reduction goals:

- 18% reduction by 2020;
- 30% reduction by 2035; and
- 50% reduction by 2050.

The Skagit region recognizes that reducing greenhouse gas emissions (GHG) from transportation sources is a necessity. A goal of Skagit 2045 is to make recommendations to achieve significant reductions in transportation related GHG, and to recommend tools and best practices to achieve vehicle miles traveled reduction goals enacted in Washington state House Bill 2815 (greenhouse gas emissions and green collar jobs).

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Action Strategies

Climate change action strategies are included in Skagit 2045 to achieve reductions in GHG and VMT, as well as prepare the Skagit region for threats to the regional transportation system antiquated during the timeframe of the Plan. Action strategies to address climate change at a regional level are as follows:

- Align investment strategies with achievement of VMT and GHG reduction provisions;
- Use GHG/VMT as criteria for funding and pursue new revenue sources to support transportation choices;
- Pursue new revenue sources to support transportation choices, particularly transit operations;
- Expand and enhance transit, rideshare and commuter choice;
- Provide incentives for vanpool and carpool programs;
- Develop more park-and-ride and park-and-pool lots;
- Develop actions to address congestion issues on the transit network (e.g. vehicle capacity, bus lanes, signal priority);
- Address ineffective intermodal connections;
- Pursue additional non-VMT actions to reduce GHG emissions from the transportation sector, including increasing the use of rail for both the movement of passengers and freight;
- Pursue opportunities for reduction in GHG emissions through improvements in traffic operations and roadway design that reduce vehicle delay, idling, and starting and stopping at intersections; and
- Provide resiliency in any existing or new transportation

infrastructure that would be vulnerable to sea level.