

## Section 7 Environmental Constraints



## Section 7 Environmental Constraints Analysis

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### Environmental Constraints Analysis

A programmatic-level review of potential environmental constraints was conducted as part of the M/RTP. Environmental constraints may be encountered with planning, design, permitting and construction of future transportation improvement projects identified in the M/RTP. The complete environmental constraints analysis and other supporting environmental documentation is found in Appendix G.

The State Environmental Policy Act (SEPA) provides the context for the analysis of environmental constraints, but specific federal and local regulations are also applicable. Generally, the environmental analysis for the M/RTP looked at the potential for impacts from road construction and improvements. The analysis identified where there may be potential for impacts to:

- Geologic hazard areas.
- Water resources and wetlands.
- Endangered, threatened, sensitive, candidate and priority plant and animal habitat areas.
- Air quality.
- Land use and housing.
- Noise.
- Aesthetics/light and glare.
- Environmental justice.
- Recreation.
- Historic/cultural resources.

Due to the uncertain nature of transportation funding during the next few years, the environmental constraints analysis focused on projects that are currently within the fiscally constrained portion of the plan (see Section 8). The environmental constraints analysis also focused on projects that will significantly add to the footprint of roadways, including projects identified for the state highways, as well as regional transportation projects as summarized into the seven subregions. Several major widening projects are identified in the M/RTP for state highways. In addition, several projects will add to the roadway surface area at intersections. Within the subregions, the M/RTP identifies several major corridors for road widening and/or extensions. Projects in the M/RTP that could significantly add to the footprint of roadways are summarized by subregion.

For M/RTP projects that do not involve significant increases in roadway surface, there may be some potential for temporary construction impacts such as noise and air quality. However, it is generally not expected that there will be environmental constraints associated with these projects that will create significant impacts, lengthen the project approval process, or increase the cost of project design and approval. Projects that will not add roadway surface are discussed under the heading “Maintenance, Upgrades, and Reconstruction Projects.” The M/RTP also includes improvements to transit and trails, which are discussed under “Projects for Improving Alternative Transportation Modes.”



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The environmental constraints analysis for the M/RTP is not intended to identify specific environmental impacts of road projects included in the M/RTP, or to be used in determining environmental mitigation. Analysis of specific direct and indirect impacts and potential mitigations will occur as individual transportation projects and programs are further defined and permitted.

### Environmental Elements

A brief summary of each element of the environment for which constraints may exist is presented in a table titled *Overview of Environmental Elements* at the end of this section. Information on applicable regulations and data sources are included in Appendix G.

## Potential for Environmental Impacts of Major Improvement Projects State Highway Projects

The potential for environmental impacts of the fiscally-constrained state highway projects is greatest for those that will considerably add to roadway footprints (impervious surface area) such as the addition of lanes or new highway interchanges. In general, widening projects that will be located near rivers may affect shoreline jurisdiction area, floodplains, habitat area, aesthetic conditions, wetlands where they may exist adjacent to rivers, and to some extent water quality. There is also potential to affect recreation activities where they are located adjacent to these rivers. Some geologic hazard areas may also be affected. Increased noise associated with these projects also has the potential to affect both habitat areas and recreation where they are located in the immediate vicinity. Projects that will add impervious surface area without increasing capacity will have minor impacts and will be less likely to affect land use or housing. Projects located in urban areas are expected to have fewer impacts to the natural environment than projects in rural areas, due to existing levels of urbanization and impervious surface area, and existing disturbance of habitat.

### Regional Transportation Projects by Local Agencies

For regional roadways, several major widening projects are identified, as well as several projects that would add to the roadway surface area at intersections. Within these subregions, the M/RTP identifies several major corridors for road widening and/or extension. This environmental constraints analysis focuses on these types of major regional transportation projects. In addition, this analysis focuses on fiscally-constrained projects due to the uncertainty of transportation funding in the next few years. The potential impacts of regional transportation projects will be completed by local agencies during project development and pre-design. A brief summary of projects in each subregion is summarized below.

#### Northwest Subregion

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The Northwest subregion is somewhat urbanized but also includes considerable agricultural and less urbanized areas. Regional improvements in this subregion developed by local agencies would generally have minimal environmental impacts, with the exception of the Summitview Road reconstruction, which may impact watercourses.

#### North Subregion

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The North subregion includes the urbanized areas in and around Selah, and considerable agricultural and rural areas to the north. No fiscally-constrained projects adding considerably to roadway footprints were identified in the North Subregion for this analysis.



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### West Subregion

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This subregion includes the western edge of the Yakima urbanized area, and considerable rural and agricultural areas to the west. No fiscally-constrained projects adding considerably to roadway footprints were identified in the West Subregion for this analysis.

### Central Subregion

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The Central subregion contains the majority of the non-state highway improvement projects that will have the greatest potential for environmental impacts. Most of these projects will be in urban areas that are already developed; therefore, the potential for impacts is relatively low. However, many watercourses exist in this subregion, and could be adversely affected. Many of these projects will not add significant roadway capacity and will not contribute to noise, light or glare, but may include small increases in impervious surface area and associated stormwater runoff. The urban areas in the Central subregion include some plant and animal habitat. The priority habitat areas that exist within the urban areas are primarily located in the immediate vicinity of major watercourses, and aquatic habitat for priority fish species is located in a number of smaller streams in the north, south and southwest portions of this subregion. Where road projects occur near habitat areas, habitat may become further degraded, or connections between some habitat areas could be reduced or eliminated. The urban area also includes some shoreline jurisdiction area adjacent to the Yakima River, Naches River, Ahtanum Creek and Cowlitz Creek. Road projects in shoreline jurisdiction areas will need to comply with applicable shoreline regulations. Major watercourses such as the Yakima River and Ahtanum Creek have adjacent floodplain areas, and some road projects will cross floodplains.

Road extension and widening projects that add lanes have the potential to disturb existing land uses if located where additional right-of-way will need to be acquired. These projects can also add noise, light and glare, and will change aesthetic conditions. In some cases, nearby parks or other sensitive uses such as schools and residences could be affected. A variety of historic resources exist within the Yakima urban area, however these are generally concentrated in downtown Yakima. Further study of potential effects on historic resources will be needed as projects are refined. The Yakima urban area also includes concentrations of housing for low income and minority populations, particularly in areas between 1st Street and I-82 and to some extent the area south of West I Street and east of North 5th Avenue, northwest of downtown Yakima.

The East-West Corridor project has significant potential impacts beyond the scope of the Plan and will be considered as a part of the partners' (City of Yakima, Yakima County, WSDOT) Interchange Justification Report and subsequent PE, R/W, and Construction phases.

In less densely urbanized portions of this subregion, such as southwest of the Yakima city limits, there is a greater presence of streams and potentially some wetland areas. While terrestrial habitat areas for priority species are limited, there is more potential to disturb habitat, and the presence of priority aquatic habitat areas may require further study. However, there is less potential to affect sensitive land uses in this area.

### East Valley Subregion

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The East Valley subregion includes the City of Moxee and the surrounding unincorporated areas. Several state highway improvement projects are identified within the East Valley subregion. Moderate impacts and constraints are expected for the regional transportation projects developed by Yakima County, WSDOT, or the City of Moxee including new roadways like Morrier Lane/Duffield Road project. The East-West Corridor project has significant potential impacts beyond the scope of the Plan and will be considered as a part of the partners' Interchange Justification Report and subsequent PE, R/W, and Construction phases.



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### South Central Subregion

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The South Central subregion includes the communities of Wapato, Harrah, Toppenish and Zillah. Watercourses and floodplains in this subregion will likely be affected. There may be potential to affect wetlands, and relatively low potential for land use constraints and impacts. The M/RTP includes a project to widen North Myers Road, which would impact watercourses, wetlands, and floodplains, and is located in a shoreline jurisdiction area. Identified projects to reconstruct or replace bridges on North Myers Road and SR 22 would have similar impacts.

### Southeast Subregion

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This subregion includes widening and reconstruction projects which generally have a low potential to affect wetlands, land use, housing, noise, aesthetics, and environmental justice when constructed within existing rights of way.

### Other High Priority Local Agency Projects

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The M/RTP identifies a number of future regional projects that are not included in the fiscally constrained M/RTP that could be implemented by local agencies if additional funding is secured. Potential environmental impacts and constraints associated with these projects are similar to the impacts for other fiscally-constrained M/RTP projects in their respective subregions as discussed above. Projects that increase capacity through widening or extension of existing roads can have the greatest effects. Projects that add impervious surface area without increasing capacity will have more minor impacts and will be less likely to affect land use or housing. Projects located in urban areas are expected to have lesser impacts than projects in rural areas, due to existing levels of urbanization and impervious surface area, and existing disturbance of habitat.

## Potential for Environmental Impacts of Other Transportation Programs

The M/RTP establishes preservation, safety, and efficiency of the transportation system as high priorities. WSDOT, Yakima County, and the other local agencies have programs to maintain, operate, and otherwise systematically address transportation needs of the region. These programs address maintenance and reconstruction of existing transportation facilities, and enhancements to address existing environmental impacts. They also address intersection/operations improvements. Programs and projects to enhance use of transit or non-motorized transportation are also addressed in this section. These programs may not trigger project-specific environmental review. However, some of the programs can result in potential impacts to the environment. The table titled *Potential for Positive and Negative Impacts* at the end of this section summarizes the potential environmental constraints that may need to be addressed for these programs. Both potential positive and negative impacts are noted. Potential short-term impacts that are noted are associated with construction and will be temporary.

## Maintenance, Reconstruction, Environmental Projects and Area-wide Improvement Programs

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The M/RTP includes a number of projects that, based on the project type, are not discussed individually in this summary or *Appendix F*. These include general maintenance and roadway overlay projects, signage modifications, sidewalk completion, lighting improvements, rail crossing improvements, safety improvements such as installation of guardrails, and installation of curbs and gutters, for example. Some of these projects are categorically exempt from environmental review. For others, potential environmental constraints cannot be specifically identified at this level of planning. Others, such as intersection and operational improvements, may result in improved environmental conditions. Some of these projects apply to specific road segments or local areas, while others will be area-wide improvements.



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Area-wide projects included in the M/RTP are not analyzed individually because specific locations are not identified. These include roadway overlays, sidewalk improvements, signal timing enhancements, intelligent transportation system, and other area-wide improvement strategies. These project types include improvements that will not result in increased impervious surface area.

### Projects for Improving Alternative Transportation Modes

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The M/RTP also includes improvements to transit, transportation demand management, and non-motorized transportation. The potential impacts of these are not specifically discussed for two reasons: 1) the nature of transit and trail improvements generally require less physical construction and generally have less potential for adverse impact than road widening or extension projects, and 2) specific alignments for trail improvements and bus routes are not identified. Although specific projects that serve other travel modes are not specifically presented, a general overview of the potential environmental impacts of these project types are listed in *Potential for Positive and Negative Impacts. Overview of Environmental Elements* also provides a summary of potential impacts to environmental elements, similar to the summaries provided above for maintenance and reconstruction type projects, and area-wide improvement programs. Potential short-term impacts that are noted are associated with construction and will be temporary.

### Air Quality Analysis

Air quality planning for transportation is focused on meeting the National Ambient Air Quality Standards (NAAQS) and deadlines set by the federal Environmental Protection Agency (EPA), and upon the state Department of Ecology (DOE) guidelines for meeting the standards. Specific federal and state air quality conformity requirements come from the integration of requirements in the Clean Air Act Amendments of 1990 and the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and are codified in 40 CFR Part 93.

These requirements were also included in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy For Users (SAFETEA-LU), and Washington State's Clean Air Act (RCW 70.94 & WAC 173-420-110). The requirements include:

- Frequency of Conformity Determinations (40 CFR 93.104)

YVCOG is responsible for completing the metropolitan transportation plan (MTP), and the metropolitan transportation improvement program (MTIP) for the Greater Yakima metropolitan area. Transportation plans and transportation improvement programs must be demonstrated to meet air quality standards at least every four years – or at any time when changes are proposed.

- Latest Planning Assumptions (40 CFR 93.110)

Nonattainment and maintenance areas must use the most recent planning assumptions in force at the time of the determination when making their conformity determination.

- Interagency Consultation (40 CFR 93.105, 40 CFR 93.112)

Under the approved limited maintenance plans (LMPs) for CO and PM10 there are no motor vehicle emissions budgets. Therefore a regional emissions analysis is not required. The Environmental Protection Agency (EPA) assumes that VMT growth is not expected to create a violation of NAAQS. However, a conformity determination is still required via the interagency consultation process.



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Transportation conformity rules require that YVCOG must demonstrate via the interagency consultation process that the projects included in the transportation plan and the transportation improvement program successfully demonstrate that either singly or taken together, they will not cause the region's air quality to deteriorate nor will they cause or contribute to any new violation of the federal air quality standards for CO or PM10.

The Environmental Protection Agency (EPA) re-designated both the Yakima carbon monoxide (CO) nonattainment area and the PM10 nonattainment area to "attainment" for the National Ambient Air Quality Standards (NAAQS) and approved a limited maintenance plan (LMP) effective December 31, 2002 for CO and March 10, 2005 for PM10. Additionally, on March 9, 2005 an EPA approved boundary change to the PM10 maintenance area to exclude lands belonging to the Yakama Nation went into effect.

Under limited maintenance plans, the motor vehicle emissions may be treated as essentially non-constraining because growth would need to exceed reasonable expectations to create a potential violation of the air quality standards for either PM10 or CO. Under the limited maintenance plans, a regional emissions analysis is not required. Please note that even though a regional emissions analysis is not required, there are still other requirements that the area must meet for conformity. Remaining conformity requirements (as detailed in 40 CFR 93.109) include consultation (40 CFR 93.112), timely implementation of transportation control measures (40 CFR 93.113), and project level analysis (40 CFR 93.116). Individual transportation projects may be required to undergo air quality conformity analysis in order to obtain project approval. Project level analysis is performed by the project sponsor in accordance with state and federal requirements and methodologies. Having attainment status is a recognition that air quality has improved and the probability of future violations of the NAAQS is very low.

### METROPOLITAN TRANSPORTATION MODEL CONVERSION AND UPDATE

In 2011 YVCOG successfully updated its transportation model for purposes of the Yakima Valley Metropolitan and Regional Transportation Plan 2010-2035. The model was updated again in 2012 and an enhanced model set is currently in the later stages of development. The updated model maintains consistency with the previous model as it employs the same underlying assumptions, the same gravity equations, and continues to simulate PM peak hour traffic. The enhancements in the upcoming model, anticipated to be completed for the analysis of this year's 2017-2020 CMAQ Call for Projects, maintains consistency and provides enhancements of: freight data, transit routes, and greater delineation of input land use and employment categories.

The VISUM platform allows YVCOG to continue to track vehicle miles of travel (VMT) based on updated information. Through consultation with DOE on July 29, 2008 it was determined that YVCOG would report the annual VMT growth rate for the entire PM10 maintenance area. Since the PM10 maintenance area contains the CO maintenance area, YVCOG can use the PM10 maintenance area VMT growth rate for the CO maintenance area. If the annual growth rate is less than or equal to 2 percent, the M/RTP conforms to the LMP. If the growth rate exceeds 2 percent, then YVCOG will use the transportation consultation process to determine how to demonstrate conformity. If the growth in VMTs is shown to exceed 2 percent per year, further analysis is needed to determine the cause(s). A growth rate higher than 2 percent per year indicates extraordinarily large increases in population, vehicles and traffic, and the air quality impacts of these changes need to be studied more closely. The 2 percent annual VMT growth rate matches the VMT growth assumptions made in the approved PM10 LMP.

Under the current limited maintenance plans, individual transportation projects may be required to undergo air quality conformity analysis in order to obtain project approval. Project level analysis will continue to be performed by the project sponsor in accordance with state and federal requirements and methodologies.



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The air quality conformity analysis for the 2040 forecast year was conducted for the Build condition, which assumes all capacity-adding projects and those projects changing intersection controls; the build scenario includes the WSDOT and local agency Transportation Improvement Programs (TIPs). In addition, the analysis was conducted based on the projects identified as “secured” in the 2016-2040 Draft M/RTP. Included in the financially-constrained plan, the 2040 conformity analysis was performed with the inclusion of the east-west corridor from the City of Yakima to the Terrace Height community.

**Carbon Monoxide (CO).** A limited maintenance plan is also in place for CO emissions in and around downtown Yakima. The limited maintenance plan does not establish a transportation conformity budget for CO. The limited maintenance plan includes programs to optimize signal timing in downtown Yakima to reduce pollutants and continue CTR programs. It also includes public information measures to encourage voluntary efforts to reduce CO emissions.

Similar to PM<sub>10</sub> emissions, the CO conformity analysis was performed for 2016 and 2040.

**Conformity.** The 2016-2040 M/RTP achieves and maintains the NAAQS as required by the Clean Air Act Amendments of 1990, meets the requirements set forth in WAC 173-420, and the current Yakima limited maintenance plans for both CO and PM<sub>10</sub>.