

II. Goals, Strategies, and Actions

Chapter 4

Regional Leadership, Partnership, and Coordination

Goal: Pursue regional leadership, coordination, and partnership to address countywide transportation challenges.

The Road Services Division has two complementary roles in addressing transportation needs in King County. One is to provide local services to the county’s unincorporated areas, which are those that are not part of any city. In these areas, the division is directly responsible for planning, designing, building, operating, improving, and maintaining the road system (except for private roads, state and interstate highways, and a few others). Cities are responsible for similar services within their boundaries.

The division’s other important role is to help create a seamless regional³ transportation system that serves multi-modal users throughout the county and beyond. King County is one of many jurisdictions, including 39 cities and the Washington State Department of Transportation (WSDOT), that are responsible for various parts of a large, interconnected, countywide road system. The King County Comprehensive Plan calls for the county to pursue leadership, coordination, and partnership at a regional level. The division pursues regional projects through interlocal cost sharing agreements and, when regional funding is available, through grants or other sources. The strategies and actions in this chapter address several ways in which the division can contribute to the achievement of a well-functioning regional transportation system.

Summary of Strategies

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| Strategy REG 1 | Expand the division’s involvement in existing regional planning, coordination, and decision-making processes. |
| Strategy REG 2 | Promote a multi-jurisdictional regional transportation corridor approach to project planning and implementation. |
| Strategy REG 3 | Lead, promote, and coordinate technology initiatives, such as intelligent transportation systems, that address regional traffic congestion. |

³ In this plan, the term “regional” typically refers to transportation issues, facilities, services, projects, activities, etc. that pertain to the county as a whole, including both incorporated and unincorporated areas. It may also be occasionally used to refer to the larger Puget Sound region.

- Strategy REG 4** **Coordinate with other jurisdictions on the regional use of county and city traffic control centers to optimize use of the existing road network.**
- Strategy REG 5** **Coordinate with other jurisdictions on environmental, transportation planning, traffic operations, road maintenance, and other program initiatives that support effective and efficient management of the transportation system.**
- Strategy REG 6** **Support regional freight mobility and incorporate freight considerations into road planning, design, construction, and maintenance.**
- Strategy REG 7** **Assess unmet countywide transportation information needs and consider coordinating some regional data as appropriate.**
- Strategy REG 8** **Increase coordination with other jurisdictions on measures that minimize disruption to the public during road project construction.**
- Strategy REG 9** **Continue to build on contracting relationships between jurisdictions as part of the foundation for regional coordination and partnership.**

Strategies and Actions

- Strategy REG 1** **Expand the division's involvement in existing regional planning, coordination, and decision-making processes.**

A basic foundation for the division's regional activities is active participation in existing regional processes and forums. These provide mechanisms for the jurisdictions in King County and beyond to work together to analyze regional transportation needs, identify solutions to transportation problems, and often to advocate for the funding necessary to implement those solutions. The division should review current participation levels and, where beneficial, increase them or seek new opportunities to participate.

Action REG 1-1 Increase coordination with the Puget Sound Regional Council on regional transportation planning efforts.

The Puget Sound Regional Council is designated under federal and state laws as the metropolitan planning organization and the regional transportation planning organization for central Puget Sound, including King, Pierce, Snohomish, and Kitsap Counties. This council is required by state and federal law, and by its own governing interlocal agreement, to maintain the regional growth and transportation strategy for the region and to conduct and

support numerous state and federal planning, compliance, and certification programs that enable counties, cities, transit agencies, ports, and WSDOT to obtain state and federal funding. Coordination with the council's planning activities is therefore essential to the division.

Action REG 1-2 Increase participation in the subarea transportation board process facilitated by the county Department of Transportation's Office of Regional Transportation Planning (ORTP).

The ORTP provides regional transportation planning and grants services for the department by working collaboratively with other departments, jurisdictions, and agencies to craft strategies that implement the county's vision. Among other responsibilities, this office coordinates three subarea transportation boards that are comprised of elected officials from local jurisdictions and King County, transportation agency representatives, and the private sector. These are: the Eastside Transportation Partnership, the South County Area Transportation Board, and the Seashore Transportation Forum. The mission of these boards is to provide forums for sharing information and building consensus to solve common transportation problems. The division should increase participation at the staff technical advisory committee level and use the boards whenever appropriate to facilitate implementation of the regional strategies and actions outlined in this plan.

Action REG 1-3 Increase division efforts to advocate for the entire King County area transportation system at the federal and state levels, at the Puget Sound Regional Council, and in other appropriate forums.

The division should strongly promote the interests of the entire King County regional road system—both incorporated and unincorporated—to federal, state, and other agencies such as the Puget Sound Regional Council and to coalitions involving King, Pierce, and Snohomish Counties, and should advocate for funding. Advocacy could occur at the staff or management level, or through providing information, analysis, and support to others, such as elected officials.

Action REG 1-4 Work with other agencies to clarify regional roles, maximize effectiveness, and avoid duplication.

The division is interested in using its broad expertise in the planning, design, construction, operation, and maintenance of roads to complement the efforts of other agencies and enhance the functioning of the road system throughout King County. In working with the Office of Regional Transportation Planning, Puget Sound Regional Council, WSDOT, and other agencies, the division should strive to clarify respective roles in regional matters in order to maximize effectiveness and avoid duplication of efforts. Each agency has a unique combination of legal and policy mandates to fulfill and valuable knowledge and expertise to contribute to regional transportation solutions.

Strategy REG 2 Promote a multi-jurisdictional regional transportation corridor approach to project planning and implementation.

Many important transportation corridors are regional in nature, passing through more than one jurisdiction. These regional corridors make multi-jurisdictional planning essential to meet existing and future transportation needs. *Destination 2030* (the Metropolitan Transportation Plan for the Central Puget Sound Region), the King County Countywide Planning Policies, and the King County Comprehensive Plan all support a multi-jurisdictional approach to transportation planning.

Destination 2030 defines a transportation corridor as:

In planning, a broad geographical band that follows a general directional flow or connects major sources of trips. It may contain a number of streets and highways and transit lines and routes.

Arterial roads are often the main focus of the division's corridor approach. Regional arterials are major roads that carry higher traffic volumes over relatively long distances, often between jurisdictions. These critical links in the regional transportation system are, with just a few exceptions, the responsibility of the individual jurisdictions through which they run. A well-functioning arterial system not only moves people and goods more safely and efficiently, it also helps keep traffic off local neighborhood streets.

The division recognizes a regional arterial system comprised of both the Puget Sound Regional Council-designated Metropolitan Transportation System (MTS), and the Regional Arterial Network (RAN). These two systems describe the existing and future arterial network similarly but were developed for different purposes. The MTS, designated in *Destination 2030*, represents the federally recognized regional arterial network within the four-county (King, Pierce, Snohomish and Kitsap) Puget Sound region. It also includes ferry, transit, non-motorized, freight, rail, and aviation components. Among other functions, it is used to certify regional air quality compliance and provides a basis for federal funding. The RAN identifies a system of regionally significant roads within King County that are critical to the movement of goods and people. It is a network of multimodal corridors essential to countywide mobility for transit, freight, and general-purpose traffic. Its purpose is to help identify shared priorities among the jurisdictions in King County and to promote coordinated improvements along the regional transportation system.

The MTS and the RAN encompass most roads of interest in the division's regional corridor approach. However, if others, such as freight or bus corridors, are identified in a multi-jurisdictional process, they can be considered as well.

Action REG 2-1 Facilitate and, where appropriate, lead countywide planning efforts on regional corridors.

The Road Services Division should bring together jurisdictions in King County, and beyond if necessary, to plan and prioritize improvements to regional corridors so the corridors can function more smoothly as an integrated, multi-modal system for moving people and freight.

A good example of such regional planning collaboration is the TransValley Area Study, which identifies solutions for mobility constraints on a number of priority corridors in south King County. This study was the product of a division-led partnership that included King County, the cities of Kent, Renton, SeaTac and Tukwila, the Port of Seattle, the Puget Sound Regional Council, and WSDOT. King County and the four local jurisdictions partnered financially on the study, which developed: 1) a set of possible solutions; 2) consensus on the preferred recommendations and action plan; 3) an implementation strategy; and 4) an outline of the process to address environmental impacts. This model of multi-jurisdictional planning holds much promise for the future.

Action REG 2-2 Facilitate and, where appropriate, lead implementation of cross-jurisdictional capital improvement projects on regional corridors.

In addition to planning efforts, the division should work closely with other jurisdictions, including other counties if needed, to coordinate the implementation of road projects that cross jurisdictional boundaries. For example, two or more jurisdictions may need to work together to interconnect traffic signals to improve flow, or to widen portions of a roadway that cross through their respective jurisdictions. In some situations, it may be beneficial for the division to offer its services as lead agency for complex projects that involve many jurisdictions or that require specialized technical expertise the county can provide. The details of any such arrangement would be negotiated on a case-by-case basis with the jurisdictions involved.

Action REG 2-3 Focus King County's major congestion-related capital improvements in the unincorporated area on roads important to the functioning of regional corridors.

In selecting major congestion-related capital projects to build in the unincorporated area, the division should focus its investments on projects located on regionally important arterials to provide widespread benefits to the regional transportation network. More information on congestion issues can be found in Chapter 6, Congestion Management (page 57).

Action REG 2-4 Facilitate road improvements that benefit transit routes and other efficient travel modes on corridors throughout incorporated and unincorporated areas of the county.

The county's Metro Transit buses depend on city, state, and county road facilities, especially arterials in the urban area of the county. This gives King County an additional interest in maximizing the functioning of the regional road system. The division can help by making technical information and the knowledge and expertise of its staff available as appropriate to identify and implement key road improvements needed to improve transit efficiency and

accessibility. The exact nature of this assistance would vary on a case-by-case basis. More discussion of transit-related road issues can be found in Chapter 7, Transportation Alternatives (page 67).

Action REG 2-5 Identify arterials in rural areas that fulfill a regional corridor role, conveying people and goods between and to urban areas. Consider this regional function when planning future road improvements and discuss with other affected jurisdictions.

While many regional arterial corridors are located in urban areas, there are also a number of arterials that pass through rural areas and serve an important regional corridor function in conveying people and freight between urban areas. As growth in these urban areas continues, it will be increasingly important to identify and study these roads and determine how to address improvements on them to maintain public safety and mobility. Such analysis should include the participation of other affected jurisdictions and appropriate community involvement.

Action REG 2-6 Coordinate with other jurisdictions on state and federal grant processes to maximize successful competition for funding of regional corridor improvements.

The division should work with other jurisdictions to develop a coordinated approach to maximizing grant funding for the entire county. This approach may include prioritizing regional projects, assisting other jurisdictions with grant applications, partnering on applications, or supporting other jurisdictions' applications.

Action REG 2-7 Collaborate with Metro Transit, WSDOT, and other relevant jurisdictions to identify and collaboratively eliminate gaps and missing links in the state highway system.

Many regionally significant roadway facilities on the state highway system lie between municipalities within unincorporated King County. These roads are often not built out to an appropriate designed section (width), including potential HOV lanes. As a result, these segments experience increased traffic congestion and pose a constraint to transit operations and other vehicle access.

The division should seek to identify and undertake collaborative projects with Metro Transit, WSDOT, and relevant jurisdictions to eliminate these gaps and missing links in the regional highway system where appropriate and where adequate funding is available. If such arrangements cannot be achieved within existing codes and regulations, the division should consider requesting the legislative changes necessary to enable it to participate in such projects.

Strategy REG 3 Lead, promote, and coordinate technology initiatives, such as intelligent transportation systems (ITS), that address regional traffic congestion.

Intelligent transportation systems apply advanced information processing, communications, sensing, or control technologies to the management and operation of the transportation system. They can increase the system's safety and efficiency, and also can help reduce air and noise pollution and fuel consumption. Some relevant examples of ITS include interconnecting traffic signals and signal control software, transit signal priority systems, emergency and incident response management, and real-time traveler information such as Web pages and traffic cameras.

ITS can help King County get the best value from the existing road system and is an important tool to improve traffic flow, reduce auto and transit travel time, and reduce crashes and fatalities. In some cases, ITS solutions can help avoid the need for major road widening. Successful use of ITS requires strong city-county partnerships that recognize mutual benefits and result in cross-jurisdictional advocacy and project support.

Action REG 3-1 Form a public partnership with other local agencies to design and build ITS projects along regional corridors that cross jurisdiction boundaries.

Action REG 3-2 Develop a list of regional ITS projects prioritized for funding.

To be effective, technological approaches must be implemented over distances that usually cross city and/or county boundaries. Accomplishing this requires several levels of interjurisdictional coordination, including ensuring compatible technology across jurisdictions and developing formal agreements to work together on project planning and implementation. Another important task is to reach consensus on a prioritized set of projects that will provide regional benefits. The division should seek to become a leader in the pursuit of ITS projects by bringing jurisdictions together to plan and implement ITS elements along roads of regional importance.

Action REG 3-3 Work cooperatively with local jurisdictions to pursue ITS revenue sources at the federal, state, and regional level.

A coordinated funding strategy is critical to the successful regional application of ITS, and should involve creation of a prioritized list of regional projects and compliance with federal requirements for ITS projects. The Puget Sound Regional Council has developed a Puget Sound Regional ITS Architecture to which agencies should adhere in order to qualify for federal funding. This architecture is a framework for ensuring institutional agreement and technical integration for ITS projects within the region, and will help ensure that equipment put into place by city, county, or other agencies will be compatible and function together as a system.

Strategy REG 4 Coordinate with other jurisdictions on the regional use of county and city traffic control centers to optimize use of the existing road network.

Traffic flow can be improved and traffic volumes better accommodated by enhanced traffic management within and across jurisdictions. Traffic control centers incorporate technology that includes remote traffic signal control, video surveillance, and real-time data collection. These technologies allow traffic engineering staff to remotely and quickly review traffic conditions and provide current and accurate information about them to other agencies and to the public via the Internet and variable message signs. Information collected at traffic control centers also helps staff identify problems as they occur and make changes to traffic signal systems that improve traffic flow.

Action REG 4-1 Pursue the creation of a regional, center-to-center communications system for sharing traffic information between the county traffic control center and traffic control centers of other jurisdictions.

The county's traffic control center will provide a communications base for traffic flow management. Center-to-center communication would let the division share data with traffic control centers in other jurisdictions, allowing observations of traffic conditions to be shared with other agencies and the public as they occur. The communications capacity of traffic control centers in the region needs to be expanded to accommodate center-to-center communications.

Action REG 4-2 Pursue development of the county traffic control center as the regional collector and distributor of county and local agencies' traffic management information to the public, media, and other adjoining agencies.

To efficiently manage traffic flow throughout the county, a regional clearinghouse of traffic data and information needs to be developed. Just as WSDOT collects and distributes freeway information, King County through its traffic control center could collect and distribute arterial information to the public, media, and neighboring cities.

Action REG 4-3 Work with cities to develop agreements that will allow them to use the county traffic control center to operate their traffic signals.

The cost to build a traffic control center is high and the dollars to operate it are limited. Some cities may prefer to contract for traffic control center data and services. The division should work with cities to offer the facilities and expertise it already has in place to help them manage their traffic problems.

Strategy REG 5 Coordinate with other jurisdictions on environmental, transportation planning, traffic operations, road maintenance, and other program initiatives that support effective and efficient management of the transportation system.

Many activities that support road services could benefit from a coordinated regional approach that looks beyond individual capital projects, programs, or small geographic areas. These include Endangered Species Act response, wetland mitigation banking, other consolidated environmental mitigation, shared storm water control facilities, cultural resource protection, travel demand forecasting, transportation concurrency, traffic mitigation payment systems, disposal of stormwater waste and street sweeping solids, and pavement overlay.

Action REG 5-1 Pursue collaboration with cities and state agencies on multi-jurisdictional program initiatives related to activities such as environmental and cultural resource protection, transportation planning, traffic operations, and road maintenance, as appropriate.

The county and other jurisdictions may be able to achieve mutual benefits by collaborating on selected program initiatives. The benefits of such collaboration could include cost savings, economies of scale, enhanced program effectiveness, efficiencies in program administration, or more predictable regulatory requirements.

The Regional Road Maintenance Endangered Species Act Program Guidelines project coordinated by the division is one example of a highly beneficial multi-jurisdictional initiative. These policies and practices are the product of a lengthy collaborative effort between local government agencies, the National Marine Fisheries Service, the United States Fish and Wildlife Service, and other interested parties. Twenty-three counties and cities in Washington state, as well as WSDOT, have received approval for inclusion in the program.

The division should continue its efforts and work with the cities and state where appropriate to identify additional programs and activities that might benefit from a multi-jurisdictional approach. Opportunities for collaboration and coordination should also be sought among other King County agencies, such as Metro Transit and the Department of Natural Resources and Parks. Implementation efforts should focus on programs that have broad interest and potential benefits.

Strategy REG 6 Support regional freight mobility and incorporate freight considerations into road planning, design, construction, and maintenance.

According to the Puget Sound Regional Council, “Movement of freight is the circulatory system of our economy. The Puget Sound region is a major North American gateway for trade with Pacific Rim countries, and is the major economic engine for Washington state.” While King County does not have direct jurisdiction over most of the key roads for freight mobility because they are either city roads or state highways, it does have a vested interest in

keeping freight moving efficiently throughout the county and region to ensure a vibrant economy. Recognizing this, the King County Comprehensive Plan calls for the county to be a regional proponent of freight planning and mobility and to identify transportation projects and opportunities for financial partnership to achieve regional freight mobility goals.

Action REG 6-1 Participate in existing and future regional freight mobility forums as needed, including the Freight Action Strategies (FAST) Corridor regional freight mobility partnership and the Regional Freight Mobility Roundtable, to continue evaluation and discussion of freight issues at a regional level.

King County's involvement in freight mobility efforts often occurs at the level of the Director's Office of the Department of Transportation or in the department's Office of Regional Transportation Planning. The division should complement other department efforts, become involved as appropriate in the support or coordination of freight-related efforts, participate in existing regional freight forums, and help lobby for the common interests of King County jurisdictions.

Action REG 6-2 Incorporate freight mobility concerns into the division's planning efforts and develop meaningful freight mobility criteria to incorporate into the process used to screen and prioritize future county capital needs. Use criteria that are consistent with regional freight mobility efforts.

In addition to participating in regional coordination efforts, the division must also consider freight mobility in the creation and prioritizing of its own planning and capital needs list to connect long-term corridor needs and project-level decision making. Freight mobility should be a key consideration in screening and prioritizing projects. Factors to be considered include a project's regional significance and its role in freight corridor mobility. Transportation forecasting analysis using the King County Travel Demand Model could also support freight mobility analysis efforts.

Action REG 6-3 Seek federal and state grants for projects containing freight elements that help further regional freight efforts.

Federal and state funds for freight mobility projects have been available in recent years through the FAST Corridor project prioritization and funding process. As part of King County's continuing participation in the FAST Corridor partnership, projects that are of regional freight significance and may qualify for additional funds should be identified from the county's capital needs list. Any eligible projects should be submitted for consideration in future FAST Corridor prioritization processes, or for other funding processes that may be appropriate.

Action REG 6-4 Coordinate with King County cities on freight issues and project proposals as appropriate.

Action REG 6-5 Work with city and other agency partners to implement the freight-related improvement strategies identified in the TransValley Area Study.

There are many ways the division can coordinate with other jurisdictions to address freight mobility needs. Coordination may take place at an individual project level or may be part of a larger, more comprehensive transportation planning process.

The TransValley Area Study is a good example of a successful multi-jurisdictional planning effort with freight mobility implications. The study identifies key regional and local transportation issues within a multi-jurisdictional area of south King County, considers freight mobility and the freight network in the designation of corridors, and specifies freight improvements needed. The division should continue to participate in the implementation of projects identified in the TransValley Study in collaboration with partner cities and agencies. In addition, the TransValley study approach to corridor planning, which benefits both general mobility and freight mobility, should be considered for use in other corridors if appropriate and desired by local jurisdictions.

Action REG 6-6 Advocate for and participate in the selection or development of an appropriate freight route map for use by the King County Department of Transportation.

Several freight maps with different orientations are currently in use within the Puget Sound region. The division should participate in selection or development of a map appropriate for use throughout the department and for possible inclusion or reference in a future King County Comprehensive Plan update. A freight route map would not restrict freight travel but would identify roads most appropriate for freight use. The criteria used to identify and evaluate freight routes should include safety, access, capacity, mobility, neighborhood needs, and the appropriateness of the surrounding community for freight passage.

Strategy REG 7 Assess unmet countywide transportation information needs and consider coordinating some regional data as appropriate.

Many types of data are needed to plan and manage transportation systems. In many cases, transportation information is also valuable in securing state and federal funding. Similar work program activities in other jurisdictions may require the same sorts of data needed by King County. All jurisdictions might benefit from having more coordinated transportation data.

Action REG 7-1 Identify the division's needs for various types of countywide data and the current availability or accessibility of such data.

Action REG 7-2 Discuss mutual transportation data needs with other county agencies and other jurisdictions and identify potential benefits of increased data sharing and coordination.

The division should initiate an assessment of shared transportation data needs in collaboration with other county agencies, interested jurisdictions, and the Puget Sound Regional Council and identify appropriate and cost-effective methods for coordinating and sharing data.

Action REG 7-3 Work with the King County Geographic Information System Center to pursue coordinated access to countywide transportation data needed for division business purposes or to create new databases where appropriate, cost effective, and beneficial to the division and other jurisdictions.

King County's Geographic Information System Center is responsible for, among other things, coordination of various types of regional data. Many technical initiatives involving data sharing with other agencies are already underway in King County. The division should work with the center to ensure that the division's needs, and those of the region, for road-related transportation data are understood and incorporated into current and future efforts.

Strategy REG 8 Increase coordination with other jurisdictions on measures that minimize disruption to the public during road project construction.

Action REG 8-1 Continue or expand efforts to coordinate with other jurisdictions on staging of projects, traffic control, and other measures to minimize disruption from local projects.

Two or more jurisdictions often have road construction or repair projects located in the same general vicinity. An awareness of other jurisdictions' planned activities, plus coordination between jurisdictions on traffic control and other measures, helps reduce the disruption the public experiences. The division should continue existing coordination efforts and enhance coordination where needed.

Action REG 8-2 Analyze options for minimizing disruption during future major regional infrastructure improvement programs, and be prepared to participate or take a leadership role in solutions.

If and when a major program of road construction involving improvements to state highways and regional arterials is undertaken in the Puget Sound area, significant coordination of project staging, traffic control, and other measures will be required to ensure that a reasonable level of regional mobility is maintained for individuals, transit, emergency response services, and freight. The division should participate in such coordination efforts and be prepared to take a leadership role if needed.

Strategy REG 9 Continue to build on contracting relationships between jurisdictions as part of the foundation for regional coordination and partnership.

The division provides a significant level of contract service to eleven cities that have incorporated since 1990 or expanded through annexation, and has valued contractual relationships with many other cities. Services provided by contract include maintenance, engineering, environmental services, and transportation planning.

Contracting with customer cities fosters mutual interests, establishes and maintains communication channels, and creates unique opportunities to understand other jurisdictions' transportation needs and challenges. These factors provide an excellent foundation for collaboration between the county and the cities to jointly address regional transportation issues.

Action REG 9-1 Continue and, where possible, expand long-term service contracts with customer cities.

Action REG 9-2 Work with contract cities to promote a business relationship that encourages communication, work program planning, and budget predictability.

Temporary service contracts for newly incorporated or existing cities have become mutually beneficial long-term contracts, allowing the contract cities and King County to benefit from economies of scale and the division's specialized technical expertise.

By providing cities with cost-effective, reliable, and responsive road and traffic maintenance services, the division fosters regional cooperation and contributes to a seamless transportation network in King County. The county will work with contract cities to 1) develop work programs that provide predictability in cost and scheduling, and 2) provide excellent service to customer cities.

King County is not allowed to make a profit on contract services. The Intergovernmental Cooperation Act allows governments to enter into contracting relationships for the benefit of the taxpayers, residents, and voters of the involved jurisdictions. The county is required to fully recover its costs, including staff, equipment, and overhead expenses, but cannot make a profit above those actual costs.

Action REG 9-3 Promote contract services that capitalize on King County's special expertise, equipment, and economies of scale to cities that do not have comprehensive service contracts with the division.

In addition to the cities that obtain a significant level of contract service from King County, other cities and local jurisdictions may have service needs the division can accommodate, including "as-needed" services if negotiated in advance, further extending the benefits of economies of scale and specialized equipment or staff. These services include traffic engineering, travel demand forecasting and analysis, transportation concurrency, mitigation payment, bridge inspection, environmental services, pavement overlay, stormwater and wastewater disposal, and certified agency grants administration. The division is interested in

continuing to expand the types of contract services that provide mutual benefits to the county and other jurisdictions.

Action REG 9-4 Promote contract services to other governmental jurisdictions, such as counties and special districts, where mutually beneficial.

The division is interested in expanding contract services to other counties or governmental agencies when this would be mutually beneficial. For example, other counties have recently expressed an interest in using some of the division's specialized environmental expertise. Such contract relationships could benefit from the same economies of scale and specialized equipment or staff skills as city contracts.

Action REG 9-5 Work with Metro Transit to provide coordinated services to cities on transit signal priority and other appropriate regional initiatives.

The division and Metro Transit should collaborate to provide other jurisdictions with contract services, such as transit signal priority, that support regional transportation goals. This includes the initial deployment of signal priority technology as well as continuing operations and maintenance support. The division should proactively seek other opportunities for partnerships with Metro Transit in the areas of ITS and signal synchronization.

Chapter 5

The Urban and Rural Road System

Goal: Plan, design, build, operate, and maintain the road system in a manner that supports and serves urban growth and preserves rural character as directed by the King County Comprehensive Plan.

The King County Comprehensive Plan emphasizes different treatment of urban and rural areas with the objective of directing future growth and services to designated urban areas and protecting the character of rural areas. The Growth Management Act requires the county to designate an Urban Growth Area (UGA) where most growth and development forecast for the county will be accommodated. The Comprehensive Plan defines the UGA as follows:

The UGA includes all cities within the county, including the rural cities, the cities' annexation areas, and land within the unincorporated part of the county characterized by urban-type growth. The UGA also includes the Bear Creek Urban Planned Developments east of Redmond.

The terms “urban areas” and “rural areas” used in this chapter refer to areas within and outside of the county’s designated UGA, respectively (see Map 2 in Maps section, before Chapter 1).

The strategies and actions in this chapter apply to urban and rural areas within unincorporated King County since these are the areas directly served by the division. These strategies and actions are intended to help the division manage roads in unincorporated areas in a manner consistent with the differing needs and service levels of urban and rural areas as intended by the Comprehensive Plan and the state Growth Management Act.

The link between land use, or the types, concentration, and patterns of development, and demand for transportation facilities and services has long been recognized. Different land uses—retail, office, residential, etc.—generate different levels of travel demand and result in different amounts of vehicular traffic.

Travel demand is created by the needs and desires of people to shop, work, attend school, recreate, and participate in other activities outside their homes. The factors that produce the greatest influence on the demand for travel and the distribution of trips in a region are the type, density, and location of development, both residential and commercial. Travel demand is greater in urban areas than in rural areas because of the higher concentration of residential and commercial development in urban areas. The pattern and concentration of these trips will be determined by the characteristics of the available networks of streets, sidewalks, paths, etc., as well as the availability and feasibility of potential modes of travel such as auto, carpool, bus, bicycle, etc.

The King County road system is comprised of many networks. Local networks allow circulation and access to houses in neighborhoods; arterial networks connect these local networks with more distant destinations. Freeways with limited access facilitate regional travel.

Local, arterial, and freeway networks allow people to travel throughout the region, within, between, and through both urban and rural areas. Trips go freely across the UGA, through rural and urban areas, depending on the travelers' destinations. People travel from outside the county to destinations within the county, and vice versa.

The county's urban and rural areas form a complex landscape, and the urban/rural boundary is not a simple straight line. Designated urban areas abut rural lands, and some urban areas are entirely surrounded by rural area. As a result, the county's arterial network weaves its way through both urban and rural communities as it facilitates regional mobility.

This complex urban/rural pattern presents specific challenges to planning for the region's arterial needs and providing safe and adequate roadways. One of the important issues heard frequently during the public outreach process for this plan concerns arterials between designated urban areas separated by rural lands, roads in rural areas that run adjacent to urban areas, and roads that feed urban areas from rural areas. In these instances, where arterials connect urban areas or feed to and from urban areas, traffic volumes may be high and require improved facilities to ensure safe and efficient travel.

The division is committed to addressing these and other transportation challenges in a manner consistent with growth management, which envisions different landscapes and infrastructure for urban and rural communities. The strategies and actions in this chapter address several complex land use and transportation linkage issues while ensuring safe and adequate operation of the county's road network.

Summary of Strategies

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| Strategy SYS 1 | Provide road projects, programs, and services that promote a safe, well-functioning, interconnected arterial road system throughout urban and rural areas. |
| Strategy SYS 2 | Respond to the needs of urban communities for road facilities that support urban densities and encourage multi-modal travel. |
| Strategy SYS 3 | Support annexation of urban growth areas and an enhanced level of urban services by coordinating with cities on road needs within potential annexation areas. |
| Strategy SYS 4 | Respond to the evolving transportation needs of King County as unincorporated urban areas are annexed by cities or incorporate. |

- Strategy SYS 5** **Provide effective transportation solutions that meet the needs of rural communities and are compatible with Comprehensive Plan goals for limited growth and preservation of rural character.**
- Strategy SYS 6** **Plan, design, build, and maintain transportation facilities in a manner that respects and enhances the unique aesthetic, historic, cultural, and environmental features of urban and rural communities.**
- Strategy SYS 7** **Communicate the Road Services Division’s approach to meeting road transportation needs in urban and rural areas in accordance with Comprehensive Plan policies.**

Strategies and Actions

- Strategy SYS 1** **Provide road projects, programs, and services that promote a safe, well-functioning, interconnected arterial road system throughout urban and rural areas.**

Roads function as an interconnected network. A well-functioning arterial system will facilitate travel safety and mobility and discourage inappropriate cut-through traffic on local or neighborhood roads. In order to promote mobility throughout unincorporated King County and the region and ensure effective road planning and improvements, the division should use a systems or network approach to transportation planning. Facilities and services should be tailored to meet travel demand and be designed to meet the intent of growth management.

- Action SYS 1-1* *Use a regional, systems approach to transportation planning and facility development that recognizes land uses and transportation facilities across both the urban and rural areas and seeks to identify appropriate transportation solutions throughout King County.*

Traffic congestion results when road facilities and other modes of transportation are inadequate to handle the demand placed on them. Congestion is common in many parts of unincorporated King County, in both urban and rural areas. In order to address this regional issue, planning should be based on a regional, systems approach to transportation facilities and services and should recognize the unique roles of urban and rural arterials in growth management.

Arterial planning should start with analyses of travel demand across both urban and rural areas. Road solutions formulated to address safety, capacity, and other issues should be identified based on need and location and take into account the unique needs and character of urban and rural areas consistent with growth management goals.

Action SYS 1-2 Address safety issues independent of urban and rural designations.

Protecting the safety of road users is an overarching objective of all division activities. Safety improvements should continue to be prioritized across both urban and rural areas according to need and accepted professional standards. Project designs may differ between urban and rural locations, but safety project prioritization and implementation should not depend on urban or rural designation. For example, the selection of bridge replacement projects is independent of the rural or urban setting of the bridge. The priority of the project depends on the structural condition and operational capabilities of the existing bridge.

Communities should be consulted about perceived safety problems and this input should be used, along with technical analysis, in the prioritization and selection of projects. More information on safety issues can be found in Chapter 9, Roads Safety (page 89).

Strategy SYS 2 Respond to the needs of urban communities for road facilities that support urban densities and encourage multi-modal travel.

Action SYS 2-1 Consistent with growth management, focus most congestion relief efforts, such as intersection improvements, traffic signal interconnections, and road capacity projects, to serve the needs of urban areas, while also recognizing the need to provide safety and appropriate congestion solutions in rural areas.

Action SYS 2-2 Focus most pedestrian, bicycle, and transit-related road improvements in urban areas while also recognizing the need to provide safe and continuous facilities and services in rural areas.

The King County Comprehensive Plan clearly directs the county to concentrate facilities and services within the UGA to make it a desirable place to live and work, to use existing infrastructure capacity more efficiently, and to reduce long-term maintenance costs. It also specifies that the transportation system in the UGA should be consistent with urban development policies and growth targets.

Road improvements that address congestion or provide multi-modal transportation options are especially needed in the urban area and this should be reflected in the allocation of capital resources to meet these needs. The division should target congestion relief efforts, as well as pedestrian, bicycle, and transit-related improvements, to areas where they will serve the most users and/or where alternatives to single occupant vehicle travel may help ease congestion problems. However, sometimes safety needs may require that congestion or non-motorized improvements in the rural area receive a high priority.

The division should use neighborhood-based processes to identify the road-related needs that are important to local residents and businesses. Neighborhood input is particularly valuable when identifying and prioritizing transportation needs related to safety and non-motorized travel (e.g., sidewalks, bike lanes, access routes to transit). A combination of locally

generated project ideas and appropriate technical evaluation should be used to help forward projects to the division's capital project list.

Strategy SYS 3 Support annexation of urban growth areas and an enhanced level of urban services by coordinating with cities on road needs within potential annexation areas (PAAs).

The King County Countywide Planning Policies adopted by the Metropolitan King County Council and the suburban cities of King County state that cities are the appropriate provider of local services to urban areas and that each city shall designate a potential annexation area (PAA), and a schedule for providing urban services and facilities within the PAA.

Unincorporated urban areas within a city's PAA are encouraged to join that city in order to receive urban services. Where annexation is inappropriate, incorporation may be considered. In accordance with these policies, King County expects an eventual transition of the urban areas from county government to city government through annexation and incorporation and is actively encouraging cities to annex their PAAs to bring urban levels of service to those communities.

Action SYS 3-1 Coordinate and communicate with cities, including rural cities and towns, about their vision for their PAAs and how the county and city can best coordinate on road projects and related issues within PAAs to help meet that vision.

Infrastructure is often an important factor in city decisions regarding annexation. Cities typically have preferences and standards for roads that differ from the county's (or even other cities'). They also have a high level of interest in projects the county plans to build in the PAA. The division and cities need to communicate prior to annexation about each city's future plans for its PAA and how the city and county can coordinate on road issues to help achieve those plans. A dialog of this nature could facilitate annexation and smooth the transition in road responsibilities.

PAAs of rural cities and towns are also considered under the King County Comprehensive Plan to be part of the Urban Growth Area for purposes of land use and facility needs, although their urban services, residential densities, and mix of land uses may differ from those of PAAs west of the Urban Growth Area Boundary. These areas should be the topic of city-county discussions on transportation issues similar to other city PAAs, except that they may require special focus on annexation phasing, rural character, and environmental or other issues unique to their rural settings.

Action SYS 3-2 Where appropriate, negotiate alternative road standards with cities as part of a pre-annexation interlocal agreement. Alternative standards should be equivalent to or exceed the requirements of the King County Road Design and Construction Standards.

In previous discussions about annexation plans, several cities have indicated a desire to work with King County to find a way to allow new development within PAAs to build roads using standards similar to city standards rather than county standards. This would allow the roads in the PAA to be consistent with city roads after annexation. Pre-annexation agreements between cities and the county provide a mechanism for negotiating target timeframes for annexation as well as service, infrastructure, and other issues. Road standards for new development within PAAs could be an item negotiated through a pre-annexation interlocal agreement and may provide an additional incentive for cities to commit to a timeframe for future annexation.

Action SYS 3-3 Where appropriate, provide capital project investment incentives to encourage cities to annex land within their PAAs.

To help further support annexation, certain road improvement projects in PAAs could be offered as incentives to cities to encourage them to commit to a timeline for annexation and negotiate pre-annexation agreements with the county. These projects should be of a discretionary nature; for example, sidewalks or other enhancements, rather than regional transportation corridor improvements or critical safety projects that should not be tied to annexation plans.

Action SYS 3-4 Where necessary, negotiate with cities to adjust their boundaries to eliminate unincorporated road right-of-way islands and provide for a consistent level of urban services on the affected roads.

Unincorporated road right-of-way islands are places where a small segment of the road remains under the county's jurisdiction while the surrounding road and community have been completely annexed or incorporated. Often these islands consist of only one side of the street and are just a few blocks long. They are sprinkled throughout the county as a result of various factors, including prior incorporation and annexation laws that have since been corrected.

Road right-of-way islands present several problems. They are difficult for the division to maintain due to their distance from other county service areas. They create confusion among law enforcement, utilities, and other agencies that need clarity about jurisdiction boundaries. They can also create complex liability issues for the county and adjacent cities when accidents occur. The division is very interested in alleviating these problems by encouraging cities to adjust their municipal boundaries to include these road segments. When appropriate, the division may need to create incentives that encourage cities to assume responsibility for these roads that are used primarily by their residents and businesses.

Strategy SYS 4 Respond to the evolving transportation needs of King County as unincorporated urban areas are annexed by cities or incorporate.

Action SYS 4-1 Adjust road projects and services as the composition of unincorporated King County changes.

As this plan is being prepared, King County has jurisdiction over a substantial urban unincorporated area with many transportation needs. The division's current Capital Improvement Program reflects an intensive effort to respond to those urban needs as well as to many pressing rural needs. In the future, as annexations or incorporations decrease the urban unincorporated area, the division's capital improvement and operating programs will likely shift to reflect a new focus on addressing a wider range of road needs in the rural area, including aging infrastructure and urban connector arterials, as well as an ongoing involvement and leadership in regional transportation issues. Future updates to this plan will need to reflect the changing composition of unincorporated King County.

Strategy SYS 5 Provide effective transportation solutions that meet the needs of rural communities and are compatible with Comprehensive Plan goals for limited growth and preservation of rural character.

The Comprehensive Plan specifies that a low growth rate is desirable for rural areas and that all possible tools may be used to limit growth in the rural area. According to the plan, roads in the rural area should receive the minimal infrastructure improvements needed to serve low levels of residential development, protect basic public health and safety, protect the environment, and be financially supportable at rural densities. Road improvements in rural areas should not unnecessarily create additional capacity for new growth.

Rural areas have significant transportation needs that must be addressed in order to provide a safe, well functioning system. In order to meet both rural needs and Comprehensive Plan objectives, the division must consider growth management issues during all processes used to plan and implement road improvements.

Action SYS 5-1 Conduct a comprehensive analysis of arterials in rural areas, especially arterials that serve as regional corridors between or to urban areas, to identify and prioritize congestion problems and determine solutions appropriate to their rural setting. Safety issues related to congestion should be given major consideration in this analysis.

Action SYS 5-2 Plan and design road improvements in rural areas to support a rural level of development and not facilitate urbanization. Capital project screening, prioritization, and design should emphasize project alternatives that address rural transportation needs without unduly increasing growth pressure.

Despite low growth objectives for the rural area, rural communities have grown rapidly in prior years and many rural travel routes have developed serious congestion problems. When roads in the rural area carry a higher volume of traffic than originally intended, congestion is a major safety issue as well as a mobility issue. Residents of rural areas and the division are very interested in developing appropriate solutions for these rural congestion problems.

A comprehensive analysis of rural congestion should be undertaken to investigate problems and develop solution options appropriate to the unique challenges of the rural setting. The analysis should include commute routes from rural areas to urban employment or commercial centers and routes connecting two urban areas by passing through a designated rural area. Unincorporated area councils, rural cities, and rural residents and businesses in the unincorporated area should be consulted during this analysis. When the analysis is complete, potential solutions should be forwarded to the division's capital project screening and prioritization processes for inclusion in the capital needs list. In cases where congested travel routes include segments of state highways, coordination with WSDOT should be initiated.

Action SYS 5-3 Strive to address road congestion in rural areas with solutions that have the least impact on the rural setting and environment (e.g., signal and intersection improvements rather than road widening) where feasible.

In addition to avoiding creation of additional capacity for new growth, road improvements in the rural area should minimize environmental degradation and impacts to significant historic, cultural, and scenic resources. In order to achieve these King County Comprehensive Plan objectives, the division should take an approach to road project planning and design that first considers alternatives with least impact before those associated with more impact and expense.

Action SYS 5-4 Provide road maintenance services in the rural area based on infrastructure preservation needs, safety standards, and volume and type of use.

Maintenance in rural areas should focus on activities needed to protect public health and safety and the environment and to preserve the infrastructure investment. For example, shoulder mowing should be done to reduce fire hazard, and to maintain visibility at traffic signs, intersections, or driveways, rather than to keep vegetation at a certain height for aesthetic reasons as might be desirable in urban areas. More information on maintenance can be found in Chapter 8, Maintenance and Preservation of Infrastructure (page 83).

Strategy SYS 6 Plan, design, build, and maintain transportation facilities in a manner that respects and enhances the unique aesthetic, historic, cultural, and environmental features of urban and rural communities.

Preserving and enhancing the quality of life in both urban and rural areas are major concerns of the King County Comprehensive Plan. A broad range of facilities, services, and amenities is specified for the urban area in order to make it an attractive and desirable place to live and work. In the rural area, which includes King County's resource lands, conservation is called for in order to maintain rural character, provide choices in living environments, maintain a link to the county's heritage, allow farming and resource-based activities, and to protect environmental quality and sensitive resources.

Action SYS 6-1 In both urban and rural areas, use a road project design process that is sensitive to project location and seeks to balance safety, mobility, enhancement of the natural environment, and preservation of community values.

Road projects should contribute to the quality of life and the economic vitality of both urban and rural communities. To ensure that road improvements have the intended positive effect on communities, road project design should seek to balance safety, mobility, enhancement of the natural environment, and preservation of community values. Projects should accommodate the unique characteristics of a setting as well as attempt to meet the needs of a variety of users. The division already uses extensive public involvement on most major projects to respond to community needs. This process should be taken a step further by testing a new context-sensitive approach to design of road improvement projects in both urban and rural pilot projects.

According to the U.S. Department of Transportation Federal Highway Administration, “Context sensitive design (CSD) is a collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic, and environmental resources, while maintaining safety and mobility.” This approach is being tested and is gaining broad acceptance at the federal and state levels. There are many good models of context-sensitive design processes provided in Federal Highway Administration and other engineering or planning literature that could be tested in King County. The process often includes enhanced communication, a multidisciplinary project team, involvement of a full range of stakeholders, and a thorough understanding of the landscape, community, and valued resources before any engineering design begins.

If a context-sensitive approach proves successful in King County pilot projects, the principles should be incorporated more broadly into the division’s regular design process for major projects. If supported by the pilot cases, it may also be appropriate to amend the King County Road Design and Construction Standards to provide the flexibility to implement context-sensitive design more broadly.

Action SYS 6-2 In urban areas, promote a safe, attractive, walkable, human-scale street environment by providing features such as walkways, bikeways, landscaping, and other amenities where feasible.

The King County Comprehensive Plan emphasizes making urban areas more attractive and walkable as well as preserving historic, cultural, and natural characteristics and neighborhood identity. Road projects in urban areas should contribute to the quality of neighborhoods through designs that create an attractive street environment, enhance existing community features, and promote walking, bicycling, and community interaction. The specific features and amenities provided should be determined in collaboration with the affected community and in keeping with available budget and any physical right-of-way or other limitations of the project site.

Action SYS 6-3 Prepare a set of rural character guidelines for road projects to help guide project design and maintenance. The guidelines should address different types of rural uses, such as agricultural areas, forestry, and rural commercial, as well as different rural residential densities, and should build on the rural character definition provided in the King County Comprehensive Plan.

The Comprehensive Plan emphasizes the need to maintain the character of designated rural areas. For the division to contribute to this objective, clear guidelines for road projects should be available to all staff involved in road planning, design, and maintenance. These guidelines should be prepared using the significant amount of existing work that King County has done on the rural character topic, as well as national planning literature and experiences. Unincorporated area councils should be consulted in developing the guidelines.

Action SYS 6-4 Strive to preserve rural character while balancing appropriate project design and aesthetic considerations within the limits of available funding.

Project design features that are sensitive to the character of rural communities can sometimes be more costly than standard design solutions. The division will strive to make each project in the rural area an asset to the community in which it is located while managing costs in order to ensure the project remains financially feasible. In some cases, higher costs for certain projects may necessitate that fewer projects be built in a particular year or funding cycle.

Action SYS 6-5 Strive to provide all road services in a manner that is sensitive to both the natural environment and the archaeological and historical resources of King County.

The division should plan, develop, and maintain all road-related facilities in a manner that is sensitive to both King County's environment and its cultural resources. More information on environmental and cultural resource issues can be found in Chapter 10, Transportation Environmental Stewardship (page 97).

Strategy SYS 7 Communicate the Road Services Division's approach to meeting road transportation needs in urban and rural areas in accordance with Comprehensive Plan policies.

Action SYS 7-1 Articulate the differing approaches to addressing road traffic, maintenance, project planning and design, and aesthetics in urban and rural areas using a variety of public communication tools.

Facilities and services in urban and rural areas differ due to different needs and public policy decisions that the region and King County have made regarding growth management and protection of rural character. The division should seek to more fully explain these differences

and the reasons for them to road users to clarify what they can expect regarding the appearance, function, and improvement of their community's roads. Brochures, information sheets, and the division's Web site are some tools that may be used to make this information more readily accessible to the public.

Chapter 6

Congestion Management

Goal: Reduce congestion and improve traffic flow.

Although concerns about congestion are widespread, there is little agreement on what to do about it. Definitions of congestion often vary due to different perspectives. The U.S. Department of Transportation provides a good general definition:

The level at which transportation system performance is no longer acceptable due to traffic interference. The level of acceptable system performance may vary by type of transportation facility, geographic location and/or time of day.

Locally there are many differences of opinion on how much congestion is acceptable. Nevertheless, some common opinions have emerged from public comments and editorials. Most people are willing to tolerate more congestion during peak commute hours than they would during off-peak hours. It is generally perceived that some congestion is inevitable on arterials during peak hours in urban areas. On the other hand, many rural area residents have expressed the opinion that roads in rural areas should be relatively congestion free. People in both urban and rural areas often believe neighborhood congestion is caused by traffic cutting through their neighborhoods to avoid congested arterials, and no one seems to like cut-through traffic or congestion on local, neighborhood roads.

As the region has grown and traffic frustrations have become a more serious public issue, the need for effective strategies for easing congestion and improving mobility has become increasingly apparent. A growing body of evidence suggests that congestion cannot be solved simply by expanding road capacity through adding lanes or widening. Capacity improvements are just one tool. Other important tools include managing traffic so it moves more efficiently on existing roads, improving intersections, and encouraging the use of public transit and other modes of travel. This chapter proposes strategies and actions that will help the division deal most effectively with the complex and highly challenging congestion issues facing the county.

Summary of Strategies

Strategy CGN 1 Take a regional, systems approach to congestion management and transportation planning.

- Strategy CGN 2** **Use a congestion management system to help identify and prioritize projects. The system should be developed and overseen by an interdisciplinary, intradepartmental team, and should be compatible with and complementary to the King County Transportation Concurrency Management Program and the Puget Sound Regional Council’s congestion management system.**
- Strategy CGN 3** **Consider ITS and other travel demand management strategies, such as those that encourage use of transit or other non-single-occupancy-vehicle modes, before considering operational or intersection improvements and projects that add capacity to the road system.**
- Strategy CGN 4** **Direct traffic away from local neighborhoods and onto arterials by considering functional classification of roads as well as character of the surrounding area when planning and selecting projects for congestion relief.**
- Strategy CGN 5** **Coordinate systems analysis and planning for congestion management with other internal functions—in particular, with development of King County Comprehensive Plan major updates and Transportation Concurrency Management Program implementation and maintenance.**

Strategies and Actions

- Strategy CGN 1** **Take a regional, systems approach to congestion management and transportation planning.**

A systems approach to congestion management uses transportation system performance standards and criteria to evaluate the effectiveness of the transportation system as a whole—including all modes—in serving the mobility needs of a population. Congestion is a regional issue. The road network is a system and traffic freely crosses jurisdictional boundaries. Development permitted in one jurisdiction will produce traffic that affects other jurisdictions where different level-of-service standards may have been adopted. The traveling public is not usually sensitive to these jurisdictional issues and understandably wants to travel on a seamless road network that is safe, convenient, and reasonably free of delay caused by congestion. Where standards are consistent across jurisdictional boundaries, it is easier to define measures and prioritize projects to improve traffic flow.

- Action CGN 1-1* *Use a countywide travel demand forecasting model to analyze needs and deficiencies and to test potential project scenarios.*

Travel demand forecasting software was developed to simulate travel patterns and replicate the transportation planning process. Forecasting software has a long history in transportation planning and has become more sophisticated over the years, incorporating much useful information from studies about travel behavior. In travel demand forecasting, the computer model converts population, households, and employment into trips and distributes those trips to small area zones throughout the county and, subsequently, to the road network itself. As the name implies, the model's primary purpose is to forecast future travel demand. When this demand is compared to a road network comprised of the existing road system modified to include capacity projects that have committed funding, future capacity needs are highlighted. The model can be used to test different road improvement scenarios or even the travel demand effects of different demographic scenarios. Model results can be used in prioritizing traffic improvement projects and making funding decisions for projects that add capacity to the road system.

When used for transportation planning, model results are generally projected to a long-term horizon, typically 20 or 30 years. This makes them a useful tool for developing the capacity portion of a long-term capital program such as the Transportation Needs Report. Other planning tools are needed to develop nearer-term programs for transportation improvement.

Action CGN 1-2 Include and analyze data and project information from other jurisdictions in a systems approach to long-term program and project planning, using the travel demand forecast model to help identify future system capacity needs.

The travel demand forecasting model is used to forecast travel demand from one area to another and to simulate travel speed, time, and volumes along different road networks. It may be used for a variety of projected land use scenarios, thereby providing a valuable tool for testing the effects of different growth scenarios on travel demand and traffic.

To accurately forecast future travel demand, the model must be calibrated and shown to reproduce travel volumes for a base year for which empirical data exists. Base year data are compared to model results in the model calibration process. If the model calibrates well, it can be trusted to forecast future traffic volumes.

Since traffic from one jurisdiction freely crosses boundaries into other jurisdictions, it is imperative that data on population, households, employment, and traffic be available from incorporated areas as well as the unincorporated area and used in model development and calibration. In addition to data from the many jurisdictions within King County, data from neighboring counties must also be included in the model to achieve accurate results.

Action CGN 1-3 Establish and maintain links with other jurisdictions to facilitate routine, periodic collection of traffic count data needed for corridor planning and to calibrate the countywide travel demand forecasting model.

The division has a traffic count system in place which is used to collect traffic counts at regular intervals at certain locations. Other jurisdictions also have traffic count systems in place, and the quality and extent of traffic counts in those jurisdictions varies. In addition, it is not always easy for King County to access traffic count data from other jurisdictions in a timely manner. Since traffic is not confined to the boundaries of one jurisdiction, the travel demand forecasting model must include data from other jurisdictions to accurately forecast traffic volumes on roads in unincorporated King County. Ongoing efforts are needed to facilitate routine traffic count data collection from other jurisdictions.

Action CGN 1-4 Pursue coordination and compatibility of the King County Transportation Concurrency Management Program with concurrency systems in other jurisdictions. Investigate the potential for providing concurrency management services to other jurisdictions, and where feasible enter into interlocal agreements to provide such services.

The Transportation Concurrency Management Program uses level of service standards for critical segments and congestion scores for broader geographic Transportation Service Areas, and focuses on a 6-year horizon. Under the existing concurrency system, King County tests each development application to determine if the development complies with the county's adopted level of service standards. If the proposal is found to comply with these standards, it will be granted a concurrency certificate and may proceed with the building permit application and approval process. If the proposal fails the concurrency test, it will be denied a concurrency certificate and will be unable to proceed with the building permit application process.

All jurisdictions are affected by traffic from other jurisdictions, and the various cities within King County do not necessarily have the same level-of-service standards. Pursuing interlocal agreements for concurrency can help the division achieve some consistency of standards. In addition, interlocal agreements for concurrency can help the division plan and implement road projects that better accommodate countywide travel demand.

The Concurrency Management Program is a good tool for determining where the road system is deficient in capacity or where it is nearing deficiency. This information can then be used to help develop near-term programs for transportation improvement such as the six-year Roads Capital Improvement Program. Because the horizon for the concurrency test is very near term, other tools must be used to identify long-term needs.

Strategy CGN 2 Use a congestion management system to help identify and prioritize projects. The system should be developed and overseen by an interdisciplinary, intradepartmental team, and should be compatible with and complementary to the King County Transportation Concurrency Management Program and the Puget Sound Regional Council's congestion management system.

A congestion management system combines information, reporting, and strategies designed to alleviate congestion and enhance the mobility of persons and goods. The information can be a variety of data (accident rates, traffic volumes, travel speeds, etc.) relevant to transportation system performance. Such a system can help identify strategies for providing more efficient and effective use of existing and future transportation facilities. One of the main purposes of a congestion management system is to provide decision makers with a better understanding of existing and anticipated system performance and with better information on the effectiveness of congestion management strategies.

A comprehensive congestion management system would provide a longer-term focus for use in project programming and planning and would include benchmarks and performance measures. It would provide a consistent tool to assist in prioritizing projects and in management decision-making. Information from the system could help keep the public informed about the functioning of the transportation system as a whole, the reasons certain project and funding choices are made, and the progress being made toward improving the transportation system. Many components of a congestion management system already exist within the division and are being used on a daily basis. These existing components should be incorporated and built upon to create a comprehensive congestion management system.

Action CGN 2-1 Develop benchmarks and performance measures for use in monitoring and evaluating the transportation system.

Monitoring congestion on the transportation system using benchmarks and performance measures will serve two main purposes: 1) it will track the effectiveness of recommendations over time, and 2) it will continue data collection efforts to support and refine the congestion management system. Tracking the effectiveness of recommendations will give decision makers a better tool for improving performance of both the congestion management system and the transportation system. Performance measures will incorporate level of service standards used in the Concurrency Management Program.

Action CGN 2-2 Continue to use the latest available Highway Capacity Manual (Transportation Research Board) or an alternate method approved by the division director for technical guidance in measuring and analyzing congestion.

The county has traditionally used volume to capacity ratios, or V/C, and level of service analysis as indications of congestion. V/C ratios compare traffic volumes on roads to road capacity resulting in measures of congestion. Level-of-service converts V/C ratios to a qualitative rating of congestion ranging from level-of-service A, representing free flow conditions, to level-of-service F, representing severely congested conditions. Volume-to-capacity ratios and other highway-oriented level of service measures are intended to quantitatively and qualitatively estimate the congestion perceived by the traveler and will continue to play an important role in measuring congestion and analyzing system performance.

In addition to congestion measures based on traffic volumes and system capacity, measures of travel time, speed, and delay can be used to represent congestion. Travel time measures can be compared across modes and are easily communicated to the public and decision-makers. Many other jurisdictions are using delay as the basic measure of congestion. Clark County and the cities of Renton and Vancouver are using travel times as a measure of congestion and concurrency in their respective traffic management programs. The Washington State Department of Transportation is using travel times to measure congestion on its freeways. The City of Redmond is studying travel times as a possible measure of congestion. King County is also developing travel-time based level-of-service measures for use in the Concurrency Management Program.

While travel time measures are not likely to completely replace V/C ratios, they can provide a useful gauge of congestion particularly in corridor analysis and should be considered for incorporation into the transportation program planning and development processes.

Action CGN 2-3 Make regular reports on the performance of the transportation system to county decision makers and the public.

Reporting on system performance at regular intervals will show decisions makers and the public how well the system is performing and the effects of projects as they are completed. A better-informed public will help the division develop needed support for programs and projects. Reports can be very simple and can be made available both as printed documents and on the division's Web site.

Strategy CGN 3 Consider ITS and other travel demand management strategies, such as those that encourage use of transit or other non-single-occupancy-vehicle modes, before considering operational or intersection improvements and projects that add capacity to the road system.

Intelligent transportation systems (ITS) collect, store, process, and distribute information about the movement of people and goods. Examples include traveler information, traffic flow management, emergency (including incident/accident) management, public transportation management, and many others.

Roadway capacity increases are often the most costly approach to addressing traffic congestion and can be very disruptive to the environment and community during implementation, partly due to right-of-way requirements and resultant environmental considerations. In addition, there are environmental and conservation benefits to travel demand management, ITS, and encouraging use of transit and high-occupancy vehicles. Although the most appropriate way to address some transportation problems will most certainly include a capacity increase, it may be possible to achieve greater efficiencies in resource allocation and greater system productivity by applying other measures first.

Action CGN 3-1 Use and expand the system of traffic cameras to provide real-time traffic information to operators, the media, and the traveling public.

A system of traffic cameras that provides information over the Internet helps travelers in King County make mode choices, travel time estimates, and route decisions before they depart. This system will be expanded, and a new countywide traffic control center will control traffic operations on arterials, streets, and roads in the rural areas and urban unincorporated areas of King County. In addition, the traffic control center will be used to manage flow for other jurisdictions on a contractual basis. Control center staff will monitor the real-time traffic conditions and can intervene quickly to deal with emerging problems. They adjust traffic signal timings, dispatch enforcement personnel, and advise motorists. Upon detection of an incident or disruption to the flow of traffic, they can notify the appropriate authorities to address the problem. The cameras are a public safety tool and are not intended to identify speeders or enforce traffic laws.

Action CGN 3-2 Develop and review capacity improvement project scenarios by transportation corridor including corridor travel time measures and estimates to help evaluate relative benefits.

Travel time measures and estimates can be used to assess the effects of different transportation improvement scenarios proposed for the same corridor. They can also be used along with other factors to prioritize groups of projects by corridor. Although the accuracy of travel time estimates can vary widely depending on methodology and assumptions, using the same methodology for analyzing different scenarios for the same corridor can highlight relative differences in travel time between scenarios and assist in long-term capital planning prioritization.

Action CGN 3-3 Use interlocal agreements for implementing transportation investments within corridors that cross jurisdiction boundaries.

Many potential roadway improvements cross jurisdiction boundaries, and those that do not still have an effect on traffic in neighboring jurisdictions. Travel corridors are regional and become fragmented when approached only in terms of a single jurisdiction.

To be most effective in improving traffic flow, signal timing and synchronization projects must be implemented throughout corridors that may span several jurisdictions. Other projects may also affect traffic flow across jurisdictions and should be reviewed for these effects. For example, improving an intersection in one jurisdiction may relieve congestion in another jurisdiction “downstream”. In some cases a project in another jurisdiction may benefit King County enough to merit county support, which could take the form of advocacy for the project, assistance in applying for grant money, or in some cases a financial contribution.

Strategy CGN 4 Direct traffic away from local neighborhoods and onto arterials by considering functional classification of roads as well as character of the surrounding area when planning and selecting projects for congestion relief.

Functional classification is the designation of highways, roads, and streets into groups or classes according to the type of service they are intended to provide. This helps define the part that any individual road will play in serving the flow of traffic through the road system.

King County categorizes arterials into three classes: principal, minor, and collector. Principal and minor arterials provide movement between and across large subareas with limited access to abutting development. Collector arterials provide movement within smaller areas and link the arterial system to local neighborhood streets. Traffic should be directed onto the appropriate arterial road network and away from neighborhoods through careful project planning.

Action CGN 4-1 Focus most capacity increases on arterials away from neighborhoods. Where capacity increases are needed on arterials abutting neighborhoods, use design features and consolidate or limit access to abutting development.

In some cases, capacity increases are necessary due to traffic volumes and for safety reasons. Sometimes such increases on arterials will help reduce traffic on nearby local roads by reducing the amount of traffic cutting through neighborhoods to avoid congested arterials. In some cases, capacity increases are needed to accommodate traffic from one urban area to another across or adjacent to rural areas. Those urban areas can be in unincorporated King County, in cities, or in other counties.

Strategy CGN 5 Coordinate systems analysis and planning for congestion management with other internal functions—in particular, with development of King County Comprehensive Plan major updates and Transportation Concurrency Management Program implementation and maintenance.

Transportation planning and related functions are found in several divisions and sections of the King County Department of Transportation. While some efforts are made to coordinate planning and share information, these important activities should be done in a timely, well-coordinated, and comprehensive manner to achieve the most efficient and effective results.

Action CGN 5-1 Establish an interdisciplinary staff team to coordinate transportation planning within various divisions and sections of the King County Department of Transportation to improve products, reduce duplication of efforts, and support the department's mission and goals.

A formalized coordinated process consisting of an interdisciplinary team from all the different sections, work units, or divisions working on related transportation issues would facilitate communication and coordination of effort, resulting in greater efficiencies and improved products. At periodic meetings, the team would discuss ways to coordinate related work to create high-quality products and achieve efficiencies.

Action CGN 5-2 Strive to coordinate the timing of major travel demand forecasting model updates with major Comprehensive Plan updates and other planning functions that require travel forecasts and analysis.

Many transportation planning activities require forecast information, and these forecasts must be updated periodically. Efficiencies can be achieved, and products improved, by coordinating the timing of updates and, where possible, using information from the same travel model run to serve the needs of more than one planning project. Travel forecasts must also be periodically updated for the King County Comprehensive Plan. Coordinating the timing of major Comprehensive Plan updates with the schedule for major updates to the countywide travel-forecasting model would reduce duplication of effort and improve the quality of forecasts in the Comprehensive Plan.

Chapter 7

Transportation Alternatives

Transportation alternatives include modes of transportation other than the personal car, including public transportation, bicycling, walking, horse riding, and use of high-occupancy vehicles (HOV) (e.g., vanpools and rideshare) as well as strategies such as transportation demand management (TDM). This chapter focuses on strategies and actions to enhance access to, and use of, these alternatives as a means to promote mobility options and reduce dependency on drive-alone vehicle use.

The importance of alternative transportation modes increases annually. More motorists use the region's roads every year, and drive more miles. At the same time the cost of providing improved transportation facilities continues to rise while financial resources remain limited. Some roads have reached the limit beyond which additional physical improvements no longer make sense. Many of the region's major facilities are functioning at or beyond their designed capacity and congestion is widespread. The transportation modes addressed in this chapter provide a variety of mobility choices and alternatives to drive-alone congestion, particularly in urban areas.

The King County Comprehensive Plan includes numerous transportation alternatives policies that guide the county's mobility options efforts. The strategies and actions in this chapter are consistent with, and enlarge on, the intent of these policies.

The division's role varies with respect to alternative transportation modes. In many instances it has direct responsibility (e.g., improving bicycle facilities or sidewalks). In other instances, the division cooperates with King County Metro Transit or other organizations. Metro Transit operates the countywide bus system and provides many facilities and programs that promote bus use and reduce single-occupancy vehicle use, and this chapter includes strategies for working with Metro Transit on these endeavors. Other organizations, such as bicycle advocacy groups, provide important information and feedback on non-motorized transportation needs, projects, and programs, and the strategies direct the division to work with these organizations to enhance alternative transportation options.

The chapter is divided into three sections: 1) Public Transportation, TDM, and HOV; 2) Bicycles and Pedestrians; and 3) Equestrians. Each section includes division goals, strategies, and related actions. The first section focuses on the division's efforts in support of transit and demand management. The second addresses issues associated with bicycle and pedestrian facilities, and the third details strategies and actions that support equestrian activities within designated equestrian communities.

Public Transportation, TDM, and HOV

Goal: Support transit, high occupancy vehicle use, and transportation demand management strategies to maximize travel options and reduce single-occupancy vehicle use.

The King County Comprehensive Plan calls for support of public transportation, TDM, and HOV use, and the division can make a significant contribution toward meeting this goal. Division programs and services already support transit by providing the necessary road facilities in unincorporated urban areas and making road improvements that reduce congestion. This section provides strategies and actions to substantially enhance the division's work with King County Metro Transit, the county's public transportation agency. These strategies stress working with Metro Transit to improve road facilities, promote signal priority systems, and enhance the efficiency and effectiveness of transit.

TDM seeks to reduce demand for road facilities while encouraging use of alternatives to the single-occupant vehicle for daily mobility. Demand management may take the form of incentives for commuters to share rides, take transit, bicycle, walk, or find other ways to travel besides driving alone. By reducing travel demand, TDM reduces congestion and the need for costly new transportation facilities. The division currently supports TDM efforts by providing facilities that promote the use of alternative transportation modes, including transit, bicycles, and walking. The division's support for bicycling via the publication of the King County Bicycling Guide Map and RoadShare activities (see the Bicycle and Pedestrian section, page 72) is a good example. This section provides additional direction to explore TDM measures in conjunction with Metro Transit's many existing programs.

This section also addresses the division's limited role in the provision of HOV facilities in support of the State of Washington's core HOV system. HOV facilities are intended to provide priority travel for vehicles carrying more than one occupant. The majority of HOV lanes in King County are on state roadways, including interstate highways, but long-range regional transportation plans include a limited role for the county in providing supporting facilities for the state core system. This section identifies actions to facilitate planning for this role.

Summary of Strategies

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| Strategy TRA 1 | Collaborate and coordinate with King County Metro Transit to enhance capital planning and development for roads and transit. |
| Strategy TRA 2 | Work with King County Metro Transit and other agencies to promote the use of transit signal priority systems within King County. |

Strategy TRA 3 **Team with King County Metro Transit and other agencies to enhance the efficiency and effectiveness of public transportation in important arterial corridors.**

Strategy TRA 4 **Collaborate with King County Metro Transit on measures to increase use of transit and ridesharing and reduce the demand on existing roads and the need for new roads.**

Strategy TRA 5 **Provide limited improvements where appropriate to support the regional core high-occupancy vehicle (HOV) lane system.**

Strategies and Actions

Strategy TRA 1 **Collaborate and coordinate with King County Metro Transit to enhance capital planning and development for roads and transit.**

Action TRA 1-1 *Establish a collaborative planning and review process for capital projects that includes Road Services Division planners and project managers and Metro Transit staff.*

Supporting public transportation and managing the demand for transportation facilities and services have been express goals of the county since its first Comprehensive Plan.

Establishing a collaborative process for capital facilities planning could ensure that proposed new Road Services CIP projects include road designs that support transit. Similarly, Metro Transit could share their CIP plans and other data with the division for use in evaluating and prioritizing projects, including cooperative projects such as road or non-motorized projects related to park-and-ride facilities.

In areas where Metro Transit operates or foresees operating in the near future, involving both Road Services and Metro Transit staff in the planning and review of new CIP projects would allow the Department of Transportation to better coordinate improvements to meet the goals of both divisions. This would give the division an opportunity to provide more transit-supportive planning, design, and development, and allow Road Services staff to work with Metro Transit staff on strategies to limit the demand for new roadways.

Strategy TRA 2 **Work with King County Metro Transit and other agencies to promote the use of transit signal priority (TSP) systems within King County.**

Action TRA 2-1 *Coordinate with Metro Transit on all new traffic signal installations and upgrades within unincorporated King County to ensure that TSP-capable traffic signal control equipment is installed at the most beneficial locations and at the lowest cost.*

TSP has the potential to provide significant benefits to transit operations throughout King County. TSP systems give priority to buses at important intersections, reducing travel time and improving bus reliability. With these improvements, bus transit becomes more efficient and reliable, increasing its popularity.

Action TRA 2-2 Ensure that TSP systems in unincorporated King County are well maintained and fully utilized.

The division should maintain TSP hardware and include TSP timing in all corridor optimization projects under its jurisdiction where it has been determined to be feasible. The division should develop online tools that report the traffic control system response to requests for signal priority and should give Metro Transit direct access to this data for system monitoring and assessment. Adequate technical training and resources should be allocated to support this effort.

Action TRA 2-3 Coordinate with Metro Transit to promote the deployment of TSP systems throughout King County by pursuing opportunities to supply operations and maintenance services throughout the region.

Because of its related TSP experience in the City of Shoreline, the division is in a unique position to help Metro Transit promote the use of TSP systems in this region. Metro Transit is sponsoring the regional TSP initiative and is planning to undertake its first Bus Rapid Transit (BRT) project. Agreements between Metro Transit and participating cities will require the cities to own and operate all TSP equipment once the systems have been installed and tested. Allowing these cities to purchase operations and/or maintenance services from the division would help promote the use of TSP systems.

Action TRA 2-4 Seek to serve as engineering coordinator and advocate to Metro Transit and local cities for the incorporation and operation of TSP systems.

Where appropriate, serve as traffic engineering coordinator and advocate with Metro Transit and local cities for the incorporation and operation of TSP systems. In this capacity, research and test promising TSP strategies to support the most efficient and reliable transit services.

Strategy TRA 3 Team with King County Metro Transit and other agencies to enhance the efficiency and effectiveness of public transportation in important arterial corridors.

Action TRA 3-1 Coordinate with Metro Transit to provide transit-supportive and multi-modal facilities in identified regional corridors, including urban connector roads.

In unincorporated areas where transit options are limited (e.g., rural areas), transit-supportive facilities should be designed commensurate with service and needs. These facilities may

include pedestrian walkways, bicycle lanes, and other improvements that increase access to transit stops and provide support for public transportation. A corridor development approach should focus transit-supportive development in identified corridors within or between urban areas or areas of greater population density. While a blanket approach to transit and supportive facilities standards may not make sense in rural areas, some rural corridors may have segments that need to provide multi-modal opportunities. The division and Metro Transit should coordinate on planning and development of such facilities.

Strategy TRA 4 Collaborate with King County Metro Transit on measures to increase use of transit and ridesharing and reduce the demand on existing roads and the need for new roads.

Action TRA 4-1 Collaborate with Metro Transit Market Development to identify and provide transportation demand management partnership opportunities concurrent with new development in an effort to increase roadway efficiencies and reduce traffic impacts.

Transportation demand management (TDM) strategies create partnerships that increase the use of transit and ridesharing and reduce the use of single-occupant vehicles. Where appropriate, Road Services and Metro Transit should coordinate with jurisdictions along important arterial corridors to introduce and coordinate TDM programs and policies. Strategies may address either the origin or destination ends of vehicle trips. The division should coordinate with Metro Transit Market Development to propose TDM strategies for trips associated with road construction or new land use developments. Metro Transit should continue to provide TDM coordination through its Commute Trip Reduction and many other TDM programs. Advance coordination may take place during roads CIP project development or via the development review process in conjunction with the King County Department of Development and Environmental Services.

Action TRA 4-2 Explore the potential benefits of multi-modal travel demand modeling.

The transportation modeling software that the division currently uses is capable of modeling transit demand as well as vehicle demand. The division should identify whether multimodal modeling would provide useful products or services that can be applied to road and transit planning and decision making.

Strategy TRA 5 Provide limited improvements where appropriate to support the regional core high-occupancy vehicle (HOV) lane system.

Action TRA 5-1 Identify county facilities that are envisioned as parts of the long-range future regional HOV network and ensure that the proposed improvements are included in the updated Transportation Needs Report.

Proposed future regional HOV facilities are identified in Puget Sound Regional Council's *Destination 2030*, the long-range transportation plan for the central Puget Sound region. The plan proposes a limited set of HOV facilities for roads in unincorporated King County. Most of these proposed improvements would support an expanding regional core HOV lane network under development by the Washington State Department of Transportation and other jurisdictions. Potential future HOV improvements have been identified in the existing King County Transportation Needs Report. Such projects should continue to be included in the Transportation Needs Report, and new HOV projects should be identified and listed when they are appropriate and consistent with future regional plans.

Action TRA 5-2 Identify appropriate HOV criteria and incorporate these criteria into the long-term facilities planning and prioritization (i.e., the TNR) process.

The King County Comprehensive Plan directs the division to consider the most cost-effective improvements, including HOV improvements, before higher-cost capital projects. HOV improvements include signage, signal prioritization, and HOV lanes. Criteria for deciding whether to add HOV facilities should be identified, clearly articulated, and incorporated into the King County roads planning and prioritization process associated with the Transportation Needs Report. These criteria may be based on consistency with long-range regional transportation plans, proximity to other existing or planned HOV facilities, support of the state's regional HOV core network, available right-of-way, potential conflicts with other existing or proposed facilities (e.g. bicycle lanes or pedestrian walkways), or environmental constraints.

Action TRA 5-3 Identify potential new HOV improvements on roads in unincorporated King County according to articulated criteria.

Where appropriate, new HOV improvements may be identified using the criteria developed under Action TRA 5-2, above. These improvements should be added to the Transportation Needs Report along with currently planned HOV improvements.

Bicycle and Pedestrian

Goal: Provide bicycle and pedestrian facilities and services that enhance safety and increase mobility options.

Bicycling and walking are important modes of travel with little to no negative effects on air pollution and traffic congestion. These modes of travel provide mobility options for all community members, including the young, old, disabled, low-income, and others who may not or cannot drive. Federal laws, such as the Intermodal Surface Transportation Equity Act (ISTEA) and the Transportation Equity Act for the 21st Century (TEA-21), include specific requirements that bicyclists and pedestrians be given due consideration in the planning, design, and construction of transportation facilities. King County maintains a legacy of

supporting these non-motorized modes in the Comprehensive Plan, this Roads Strategic Plan, and through other planning and road improvement activities.

Bicycling and walking remain popular, and roads (including associated sidewalks, shoulders, bike lanes, and paths within the road right-of-way) facilitate most of this activity. National surveys indicate that non-motorized trips are taken primarily for social, recreational, or exercise purposes. Personal and/or family errands are also a major reason for bicycling and walking. Commute trips, while important, make up a smaller percentage of total non-motorized trips.

Children are major users of road facilities for bicycling and walking. The Washington State Interagency Committee for Outdoor Recreation (IAC) found that children use roads approximately 77 percent of the time when bicycling and a similar percentage of time when walking. In addition, the IAC predicts that both bicycling and walking will increase over the next decade in Washington state by 19 percent and 23 percent, respectively, and that children's activities will make up most of this increase.

While roads are critical for both bicycle and pedestrian travel, paths and trails are also important. They may also provide an enjoyable and desirable alternative to roads. Both road and trail facilities are necessary components of an integrated non-motorized transportation network.

Keeping bicyclists and pedestrians in mind when designing road facilities is important for safety as well as ensuring mobility options and meeting federal requirements. The division plans, builds, and maintains bicycle and pedestrian facilities in unincorporated King County and collaborates with other agencies on regional non-motorized efforts. The strategies and actions in this chapter address the county's need for safe, convenient, well utilized, and cost-effective bicycle and pedestrian facilities and associated services.

Summary of Strategies

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| Strategy TRA 6 | Develop non-motorized facilities as interconnected networks to ensure multimodal transportation opportunities, consistent with the direction of the King County Comprehensive Plan. |
| Strategy TRA 7 | Design non-motorized facilities to be safe, convenient, well utilized, and cost effective as guided by local and national standards and policies. |
| Strategy TRA 8 | Encourage bicycling and walking as serious means of everyday transportation by providing information and resources and facilitating dialog with the public. |

Strategy TRA 9 **Partner with other organizations and agencies to facilitate a consistent and comprehensive regional approach to planning, developing, and promoting non-motorized facilities and activities.**

Strategies and Actions

Strategy TRA 6 **Develop non-motorized facilities as interconnected networks to facilitate multimodal transportation opportunities, consistent with the direction of the King County Comprehensive Plan.**

Action TRA 6-1 *Provide networks of bicycle and pedestrian facilities within unincorporated King County that include connections between roads and trails to enhance non-motorized mobility and connectivity countywide.*

Consistent with the King County Comprehensive Plan and the Puget Sound Regional Council's regional transportation plan, *Destination 2030*, the division should continue to develop interconnected networks of bicycle and pedestrian facilities on roads under its jurisdiction. The process should stress connectivity between facilities and should seek to enhance mobility via connections between roads and trails. The networks should recognize important priority routes based on existing and anticipated future use, connectivity, and safety.

Action TRA 6-2 *Develop pedestrian and bicycle facilities that provide safe and convenient access to schools, transit, shopping areas, trail systems, and other important community destinations.*

When planning and developing non-motorized facilities for non-motorized transportation in unincorporated King County, the division should give special attention to facilities that help provide safe and convenient access to local community destinations, especially where safety-related improvements are needed.

Action TRA 6-3 *Support the development of a regional bicycle priority routes network.*

A "bicycle priority routes" network ensures bicycle access between major destinations and travel corridors to promote cycling and connectivity region-wide. Such a network could include shared roadways (room for bicycles either on the paved shoulder or through widened curb lanes), bike lanes, or shared-use paths and trails. Regional priority routes based on existing and anticipated future use, connectivity, and safety can highlight important roads that are the most appropriate for everyday cycling, including those in need of improvement, while also reinforcing locally developed plans. The division should participate in regional efforts to develop such a system in King County.

Action TRA 6-4 Wherever feasible, provide non-motorized links within and between communities to increase the viability and attractiveness of walking and bicycling for short neighborhood trips.

Improving opportunities to walk and bicycle between neighborhoods and between residences, schools, and businesses reduces auto use and dependence as well as local congestion, and promotes health. In particular, school children, the elderly, and the disabled need a safe, non-motorized mode of travel for everyday activities. The inclusion of walkways, paths, or other appropriate pedestrian and bicycle facilities between cul-de-sacs and roads in new subdivisions would promote non-motorized access. The division should work with the Department of Development and Environmental Services to ensure that such links are included in new land use development plans whenever feasible. Opportunities to retrofit existing neighborhoods with such facilities should be explored through ongoing division programs.

Action TRA 6-5 Complete strategic linkages in the bicycle and pedestrian network through the capital planning process. Include strategic non-motorized projects in the Transportation Needs Report and CIP.

Strategic bicycle and pedestrian facility needs should be identified by the capital planning process (TNR and CIP processes) along with other important transportation facilities. Of particular importance are critical missing links in unincorporated King County's bicycle and pedestrian system. User input during the strategic planning process indicated a strong interest in filling in these missing bicycle and pedestrian segments. Completion of non-motorized facilities associated with well-traveled corridors and priority routes should take precedence. Other non-motorized facilities linking neighborhoods, schools, businesses, and transit facilities should also be considered.

Action TRA 6-6 Recognize the King County Regional Trail System as an integral component of the county's regional transportation network.

The King County Regional Trail System is made up of about 170 miles of non-motorized corridors and access to lands throughout King County, and is used by more than 2.5 million people each year. This formal trail system is managed by the county's Parks and Recreation Division and includes about 125 miles of trail corridors, 110 of them paved, in unincorporated King County. This system is an integral component of the county's transportation network and provides important non-motorized mobility options. Planning and development of the road system should incorporate links to the regional trail system where they are needed and feasible.

Action TRA 6-7 Update the King County Non-motorized Plan to provide timely guidance for development of non-motorized facilities and programs.

While the King County Comprehensive Plan superseded many previous non-motorized policies, it does not provide detailed non-motorized policy guidance, all relevant bicycle and

pedestrian-related information, or an updated map of proposed King County bicycle facilities. Consequently, the existing Non-motorized Plan (1993), particularly the map, is still used extensively by county agencies in their decision making. An updated Non-motorized Plan should bring together all of the current information related to the bicycle system, pedestrian facilities, and equestrian links. The plan should update the division's approach to non-motorized transportation and related policies, describe existing conditions, and identify proposed future bicycle, equestrian, and pedestrian amenities.

Strategy TRA 7 Design and maintain non-motorized facilities to be safe, convenient, well-utilized, and cost effective as guided by local and nationally recognized standards and policies.

Action TRA 7-1 Seek to include safe and convenient bicycle and pedestrian facilities on transportation arterial road projects, consistent with the King County Road Design and Construction Standards, unless exceptional circumstances exist. In deciding where to locate facilities, use the most current Federal Highway Administration (FHWA) policies and standards as a guide, while recognizing that local conditions and circumstances must ultimately determine the suitability of each facility.

The design and life cycle maintenance of road facilities should address bicycle and pedestrian uses. Site-specific constraints, such as environmentally sensitive areas, restricted rights-of-way, and potentially hazardous conditions, may affect the placement of non-motorized facilities, and capital investments in the regional non-motorized system must be prioritized and implemented in the most cost-effective manner possible. The division should use the recommendations of policies such as the 2000 FHWA Policy and Design Guidance as guides to facilities development, but should also recognize that local conditions and circumstances must ultimately determine the suitability of each facility.

Action TRA 7-2 Apply the most up-to-date professional design standards and practices in the development of King County's bicycle facilities, while allowing flexibility to meet the needs of local circumstances.

The division uses the American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities when designing facilities to accommodate bicycles. This use should continue, and the division should incorporate new AASHTO guidelines in a timely manner whenever they are updated. However, the planning and development process should also allow flexibility to meet specific local circumstances. Continued use of the AASHTO Guidelines along with professional engineering judgment will contribute to a safe, consistent, and professional approach to development of bicycle facilities.

Action TRA 7-3 Continue to maintain and preserve non-motorized transportation facilities on county road right-of-way to reduce potential road hazards and ensure that existing assets continue to function properly.

Maintenance and preservation of all road-related facilities, including those used by bicyclists and pedestrians, are cost-effective investments since they ensure efficient performance of the facility well into the future. These efforts can reduce potential road hazards in the short term (e.g., debris on the road) and prevent long-term deterioration of the facility and resulting costly reconstruction.

Strategy TRA 8 Encourage bicycling and walking as serious means of everyday transportation by providing information and resources and facilitating dialog with the public.

Action TRA 8-1 Update the King County Bicycling Guide Map on a periodic basis.

The King County Bicycling Guide Map is a frequently requested document and a popular feature of the county's Web site. The current map was produced in 1997 in GIS format and updated in 2000 in another graphics software format. Changes to the road network and the need for additional information have created a need to update the Guide Map and the county's GIS system.

Action TRA 8-2 Upgrade the county's Web site(s) to provide improved and coordinated bicycle information, including external links to relevant organizations.

The fact that the King County Bicycling Guide Map Web pages are some of the county's most heavily used online resources illustrates the popularity of bicycle information with the public. However, this information is currently spread out in different parts of the Department of Transportation Website. The county should develop a consolidated and well-planned set of online resources for bicyclists. These resources should be relocated, combined, or linked in an appropriate manner to provide a complete and coordinated presentation. The Web site(s) should provide tips, bike-transit information, Guide Map access, and links to nonprofit bicycle organizations as well as background on King County's bicycle policies and other important bicycle-related information. Efforts should be coordinated between the division and Metro Transit.

Action TRA 8-3 Undertake regular outreach to the community via participation in public bicycle events (e.g., annual Bike Expo and Bike to Work Day), periodically meeting with bicycle organizations and/or individuals to solicit comments about King County's bicycle system, establishing advisory committees when needed, and committing to involving the bicycle community for input on bicycle-related projects and programs.

Participation in the activities of the bicycle community and biking public is an important aspect of the division's non-motorized strategy. The intent is to enhance communication with the bicycle community to both solicit relevant information and promote the division's non-motorized programs.

Strategy TRA 9 Partner with other organizations and agencies to facilitate a consistent and comprehensive regional approach to planning, developing, and promoting non-motorized facilities and activities.

Action TRA 9-1 Coordinate and partner with other jurisdictions and help facilitate regional non-motorized planning and facilities development efforts.

King County should continue its legacy of leadership in non-motorized planning and facilities development. The division should participate with other jurisdictions to ensure that regional non-motorized transportation options are planned and developed comprehensively and consistently.

Action TRA 9-2 Explore partnering opportunities with other King County divisions and departments to identify funding opportunities and ensure a consistent and comprehensive approach to non-motorized planning and development.

By its nature, non-motorized planning and development lends itself to interagency efforts. Partnering with other King County agencies, such as Metro Transit and the Department of Natural Resources and Parks, may be appropriate for projects that affect not only road facilities but also transit facilities, such as park-and-ride lots and transit centers, or trails. Joint grant proposals are one example of agencies working together to bring non-motorized projects to fruition.

Action TRA 9-3 Coordinate or partner with bicycling organizations on bicycle planning activities.

The division routinely undertakes bicycle planning and related activities, and these efforts often benefit from direct input from organizations that represent bicyclists. When mutual goals coincide, the division may also partner with such organizations on specific projects. The division should seek opportunities to involve bicycle organizations and make use of their expertise.

Equestrian

Goal: Support equestrian travel in equestrian communities designated in the King County Comprehensive Plan, with an emphasis on safety and connectivity to the regional trail system.

King County has approved several measures in recent years related to equestrian travel, trails, and use of the road right-of-way. The King County Comprehensive Plan 2000 recognized the existence of several large “equestrian communities” in rural King County and provided new policies to support equestrian activities and facilities in these areas. The policies include a requirement that, where off-road trails are not available, roads should accommodate safe equestrian travel within the right-of-way.

The King County Zoning Code was modified in 2001 to include several new sections on the protection and preservation of equestrian trails, including a section on location and design of equestrian paths or soft shoulders along public road rights-of-way. An Equestrian Trails Task Force was established and produced a report which, among other things, recommended that the division develop policies and standards for safe equestrian facilities in the road right-of-way where feasible and necessary to provide key links to community or regional equestrian trails.

The strategies and actions in the following section describe the division’s approach to enhancing equestrian access to, and use of, transportation facilities in equestrian communities.

Summary of Strategies

- Strategy TRA 10** **Inventory the existing equestrian trail system associated with King County roads in equestrian communities. Identify critical missing links in road rights-of-way.**

- Strategy TRA 11** **Accommodate equestrian transportation needs along King County road rights-of-way in designated equestrian communities where appropriate.**

- Strategy TRA 12** **Retain existing critical equestrian links whenever possible.**

- Strategy TRA 13** **Maintain open lines of communication with users of equestrian facilities to ensure that their ideas and concerns are heard.**

Strategies and Actions

Strategy TRA 10 **Inventory the existing equestrian trail system associated with King County roads in equestrian communities. Identify critical missing links in road rights-of-way.**

Action TRA 10-1 *The division should collaborate with other relevant agencies, including the King County Department of Natural Resources and Parks, and the equestrian community to prepare an inventory of critical equestrian trail links associated with King County road rights-of-way in designated equestrian communities.*

At present there is no comprehensive inventory of equestrian trail links associated with the county's road system. "Critical missing links" are those necessary to complete established equestrian trail networks in designated equestrian communities. They will run within road rights-of-way and/or provide important links between existing facilities. The inventory will be used to preserve, protect, improve, or create equestrian facilities on the identified links when road capital or major maintenance projects are planned. The inventory should be updated as additional links are identified or developed.

Strategy TRA 11 **Accommodate equestrian transportation needs along King County road rights-of-way in designated equestrian communities where needed and appropriate.**

Action TRA 11-1 *New CIP road projects and major maintenance projects in designated equestrian communities should include provisions for equestrian use where the need exists and where it is safe and feasible to accommodate equestrian travel in the right-of-way.*

While equestrian uses are permitted throughout the Rural Area, the King County Comprehensive Plan designates equestrian communities where continued equestrian uses are particularly supported. Because the established network of equestrian trails in many of these areas has been disrupted by urban development, some important links in the equestrian trail system now must follow county road rights-of-way. This poses a challenge to the division to accommodate safe equestrian use as riders travel to and from trails, riding arenas, boarding stables, homes, and other destinations. Comprehensive Plan policies and recent county code changes require that provisions be made in road capital improvement projects for equestrian uses where needed and appropriate. Topography; available right-of-way; other physical, environmental or safety factors; and cost should all be considered in determining safe and feasible locations for equestrian facilities.

Action TRA 11-2 *The division will seek to accommodate both equestrian and other non-motorized uses on road projects within equestrian communities to the extent possible within funding and right-of-way constraints.*

Road rights-of-way may be used for a variety of activities, including vehicle breakdown refuge, bicycle travel, and pedestrian travel. In equestrian communities, horse riding may be added to these activities, depending on location, physical constraints, and need. Ideally, separate equestrian facilities should be provided away from the roadway and shoulder. Where right-of-way is inadequate or other physical or financial constraints prevent provision of separate facilities, a shared facility should be provided to allow horses to share use of the road shoulder with pedestrians, bicycles, and other uses. In these circumstances, a portion of the shoulder may remain soft for equestrian use and a portion may be paved for bicycles and pedestrians. If a shared facility is not possible, conflicts in use should be resolved on a case-by-case basis by the County Road Engineer, taking into consideration the alternative travel routes available to each mode of travel.

Action TRA 11-3 Equestrian facilities may be provided independent of road CIP projects when funding levels permit or grant funds become available, if they address “critical missing links.”

The Road Services Division often builds non-motorized facilities as part of larger road improvement projects. In addition, the division should consider stand-alone equestrian projects to address high-priority needs. The feasibility of standalone projects will depend on funding availability and other competing non-motorized needs. A list of potential equestrian projects should be derived from the inventory of critical missing links and/or the King County Non-motorized Transportation Plan in consultation with equestrian user groups and affected communities. Special emphasis could be placed on cost-effective projects that can be accomplished during maintenance activities or that utilize volunteer labor.

Action TRA 11-4 The division should continue to include standards for equestrian facilities in the King County Road Design and Construction Standards.

Equestrian facilities standards should continue to be included in the King County Road Design and Construction Standards. These equestrian standards should be based on accepted industry/professional standards, and should take input from equestrian users into account. Existing gravel shoulders along rural roads in designated equestrian communities should be preserved for equestrian use, except where a separate equestrian trail is provided, or the shoulder must be shared with bicycles (in which a shared shoulder may be designated), or where the county Road Engineer determines that extenuating safety considerations prohibit such shoulders.

Action TRA 11-5 The division should continue to explore and improve equestrian facilities design and construction methods on King County roads.

As roads are increasingly shared by equestrians, bicyclists, pedestrians, and motorists, it is important to explore innovative facilities designs and construction methods that meet the needs of all travel modes in a safe, efficient, and pleasing manner. In particular, the division should explore new approaches to guardrails, bridges, and shoulder paving materials with

equestrian users in mind, and with the understanding that these facilities must accommodate shared uses.

Strategy TRA 12 Retain existing critical equestrian links whenever possible.

Action TRA 12-1 When selling, transferring, or vacating division properties in designated equestrian communities, the division should determine if the property contains critical equestrian trails. If such trails exist, the division should attempt to either preserve them with covenants/conditions on the property or ensure that the trails are relocated to an adjacent or nearby property managed by the division.

Stemming the loss of critical equestrian trails is an important goal in maintaining equestrian linkages in designated equestrian communities. To address this issue on lands under the division's control, the county should seek ways to preserve these trails when it relinquishes management authority or ownership. The division should coordinate as needed with other King County agencies (e.g., Department of Natural Resources and Parks) with respect to responsibility for equestrian trail preservation or protection when other agencies assume management. Covenants or conditions of sale are possible approaches when the properties are sold. Another approach might be to provide similar trails on adjacent or nearby division-controlled properties.

Strategy TRA 13 Maintain open lines of communication with users of equestrian facilities to ensure that their ideas and concerns are heard.

Action TRA 13-1 The division should provide ongoing opportunities for equestrians to communicate with King County about road and equestrian issues via public events, the division Web site, and other channels.

Like other roads interest groups, equestrian users need opportunities to communicate with the division on issues that concern them. The division should collaborate with equestrians to ensure meaningful input on roads-related equestrian projects. Outreach efforts should include public events such as open houses and public meetings, information tables, and Web pages.

Chapter 8

Maintenance and Preservation of Infrastructure

Goal: Protect existing infrastructure investments and mobility through maintenance and preservation.

Planning and managing road maintenance is a vital part of the division's work. Like any capital investment, a road system must be maintained in a timely manner to minimize life cycle costs and get the maximum long-term benefit from the investment. A well-maintained road system is crucial to an effective commercial delivery system and the economic vitality of a community. Poorly maintained streets and transportation corridors lead to higher costs for motorists, increased maintenance, and more accidents and liability. If roads and traffic control devices are left too long without timely overlays and proper maintenance, they must be completely rebuilt at a much higher cost. Safety can be adversely affected by poor or infrequent maintenance. For example, where roadside vegetation is allowed to grow out of control, sight distance can be shortened. Traffic signs that have been removed or damaged by vandals result in hazards to motorists.

Maintaining the road system includes fixing pot holes, solving problems such as narrow shoulder width or erosion and deep ditches, removing and controlling brush that can interfere with sight distance for drivers, repairing deteriorated roads, maintaining drainage systems, removing ice and snow as well as graffiti, and solving problems of illegal dumping in the right-of-way. In addition, there is a requirement for signal maintenance, traffic control system maintenance, and traffic sign installation and maintenance throughout the road network.

Preservation is defined by the Washington State Auditor as extending the life of the facility without increasing capacity or efficiency. Projects that increase capacity and efficiency are considered capital improvements. Maintenance is defined as keeping the facility as close to original construction as possible while allowing it to meet the designed lifecycle. Inadequate expenditures for maintenance and preservation result in a gradual reduction of the total value of the infrastructure.

Summary of Recommendations

Strategy MNT 1 Strive to support maintenance activities at levels that optimize infrastructure lifecycle and recognize the relationship of maintenance activities to each other and to capital program development.

- Strategy MNT 2** **Use an infrastructure maintenance monitoring and reporting system to facilitate clear communication of infrastructure condition level and to support responsible budgeting and funding decisions.**
- Strategy MNT 3** **Staff and fund maintenance activities at levels that seek to minimize deferred maintenance due to storm events, natural disasters, and/or other unplanned emergency work.**
- Strategy MTN 4** **Use a programmatic bridge maintenance management and replacement system to prevent loss of bridge inventory and to maintain bridges as a vital part of a seamless, redundant road system.**

Strategies and Actions

- Strategy MNT 1** **Strive to support maintenance activities at levels that optimize infrastructure lifecycle and recognize the relationship of maintenance activities to each other and to capital program development.**

Maintenance quality and frequency influence infrastructure lifecycle. By including maintenance information in lifecycle calculations, it will be possible to develop more accurate information for use in both capital and operating program planning.

Action MNT 1-1 Use infrastructure lifecycle replacement cost information when budgeting and staffing maintenance activities and when developing long-term capital program plans.

When programming capital expenditures, the companion maintenance needs should also be considered. This lifecycle capital and maintenance cost information can be used to assist in programming for efficient use of resources by avoiding having to replace large amounts of infrastructure in a very short period of time. Having to replace disproportionately large amounts of infrastructure in a short period of time often results in disruption to staff and inefficient use of resources.

Action MNT 1-2 Accommodate the need for more frequent maintenance cycles in areas where traffic levels have increased significantly.

In recent years, the amount of vehicular traffic in King County has been increasing at a much faster rate than the number of lane miles of roadway. This has resulted in more rapid deterioration of paved roadways. The rate at which pavement wears is influenced by the amount of travel on the roadways and by the mix of vehicles in the traffic flow. Heavy truck traffic results in more wear on pavement than lighter-weight passenger vehicles. Where

traffic flow includes higher percentages of trucks versus automobiles, pavement will wear out sooner. Maintenance standards should be modified to reflect the need for more frequent maintenance resulting from increased vehicle miles traveled on King County roadways.

Action MNT 1-3 Develop a plan for routine maintenance that includes a description of the relationship of maintenance jobs to each other.

Many maintenance tasks are interrelated. Not performing one specific task may lead to other more extensive and/or expensive tasks being required. For example, deferring street sweeping could cause debris to build up and clog storm drains, resulting in flooding or other undesirable environmental effects. These maintenance activities should be identified and their effects on other activities should be quantified whenever possible. This information could then be included in a revised maintenance management system and could be especially useful when urgent situations require deferral or disruptions to normal maintenance schedules.

Action MNT 1-4 Upgrade traffic control systems and components and other systems that require repeated maintenance.

Upgrading traffic signal control hardware that is more than 11 years old, creating a central traffic systems control center, and interconnecting traffic signals along corridors and isolated intersections can eliminate the need for repeated maintenance of older equipment and likely reduce travel time along these roads. A phased approach to implementing this project would provide the flexibility to build only what is needed, one step at a time. Using the latest computer and telecommunications technology will also increase capability and flexibility.

Strategy MNT 2 Use an infrastructure maintenance monitoring and reporting system to facilitate clear communication of infrastructure condition level and to support responsible budgeting and funding decisions.

A certain level of maintenance funding implies certain pavement condition levels and reliability of traffic control devices. Identifying acceptable levels of maintenance allows decision makers to be clearly aware of the probable effects of their funding allocation decisions. A simple and clear periodic evaluation and reporting system could provide an effective way to communicate important information. This system should be designed to show the degree to which optimal infrastructure condition levels are attained. Over time, it would show progress, or the lack thereof, in attaining standards, and could become a valuable management tool.

Action MNT 2-1 Define and use specific levels of service for roadway maintenance.

The division's maintenance program uses a pavement management system modeled after one developed by the County Road Administration Board, an agency that oversees county road departments in the state of Washington. The system establishes a pavement condition level

for each road segment maintained by King County. Possible condition levels are poor to substandard, fair, and excellent to good. These ratings are intended to be updated every two years, but in recent years the updates have fallen behind.

The division hired a consultant to help update this system and reestablish the use of condition levels or service standards as part of regular maintenance activities. The consultant's study is comprised of three parts: 1) a survey of other jurisdictions to find out what level of service they use for road maintenance, 2) an evaluation of the condition of the existing road inventory based on a random sample, and 3) a telephone survey of residents in unincorporated King County to find out what level of service citizens desire, i.e., emergency response, removal of snow and ice, road surface condition. As part of the survey, citizens were also informed about the cost implications of different service standards.

Action MNT 2-2 Provide periodic reports to decision makers and the public on achievement of maintenance goals and condition levels.

The ultimate customers of the division are the people of King County. Their perception about how well work is being done is vital to the success of the division. To have a good working partnership with the public, clear and accurate information must be provided. This information can be posted on the division Web site and could be included in press releases or report card-like brochures.

Strategy MNT 3 Staff and fund maintenance activities at levels that seek to minimize deferred maintenance due to storm events, natural disasters and/or other unplanned emergency work.

Storms, natural disasters, and other unanticipated events require maintenance to reallocate resources to respond to the emergency. Maintenance work required to respond to and repair damages caused by these events temporarily supplants routine ongoing maintenance work. The financial impact of emergency work can be significant.

Action MNT 3-1 Prepare and support maintenance budgets that provide for sufficient levels of routine maintenance to achieve service standards while also providing for reasonable emergency response.

Allowing emergency-related work to reduce the overall level of preventive maintenance could result in more rapid deterioration of infrastructure and a bigger backlog of maintenance needs, further straining resources. Additional funding might be allocated when necessary after emergencies to catch up on routine maintenance once the emergency work is finished. This would help facilitate a continuous, proactive approach to routine maintenance and help keep infrastructure maintenance at cost-effective levels.

Action MNT 3-2 Continue to maintain a flexible labor pool of temporary workers to facilitate emergency response.

King County already maintains a flexible labor pool of temporary workers. This pool is vital to emergency response and needs. It might be possible to increase the size or skill level of this pool. Internal human resource personnel or perhaps consultant services could be used to analyze this potential.

Action MNT 3-3 Continue to maintain up-to-date emergency response plans that provide efficient and effective emergency response with the least possible disruption to routine preventive maintenance.

King County's maintenance staff has a good track record in emergency response. Staff members are skilled and untiring in their response, and the public generally notices and appreciates that response. By keeping its emergency response plans up to date and reviewing the effect of past emergency response on other routine, preventive maintenance activities, it might be possible to better provide for routine maintenance during or following emergencies.

Strategy MTN 4 Use a programmatic bridge maintenance management and replacement system to prevent loss of bridge inventory and to maintain bridges as a vital part of a seamless, redundant road system.

Bridges are a necessary and vital part of the road system, but they have different needs from the road segments. One of those needs is for specialized inspections. The loss of a bridge can mean losing an alternate route, resulting in a lack of redundancy in the road system. Loss of redundancy complicates road maintenance activities, which often require detouring traffic around road work. The loss of bridges can also have a negative effect on emergency response time by depriving emergency vehicles of an alternative and sometimes shorter route.

Action MTN 4-1 Retain special skills needed to perform specialized bridge inspections and maintenance.

The division has an ongoing bridge inspection program that is consistent with the National Bridge Inspection Standards. Bridge inspection requires special expertise and is done by certified inspectors and assistants. Earthquakes have affected the condition of many local bridges; King County's Bridge Seismic/Load Upgrade Retrofit Program prioritizes bridge retrofits to prevent damage.

Action MTN 4-2 Pursue programmatic techniques for facilitating permitting for regular maintenance and for replacement of short-span timber bridges.

It might be possible to achieve some efficiencies in bridge replacement by using programmatic permitting techniques, since these bridges have many common elements. New replacement bridge designs could result in improved environmental conditions by removing aging timbers from aquatic areas.

Action MTN 4-3 Develop a funding mechanism for replacement of short-span timber bridges.

Short-span timber bridges are becoming increasingly difficult to repair as traffic increases and estimated replacement costs are being driven by strict environmental and design standards. These bridges often do not qualify for federal funding due to their short span length. The county will need to develop a plan to deal with a large number of these structures as they approach the ends of their useful lives. An Annual Bridge Report documents the status of the bridge inventory and describes issues and challenges to maintaining the viability of the bridge inventory.

Chapter 9

Roads Safety

Goal: Maintain and improve safety for motorists, pedestrians, bicyclists, and other users of King County roads.

The division undertakes many safety-related activities through its various sections. The Traffic Engineering and Maintenance sections are most directly involved in ongoing safety activities, although all CIP projects include safety components and all division efforts recognize the primacy of safety in the organization's work.

The Traffic Engineering Section provides safety-related services in support of traffic operations. The section is involved in accident investigation, data collection, and related facilities improvements (e.g., the High Accident Location/High Accident Road Segment program and the safety management system), immediate response to citizen requests related to road safety, analysis and planning of traffic operations, response to street lighting requests, speed studies, pavement markings and road signage, and installation and maintenance of guardrails. The section also operates the Neighborhood Traffic Safety Program and the Selective Traffic Enforcement Plan program, both of which focus on speed control and safety.

The Maintenance Section addresses safety issues through its maintenance activities, which include managing vegetation for sight distance and visibility of traffic lights and signs, maintaining safe roads and bridges, removing road hazards, maintaining sidewalks, maintaining road drainage facilities to reduce flooding, and responding to road-related emergencies caused by adverse weather, landslides, and earthquakes.

The division focuses its efforts on these activities to ensure public safety on county roads. The division continually strives to find and use better ways to ensure safe operations and facilities.

The strategies and actions in this chapter will continue to foster a safety-conscious approach to the division's mission and enhance safety on county roads. This plan recognizes existing safety efforts and emphasizes the continuation or enhancement of these successful activities, while proposing additional strategies to enhance these efforts in the division's ongoing quest to improve the safety of the road system.

Summary of Strategies

- Strategy SAF 1** **Continue to provide ongoing safety improvements.**
- Strategy SAF 2** **Use a Safety Management Committee to oversee and coordinate activities related to road safety.**
- Strategy SAF 3** **Ensure that the safety standards and program goals used by the division are clearly documented and continue to enhance road safety.**
- Strategy SAF 4** **Enhance the effectiveness of the division's successful traffic and roads safety enforcement programs.**
- Strategy SAF 5** **Use the highest possible level of non-motorized facilities and landscaping consistent with the King County Road Design and Construction Standards to enhance non-motorized safety.**
- Strategy SAF 6** **Identify road safety and operational improvements that become necessary as a result of new land development and ensure that land development roadway frontage conforms with the design of CIP projects.**
- Strategy SAF 7** **Safety should continue to be a primary consideration in all division activities.**

Strategies and Actions

- Strategy SAF 1** **Continue to provide ongoing safety improvements.**

Action SAF 1-1 *Document and incorporate a prioritization process for safety-related projects and programs based on engineering and/or other professional principles.*

A concern faced by public agencies is the fact that, for many or most programs (including those that are safety-related), needs exceed resources. This is particularly true in the area of traffic-related engineering. The division should continue its efforts to use a prioritization process, such as the existing safety management system, for traffic engineering projects and programs. This process should be based on sound engineering or other appropriate professional principles, and funding decisions made within the process should be documented. This effort has already been undertaken for some division projects and programs, but should be extended uniformly throughout all of the division's safety-related projects and programs.

Action SAF 1-2 Identify ongoing safety improvements through the High Accident Location/High Accident Road Segment program.

The division currently tracks road accidents via a computerized system that identifies intersections and road segments where accidents have occurred more often. The intersections are known as High Accident Locations (HALs), and the road segments are called High Accident Road Segments (HARS). Safety improvements at these locations are prioritized according to estimated societal benefit. An update of the HAL and HARS lists will soon be completed, and the resulting HALS/HARS Report will document the locations, recommended safety improvements, and method of prioritization used.

After the HAL/HARS Report is completed, improvements should be identified and prioritized for possible inclusion in the division's Capital Improvement Program. The HAL/HARS program would track the status of these projects. New cycles with new HAL/HARS lists and reports should be undertaken periodically at appropriate intervals identified by the Traffic Engineering Section.

Action SAF 1-3 Establish a uniform monitoring program for traffic control devices.

Signs, pavement markings, traffic signals, and street lights all need to be evaluated to ensure that they are present, visible, and functioning as intended. The frequency of these inspections can vary based on the type of device, history of needed maintenance, and the agency's available resources. A routine schedule of traffic control device surveillance should be established.

Action SAF 1-4 Where identified safety improvements require long-term solutions that must be assigned to the Capital Improvement Program, short-term solutions should continue to be considered and implemented where possible to provide some interim benefit to safety.

This type of action is already underway and shows responsiveness on the part of the county. It can bridge the gap while funding is allocated and designs are completed for a long-term solution. A "Safety Management Committee" (see below) could identify and facilitate the development of short-term alternatives, and could also provide training opportunities and valuable experience in accident reduction to junior staff. Locations that would neither score well for CIP funding nor qualify for other established program funding (e.g., a long new stretch of sidewalk along an existing road) should be identified and funding solutions sought.

Action SAF 1-5 The Traffic Engineering Section responds to requests involving immediate safety concerns from the public, County Council, and division staff. The section should continue to investigate and provide immediate safety solutions when and where appropriate.

The Traffic Engineering Section investigates traffic safety on roads in unincorporated King County and provides limited safety and operational improvements in response to immediate

needs. Requests to the section often include speed limit studies, illumination improvements, intersection operational improvements, installation of signs, traffic control, and flashers. Staff members also coordinate with the Neighborhood Enhancement Program to implement traffic and pedestrian safety recommendations.

Action SAF 1-6 Maintain and enhance the Citizen Action Request Tracking System to track workflow activities that result from citizen action requests generated by the public, contract cities, and division staff.

The Traffic Engineering Section uses citizen action requests and a database application called the Citizen Action Request Tracking System (CARTS) to track workflow activities that result from safety-related requests from the public, contract cities, and division staff. CARTS collects and provides information on each action request, including the location, investigation information, solution or recommended resolution, utility locations, and work order and correspondence status.

The use of CARTS should be continued. Its workflow tracking function could also be extended to other areas of the division. Two other systems, the Citizen Action Request System and City Discretionary Services Tracking System, are being used by the Maintenance Section and the Intergovernmental Relations group to provide similar workflow tracking.

Action SAF 1-7 Improvements provided by the division as neighborhood traffic control solutions should continue to be coordinated with local emergency services providers and the community to ensure that adequate emergency response is maintained and that the potential tradeoffs between traffic control and emergency accessibility are understood.

Procedures and guidelines for the installation of traffic calming improvements such as speed bumps and traffic circles, which can impact emergency vehicle response times, should continue to be collaboratively developed between all affected parties, including emergency services providers and the community. This is to ensure that all participants understand the physical needs of emergency services providers and the tradeoffs, if any, between accessibility and traffic control.

Strategy SAF 2 Use a Safety Management Committee to oversee and coordinate activities related to road safety.

Action SAF 2-1 Create a Safety Management Committee to review existing methods of roads safety management within the division and other county agencies and recommend ongoing improvements to existing operations and facilities.

Improvements related to the safety of the traveling public are undertaken by a number of different county agencies and sections. The Traffic Section already uses a safety management system to reduce the incidence and severity of transportation-related collisions, injuries, and

property damage. The system integrates transportation safety in emergency services, law enforcement, and education into a single system and also uses this information to identify road improvement needs.

The creation of a Safety Management Committee, comprised of representatives of King County agencies involved in roads safety, would establish a structure for ongoing communication, discussion, and review of safety improvement issues and opportunities and could compliment the existing safety management system. Representatives from the division's Traffic Engineering, Roads Maintenance, and Engineering Services sections should be involved. Representatives from Metro Transit, the King County Sheriff's Office, and other affected agencies should also be encouraged to participate. The committee would review existing methods of safety management within the division and other county organizations, recommend improvements to these methods, recommend road safety improvements, facilitate coordination within the county, and prepare an annual safety report.

Strategy SAF 3 Ensure that the safety standards and program goals used by the division are clearly documented and continue to enhance road safety.

Action SAF 3-1 Document division safety standards and guidelines for division staff use and as a tool to help the public understand the division's safety-related efforts.

Road safety is an ongoing division concern and an important issue with the public, but it's not always easy to understand the standards and procedures that King County uses to ensure road safety. The documentation and public availability of division safety guidelines would ensure that all important safety elements are consistently considered. Documenting the source of these guidelines would demonstrate that safety improvements are based on engineering or other appropriate professional standards. These guidelines may be taken from the existing safety management system and/or other programs, recognized professional standards, or they may be newly articulated where appropriate. The greatest benefit of this approach would be to ensure, in recurring issues and safety decisions, that all pertinent elements are considered and all reasonable solutions are explored. Safety issues where such guidelines might be appropriate include crosswalk installation and treatment, guardrail installation, and other traffic-safety improvements.

Strategy SAF 4 Enhance the effectiveness of the division's successful traffic and roads safety enforcement programs.

Action SAF 4-1 Identify the long-term goals and activities of the Selective Traffic Enforcement Plan Program and the Neighborhood Traffic Safety Program and identify appropriate funding strategies.

Traffic and roads safety enforcement efforts currently include the Selective Traffic Enforcement Plan (STEP) program and the Neighborhood Traffic Safety Program (NTSP).

These programs are coordinated efforts between the division and the King County Sheriff's Office, and are funded through the Traffic Engineering Section, which is able to direct enforcement efforts to specific roads and neighborhoods as needed. STEP program motorcycle officers provide proactive traffic control on major King County arterials. Their assignments include speed/volume counts, accidents and other traffic incidents, and locations with high complaint histories. NTSP motorcycle officers are assigned to local neighborhood-residential areas where most of their work involves reacting to local traffic-related complaints.

The STEP and NTSP programs have been successful and very popular with communities. Stating clear long-term goals and objectives for these programs while also identifying the appropriate scope of activities would enhance their effectiveness and guide future staffing and funding actions. With these goals and objectives in hand, the division can forecast future needs and identify and implement additional funding strategies, such as returning citation revenue to the division to pay for more officers and make the programs more self-supporting.

Strategy SAF 5 Use the highest possible level of non-motorized facilities and landscaping consistent with the King County Road Design and Construction Standards to enhance non-motorized safety.

Action SAF 5-1 Where desirable and feasible in project design, maintenance, and budgets, incorporate enhanced landscape improvements into arterial design.

The separation of pedestrians and horses from vehicles by the inclusion of a landscaped buffer, planting strip, or drainage swale between the road and pedestrian and/or equestrian facility could improve safety along high-traffic arterials while substantially enhancing the perception of safe streets. Design-related issues that influence the ability to provide separated facilities include sufficient right-of-way, availability of lighting, clearing, and connections between facilities. Maintenance of planting strips or landscaped buffers is not currently a funded county function, however, and additional landscape maintenance would be required for such projects, especially during the first three years after planting. The installation of enhanced landscaping would require coordination between the division's Capital Improvement Program and maintenance functions. Landscaping should only be incorporated when and where it can be maintained properly

Action SAF 5-2 To the extent practicable, provide non-motorized facilities along important rural arterials in identified regional corridors to enhance safety.

Rural arterial routes that link urban areas or other areas of higher population, such as urban connector roads, provide a special safety challenge for different modes of travel. These regional corridor routes may provide the only link for a relatively large number of residents, but because they are rural routes they may lack accommodations for bicyclists and pedestrians. As a result, it is not uncommon for cars, bikes, and pedestrians to share portions

of the road. During periods of poor weather, visibility and safe use may be especially challenging. Roads that provide important links between population centers should be identified and safe accommodation should be made for bicycles and pedestrians wherever it is practicable to do so.

Strategy SAF 6 Identify road safety and operational improvements that become necessary as a result of new land development and ensure that land development roadway frontage conforms with the design of CIP projects.

Action SAF 6-1 Continue to provide traffic engineering expertise to the Department of Development and Environmental Services for the development review process.

The Traffic Engineering Section currently provides expertise to the King County Department of Development and Environmental Services (DDES) for the development review process led by that agency. To ensure that technically adequate and safe transportation facilities are provided concurrent with new development, Traffic Engineering staff should continue to provide this necessary technical expertise.

Strategy SAF 7 Safety should continue to be a primary consideration in all division activities.

Action SAF 7-1 Continue to address safety as a high priority in maintenance, traffic, and other division activities.

The division places the safety of the traveling public among its highest priorities. Many Maintenance Section activities specifically address safety issues. Managing vegetation for sight distance at intersections, maintaining the visibility of traffic lights and signs, assuring safe street lighting, and maintaining safe sidewalks are examples of safety-related activities that the division currently undertakes. The Traffic Section also undertakes safety-related activities, such as investigating citizen calls for safety improvements or emergency responses. Safety should continue to be a primary consideration for the Maintenance and Traffic sections as well as a division priority, and safety activities should continue to receive priority attention. The division should also identify other important safety-related maintenance needs (e.g., street tree management) or long-standing safety-related capital needs (e.g., sidewalk repair backlog) and give them priority attention.

Chapter 10

Transportation Environmental Stewardship

Goal: Plan, build, operate, and maintain the road system in a manner that recognizes stewardship of the natural and human-made environments.

King County is an area rich in natural and cultural resources. Waterways, forests, wildlife habitat, historic structures, and archeological sites are just a few of the many features of the natural and human-made environments that must be protected. The division's environmental activities are undertaken in support of its business mission to identify and implement roadway and other related transportation systems solutions for safe and efficient movement of goods, services, and people. The division's work often involves changing the landscape, making it critical that the division's activities are undertaken with great care and sensitivity to the environment.

Environmental stewardship in transportation refers to an organization's awareness that it has a responsibility for the decisions and operations that may affect the environment. The American Association of State Highway and Transportation Officials describes stewardship in transportation as:

Making decisions based on an understanding of the consequences to natural, human-made, and social environments and instilling and promoting individual and organizational attitudes, ethics, and behaviors that support protecting and enhancing the environment.

Environmental stewardship in the division includes planning and actions that will preserve a healthy environment while the division does its work of providing transportation facilities and programs to enhance regional mobility and safety. The division seeks to strike a balance between environmental protection, regional mobility needs, and available resources. As a result, the division is sensitive to the environment during the planning and designing of facilities, conducts related environmental and ecological studies, and incorporates appropriate mitigation or habitat restoration into construction projects. The division assures compliance with local, state, and federal regulations via environmental review of road facilities projects and maintenance activities and by obtaining required permits from regulatory agencies.

The division's two environmental units focus on the effects of construction and maintenance of roadways and other division-sponsored facilities. The Engineering Services Section Environmental Unit focuses on the regulatory requirements associated with the development or improvement of roadway facilities as part of the division's capital improvement and other programs. The Maintenance Section Environmental Unit addresses the regulatory requirements for maintaining the county's existing facilities. Both units may be involved in

review processes under the State Environmental Policy Act (SEPA), the National Environmental Policy Act (NEPA), or other environmental permit requirements, including those of the National Pollution Discharge Elimination System and the Army Corps of Engineers.

Recent events have also made it advisable to undertake new, proactive environmental planning and programming. For example, the listing of Chinook salmon as “threatened” under the federal Endangered Species Act in 1999 significantly changed the regulatory landscape with respect to development and maintenance of roadways and other facilities in King County. Numerous other local, state, and federal regulations are also changing and evolving.

The strategies and actions in this chapter recognize the necessity of incorporating environmental factors as an integral part of roads planning and development. These proposals will enhance the division’s ability to meet current and future challenges to protect the county’s natural environment and cultural resources, while successfully accomplishing the division’s core mission to provide a safe and efficient transportation system.

Summary of Strategies

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| Strategy ENV 1 | Proactively plan for the environment to improve CIP project selection, to better assess costs and regulatory complexity, and to reduce adverse effects on the environment. |
| Strategy ENV 2 | Identify opportunities to demonstrate leadership in environmental stewardship as part of the division’s core mission to “Identify and implement roadways and other transportation system solutions for the safe and efficient movement of goods, services, and people to support a high quality of life in King County.” |
| Strategy ENV 3 | Improve the efficiency and effectiveness of environmental mitigation. |
| Strategy ENV 4 | Ensure that division environmental efforts are consistent and comprehensive. |
| Strategy ENV 5 | Comprehensively inventory and assess cultural resources on lands owned and managed by the division, in conjunction with the King County Historic Preservation Program. These efforts are intended to reduce local, state, and federal regulatory conflicts and improve regulatory predictability during development and maintenance, as directed by the King County Comprehensive Plan. |

Strategy ENV 6 **Ensure that cultural resources on lands under the division’s authority are protected to the maximum extent practicable to better ensure the conservation of the county’s historical and archeological resources.**

Strategy ENV 7 **Define “historic character” to provide a comprehensive, consistent, predictable, and less costly approach to development and maintenance in identified historic areas.**

Strategies and Actions

Strategy ENV 1 **Proactively plan for the environment to improve CIP project selection, to better assess costs and regulatory complexity, and to reduce adverse effects on the environment.**

Action ENV 1-1 *Create an environmental planning and creative problem-solving process within the division for CIP projects to include both planning-level and project-level environmental review.*

Planning-level review should assist in the development of the Transportation Needs Report, Six-Year CIP, and other network-wide project lists to ensure that the entire road network and all division CIP projects are developed in an environmentally responsible manner. Detailed planning to avoid or minimize environmental impacts should proceed along with the coordination of CIP candidate projects and any proposed mitigation. The purpose of planning-level review is to enhance the division’s effectiveness in meeting its mission. Planning may significantly reduce the overall environmental impacts of roads projects. It should also reduce cost, regulatory entanglements, and delay; enhance coordination; and promote environmental stewardship.

As projects enter the design development phase (or other appropriate stage), project-level review should be done for SEPA/NEPA, applicable permit requirements, and to identify specific opportunities for shared mitigation.

Augmenting the existing project-level environmental review (SEPA/NEPA and permits) with planning-level review and assistance in the development of the Transportation Needs Report will help ensure that the entire road network is developed in an environmentally appropriate manner. This would also provide a more timely review process in which the development of the overall road network can respond to environmental issues. The intent of this planning-level review would be to minimize overall project development costs, promote project development in a more timely manner, and enhance environmental protection.

The adoption of this environmental planning process should help ensure that the environmental effects of roads projects are recognized throughout the decision making process.

Action ENV 1-2 Identify environmental criteria to be used for decision making on transportation plans and CIP projects.

The division's role is to provide safe and cost-effective transportation facilities throughout unincorporated King County. In this role, it is responsible for the environmental effects of its projects and activities, while the environment in turn influences the type, size, and location of road and trail facilities. The division must accomplish its mission while also minimizing the impact of its facilities and activities on the environment, including the habitats of critical wildlife and species listed under the Endangered Species Act.

Action ENV 1-3 Develop and implement a system to track and assess cumulative development and mitigation opportunities for CIP projects.

Augment the existing project-specific SEPA/NEPA environmental review process with GIS technology to enhance cumulative development evaluations using all relevant data that is readily available. This should increase the efficiency of the division's current and future environmental efforts. Actions ENV 1-1 and ENV 1-2 (above) may help the division significantly address this issue by providing a broader planning framework and a more defined environmental decision-making process.

Action ENV 1-4 Seek to strategically partner with other agencies when appropriate to share staff knowledge and resources and identify and create joint projects.

Local non-profit organizations, other government agencies, and King County possess many professional and technical resources that could be shared for greater efficiency and effect. The promotion of partnerships encourages communication and interaction, typically resulting in improved regional approaches to challenges such as the Endangered Species Act. The focus of such partnerships would be on sharing information, knowledge, and technical expertise for creative problem solving.

Strategy ENV 2 Identify opportunities to demonstrate leadership in environmental stewardship as part of the division's core mission to "Identify and implement roadways and other transportation system solutions for the safe and efficient movement of goods, services, and people to support a high quality of life in King County."

Action ENV 2-1 Explore the American Association of State Highway and Transportation Officials Environmental Stewardship Program to identify opportunities to integrate environmental stewardship principles into the division's work.

Promoting environmental stewardship as part of the operations of transportation agencies is a goal of both the American Association of State Highway and Transportation Officials (AASHTO) and the Federal Highway Administration (FHWA). AASHTO has an

Environmental Stewardship Program that provides guidance in the area of environmental stewardship to transportation agencies. Agencies in 23 states are documenting their environmental efforts under this program. The ultimate goal of the AASHTO effort is to encourage transportation agencies to recognize the importance of environmental stewardship and work toward the adoption of organizational Environmental Management Systems (EMSs). The AASHTO program provides four progressive approaches to achieving agency environmental stewardship, including the institution of an agency EMS.

The FHWA also supports environmental stewardship by transportation agencies and the EMS as a strategy for demonstrating such stewardship. It encourages agencies to use EMS to integrate environmental performance into daily business decisions, which should improve regulatory compliance and operational efficiency.

The division already does many of the things listed by AASHTO as promoting environmental stewardship. This action proposes exploring the AASHTO Environmental Stewardship Program to identify ways in which the division might take advantage of the program to recognize current efforts and further integrate environmental stewardship principles into its work program. Staff members from the division's sections and environmental units, as well as management personnel, would participate, and AASHTO would provide technical assistance.

Action ENV 2-2 Continue division leadership and partnership in the Regional Road Maintenance Endangered Species Act Program.

The Regional Road Maintenance Endangered Species Act Program Guidelines were developed in response to the listings in 1999 of the Puget Sound Chinook salmon and the bull trout as "threatened" under the Endangered Species Act. The Guidelines provide a set of road maintenance policies and practices that will meet the dual goals of contributing to the conservation of listed species while meeting critical roadway safety and maintenance needs. The product of a lengthy collaborative effort between local government agencies, the National Marine Fisheries Service, the United States Fish and Wildlife Service, and other interested parties the Guidelines were originally a proposal of the Tri-County Salmon Conservation Coalition but have been expanded beyond the tri-county (King/Pierce/Snohomish) area to most of the state. Twenty-three counties and cities in Washington state, plus the Washington State Department of Transportation, have submitted and formally received approval from the National Marine Fisheries Service for inclusion in the Program.

King County, the Washington State Department of Transportation, Snohomish County, the City of Everett, and Pierce County played prime leadership roles in the development of this program. The division should continue to play such a role in the program's implementation, monitoring, and future adaptive management processes.

Action ENV 2-3 Explore the possible role of environmental cost/benefit analysis in the planning of roads projects to identify cost effective methods for addressing environmental issues associated with division capital projects.

The environmental costs associated with division capital projects are significant and increasing. An analysis that includes the direct and hidden costs of environmental requirements and mitigation may provide decision makers with important information in the planning of division projects. Such an analysis might include a “full cost accounting” or other appropriate methodology that presents decision makers with information about the economic tradeoffs inherent in proposed alternatives.

The division is encountering a growing number of environmental regulations and policies. Compliance with these significantly increases the costs of transportation system design, construction, and maintenance and sometimes results in delays in the completion of transportation projects. As the number of environmental regulations has grown, so, too, have the costs of completing road projects. While it is understood that both regulatory requirements and compliance have increased, the costs and benefits associated with the division’s environmental mitigation efforts remain largely unknown. The costs of avoiding, minimizing, and mitigating environmental impacts for new projects are currently embedded, and therefore hidden, in the costs of activities and projects throughout the division. Because of this they may be left out of the planning, scoping, and budgeting process. The lack of information and assessment tools may cause the environmental costs of road projects to be substantially underestimated. High environmental costs reduce a project’s cost/benefit ratio and lower the likelihood that the project will be funded. Environmental benefit and cost data could be used to identify reasonable and practical measures for achieving a desirable cost/benefit ratio.

The division should research the approaches and tools available for providing full cost analysis of proposed road projects during the planning process. A pilot study was completed by the Washington State Department of Transportation in 2002 to identify such a system for state transportation projects. The division should explore the use of such a system and determine whether a full cost analysis or other process would be useful to its capital planning efforts. The state model may provide a starting point for this exploration.

Strategy ENV 3 Improve the efficiency and effectiveness of environmental mitigation.

Action ENV 3-1 Support regulatory changes that would encourage consolidated environmental mitigation.

The existing codes and regulations endorse mitigation on a project-by-project basis. The result may be greater expense and longer delays as individual mitigation solutions, rather than consolidated solutions, are sought. Two or more projects may require similar mitigation activities in the same general area, but each now plans its own response instead of examining

combined mitigation for potentially less cost and great environmental benefit. A change in the current regulations could encourage an organized and practical approach to the coordination of mitigation activities and potentially provide better environmental protection for less cost.

Action ENV 3-2 Explore opportunities for coordinated mitigation planning and implementation.

The division should explore opportunities for coordinating mitigation efforts for its own projects via consolidation or other means consistent with applicable local, state, and federal codes and regulations. Coordination of mitigation opportunities with other jurisdictions should also be explored.

Strategy ENV 4 Ensure that division environmental efforts are consistent and comprehensive.

Action ENV 4-1 Consistently provide information and education to staff, consultants, and contractors. Establish a systematic method that serves as a safety net for assuring environmental compliance on each project.

Implementing myriad, complex environmental regulations and mitigation requirements in the field can be a difficult task. King County staff, consultants, and contractors must comply with many regulations, rules, and practices, many of which may be new to them, as regulations and best management practices change continually. In order to make environmental planning and regulation work on the ground, the division should establish a systematic approach to ensure environmental compliance and regularly keep staff, consultants, and contractors up to date on the latest regulatory requirements.

Action ENV 4-2 Continue to pursue programmatic permitting opportunities to facilitate implementation of projects and maintenance activities with similar scopes of work and environmental impacts.

The division provides environmental services for both capital projects and ongoing maintenance activities. The CIP and maintenance programs contain many projects that are similar in nature. Some programmatic approaches to permitting are already in use, and division projects could greatly benefit from additional ones.

Cultural Resources

Strategy ENV 5 Comprehensively inventory and assess cultural resources⁴ on lands owned and managed by the division, in conjunction with the King County Historic Preservation Program. These efforts are intended to reduce local, state, and federal regulatory conflicts and improve regulatory predictability during development and maintenance, as directed by the King County Comprehensive Plan.

The division has authority over properties throughout both incorporated and unincorporated King County. Some of these properties contain cultural resources such as archaeological sites or historic structures. King County Comprehensive Plan policies call for an inventory and protection of these resources.

While many cultural resources have been identified on these lands, others undoubtedly remain to be found. Because these resources require protection even when they are discovered mid-project, mitigating impacts to them can delay work and increase project costs. Last-minute mitigation efforts may also provide inadequate protection of the resource. An effort is now underway in conjunction with the King County Historic Preservation Program to inventory and describe all known cultural resources in the county. The results of this inventory may be helpful during road project planning, design, and construction. In addition, it would be beneficial to be able to predict for planning purposes where cultural sites may be found, even though they have not yet been identified.

Action ENV 5-1 Develop, maintain, and regularly update a comprehensive inventory of known cultural resources under the ownership and jurisdiction of King County.

Action ENV 5-2 Use sensitivity modeling to better predict the occurrence of as yet unidentified cultural resources that may affect division projects.

Action ENV 5-3 Make the expertise and knowledge provided by the inventory of cultural resources and sensitivity model available to King County agencies and other jurisdictions and organizations as a regional planning tool.

The continued development of a comprehensive cultural resources database and sensitivity model with the King County Historic Preservation Program will enhance project decision-making and ensure that these resources are better protected. The program and division should make this resource available to other King County agencies, other jurisdictions, and organizations as a regional planning tool.

⁴ Cultural resources include archeological resources, historic resources, and places of traditional significance to cultural groups such as Native Americans.

Action ENV 5-4 Screen potential CIP projects for the presence of cultural resources during planning review.

Review for the presence of cultural resources occurs as part of the project-level SEPA/NEPA and other review processes. This review should be started early in the development of capital facilities needs lists in consultation with the King County Historic Preservation Program. This would assist in the development of the Transportation Needs Report, Six-Year CIP, and other network-wide project lists, and better ensure that future facilities are planned appropriately and cultural resources are protected. Review could be integrated with the proposed planning-level environmental review process (See Action ENV 1-1, page 99).

Strategy ENV 6 Ensure that cultural resources on lands under the division's authority or affected by division activities are protected to the maximum extent practicable to better ensure the conservation of the county's historical and archeological resources.

King County Comprehensive Plan policies provide for the protection of cultural resources. Ensuring that cultural resources receive a high standard of protection is consistent with the Comprehensive Plan's intent.

Action ENV 6-1 Participate in the nomination of identified cultural resources for county landmark designation status and/or listing on the National Register of Historic Places.

When important historic properties (e.g., historic bridges, roadways, commercial buildings, landscapes, mill sites, homes, or other buildings or facilities) owned by the division or impacted by the division's actions have been identified, landmark status should be sought for those resources that are eligible, because such recognition will better ensure that they remain a part of the county's historical landscape. The division should work cooperatively on this with the King County Historic Preservation Program and other historic preservation agencies as appropriate.

Action ENV 6-2 Work cooperatively with other jurisdictions and local communities to plan and protect scenic and heritage corridors.

A scenic byway or heritage corridor is a transportation corridor that reflects intrinsic qualities of an area via the forests, mountains, waterways, landscapes or vistas, communities, historic landmarks, archeological sites, or other cultural and recreational resources found along the corridor. A byway/corridor can consist of one or more roads or non-motorized routes and include rural and/or developed areas.

King County and other jurisdictions share many transportation corridors that have significant natural, scenic, cultural or recreational resources. To ensure that these resources are protected and enhanced, the division should work cooperatively with other appropriate agencies, jurisdictions, and communities to plan and protect scenic byways and heritage corridors and

protect identified resources within them. These efforts may include seeking official corridor designation, corridor planning, and corridor enhancement or interpretation.

Action ENV 6-3 Recognize and, when practicable, preserve historical character via the division's road plans, standards, designs, and improvements.

Maintaining the historical character of King County's rural landscape enhances quality of life and is an important aspect of the county's cultural resource preservation effort. Plans, designs, and improvements for facilities should recognize and respond to the existing and historical character of the landscape, and, where practicable, should embody this character. An appropriate set of historic character guidelines (see Action ENV 7-1) should be used as a planning and design reference when projects are located in designated historic districts or heritage corridors. Such an approach will better ensure that roads development is undertaken in a context-sensitive manner.

Action ENV 6-4 Identify all cultural resources jointly owned with other King County agencies and other jurisdictions and seek to ensure, through agreement and shared management processes, that these resources are protected to a level that is consistent with King County policies.

Many important cultural resources exist on lands managed by multiple county agencies, including the division, or multiple jurisdictions, including King County and neighboring cities. In order to provide appropriate protection, the division should participate with the King County Historic Preservation Program and other relevant agencies or jurisdictions to identify and jointly manage these resources. The resources could be identified either through a comprehensive inventory or through site-specific observation. Affected agencies or jurisdictions would then be notified and mutual management agreements prepared and implemented where such agreements are practical.

Action ENV 6-5 Promote protection of cultural resources when these are identified on projects that are being contracted by the division.

The division provides contract services to many cities throughout King County. Cultural resources may be identified during projects or provision of contract services. When feasible, the division should work with other jurisdictions to promote the maximum protection practicable for these resources, recognizing that the standards of protection may be negotiated with the jurisdiction in which they are located.

Action ENV 6-6 Seek to protect cultural resources identified on properties owned by the division, regardless of jurisdictional status. Protection may be continued in perpetuity through the use of covenants or other deed restrictions when properties are sold or transferred.

The division owns properties in other jurisdictions or may transfer properties due to annexation. The standards of protection for cultural resources in these local jurisdictions may

not be as rigorous as those of King County or the division. When such resources are found on division-owned lands in other jurisdictions, the division should seek to protect them to the maximum extent practicable, and seek to ensure similar protection upon the sale or transfer of the property through the inclusion of covenants, deed restrictions, or other agreements.

Strategy ENV 7 Define “historic character” to provide a comprehensive, consistent, predictable, and less costly approach to development and maintenance in identified historic areas.

Action ENV 7-1 Develop a set of “historic character” guidelines for development of new road facilities and maintenance of existing facilities. These guidelines should be consistent with identified historical examples in King County.

The development of appropriate historic character guidelines for designated historic areas or heritage corridors would provide a blueprint for the design and development or redevelopment of road facilities where historic character is an important consideration. Guidelines should be developed in collaboration with the King County Historic Preservation Program and should complement standards for rural roads.

Chapter 11

Roads Funding Strategies

Goal: Ensure efficient and cost-effective allocation of resources.

Each year the division is faced with making decisions about the competing demands for funding of safety or capacity improvements, operations, or maintenance of infrastructure in the ensuing year's budget. This has become increasingly difficult in recent years with loss of revenue due to annexations and incorporations and voter initiative limitations on the property tax levy. In the absence of any new and predictable source of funding, budget decisions are likely to become increasingly difficult in future years, increasing the importance of using prudent financial management and budgeting techniques and making the best possible use of available resources. Recent budget innovations such as Roads CIP Flexible Budgeting (see page 23) and the issuance of road construction bonds have helped maximize the active use of available revenues.

Summary of Recommendations

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| Strategy FUN 1 | Focus road construction and maintenance resources in ways that maximize efficiencies. Seek efficiencies before seeking new revenue sources. |
| Strategy FUN 2 | After incorporating programming efficiencies, if revenues are not sufficient to achieve program goals, seek additional sources of revenue. |
| Strategy FUN 3 | When prioritizing projects, consider the transportation benefits as well as the potential for other secondary benefits that would derive from the project. |
| Strategy FUN 4 | Provide a system for prioritizing projects that includes a formalized process for adjusting funding priorities in response to changing circumstances. |
| Strategy FUN 5 | Maintain and improve avenues of communication with the public regarding status of road improvement projects and conditions affecting programming and completion of projects. |
| Strategy FUN 6 | When reviewing and revising budgetary priorities, allocate funding for operations and capital improvements together as one overall roads program rather than as two separate entities. |

Strategies and Actions

Strategy FUN 1 Focus road construction and maintenance resources in ways that maximize efficiencies. Seek efficiencies before seeking new revenue sources.

Maximizing efficient use of resources has always been an important objective for the division. Many efficiencies have already been put into place. Division administrative costs are already at a very modest level relative to total spending and comply with the state's 2000 Blue Ribbon Commission on Transportation's benchmark for administrative efficiency.

Action FUN 1-1 Program funding for groups of projects by corridor to increase construction efficiency.

Programming projects for funding requires a way to decide funding priorities for many different categories of projects—capacity, safety, pathway, intersection improvement, etc. All projects have merit, and it can be particularly difficult to decide between projects that include components from more than one category. For example, most capacity projects have safety components.

Programming projects by corridor groupings can help achieve construction efficiencies by consolidating construction for several projects. Upon completion of construction within a corridor, the benefits from several projects will combine for maximum effect.

Action FUN 1-2 Consider public benefits and the timing of required development-related traffic improvements when prioritizing related corridor improvements.

Developers are required to make transportation improvements for internal circulation and access, and to mitigate the impacts of traffic to and from the development. Where possible, the timing of other nearby road improvement projects should be scheduled to coincide with these developer improvements to achieve construction efficiencies.

Strategy FUN 2 After incorporating programming efficiencies, if revenues are not sufficient to achieve program goals, seek additional sources of revenue.

In recent years, revenues have decreased through loss of property tax due to annexations, incorporations, and voter-initiated tax limits. At the same time, the cost of road projects has increased due to factors such as new environmental requirements and increasing right-of-way costs. Even after maximizing efficiencies, it may be necessary to seek additional funding sources if the residents of King County are to receive the transportation system they need and deserve.

Action FUN 2-1 Highlight unfunded needs.

Calling attention to unfunded needs will help generate appropriate consideration of ways to increase revenue sources.

Action FUN 2-2 Seek and support legislative changes to existing tax limits.

Action FUN 2-3 Seek additional grants or changes to the local-option gas tax.

Current tax limits restrict the extent of improvements that can be made to the road system. These limits are set in state law and can only be changed by the legislature.

Strategy FUN 3 When prioritizing projects, consider the transportation benefits as well as the potential for other secondary benefits that would derive from the project.

Beneficial secondary effects can sometimes derive from transportation investments. For example, replacing an old timber bridge can result in improved environmental conditions by eliminating supports in the water. Although transportation benefits are the primary goal of the division, secondary benefits should be considered when programming projects.

Action FUN 3-1 Develop both qualitative and quantitative measures and indicators when evaluating potential benefits of projects.

Some benefits of projects may be very valuable to a community even though they are hard to quantify. Examples include equestrian, bicycle, and trail facilities. The value of directing traffic away from neighborhoods and onto arterials is also hard to quantify but is nevertheless important to communities. Such non-quantifiable benefits can usually be recognized even if it is not possible to assign a value to them. Recognizing these benefits and including them as part of the value of projects can help bring important community values into the prioritization process.

Action FUN 3-2 Identify both primary transportation benefits as well as secondary non-transportation benefits that would derive from a project.

Some transportation projects have benefits, typically environmental, that are not related to transportation. For example, when a road is improved, the drainage system within the right-of-way is often upgraded or improved. This can result in cleaner water and better habitat for fish and other native animals and plants.

Strategy FUN 4 Provide a system for prioritizing projects that includes a formalized process for adjusting funding priorities in response to changing circumstances.

Unanticipated events can cause sudden changes in needs or create opportunities to refocus resources. If one project is delayed, it could be beneficial to move resources to another project that is ready to move forward. A formalized process for adjusting funding priorities can facilitate such transitions, help stabilize the work flow, and augment efficiencies.

Action FUN 4-1 Define processes and analysis to be used when changing circumstances indicate a need to reconsider project prioritization.

Unforeseen circumstances occasionally require changes to project prioritization. Having a formalized process in place can assure the inclusion of all pertinent factors and smooth the way for authorization.

Strategy FUN 5 Maintain and improve avenues of communication with the public regarding status of road improvement projects and conditions affecting programming and completion of projects.

Citizens are the ultimate beneficiaries of transportation investments. Their needs and opinions are integral to the development of an efficient transportation system and their support is required to implement projects. Maintaining convenient avenues of communication with the public provides important information that can be used to help tailor projects to meet needs. In addition to providing printed material and public meeting opportunities, the division maintains a Web site that provides access to current project information.

Action FUN 5-1 Seek opportunities to highlight new processes and efficiencies and to communicate to the public the effects of changing circumstances on the transportation system and projects.

People have a right and a need to know about programs and projects funded by their taxes. Keeping the public informed about the effects of changing circumstances on the transportation system can increase public support and stimulate valuable public input that can be used in the decision making process.

Action FUN 5-2 When available revenues are not adequate to achieve goals and objectives, clearly communicate to the public what can be achieved with existing revenues and what could be achieved with additional revenues.

When seeking additional revenue for road improvements, it is important to clearly inform the public about the implications of the additional revenue for the road system. Presenting information about the type of road system that can be purchased with existing funds and what additional benefits could be purchased with additional funds can help the public understand the implications of their support for funding increases and improve the likelihood that road system improvements will match public expectations.

Strategy FUN 6 When reviewing and revising budgetary priorities, allocate funding for both operations and capital improvements together as one overall roads program rather than as two separate entities.

Capital and operating investments unite at the transportation system level. In some cases, deferring maintenance can result in higher capital replacement costs later on. This becomes apparent when analyzing project life cycles. A project that is maintained at appropriate intervals will usually last its entire life cycle, whereas life cycle is usually cut short where maintenance has been deferred. Because maintenance and capital projects are intertwined at the user level, it is important to consider them together when prioritizing for funding.

Action FUN 6-1 When prioritizing projects within corridors, consider both operational and capital budget program areas to help balance differing program needs.

All capital projects have operating implications. Roads, paths, intersections, and signals must all be maintained. Considering the operational implications of capital projects within corridors will provide important information about the balance between operating and capital program needs.