



King County

KING COUNTY DEPARTMENT OF TRANSPORTATION

STRATEGIC PLAN FOR ROAD SERVICES

JULY 2014 UPDATE





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**Department of Transportation
Road Services Division**

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Executive Summary

King County maintains 1,500 miles of roads and 180 bridges in the county’s unincorporated areas, outside of cities. This road system supports more than 1 million trips every day—people traveling to work, school, and recreation; businesses and farmers delivering goods and services; and emergency responders reaching people who need assistance. The system also provides pathways for essential public utilities. Unincorporated-area roads are part of a larger transportation network, and people from all parts of the county—and beyond—use them; about half the trips on the high-volume roads originate in cities and other counties.

Built over many generations, county roads and bridges are in increasingly poor condition, while annexations, lower property valuations and a decline in gas tax revenue have caused a decrease in funding for maintenance and improvements. The amount of revenue available for the county road system is projected to be an average of \$90 million per year over the 10-year period of this plan, while the annual investment necessary to maintain the current condition of the existing road system is about \$200 million per year.

This Strategic Plan for Road Services (SPRS) provides policy guidance for managing the current situation and presents information about the county road system needs, associated costs, and alternative service levels to inform the public and policymakers as future service and funding options are considered.

Why this plan was prepared

This plan covers the years 2014 through 2024. It replaces the 2010 strategic plan earlier than originally planned, mainly because key assumptions made in 2010 were not borne out in the following years. The 2010 plan assumed that cities would complete annexations of urban growth areas served by Road Services by 2015, affecting the division’s service area and the revenue it would receive. While annexations of three areas were approved, voters in two areas rejected annexation proposals.

The 2010 plan also assumed that the county road fund would decline to a low point of \$102 million after annexations. Revenues have actually been lower, declining to a projected \$85 million dollar level for 2017—even with the retention of the property tax base in the areas where annexations were rejected. Major factors in the ongoing revenue decline include decreasing receipts from property and gas taxes—major sources of funding for Road Services. The total assessed property value in unincorporated King County has fallen by more than 40 percent over the past three years, and future growth in revenues is limited by state law. Since 1991, the gas tax rate for counties has only been increased by one half of a cent. With vehicles becoming ever more fuel-efficient, King County’s gas tax revenue is expected to continue its downward trend. Annexations and declines in grant funding are also factors.

Another development since 2010 that drives an update to the plan is the division’s adoption of an asset management operational model. Road Services is developing an asset management model designed to guide the most cost-effective operating and capital investments—from maintenance through preservation and replacement. This approach has enabled the division to prepare a more accurate inventory of the maintenance, preservation and replacement needs of the road



Road Services’ ability to address these challenges is significantly constrained by a structural funding problem.

system as well as the estimated costs of meeting those needs. The division also separately analyzed the condition and location of its work facilities and identified short- and long-term facility needs.

A key finding of the division’s needs analysis is that the County’s roadway infrastructure will deteriorate and fail at a faster rate than estimated during the development of the 2010 plan. The discrepancy is in part due to an improved asset management approach to the estimates than was in place from 2008-2010. Additionally, the current analysis assumes less investment in preservation and replacement, and therefore higher lifecycle costs. (Using best industry practices for preventive repair, replacement and maintenance would reduce unplanned failures and annual costs.)



The division’s current estimate is that it would cost \$350 million annually—for a period that is longer than the life of this strategic plan—to fully address the current backlog of needs, embark on an asset management program that produces the lowest life cycle costs, address the division’s future maintenance facility needs, and systematically accomplish the road capacity, mobility and non-motorized needs identified in the Transportation Needs Report. The estimated cost in the 2010 plan was \$240 million.

Based on the recent developments and improved information about service needs and costs, this 2014 plan adjusts goals, strategies and policies developed in 2008-2009 and adopted in 2010. The 2014 plan focuses clearly on immediate operational safety needs, compliance, and maintenance and preservation of the road system.

Goals

The plan contains two sets of goals. The first set, about “what we deliver,” articulates what Road Services aspires to accomplish. These goals are listed in priority order below. Current revenues are insufficient to fully address the first three, top-priority goals. No resources are currently available to pursue goals 4 and 5; they would be addressed only if additional resources become available.

Goal: What we deliver	1	Prevent and respond to immediate operational life safety and property damage hazards.
	2	Meet regulatory requirements and standards in cooperation with regulatory agencies.
	3	Maintain and preserve the existing roadway facilities network.
	4	Enhance mobility (movement of people and goods) by facilitating more efficient use of the existing road system.
	5	Address roadway capacity.

The second set of goals is about “how we deliver.” Achievement of these goals is less dependent on funding, and they are all given equal importance. These goals are:

Goal: How we deliver	1	Exercise responsible financial stewardship.
	2	Provide responsive customer service and public engagement.
	3	Enhance the use of risk assessment in decision-making.
	4	Support the effectiveness of our workforce in a rapidly changing environment.



The plan outlines three alternative service level scenarios for working toward the goals. None of these scenarios includes capacity improvements since those are the lowest priority and beyond the current funding capability.

Scenario 1, “Maximize asset lifecycles,” would fully implement an asset management methodology and address the backlog of preservation and maintenance needs, but would not have sufficient funding to accomplish any road capacity, non-motorized or other road enhancement needs. This scenario would improve the current condition of roads and bridges, allow a cost-effective planned maintenance approach, and improve emergency response capability. *This approach would require an estimated \$330 million annually.*

Scenario 2, “Moderate the decline in asset condition,” would maintain current asset condition in the short term and make modest investments in road and bridge replacement, but would not optimize the lifecycle of assets. The condition of roads and bridges would remain similar to 2014 levels in the near term, and major deterioration would be delayed. However, deterioration inevitably would occur over time and eventually would have to be addressed. Pavement condition and drainage systems would experience the most noticeable impacts; pavement condition scores would trend downward and more localized flooding could occur due to deferred maintenance and preservation of drainage infrastructure. The public would likely experience more temporary road closures due to unscheduled repairs. Staff and equipment would remain adequate to maintain the current level of emergency response. *This approach would require an estimated \$200 million annually.*

Scenario 3, “Manage risk in a declining system,” would not provide sufficient infrastructure maintenance and preservation to sustain the current condition of the system. This approach would pose difficult choices since the system would eventually deteriorate to failure conditions. Some bridges and roads would eventually have to be load-limited to prevent damage. Speed reductions on some roadways, more lane closures for emergency repairs, and increased congestion would eventually occur. Some complete closures of roads and bridges might be necessary. Maintenance would be primarily reactive in nature, and the associated needs and costs would accelerate as infrastructure conditions deteriorated. Emergency and storm response capability would be limited due to lack of resources. *This approach would require an estimated \$110 million annually.*



Annual road revenues are currently forecast to be about \$90 million on average, or \$20 million less than the estimated \$110 million needed annually even for the least costly scenario, 3. This means that failures will happen at an accelerated rate and the division will not have the resources to even appropriately manage the decline of the system. As a result, over the next 25 years, 35 bridges may have to be closed, 72 miles of roadway will deteriorate to the point of significant restrictions or closures (speed reductions or closures of lanes or full roads), and 65 percent of the stormwater system will be at risk of failure, causing sinkholes, local flooding, and washouts that can keep roads closed for weeks, months or years.

New guidance

In light of the insufficient funding, the 2014 plan provides new guidance for managing the decline of the road system. Key changes are:

- **Safety goal changed to first priority**—The 2010 plan established “meet regulatory requirements and standards” as priority one and “meet core safety needs” as priority two, with the assumption that the division would have adequate resources to accomplish both. With resources now more limited than expected, the updated plan changes safety to first priority and recognizes that the County may need to work with regulatory agencies to seek modifications, exceptions, or deferrals to optimize regulatory outcomes within available resources. Maintenance and preservation remain the third priority. Although the goals of enhancing mobility and addressing roadway capacity represent core functions of the Road Services Division, they are the lowest priorities and are unfunded in the current environment.
- **Utility contributions**—The road right-of-way serves as a pathway for delivery of water, sewer, stormwater control, energy, and communication utilities. A new policy states that all providers of these services should pay for their use of the right-of-way, and their appropriate share of any repairs, to help preserve these vital corridors. Currently only water, energy and communication utilities have agreements with the County to make repairs.
- **Road failure guidance**—New policies have been added to provide guidance when the division is faced with road failures. These include direction for development of a process to consider long-term closures and potential sharing of restoration costs with other agencies or property owners when their infrastructure has contributed to a road failure or they would benefit from the repair.
- **Reduce “orphaned” urban roads**—The plan contains new guidance about transferring responsibility for isolated urban roads to the adjacent city. These include half-streets (i.e., one side owned by a city and the other by the County), roads completely surrounded by city territory, and roads located on the urban growth boundary where consistent urban services are most appropriate.
- **Elevate risk management**—Since a significant portion of the short- and long-term decisions facing Road Services will focus on risk management, the division will continue working with the County’s Risk Management office to develop a plan that evaluates the risks associated with maintenance and engineering activities. The plan will be integrated with the asset management

strategy, and initially used at the policy level. Additionally, the goal is to further refine the strategy to guide decision making on a day-to-day basis by field personnel and engineering staff.

Next steps

To address the policies and goals in this plan, the County should at a minimum deliver the level of service described in Scenario 1: Maximize asset lifecycle.

This scenario calls for the County to significantly reduce the backlog of maintenance and preservation needs, improve the condition of the entire roadway system, and manage the system's assets at the lowest lifecycle costs. However, given existing and projected revenue shortfalls, the Road Services Division will face difficult decisions. Without additional revenue, the County will strive to provide a basic level of road services in the unincorporated area, attempting to prevent rapidly escalating repair costs and infrastructure failures.

Road Services should also continue to pursue efficiencies, improve the organization of service delivery, and seek funding solutions. Specific steps include the following:

- Continue using performance management business practices to achieve efficiencies.
- Continue using a data-driven asset management approach, employing new information technology to analyze asset conditions and make data-driven decisions about service and investment priorities.
- Continue to streamline the division's organization as annexations occur, shifting away from programs designed to serve urban areas and from large capacity projects, and moving toward a greater emphasis on rural safety and preservation services and investments.
- Continue city contract work when it involves specialty work that small jurisdictions need. Limit commitments to cities to perform general maintenance work that would detract from the County's ability to perform basic work on county roads.
- Identify potential funding choices that are consistent with County and regional plans, and coordinate with others to help resolve the structural transportation funding problem.
- Ensure that the agency is right-sized and has a flexible, efficient organization that enables us to meet the changing demands of the road system and respond to emergencies.

Conclusion

County roads and state highways are critical for the movement of people, utilities, goods and services throughout the most urban and dense county in the state. These roads, built generations ago, are failing, and there is insufficient funding to keep the system functioning at current levels. In response to a loss of one-third of the revenue for county roads and bridges, the County has cut costs and achieved new efficiencies, but revenue reductions of this magnitude ultimately require cuts in services. This plan will help guide County employees to provide the most critical services and make difficult decisions should the funding shortfall continue. If additional revenue becomes available to support roads, this plan will help the County prioritize and organize the delivery of services.