



KING COUNTY AUDITOR'S OFFICE

DECEMBER 1, 2020



Second Follow-up on Road Services Division Pavement Preservation

Despite a significant trend of funding decline since 2012, the Road Services Division (RSD) has instituted all audit recommendations from our 2014 audit, greatly increasing its ability to make smart decisions with scarce pavement management resources. King County continues to experience a roads funding crisis. A lack of revenue is significantly impacting the County's ability to maintain and improve its unincorporated network of roads and bridges. Despite county efforts this past biennium, no new funding sources have materialized. Securing sustainable funding sources will remain a top priority for RSD, according to its newest business plan.

RSD has compared its pavement maintenance efforts to adjacent counties, reviewed technology alternatives, and decreased expensive pavement overlays to further the life of county-owned roads. During the upcoming biennium, for example, RSD only has enough funding to resurface 12 to 16 miles of roads, as compared to its budget in the 2019-2020 biennium in which it resurfaced 57 miles of roadway. As such, by implementing the recommendations from our audit of the RSD pavement preservation program, RSD has been able to target appropriations toward the greatest needs—with a vehicle in place to prioritize investments using the best technique.

We cited in the last follow-up report that to finish implementing the remaining recommendations, RSD needed to formally document its decision process to capture institutional knowledge from its evaluation of a variety of pavement treatment processes and its improved life cycle cost analysis. RSD has instituted this recommendation.

Of the seven audit recommendations:

 <div>7 DONE</div>	 <div>0 PROGRESS</div>	 <div>0 OPEN</div>
Fully implemented Auditor will no longer monitor.	Partially implemented Auditor will continue to monitor.	Remain unresolved Auditor will continue to monitor.

Please see below for details on the implementation status of these recommendations.

Recommendation 1

On January 11, 2019

DONE



Recommendation 2a

On January 11, 2019

DONE



Recommendation 2b

On January 11, 2019

DONE



Recommendation 2c

DONE



As RSD defines its new pavement management strategies, it should document how it will identify and apply the most cost-effective approaches by developing and applying criteria for when and where to use each resurfacing options effectively.

STATUS UPDATE: RSD introduced spot repairs and road patching to a greater degree than at the time of our audit, which is less expensive per mile than other overlay alternatives. Since 2014, RSD has spent an average of \$1 million per year on spot repairs and road patching of high hazard, distressed pavement areas.

In our last report, we stated that RSD should document its decision-making practices using more formal cost and performance data. In response to our recommendation, RSD created a matrix—which it adopted as an internal best practice—to compare basic criteria with resurfacing options to best represent the most cost-effective pavement preservation work options.

IMPACT: Implementing a decision matrix based on cost effectiveness and performance data will allow RSD to ensure that it is making the most cost-effective choices for pavement preservation.

Recommendation 2d

DONE





As RSD defines its new pavement management strategies, it should document how it will identify and apply the most cost-effective approaches by documenting and applying a formal process for considering developments in overlay and seal technologies.

STATUS UPDATE: RSD has explored several new approaches using alternatives to past practices. RSD met with Snohomish County and Washington State Department of Transportation representatives to observe different technology chip seal operations. Further, the Small Materials Lab within RSD performed a best practice review of chip sealing. Several alternative pavement preservation methods were evaluated by RSD, including Kevlar fibers, fog or slurry seal, recycled shingles, precoated chips, and recycled paving. In addition, RSD applied for and received a grant in 2014 to apply a high-friction surface treatment at 18 locations conducive to vehicle accidents—and this new treatment is performing well. RSD decided that newer technologies, such as Kevlar fibers, are expensive for their life cycle. Based on testing, RSD also determined that slurry seal is best applied on lighter traffic residential streets. However, use of recycled shingles at two locations is holding up very well and has future potential applications in King County preservation work.

By completing this recommendation and developing a decision matrix which institutionalized lessons from reviewing alternatives, RSD has confirmed the preservation technologies tool kit is available for use in its pavement preservation work. RSD documented its conclusions in a decision matrix to capture institutional knowledge from its evaluation of a variety of pavement treatment processes.

IMPACT: Testing and implementing preservation approaches allows RSD to ensure that it is making the most cost-effective choices for pavement preservation.

Recommendation 3	January 11, 2019	DONE	
Recommendation 4	January 11, 2019	DONE	

Michael Bowers conducted this review. If you have any questions or would like more information, please contact the King County Auditor’s Office at KCAO@KingCounty.gov or 206-477-1033.