



King County

**Road Services Division
2021-2022 Business Plan**

April 2020



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Executive Summary

Background

The Road Services Division is responsible for almost 1,500 miles of unincorporated roadway, 182 bridges, and related infrastructure such as sidewalks and pathways, bike lanes, guardrails, drainage facilities, traffic control equipment, and traffic cameras. This widespread infrastructure network enables travel between cities and other counties, as well as within unincorporated communities. County roads and bridges are necessary links for the movement of people, utilities, and goods throughout the most urban and dense county in the state. These roads and bridges, many built generations ago, are failing and there is insufficient funding to maintain and replace them. Regional and local connectedness hinges not just on high volume arterials, but on many miles of ordinary and unremarkable roads, culverts, and bridges that most travelers take for granted.

Strategic Context for 2021 – 2022 Biennium

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 the Roads Division.

As in the last biennium, in 2021-2022, the county will have limited capacity to deliver road services to customers. Conditions on the road system will continue to deteriorate and Roads will focus finite resources on critical safety needs. A road and bridge system in decline impacts Roads' customers, who take more than one million trips on King County's unincorporated road network each day.

The structural funding crisis for Roads, which has been under discussion for over a decade, has reached a critical juncture. The 2021-2022 Road Fund contribution to the capital program will be 22% smaller than the last biennium. A smaller capital investment program reduces Roads' ability to mitigate risks on the road system and preserve infrastructure. Out of this smaller capital investment, Roads will fund the highest priority safety programs and projects first. This leaves less funding available for preservation projects and programs such as pavement overlay.

Once funding for capital improvement projects is exhausted, which could take place as early as 2029, Roads will be forced to cut into its operating program, which includes emergency and storm response, roadway and drainage repairs, and bridge maintenance. Without additional funding, it will become increasingly difficult to monitor, maintain and operate the system of bridges and roads in unincorporated King County.

2021 – 2022 Key Investments

Preparation of the 2021-2022 agency proposed budget reflected a systematic assessment of road network safety using a risk-based framework to determine how to allocate limited funding. Roads will continue to use a risk-based approach, with safety as the highest priority, to manage the aging and deteriorated road network. The proposed 2021-2022 budget continues to provide a sustained level of maintenance and operations service in a manner that optimizes benefits and outcomes within Roads' constrained funding environment.

Roads remains committed to supporting racial and economic equity through its maintenance, operations, capital planning, and project delivery processes. Whenever possible, the division

seeks grant funding to supplement existing revenue sources to meet capital project needs in traditionally underserved communities. Roads' maintenance and operational activities take place throughout unincorporated King County, and a portion of the proposed 2021 – 2022 capital investments, including high risk paving, grant-funded sidewalk construction, Americans with Disability Act Transition Plan implementation, will benefit traditionally underserved communities.

Proposed Maintenance and Operations Investments

Sustaining core maintenance and operations services for customers will be Roads' primary focus in the 2021 - 2022 biennium. Maintenance and operations functions are the foundation on which the safety and usability of the entire road system depends. These core services are critical to keeping the road system safe and open for use. During 2021 – 2022, Roads proposes to hold maintenance and operational investment levels steady, consistent with 2019 – 2020 levels. The division's current organizational structure is optimized to best meet the agency's top strategic goals of safety and regulatory compliance, while ensuring that the proper staff expertise and capacity are available to respond to both planned work and unplanned road/bridge failures and emergencies. Roads is also continually seeking to improve the manner in which it provides core services to its customers.

These types of investments are cost effective and will help ensure the unincorporated King County road system continues to function safely and sustains local and regional mobility for people and goods. Funding these maintenance and operations services ensures the maximum useful life and benefits of the previous five to ten years of preservation and safety investments. Since 2013, unincorporated county road collision rates and their severity have remained relatively stable. The total number of collisions declined between 2017 and 2018, the most recent year of collision data available. These trends demonstrate Roads' effective investment of its finite resources to address the critical safety and operational needs of the road network.

Proposed Capital Investments

Roads' proposed 2021 – 2022 capital investments reflect project ranking using standardized criteria, rigorous technical analyses, and assessment of available funding. The upcoming biennial capital program also reflects continued progress on, or completion of, several ongoing capital projects from the last biennium, to preserve existing investments, fulfill grant commitments, and ultimately realize the public benefits of those projects. However, the current dedicated revenue resources will be insufficient to address all the high priority needs.

In the initial agency proposed budget, Roads requested new resources from Real Estate Excise Tax (REET) revenue and the county's Utility Franchise Fee to help maintain the safety and functionality of the roads system. Roads was successful in receiving \$6 million from REET for the capital program, and a commitment for REET to hold and pay debt service on approximately \$28 million of general obligation bonds to fund the 2018-1019 Bridge Safety Program. Without these supplemental revenue sources, Roads would have experienced consequences in the upcoming biennium, such as:

- a reduced Bridge Safety Program;
- severe reduction of the Countywide Pavement Preservation Program;
- reductions in Countywide Bridge Priority Maintenance;

During 2021 – 2022, Roads also proposes to continue to leverage Surface Water Management fee revenues to support: 1) critical drainage preservation work that protects roads from failure and promotes improved water quality, and 2) culvert replacement fish passage work.

Conclusion

As the roads funding crisis reaches a critical juncture, a data-driven risk management approach provides the foundation for the Road Services Division’s 2021-2022 budget request. This approach takes into consideration the most recent safety and collision trends and the current and anticipated condition of Roads’ infrastructure assets. Without additional funding, Roads’ ability to respond to emergent safety issues, hazards, risks and threats, will be reduced in the coming years. As a consequence, more roads and bridges will likely need to be restricted or closed as their condition deteriorates.

Recent attempts to develop new sources of roads funding, such as a 2020 funding ballot measure, have been eclipsed by the COVID-19 pandemic. Efforts to secure a more sustainable roads funding mechanism must continue just as soon as the county is able to turn attention back to this important issue.

Improving the transportation system is about achieving a broad range of other important objectives: preserving the environment, making the most of our neighborhoods and common infrastructure, and pursuing education, recreational and employment opportunities. Investments in mobility are integral to the creation and maintenance of our economic and social well-being.

The Regional Transportation Plan — 2018,
Puget Sound Regional Council, May 2018

Chapter 1. Strategic Context

1. Strategic Direction of the Business

Background

King County continues to experience a roads funding crisis, due to municipal annexations, the 2008 recession, declines in gas tax revenues, the effects of voter initiatives, and an aging bridge and road system. The lack of revenue is significantly impacting the county’s ability to maintain and improve roads.

A road and bridge system in decline impacts Roads customers, who take more than one million trips on King County’s unincorporated road network each day. As in the last biennium, in 2021-2022, the county will have limited capacity to deliver road services to customers. Conditions on the road system will continue to deteriorate, and Roads must focus resources on critical safety needs. Reduced service levels result in a growing backlog of infrastructure maintenance, preservation, and replacement needs. Some examples are weight restricted bridges, failing or undersized road drainage systems, roads in need of reconstruction, and other deteriorating road conditions that impact local and regional mobility.

Road Services Division

Mission

Manage the unincorporated King County road system through focused investment of available resources to facilitate the movement of people, goods and services, and respond to emergencies.

Aspirational Vision

A resilient, sustainably funded, unincorporated urban and rural road system that supports our communities and the economy by connecting people to employment, education, commerce and recreation, and is well-integrated with the regional transportation network. This is achieved through a lowest-lifecycle-cost approach to effective infrastructure maintenance, preservation, and improvement.

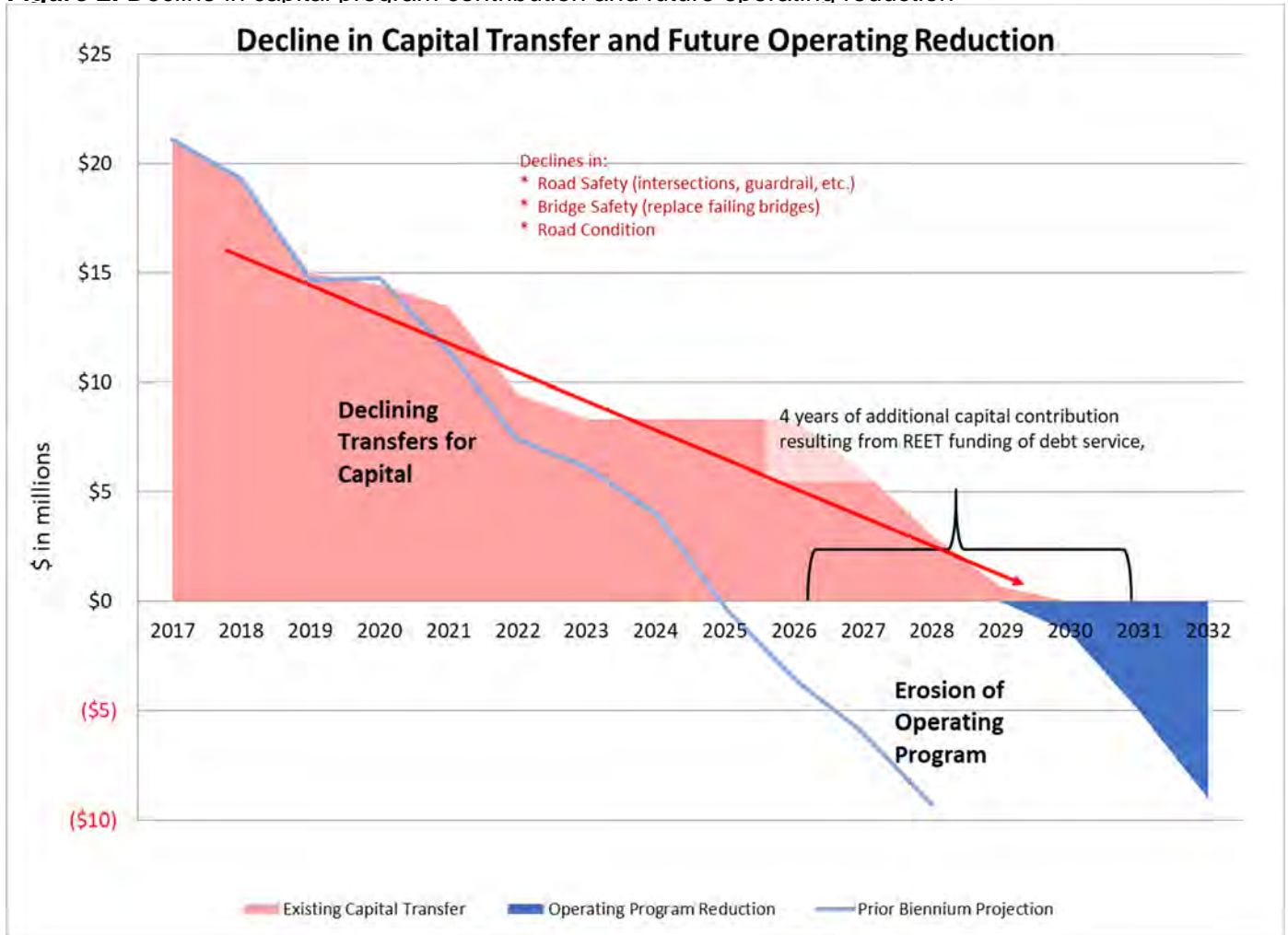
Figure 1. Strategic Goals from *Strategic Plan for Road Services* (2014)



Key Challenge

The structural funding crisis for Roads, which has been under discussion for over a decade, has reached a critical juncture. Once funding for capital improvement projects is exhausted, Roads will be forced to cut into its operating program, which includes emergency and storm response, roadway and drainage repairs, and bridge maintenance (see Figure 2). Without additional funding, it will become increasingly difficult to monitor, maintain and operate the system of bridges and roads in unincorporated King County.

Figure 2. Decline in capital program contribution and future operating reduction



Highlights of the 2021- 2022 proposed budget:

- Sustaining core maintenance and operations services for customers will be the primary focus in 2021-2022.
- These core services are critical to keeping the road system safe and open for use.
- The 2021-2022 Roads Fund contribution to the capital program will be 22% smaller than last biennium.

- A smaller capital investment reduces Roads' ability to mitigate risks on the road system and preserve infrastructure. Out of this smaller capital investment, Roads is funding the highest priority safety programs and projects first. This leaves less funding available for preservation projects and programs like pavement overlay.
- Despite county efforts, no new funding source has materialized since the last biennium.
- An unincorporated area levy-lid lift ballot measure (Proposed Ordinance 2020-0110) is currently on hold at the County Council due to the COVID-19 pandemic.
- Roads has spent the last decade cutting costs, finding efficiencies, identifying new ways to do business, and engaging internal and external stakeholders, regional partners, and elected officials in discussions about the solutions to the structural funding gap. The Cost Reduction Proposals and Targets section in this plan provides additional information on Roads' cost efficiencies.
- Efficiencies and cost cutting measures have certainly helped, but they cannot solve the structural funding crisis, and the hopes of a 2020 funding ballot measure have been eclipsed by the COVID-19 pandemic.

Maintenance and operations functions are the foundation on which the safety and usability of the entire road system depends.

Addressing this challenge

Roads proposes to hold steady on the 2019-2020 level of maintenance and operations investments within the 2021-2022 biennium. These types of investments are cost effective and will help ensure that the unincorporated King County road system continues to function safely and sustain local and regional mobility for people and goods. Since 2013, unincorporated county road collision rates and their severity have remained relatively stable. The total number of collisions declined between 2017 and 2018, the most recent year of collision data available. These trends demonstrate Roads' effective investment of its finite resources to address the critical safety and operational needs of the road network.

Puget Sound Regional Council's (PSRC) 2018 Regional Transportation Plan addressed the importance of maintaining and preserving the region's existing transportation infrastructure:

"Choosing not to maintain and preserve the region's existing transportation assets can have serious economic, environmental, performance, safety, and financial consequences down the line. The region commits as a top priority to fully funding the maintenance, preservation, and operation of existing infrastructure in a safe and usable state." (Puget Sound Regional Council, 2018)

Deferred maintenance also leads to an exponential increase in the cost to repair and sustain roads in the future. According to the American Association of State Highway and Transportation Officials, every dollar spent to keep a road in good condition avoids six to fourteen dollars

needed later to rebuild the same road once it has deteriorated prematurely. Essentially, the infrastructure experiences a shorter lifecycle, and therefore, a higher lifecycle cost.

Additional specific benefits of the Roads maintenance and operations investment strategy include:

- Maximizing risk mitigation/reduction strategies to maintain the safety and functionality of the existing road and bridge infrastructure through activities such as the following:
 - Pavement surface maintenance such as pothole patching and crack sealing to preserve prior pavement condition investments and maximize the useful life of these pavement investments
 - Bridge maintenance activities such as deck repairs and bridge cleaning to preserve longevity of these bridges into the future
 - Vegetation control to maintain driver sightlines to prevent crashes
 - Maintaining shoulders and ditches to keep water flowing off the road and prevent hydroplaning
 - Maintain pavement markings and traffic regulatory signs to guide drivers and promote safety
- Sustaining emergency response capability (especially for snow, flooding, and slides)
- Delaying or moderating bridge and road condition decline
- Routine maintenance and operations protect existing investments in the county's transportation infrastructure assets and will also have the greatest short and long-term benefits both financially and operationally,

Roads proposed 2021 – 2022 budget also reflects continued progress on, or completion of, several ongoing capital projects from the last biennium in order to preserve existing investments, fulfill grant commitments, and ultimately realize the public benefits of those projects.

Roads will continue to use a risk-based approach to manage the aging and deteriorated road network, with safety as the highest priority. However, the current dedicated revenue resources will be insufficient to address all the high priority needs. In the initial agency proposed budget, Roads requested new resources from Real Estate Excise Tax (REET) revenue and the county's Utility Franchise Fee to help maintain the safety and functionality of the roads system. Roads was successful in receiving \$6 million from REET for the CIP, and a commitment for REET to hold and pay debt service on approximately \$28 million of general obligation bonds to fund the 2018-2019 Bridge Safety Program.

Without additional funding, Roads would have experienced consequences such as:

- a reduced Bridge Safety Program;
- severe reduction of the Countywide Pavement Preservation Program;
- reductions in Countywide Bridge Priority Maintenance;

Roads also proposes to continue leveraging Surface Water Management fee revenues to support: 1) critical drainage preservation work that protects roads from failure and promotes improved water quality, and 2) culvert replacement fish passage work. Efforts to secure a more sustainable roads funding mechanism must continue just as soon as the County is able to turn attention back to this important issue.

A data-driven risk management approach underpins Roads 2021-2022 budget request. This approach takes into consideration the most recent safety and collision trends and the current and anticipated condition of Roads' infrastructure assets.

2. Equity and Social Justice

Background

Roads is responsible for almost 1,500 miles of roadway and 182 bridges dispersed throughout over 1,700 square miles of unincorporated service area in rural unincorporated King County. All unincorporated communities receive a broad spectrum of road safety and maintenance services, with needs determined using risk analyses, consideration of asset condition, and engineering and safety criteria based on national standards. Similar criteria drive the identification of capital projects and programs. Service requests from the community are one important way to identify road network needs for evaluation using the analyses described above. Roads receives over 7,000 customer calls and emails requesting service annually.

a. Equity impact analysis of the base budget and current operations, services, and programs.

Due to chronic underfunding, Roads focuses its limited resources on operational safety, regulatory compliance, and the maintenance and preservation of infrastructure. Roads also uses the county's Equity Impact Review process to identify and consider the community and demographic characteristics affected by funding priorities. When funded projects move towards implementation, additional localized notification and community engagement occurs.

The equity impact analysis for 2021 - 2022 includes a set of maps that provide a transparent and concise summary of underlying demographic information associated with: (1) the location of the unincorporated King County road and bridge system; (2) the location of capital investments constructed in 2019-2020; (3) the location of proposed 2021- 2022 capital investments; and (4) maintenance and operational work orders completed during 2019 and 2020. Together, this map set presents a composite view of the relationships among Roads targeted investments and underlying community characteristics. Appendix A includes these maps.

Roads remains committed to advancing racial and economic equity through its capital planning and project delivery processes. All Roads capital projects and programs are reviewed, as mandated by the King County Green Building Ordinance reporting process, using nine detailed Equity and Social Justice criteria. To ensure consistency across projects and programs, Roads has trained over 40 staff to conduct a standardized approach that advances Equity and Social Justice outcomes at the project and program level, whenever possible. Equity and Social Justice outcomes from this standardized approach include: (1) preparation of an Equity and Social Justice work plan for each capital project, early in the pre-design phase to guide project

design and delivery in a manner that advances Equity and Social Justice outcomes when/if feasible; (2) enhanced and expanded Communication and Engagement Plans to reflect opportunities to more deeply engage communities that may be positively or negatively impacted by a capital project or program; (3) equity impact review of the project; enhanced diversity in project teams; and (4) pro-equity materials sourcing and contracting.

b. Community engagement and employee feedback.

As a division within the Department of Local Services, Roads supports the mission that “King County Local Services works to promote the well-being of residents and communities in unincorporated King County by seeking to understand their needs and delivering responsive local government services.” Roads is dedicated to working with communities to develop new and better ways to serve the unincorporated areas of King County. This collaboration and feedback loop of engagement allows Roads to monitor the performance of products and services delivered. Furthermore, Roads is committed to promoting equal access to, and availability of, information and services for all county residents by designing communications and public engagement processes that are culturally relevant for diverse communities, including communities whose residents have limited English proficiency. Appendix B provides additional detail on Roads community engagement and employee input.

3. Risk Profile

Road Services allocates resources using a risk management approach that balances the likelihood, consequences, and costs of infrastructure failure and potential solutions to achieve the following desired outcomes (in priority order):

- 1) Protecting life safety
- 2) Preventing private property damage
- 3) Preventing asset damage
- 4) Preventing environmental damage
- 5) Preserving mobility

In addition to operational risks, Roads assesses and mitigates regulatory compliance, reputational, and other business risks.

Safety needs drive the agency’s budget, business plan, and daily operations. The 2021-2022 budget process applied a systematic assessment of road network safety and used a risk-based framework to determine how to allocate limited funding. Roads ranked projects using standardized criteria and rigorous technical analysis and selected and scheduled efforts based upon these rankings and available funding.

Primary Risks

Identifying risks is an ongoing component of the division’s work program. As noted earlier, King County continues to experience a roads funding crisis, due to municipal annexations, the 2008 recession, declines in gas tax revenues, the effects of voter initiatives, and an aging bridge and

road system. The lack of revenue is significantly impacting the county’s capacity to maintain and improve roads.

Summarized below is a risk register of key risks faced by the division. While most of these risks exist for Roads and other similar transportation agencies regardless of funding level, insufficient funding clearly makes it more difficult to mitigate risk.

Key Risks Faced by Roads
<ul style="list-style-type: none"> • Injury to public due to infrastructure failure, defect, design or maintenance issue
<ul style="list-style-type: none"> • Major property damage due to infrastructure failure, defect, design or maintenance issue
<ul style="list-style-type: none"> • Emergency response time for police/fire compromised by closed, load limited, or detoured routes
<ul style="list-style-type: none"> • Increased travel times or reduced mobility for traveling public, freight, and transit due to road/bridge closures or weight limitations
<ul style="list-style-type: none"> • Difficulties responding to and recovering from large scale emergency, such as major earthquake
<ul style="list-style-type: none"> • Snow and ice, storm or flooding impacts road infrastructure, facilities, or response capacity, resulting in private property damage, personal injury, or restrictions on the transportation system
<ul style="list-style-type: none"> • Insufficient financial resources to adequately manage safety and preservation of the road system
<ul style="list-style-type: none"> • Market volatility, rising construction costs, permit delays, ROW acquisition or other external factors reducing Roads’ ability to deliver projects on time and within budget
<ul style="list-style-type: none"> • Water that is not sufficiently managed can damage or destroy roads.
<ul style="list-style-type: none"> • Key road arterials closed on Vashon Island resulting from failure of seawalls and climate change/sea level rise
<ul style="list-style-type: none"> • Inadequate regulatory compliance resulting in fines, penalties, or legal action
<ul style="list-style-type: none"> • Difficulty recruiting or retaining staff due to funding instability, competition, or lack of qualified applicants, resulting in insufficient staffing levels or expertise needed to complete work program
<ul style="list-style-type: none"> • Loss of institutional knowledge through retirements or other staff departures and/or lack of adequate work process documentation
<ul style="list-style-type: none"> • On the job injury to employees
<ul style="list-style-type: none"> • Loss of confidence in Roads due to unanticipated events or lack of capacity to meet expectations of public or county management/elected officials

Risk Mitigation Strategies

Roads has dozens of ways that it acts to mitigate the business risks above, and a full discussion would require a separate document. Several illustrative mitigation strategies are indicated below for each key risk. This is not an exhaustive set of strategies and is intended to highlight some of the ways Roads addresses key risks.

Risk: Injury to public due to infrastructure failure, defect, design or maintenance issue

What we're doing: The majority of Roads' maintenance and capital activities address this safety risk. Some key mitigation strategies include the bridge safety program, culvert replacement/fish passage program, road surface repairs and preservation, bridge repairs and replacement, traffic signal maintenance, and intersection improvements.

Risk: Major property damage due to infrastructure failure, defect, design or maintenance issue

What we're doing: Some ways Roads mitigates the risk of personal and real property damage include: drainage system repairs and improvements; culvert replacement/fish passage projects; and monitoring of common slide zones.

Risk: Emergency response time for police/fire compromised by closed, load limited, or detoured routes

What we're doing: Some key mitigations include: the Bridge Safety Program, which minimizes detours by replacing load limited bridges; and drainage maintenance activities and capital investments that lessen the likelihood of slides, washouts, and road failures resulting in closures and detours. Communications systems and tools, such as Road Alert and the My Commute Map, provide timely route information for first responders and all users of the road system.

Risk: Increased travel times or reduced mobility for traveling public, freight, and transit due to road/bridge closures or weight limitations

What we're doing: The mitigation strategies above also apply to the traveling public, freight, and transit users.

Risk: Difficulties responding to and recovering from large scale emergency, such as major earthquake

What we're doing: A primary mitigation strategy is possessing sufficient trained and prepared technical and frontline staff with appropriate expertise, as well as having equipment and materials in place to be able to respond to emergency events. Roads' response to emergency events often includes dispatching staff to inspect bridge and road conditions as well as physically closing or restricting access, as needed, in response to damaged, flooded, or blocked roads or bridges.

Risk: Snow and ice, storm or flooding impacts road infrastructure, facilities, or response capacity, resulting in private property damage, personal injury, or restrictions on the transportation system

What we're doing: Strategies include investments in drainage maintenance and improvements, culvert replacement/fish passage, ditch maintenance, monitoring of common slide areas, and operational emergency response activities.

Risk: Insufficient financial resources to adequately manage safety and preservation of the road system

What we're doing: Roads continues to work with regional partners to pursue new and sustainable funding sources to address the structural funding gap, while continuing to educate stakeholders regarding the scope of unmet needs and related short/longer term consequences for the road system and its customers.

Risk: Market volatility, rising construction costs, permit delays, ROW acquisition or other external factors reducing Roads' ability to deliver projects on time and within budget

What we're doing: One primary mitigation strategy is the Roads capital project delivery office, which improves internal technical capacity to deliver projects on time and within budget, while being responsive to market volatility and other project-level risks. Roads also employs a centralized capital project database system (PRISM) to support timely reporting, information sharing and project tracking.

Risk: Water that is not sufficiently managed can damage or destroy roads

What we're doing: Drainage maintenance investments promote positive drainage of water away from the roadway, thereby reducing standing water that is a risk to drivers. Drainage maintenance includes the cleaning of clogged culverts, ditches, and other drainage assets, which when left unmaintained will ultimately damage the structural stability of the road. Investing in drainage capital projects is another important strategy, including replacing undersized culverts. Investing in drainage maintenance and capital projects is a smart approach to extending the life of the road network.

Risk: Key road arterials closed on Vashon Island resulting from failure of seawalls and climate change/sea level rise

What we're doing: Roads incorporates best available science related to climate change and sea level rise into its capital planning and delivery processes, as directed by King County's Strategic Climate Action Plan. Road segments and related sea wall structures that may be impacted in the future by sea level rise, are identified within the King County Transportation Needs Report, a 20-year plan that identifies unfunded project needs. In the near term, Roads employs a set of strategies to communicate road closure or restrictions to the traveling public, as a mitigation strategy for road segments that are flooded or at risk from sea level rise.

Risk: Inadequate regulatory compliance resulting in fines, penalties, or legal action

What we're doing: Roads retains in-house staff with expertise to ensure that capital and maintenance investments meet local, state and federal regulatory mandates associated with water quality, endangered species, environmental review, cultural resources and other topical areas. Consultants are used when necessary to augment staff capacity or expertise.

Risk: Difficulty recruiting or retaining staff due to funding instability, competition, or lack of qualified applicants, resulting in insufficient staffing levels or expertise needed to complete work program

What we're doing: Roads partners with trade schools and educational institutions to access emerging trades workers and professionals who are interested in entering the public sector. Other strategies include succession planning, and providing training, mentorship, and stretch assignments. Roads continues to use employee survey results

and other feedback tools to assess employee engagement and to improve the ways in which the agency recruits and retains its staff resources.

Risk: Loss of institutional knowledge through retirements or other staff departures and/or lack of adequate work process documentation

What we're doing: A primary strategy to address this risk is to continue to document work processes, cross-train staff, and establish standard work, protocols and procedures, as a component of broader succession planning.

Risk: On-the-job injury to employees

What we're doing: Roads provides safety training, personal protective equipment, and other resources to promote workforce safety across the agency. Roads also has a dedicated division safety program coordinator who facilitates these efforts and is available to respond when an incident occurs.

Risk: Loss of confidence in Roads due to unanticipated events or lack of capacity to meet expectations of public or county management/elected officials

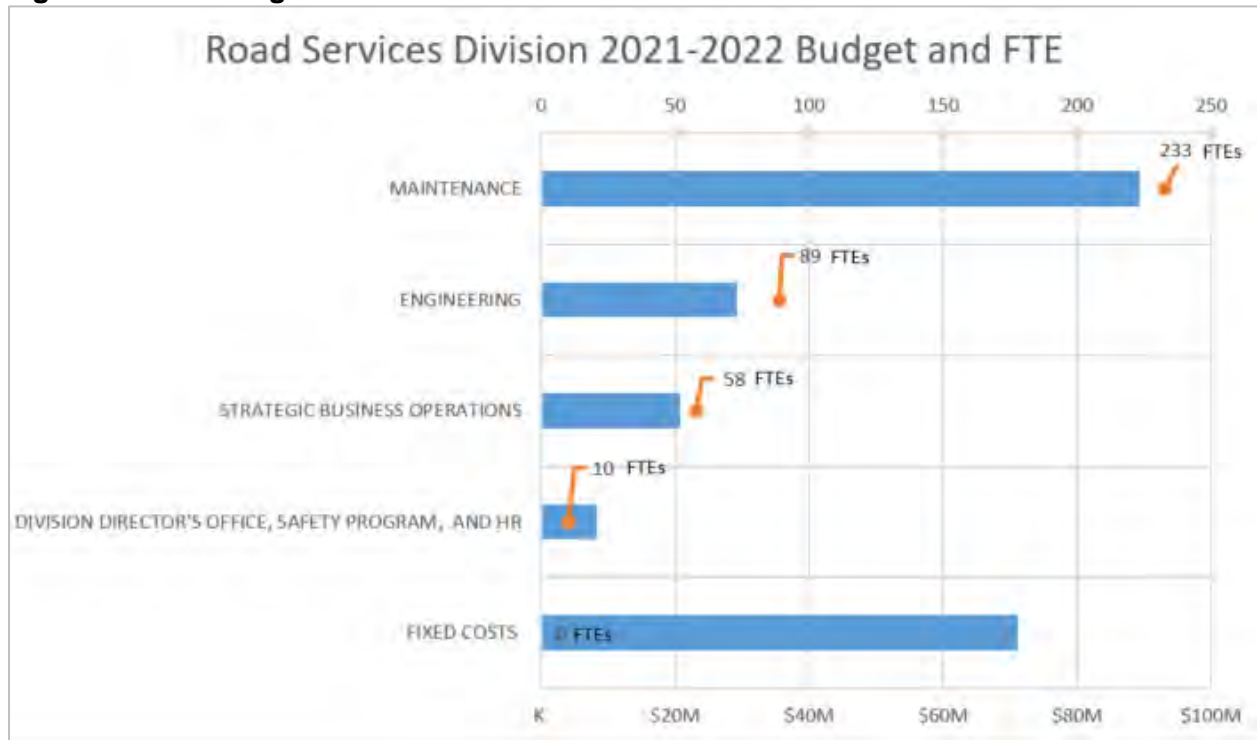
What we're doing: Roads reputation is fortified by its committed workforce and agency culture that strives to maximize finite budget resources on behalf of sustaining a safe and functional unincorporated King County road system. The COVID-19 pandemic has demonstrated Roads employees' resilience and ability to adapt. Timely, clear and proactive communications with county management, elected officials, and the public also helps to mitigate this risk.

Chapter 2. Operations and Costs

The division’s organizational structure consists of the Director’s Office and three sections: Maintenance; Engineering Services; and Strategic Business Operations. Overall, the division’s organizational structure is optimized to best meet the agency’s strategic plan top goals of safety and regulatory compliance, and to ensure that the proper staff expertise and capacity are available to respond to both planned work and unplanned road/bridge failures and emergencies. Figure 2 summarizes the base budget for the 2021-2022 biennium. Figure 4 provides an overview of Roads product/asset portfolios and associated capital, maintenance and operating activities.

1. Base Budget Illustration

Figure 3. Base budget illustration



Fixed costs include: County central rates, Sheriff’s transfer, SWM fees, and debt service.

Figure 4. Roads Product/Asset Portfolio: Capital and Maintenance/Operations Activities

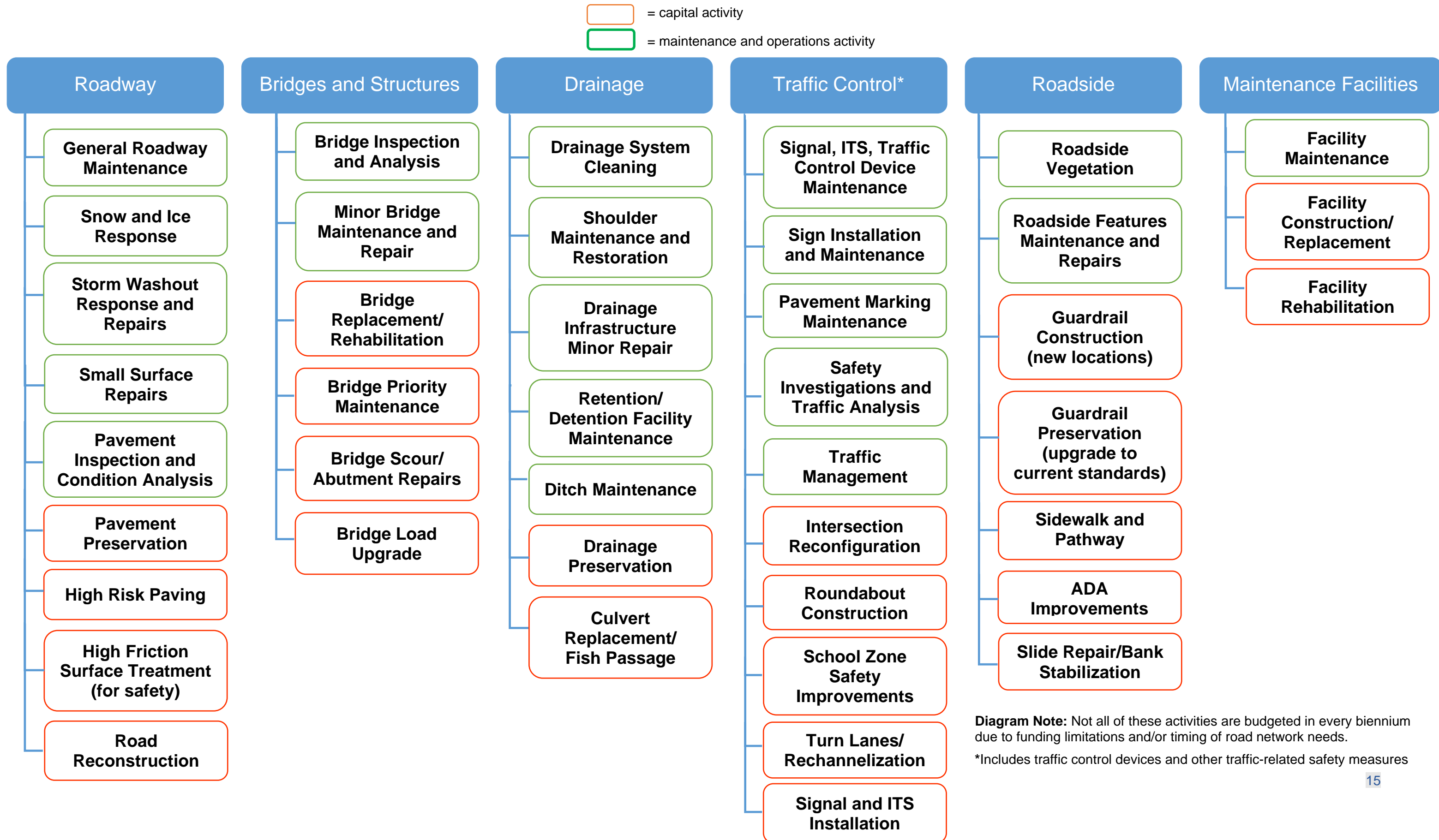


Figure 5. Road Services Division 2019-2020 CIP Spending Plan:

Portfolio	Sub-Portfolio (if applicable)	Total 2019	Total 2020	Total 2019 - 2020
Roadway				
	Pavement Preservation	9,885,689	5,606,048	15,491,737
	High Friction Surface Treatment (For safety)	15,686	155,000	170,686
	Road Reconstruction	69,991	154,000	223,991
Roadway Total		10,131,040	6,191,048	16,322,088
Bridges and Structures				
	Bridge Replacement/ Rehabilitation	1,044,880	2,326,300	3,371,180
	Bridge Priority Maintenance	1,079,563	1,268,200	2,347,763
Bridges and Structures Total		2,124,443	3,594,500	5,718,943
Drainage				
	Drainage Preservation	5,537,421	5,645,287	11,182,708
	Flood Mitigation (Such as road raising)	1,210,125	1,922,000	3,132,125
Drainage Total		6,747,546	7,567,287	14,314,833
Traffic Control				
	Signal and ITS Installation	111,409	592,297	703,706
	Intersection Reconfiguration	210,437	341,000	551,437
	Roundabout Construction	1,206,292	183,484	1,389,776
	School Zone Safety Improvements	78,845	125,000	203,845

Portfolio	Sub-Portfolio (if applicable)	Total 2019	Total 2020	Total 2019 - 2020
Traffic Control Total		1,447,310	965,781	2,413,091
Roadside				
	Guardrail Construction (New locations)	108,193	555,000	663,193
	Guardrail Upgrade (To current standards)	3,125,439	1,341,000	4,466,439
	Sidewalk and Pathway Construction	225,086	375,000	600,086
	Slide Repair/ Bank Stabilization	457,226	540,000	997,226
Roadside Total		3,915,943	2,811,000	6,726,943
Maintenance Facilities				
	Facility Construction/ Replacement	96,529	760,000	856,529
	Facility Rehabilitation	446,209	2,025,000	2,471,209
Maintenance Facilities Total		542,738	2,785,000	3,327,738
Quick Response				
	2019-2020 / 2021-2022: Quick Response	2,569,967	526,600	3,096,567
Quick Response Total		2,569,967	526,600	3,096,567
Total CIP		27,478,988	24,441,216	51,920,204

2. Service Improvements Proposals and Targets

The proposed 2021-2022 budget continues to provide a sustained level of maintenance and operations service that optimizes benefits and outcomes within Roads' constrained funding environment. Roads is committed to continually improving the manner in which it provides its core services.

The adopted 2021 – 2022 budget provides the following service improvements:

- *Countywide High Risk Paving Program:* This program addresses select unincorporated King County roadways with chronic pavement issues that cannot be resolved through day-to-day pavement repair strategies. It focuses on repairing failing sections of high use roadways which provides the greatest benefit to the system by ensuring a given roadway is safe and able to function at its intended use. High risk paving repairs are completed by either roads crews or contractors in support of efficient program delivery. *Renton Sidewalk Phase III:* This roadside project would improve safety and access for Skyway community residents and other non-motorized commuters, enhanced safety for students walking and bicycling to nearby elementary schools, improved connectivity within the community's pedestrian and bicycle network, and improved access to transit.
- *Countywide American with Disabilities Act Program:* Roads is completing an ADA Transition Plan that will guide future upgrades to pedestrian infrastructure associated with the unincorporated King County road network. The Federal Highway Administration sets regulations to implement the federal Americans with Disabilities Act (ADA). These regulations require that pedestrian facilities such as curb ramps and signal push buttons be upgraded to standard whenever a roadway is altered as part of a roadway reconstruction, rehabilitation, or simple asphalt surface overlay project. During the upcoming biennium, this program will result in sidewalk repairs, crosswalks and other access improvements.

In 2019-2020, Roads was able to implement service improvements such as:

- *Road Rangers:* Road Ranger crews operate across urban and rural unincorporated King County roads, which in turn frees up remaining maintenance staff to concentrate on higher priority, larger-scale, critical road safety work. An innovative tablet-based technology solution supports this team's work by streamlining work order processing and improving communication between the customer, crew chiefs, and crews. The Road Rangers complete small-scale pavement repairs and other minor road maintenance tasks throughout rural and urban unincorporated King County, often in direct response to constituent requests.
- *Equity and Social Justice Sidewalk Repair Project:* Roads crews repaired approximately 3000 lineal feet of sidewalk segments, during the 2019 – 2020 biennium, which contained uneven surfaces and other hazards. These sidewalks are located within the communities of North Highline and Skyway and had been subject of over 100 requests for repairs by community members.
- *Automated Vehicle Location (AVL) snow and ice response tracking monitoring tool:* Installed AVL technology on King County Roads snow and ice removal trucks, to provide real-time information during winter storm events. This technology uploads winter storm response snowplows location information to web-based My Commute maps, in a timely

manner, to communicate which unincorporated King County roads were recently treated for snow and ice removal.

3. Cost Reduction Proposals and Targets

As part of the proposed 2021 – 2022 budget, Roads plans to continue to contain costs and seek cost savings in the following ways:

- Evaluate future King Street Center and other office space needs in response to successful telecommuting and operational efficiencies achieved during the COVID-19 pandemic. The agency will consider alterations to or reductions of leased space.
- Continue to negotiate with WSDOT on shared use agreements for Roads' maintenance facilities to achieve efficiencies.
- Continue to negotiate transfer of orphan road segments to respective cities.
- Optimize use of PRISM on behalf of enhanced capital project delivery and interagency collaboration.
- Expand the use of mobile technology by field staff to reduce paper processing and data entry time.
- AVL installation in maintenance vehicles across all maintenance campuses.
- Continue the maintenance vehicle replacement strategy that results in new vehicles with flexibility to be modified to serve a wide range of operational needs.
- Completion of the update to the Roads Project Management Manual will result in expanded and improved project management processes that guide the efficient delivery of capital projects and programs

Over the past decade, Roads implemented numerous cost reduction and efficiency measures, such as the following:

- Refocused on core services
- Reduced and reorganized staff
- Consolidated maintenance facilities
- Decreased overhead by:
 - Consolidating office space
 - Reducing fleet
 - Reduced computers, phones, etc.
 - Converting street lighting to LED
 - Selling surplus properties

- Leveraged technology for work order and asset management and increased productivity through mobile technology.
- Implemented process improvements for data collection, permit consolidation, traffic counts, road closure alerts, employee injury reporting, catch basin inspection and cleaning, and many others.
- Formed partnerships with other internal and external agencies.
- Reduced road inventory by transferring orphaned road segments to cities, vacated unused rights-of-way, limited acceptance of new roads into the county system.

4. Risks to the Budget

Roads continues to face numerous risks to the agency's budget. The following key budget risks have been identified for 2021-2022:

- The Roads structural funding crisis, as described earlier in this business plan, presents the most significant risk to the agency's budget.
- Emergent events (i.e. snowstorm, slides, flooding, earthquake, road or bridge structural failure, etc.) may exceed Roads ability to fund response or repairs. Based on experience of the past few years, the risk of emergent weather events and subsequent infrastructure failure is high. Risk of infrastructure failure will also rise due to under-investment in preservation capital projects and programs related to the funding crisis. Roads' ability to make emergent repairs is diminished and the division may need to seek or borrow emergency funding from external sources in order to make repairs.
- Actual gas tax revenues may be lower than forecast due to COVID-19 crisis or other unanticipated factors.
- Actual property tax revenues may be lower than forecast due to recession/depression and possible drop in assessed value (COVID or other reason).
- There may be fewer opportunities for state grants due to COVID-19 impacts on other transportation agencies, and generally competition for limited funds when many agencies are struggling financially.

Without additional funding, Roads' ability to respond to emergent safety issues, hazards, risks and threats, will be reduced in the coming years. As a consequence, more roads and bridges will likely need to be restricted or closed when as their condition deteriorates.

Chapter 3. Key Investments

1. Key Proposed Investments for 2021-2022, by product/asset portfolio

The investments described in this section consist of Road's proposed maintenance/operations and capital work, organized by the agency's product/asset portfolio categories of Roadway, Bridges and Structure, Drainage, Traffic Control, Roadside, and Maintenance Facilities. Roads' projects and programs often address multiple product/asset portfolios, but for the purposes of this discussion are categorized under the predominant portfolio.

Maintenance/operational activities are completed throughout unincorporated King County, including historically underserved communities. Certain proposed capital investments will also specifically benefit traditionally underserved communities, such as: high risk paving; grant funded sidewalk construction along Renton Ave. South, Americans with Disability Act investments and paving investments. Appendix A provides additional detail regarding the location of proposed investments and associated equity impacts.

M/O = Maintenance and operational investments

Capital = Capital investments

Roadway Portfolio

<u>General Roadway Maintenance (M/O)</u>	<u>\$4,526,376</u>
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Funding Source: 100% Roads Fund

Description: Includes routine as well as safety and environmental compliance work, such as sweeping and dust control to remove leaves, rocks, and debris from the roadway, helping to keep it safe. Prompt cleaning also prevents dirty sediments from flowing into creeks and streams, polluting them and endangering salmon and water quality.

<u>Snow and Ice Response (M/O)</u>	<u>\$3,679,562</u>
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Funding Source: 100% Roads Fund

Description: Snow and ice control using anti-icing and plowing snow.

<u>Storm Washout Response and Repairs (M/O)</u>	<u>\$1,652,732</u>
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Funding Source: 100% Roads Fund

Description: Emergency repairs related to storm events, landslides, or washouts.

<u>Small Surface Repairs (M/O)</u>	<u>\$8,411,170</u>
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Funding Source: 100% Roads Fund

Description: Includes pothole filling; square cut, skin surface and grinder patching; acute pavement surface repair; crack sealing and pouring; curb and gutter replacement and repair, and gravel roadway grading and patching.

<u>Pavement Inspection and Condition Analysis (M/O)</u>	<u>\$532,500</u>
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Funding Source: 100% Roads Fund

Description: Pavement Condition Index scores inform the selection of pavement preservation treatment options, including: crack sealing, overlay, and pavement rehabilitation.

<u>Countywide Pavement Preservation Program (C)</u>	<u>\$4,000,000</u>
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Funding Source: 100% Roads Fund

Description: The pavement preservation program seeks to delay the decline of pavement surface conditions and extend the service life of the road system. Pavement preservation treatment options include crack sealing, overlay, and pavement rehabilitation.

Countywide High Risk Paving Program (C) \$2,043,000

Funding Source: 100% Roads Fund

Description: High risk paving allows for cost-effective and efficient strategies in resurfacing selected roadways with chronic maintenance issues. Performed by Maintenance crews, these selected roadways may be larger or have more issues than the small surface repairs that are addressed in day-to-day operations. Allowing for crews to focus on these areas is more time efficient. Consequently, directing contracted resources to longer lengths of roadways is more cost effective.

218th Avenue SE Reconstruction (C) \$4,216,588

Funding Source: 62% Surface Transportation Program Grant (awarded); 38% Roads Fund

Description: This roadway reconstruction project is funded for construction in the 2021-2022 budget.

Bridges and Structures Portfolio

Bridge Inspection and Analysis (M/O) \$532,500

Funding Source: 100% Roads Fund

Description: Includes ratings and other analyses used to inform the need for minor (as well as major) maintenance and repair of structures.

Minor Bridge Maintenance and Repair (M/O) \$400,186

Funding Source: 100% Roads Fund

Description: Includes small repairs, debris removal, surface cleaning, and graffiti removal from bridges.

Countywide Bridge Priority Maintenance Program (C) \$1,103,220

Funding Source: 65% Roads Fund; 35% REET

Description: This program performs high priority preservation and maintenance projects to address safety issues related to bridge deterioration and provides for some rehabilitation and maintenance to extend the life of bridges.

Countywide Bridge Load Upgrade Program (C) \$780,000

Funding Source: 100% REET

Description: Following bridge collapses and a decision to allow heavier trucks on roadways, the Federal Highway Administration developed new calculations for determining the weight that a bridge can safely carry. King County is evaluating each of its 178 bridges using the new federal standards to calculate bridge weight carrying capacity, between now and the federal deadline of 2022. It is anticipated that the number of weight-restricted bridges will grow as the analysis of all county bridges is completed by 2022. The Bridge Load Upgrade program will implement bridge rehabilitations for load limited bridges to reduce or remove bridge weight carrying restrictions.

2019-20 Countywide Bridge Safety Program (C) \$10,309,634

Funding Source: 54% General Obligation Bonds 46% Federal Bridge Local Program (formerly BRAC) Grant (awarded)

Description: Weight restricted bridges were evaluated and prioritized using criteria including the type of restricted vehicles, impact on traffic flow, alternative routes for heavier vehicles, and impacts on communities. All bridges selected for replacement rank highly using the King County priority process for bridge replacement that was approved by the King County Council in 1994 (Ordinance 11693). The seven bridges include:

2019-20 Countywide Bridge Safety Program Sub-project	Project Phases Funded in 2021-2022
Coal Creek Bridge (#3035A)	Construction
Boise X Connection Bridge (#3055A)	Design
Fifteen Mile Creek Bridge (#493C)	Design
Ames Lake Trestle Bridge (#1320A)	No additional funding request in 2021-2022
Baring Bridge (#509A)	No additional funding request in 2021-2022
S 277th Street Bridge (#3126)	Construction
Upper Tokul Creek Bridge (#271B)	Construction

Drainage Portfolio

Drainage System Cleaning (M/O) \$2,894,116

Funding Source: 100% Roads Fund

Description: Cleaning of pipe and catch basins, as well as the vactoring of sediment.

Shoulder Maintenance and Restoration (M/O) \$3,705,778

Funding Source: 100% Roads Fund

Description: Activities that maintain a road's gravel shoulders, including cleaning, gravel patching, grading and restoration as well as landscape maintenance. Maintaining shoulders improves drainage and improves the flow of water away from the road and toward drainage systems. This program also benefits the roadside portfolio.

Drainage Infrastructure Minor Repair (M/O) \$1,090,954

Funding Source: 100% Roads Fund

Description: Includes minor repair to pipes, catch basins, and other associated infrastructure.

Retention/Detention Facility Maintenance (M/O) \$1,004,924

Funding Source: 100% Roads Fund

Includes mowing, brush removal, maintenance, and cleaning of ponds and vaults/tanks to preserve water quality and capacity to retain flows and prevent minor flooding.

Ditch Maintenance (M/O) \$4,849,166

Funding Source: 100% Roads Fund

Description: Includes cleaning of roadside ditches to ensure proper drainage.

Countywide Division Drainage Preservation Program (C) \$5,172,000

Funding Source: 72% SWM fund; 28% Roads Fund

Description: The drainage system in the county is aged and failing. Failed drainage can cause sinkholes and road collapse, landslides and damage to public and private property. Available funds are insufficient to address more than a limited number of the top priority projects in the backlog. Work to be accomplished in this program may include new infrastructure, repairs of failing systems, ditches, and shoulders (which help water properly drain off roads), or other drainage features.

Countywide Flood Control District (C) \$3,398,700

Funding Source: 100% FCD

The King County Flood Control District is a special purpose government created to provide funding and policy oversight for flood protection and projects in King County. The District and the Road Services Division partnered together on identifying projects to address locations where recurring flooding have impacted or have the potential to impact local communities.

Flood Control District Sub-projects	Project Phases Funded in 2021-2022
Snoqualmie Valley Major Flood Mitigation Study	Feasibility Study
SE 380 Place at SR-164 Culvert Replacement	Construction
NE 8th Street at Allen Lake Outlet Drainage Improvement	Design and construction
SE 384 Street @ 176 Avenue SE Culvert Replacement	Design
Fish Hatchery Bridge #61B	Construction

Culvert Replacement and Fish Passage Program (C) \$4,300,000

Funding Source: 100% SWM

Description: This program supports Roads’ drainage asset management need to replace culverts at end of lifecycle and King County Executive Dow Constantine’s Clean Water and Healthy Habitat agenda. Fish passable culverts that are in poor condition or undersized pose a risk of failure that can result in collapse of the roadway, landslides, flooding, damage to public and private property, and associated risks to life safety. Culverts that are not designed to be fish passable block access to important upstream habitat necessary for the sustainability of fish species. Roads’ Culvert Replacement and Fish Passage Program is one component of the county’s broader fish passage program. 2021-2022 proposed Culvert Replacement/Fish Passage Program projects include:

Culvert Replacement and Fish Passage Program Sub-project(s)	Project Phases Funded in 2021-2022
Northeast Lake Joy Road	Construction
284th Ave Southeast	Construction
156th Ave Southeast and Southeast 240th Street	Design
185th Ave Northeast, Cottage Lake	Design
17401 Southeast 240th Street West	Design
NE Woodinville Duvall Road	Construction

SE Reinig Road Drainage Project (C) \$1,500,000

Funding Source: RAP 100%

Description: This drainage project is funded for design, right-of-way acquisition and construction in the 2021-2022 budget. This program also benefits the roadway portfolio.

Beall Road Southwest Culvert Restoration (C) \$575,000

Funding Source: RAP 100%

Description: This drainage project is funded for design, right-of-way acquisition and construction in the 2021-2022 budget.

Southeast 384th Culvert Improvement (C) \$1,150,000

Funding Source: RAP 100%

Description: This drainage project is funded for design, right-of-way acquisition and construction in the 2021-2022 budget.

Traffic Control Portfolio

Signals, ITS, and Traffic Control Device Maintenance (M/O) \$3,467,692

Funding Source: 100% Roads Fund

Description: Traffic control signals and ITS equipment promote safety and efficiency and provide reliability by enhancing the orderly movement of all road users. This equipment also provides real-time traffic information to King County traffic operators, the media, and the traveling public. Includes maintenance for: signals, flashers, street lighting, and all associated components such as controllers, lights, mast arms, timers, cameras, cabinets, and loop detectors.

Sign Installation and Maintenance (M/O) \$3,446,037

Funding Source: 100% Roads Fund

Description: Includes traffic control safety sign replacement and installation, fabrication, inspection, cleaning, and responding to constituent service requests.

Pavement Marking Maintenance (M/O) \$3,049,998

Funding Source: 100% Roads Fund

Description: Includes replacement of traffic control safety pavement markings such as striping, thermoplastic, and buttons.

Safety Investigations and Traffic Data Analysis (M/O) \$3,049,998

Funding Source: 100% Roads Fund

Description: This work includes collection and analysis of traffic volume and vehicle classification for the county arterial road network. Provides vehicle speed data and intersection turning movement counts to other county work groups. This program responds to resident requests for traffic safety concerns. Engineers in this program review roadways for a variety of traffic safety concerns.

Countywide High Collision Safety Program (C) \$500,000

Funding Source: 100% Roads

Description: This program will address the safety of roads by making improvements aimed at reducing the occurrence of collisions at intersection locations or on road segments identified in the High Collision Locations and High Collision Road Segments Report (2020). In addition, funding is also included to begin sightline improvements at the intersections.

Countywide Traffic Safety Program (C) \$955,900*Funding Source: 100% REET*

Description: This program funds improvements to safety on the roadways in unincorporated King County. This can include installing flashing yellow arrows, milling transverse rumble strips in the roadway, or adding lighting.

Countywide School Zone Safety (C) \$102,150*Funding Source: 100% Roads Fund*

Description: King County has a decades-long program that collaborates with school districts and local communities to improve safety in the vicinity of schools within unincorporated portions of the county. The 2021-2022 budget proposal will fund a variety of safety improvements in the vicinity of schools within unincorporated King County.

Avondale Rd NE at Cottage Lake Elementary School Safety Project (C) \$660,000*Funding Source: 100% Roads Fund*

Description: This traffic safety project is funded for construction in the 2021-2022 budget.

S 360th Street & Military Road Roundabout Project (C) \$3,065,000*Funding Source: 88% REET; 12% Roads Fund*

Description: This intersection improvement is funded for Construction Phase, in the 2021-2022 budget.

SE Green Valley Road and 218th Way SE Intersection Improvement (C) \$675,000*Funding Source: 86% Surface Transportation Program Grant (awarded); 14% REET*

Description: This intersection improvement project is funded for Design and ROW Phases, in the 2021-2022 budget.

Rainier Ave South and Lakeridge Drive Intersection Improvement (C) \$400,000*Funding Source: 100% REET*

Description: This intersection improvement project is funded for design in the 2021-2022 budget.

Roadside PortfolioRoadside Vegetation Management (M/O) \$9,974,060*Funding Source: 100% Roads Fund*

Description: Managing vegetation in the right-of-way is a critical safety task which includes mowing and maintaining trees, brush, and natural areas on the roadside to provide clear sightlines for drivers and non-motorized traffic, while also improving drainage. Overgrown vegetation on sidewalks, shoulders, and other walkways can lead to pedestrians walking in the roadway. Noxious weed control and shoulder/roadside spraying is also employed. This program also benefits the traffic control safety portfolio.

Roadside Features Maintenance and Repairs (M/O) \$1,280,022*Funding Source: 100% Roads Fund*

Description: Includes repair or replacement of rock walls, retaining walls and fences, and removal of hazardous material and roadside debris.

Countywide Guardrail Preservation Program (C) \$1,000,000*Funding Source: 100% Roads Fund*

Description: Guardrail projects promote safety by reducing the severity of run-off-the-road collisions. The guardrail program refurbishes and upgrades existing guardrail to current standards.

Countywide Americans with Disabilities Act Program (C) \$300,000

Funding Source: 100% REET

Description: Roads is completing an ADA Transition Plan (estimated completion in 2020). The Federal Highway Administration sets regulations to implement the federal Americans with Disabilities Act (ADA). These regulations require that pedestrian facilities such as curb ramps and signal push buttons be upgraded to be accessible to people with disabilities whenever a roadway is altered. Roadway alterations include roadway reconstruction, rehabilitation, or simple asphalt surface overlay.

Renton Avenue Phase III Sidewalks Project (C) \$2,200,000

Funding Source: 91% WSDOT Bicycle and Pedestrian Grant (application submitted); 9% REET

Description: This nonmotorized project is funded for Construction Phase, in the 2021-2022 budget.

Maintenance Facilities Portfolio

Facility Maintenance (M/O) \$3,842,850

Funding Source: 100% Roads Fund

Description: Roads owns and maintains 17 facilities/sites located throughout unincorporated King County. Together these maintenance sites support the agency's efficient and timely provision of road maintenance and operational services. Maintenance facility sites vary in size and support office spaces, shops, sand/salt stockpiles, gravel pits, equipment yards and the Roads maintenance headquarters. Roads is responsible for all maintenance and operational activities associated with these facilities.

2. Funding Key Investments

The county receives revenues for roads primarily from the following sources:

- a dedicated property tax on unincorporated properties;
- gas tax;
- Surface Water Management Fee revenue;
- Flood Control District revenue; and
- federal and state grants

For the 2021 – 2022 biennium, it is estimated that dedicated property and gas taxes will provide the largest portion of Roads revenue, approximately 85% of total revenue. Additionally, for the 2021-2022 biennium, Roads requested two new revenue sources (REET and Franchise Fee) and received REET funding.

Roads was ultimately awarded:

- \$6 million in Real Estate Excise Tax funding for 6 discreet high priority safety projects over the six years

- \$2 million in Real Estate Excise Tax funding per year over 30 years funding of debt service for 5 bridges in the 2019-2020 Bridge Safety Program

In developing the proposal, Roads first prepared a base program reflecting only current funding available. Beyond the base, the division is requesting the additional funding above to provide high priority safety and minimal preservation programs to manage risk and maintain limited preservation programs.

Appendix A. Equity Impact Review

Background

Roads funding is limited and, as discussed earlier in this business plan, capital and maintenance/operational investments are focused on meeting the critical safety and operational needs across the rural and urban unincorporated King County road network. Whenever possible, the agency also seeks additional grant funding to help boost the ability to meet capital project needs within traditionally underserved communities. Roads provides maintenance and operational services broadly across all unincorporated King County communities.

This appendix provides a summary of underlying demographic information associated with: (1) the location of the unincorporated King County road and bridge system; (2) the location of proposed 2021- 2022 capital investments; and (3) maintenance and operational work for common work orders completed during 2019. Together, this map set presents a composite view of the relationships among Roads targeted investments and underlying community characteristics.

Roads remains committed to supporting racial and economic equity through its capital planning and project delivery processes. All Roads capital projects and programs are reviewed, as mandated by the King County Green Building Ordinance reporting process, using nine detailed Equity and Social Justice criteria. To ensure consistency across projects and programs, Roads has trained over 40 staff to conduct a standardized approach that advances Equity and Social Justice outcomes at the project and program level, whenever possible.

Green Building reporting requirements result in completion of the Sustainable Infrastructure Scorecard at 30% and 100% completion of each capital project. Equity and Social Justice outcomes from this standardized approach include: (1) preparation of an Equity and Social Justice work plan for each capital project early in the pre-design phase to guide project design and delivery in a manner that advances Equity and Social Justice outcomes when/if feasible; (2) enhanced and expanded Communication and Engagement Plans to reflect opportunities to more deeply engage communities that may be positively or negatively impacted by a capital project or program; (3) equity impact review of the project; enhanced diversity in project teams; and (4) pro-equity materials sourcing and contracting.

Equity Impact Review Maps and Summaries

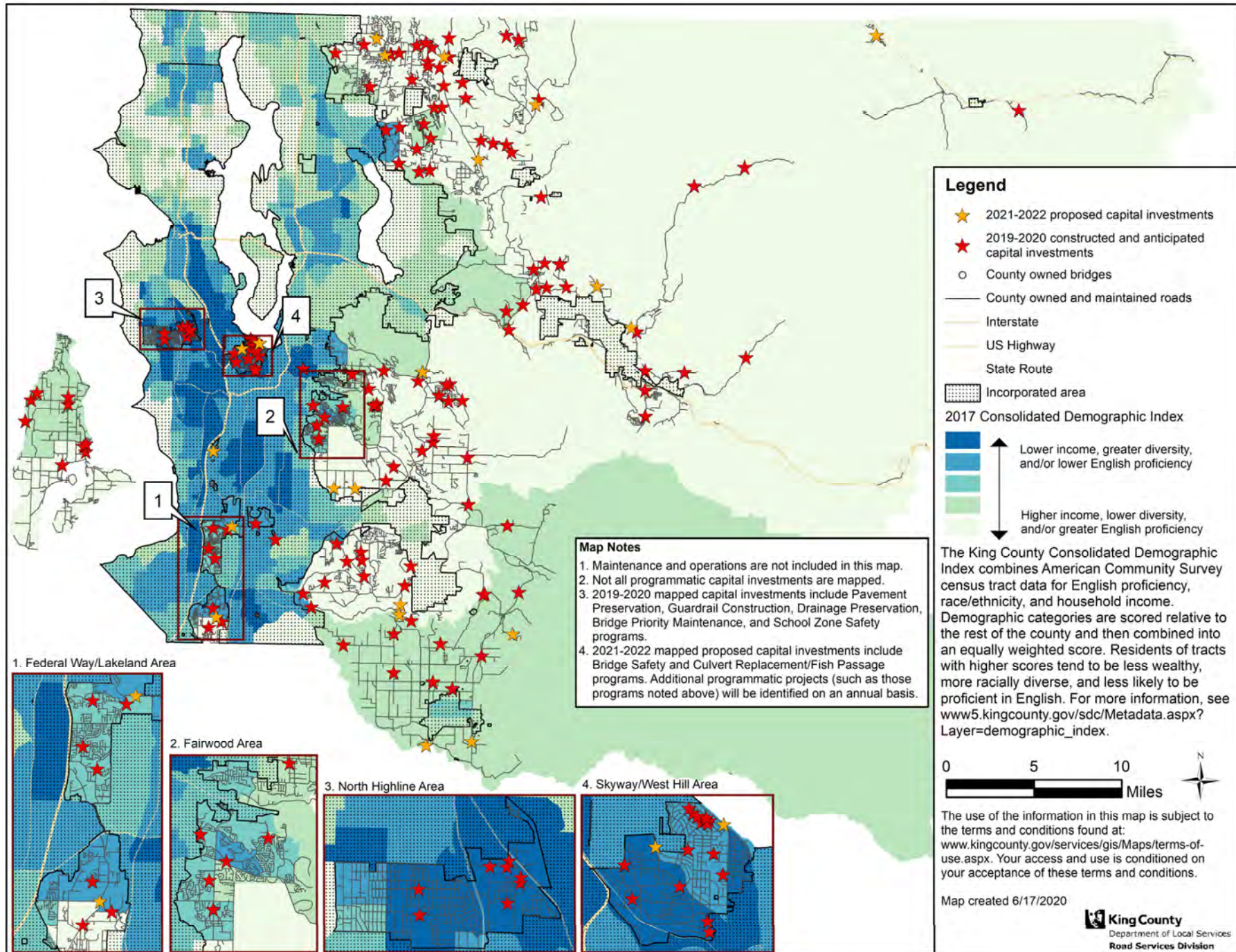
The remainder of Appendix A contains three summary maps that use a common base map, as described below. These thematic maps summarize Roads capital and maintenance/operational

investments and underlying community characteristics of race, income, and English proficiency, as follows:

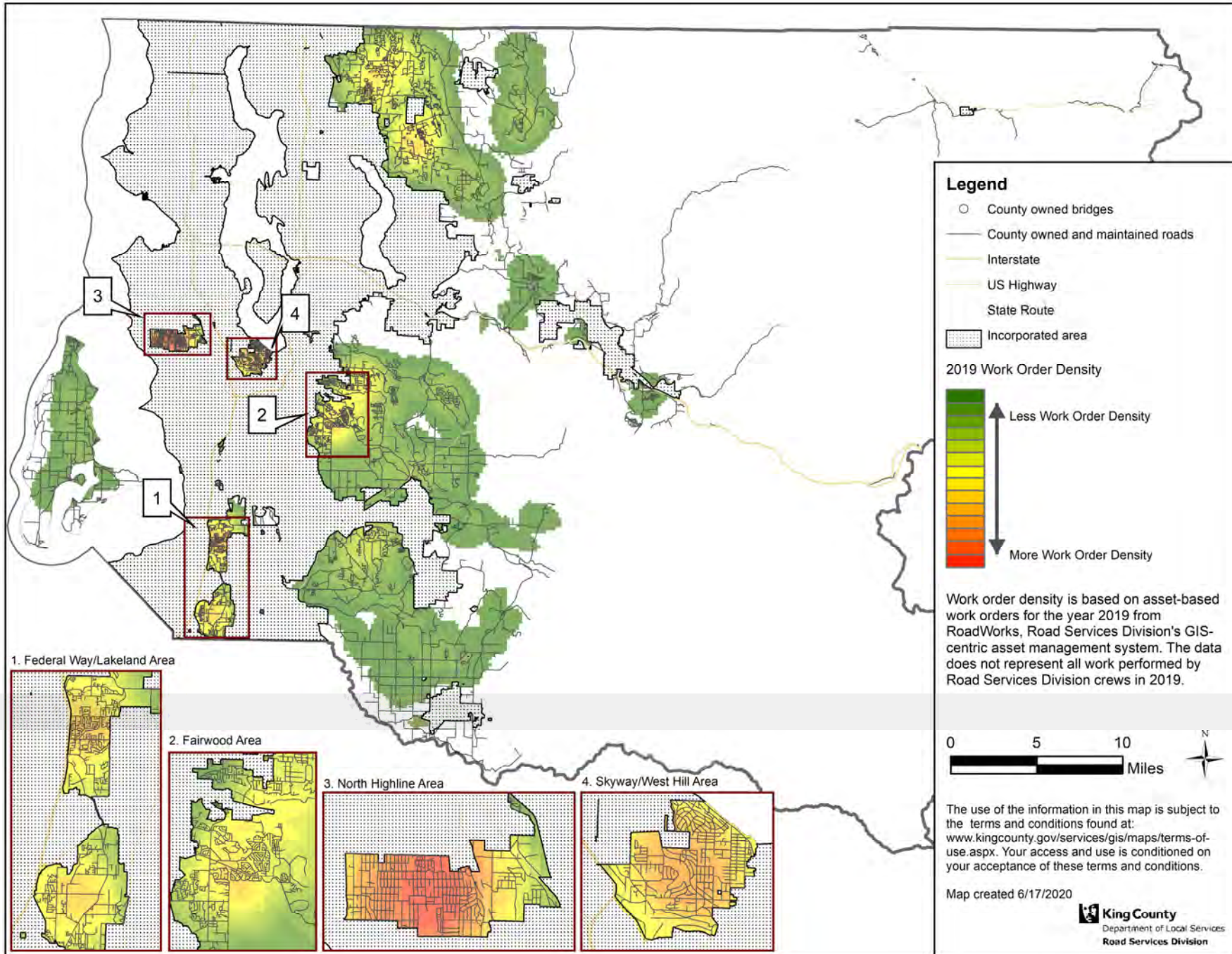
- Map A. Unincorporated King County road and bridge network, Roads' completed capital projects during 2019-2020 and proposed 2021 – 2022 capital investments; and
- Map B. Common maintenance/operations activities completed during 2019-2020.

The base map for Map A is the King County Consolidated Demographic Index (KCIT, 2017). This base map provides a five-category demographic index that is derived from U.S. Census Tract data sets. This five-category index presents a relative scale of racial diversity, economic prosperity, and English proficiency.

Map A. Roads Capital Investments with Demographic Index



Map 2. 2019 Roads Maintenance and Operations Activity



Appendix B. Community and Employee Engagement

Figure 6 details the numerous ways in which community members and Roads staff contribute input and expertise to inform Roads' maintenance/operations and capital investments. Roads staff invest considerable time meeting, corresponding, and talking by phone with community members to understand short and long-term needs, as well as to inform the delivery of capital projects (Figure 7).

Figure 6. Representative ways in which community members and employees are consulted to improve Roads' capital and maintenance/operations investments

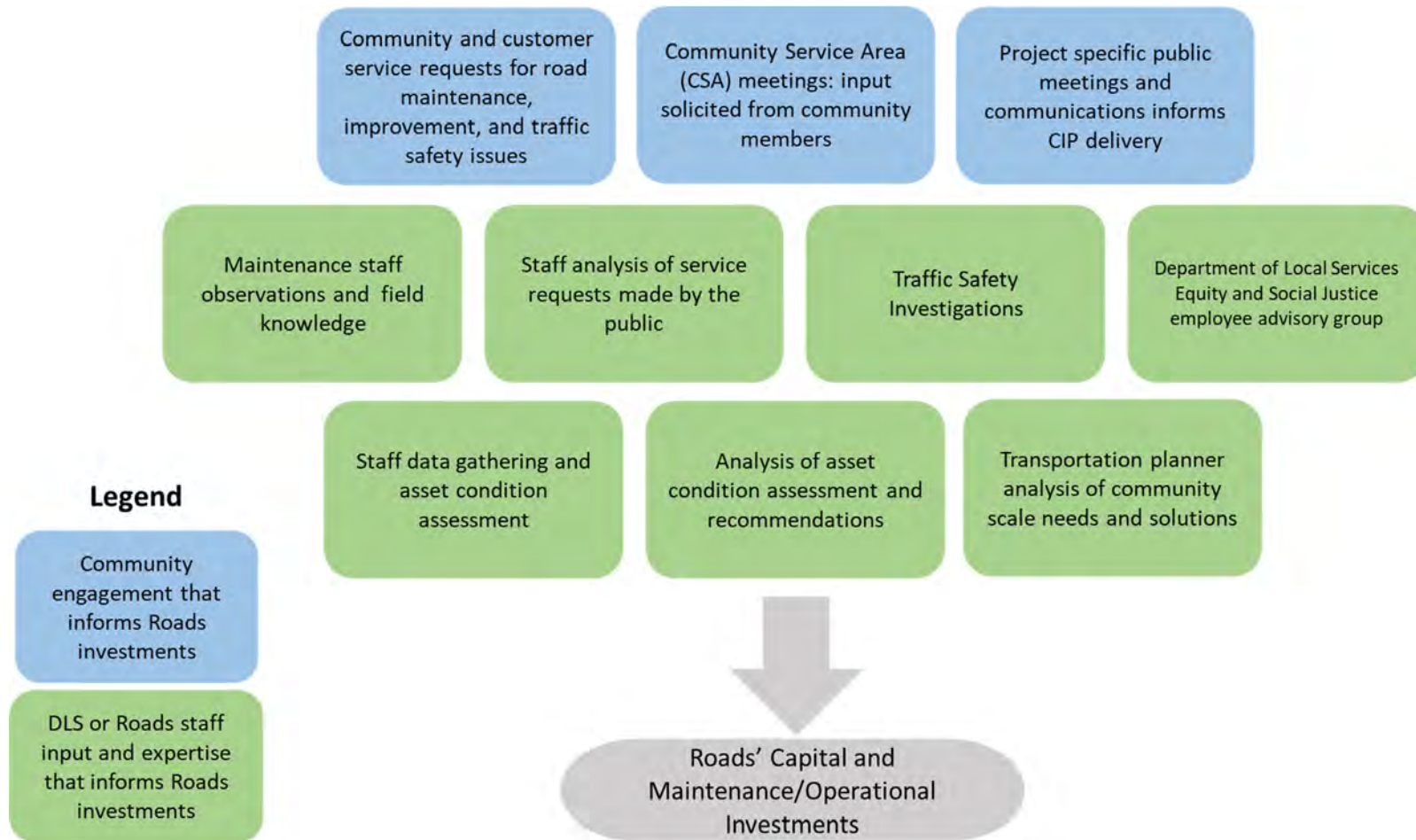


Figure 7 provides a quantitative and geospatial demonstration of 2019 Roads outreach efforts. Data in these maps is aggregated at the department level, but breakouts of data are available by division. In 2019, Roads led 55 outreach and engagement meetings spread across the unincorporated area. In addition to the meetings Roads led, the division supported numerous meetings hosted by the Department of Local Services or other divisions.

Figure 7. Department of Local Services 2019 Community Outreach and Engagement

