



**Kent County
Road Commission**

Strategic Plan

2021

Adopted March 23, 2021

Contents

The Strategic Planning Process	4
Mission	5
Vision	5
Values	7
Finance	13
Roads and Bridges.....	18
Traffic Management.....	37
Facilities and Equipment	41
Human Resources	45
Employee Safety	50
Communications	54



Kent County Road Commission (KCRC) works to keep Kent County moving with a network of reliable, safe, and convenient roads and bridges. We construct, maintain, and preserve this network while collaborating with our townships and responding to the public's needs. Our commitment to excellence is driven by our desire to employ best practices and efficient response times. Our experienced team takes pride in their work because—just like those we serve—our families drive these roads too.

Founded in 1911, KCRC maintains nearly 2,000 miles of roads and over 170 bridges within the county of Kent, Michigan, exclusive of those roadways and bridges that fall under the jurisdiction of the State of Michigan, cities, and villages. The commission also provides routine maintenance services, including snow and ice removal, for over 430 miles of state trunklines under a multiyear contract with the Michigan Department of Transportation (MDOT).

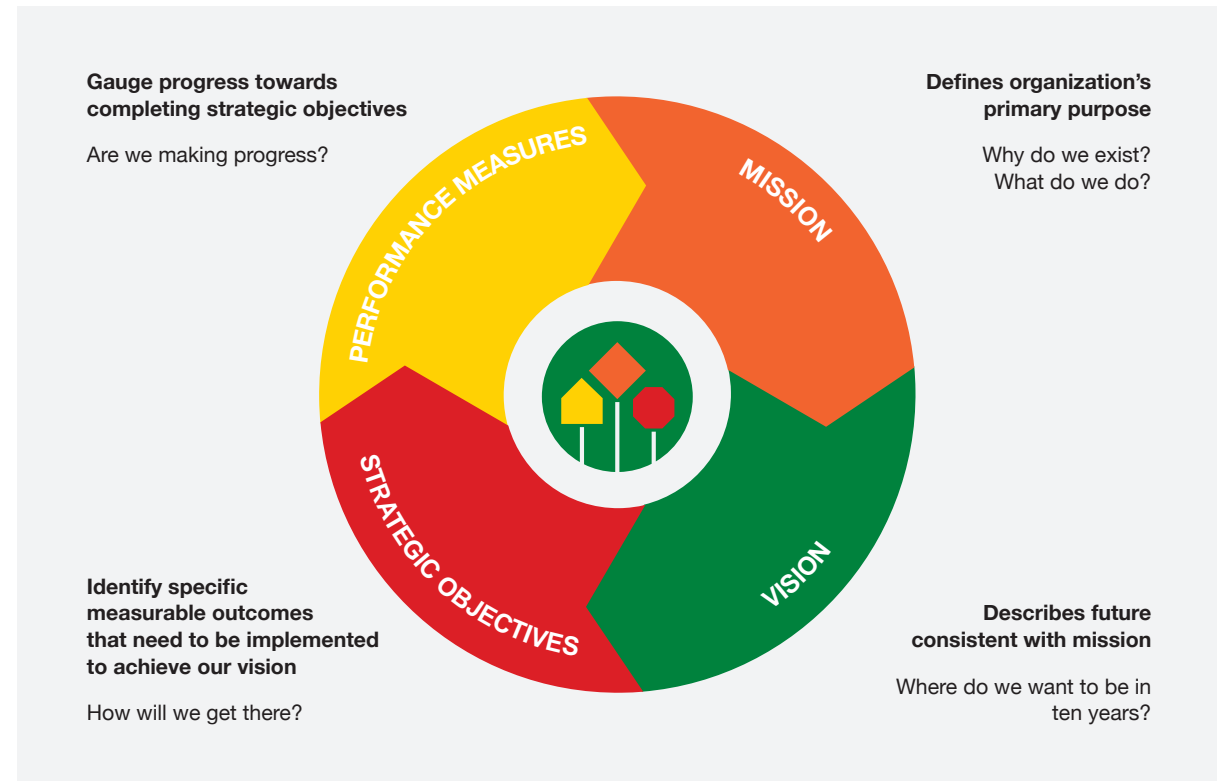
The Strategic Planning Process

The KCRC Strategic Plan (Plan) is the product of a cyclical process of building consensus about the organization's mission, vision, and values to establish a clear direction for the future. Key components of the Plan include a set of objectives to achieve KCRC's vision as well as performance measures to gauge progress.

Because the process is cyclical, modifications to the objectives are accommodated as needs and conditions change. The illustration below shows the Plan's process and major elements as well as the relationship between them.

Benefits of the Strategic Plan

- Builds consensus among the board, management team, employees, and other stakeholders to establish a clear direction for the organization
- Contains the rationale for funding priorities during the budget development process
- Delivers concise information about KCRC's mission, values, vision, strategic objectives, and performance measures to employees, townships, county commission, legislators, stakeholders, and the public



Mission

Kent County Road Commission builds and maintains a safe, reliable, and efficient network of county roads to support the region's multiuse transportation system.

Vision

Kent County Road Commission is the premier county road agency having established a standard of excellence and innovation in safety, construction, and preservation.

KCRC's master vision is to accommodate the region's priorities for transportation, land use, and economic development in the context of changing trends and challenges that will likely impact future decisions. Future planning and investments are done in collaboration with local governments, neighboring road commissions, other transportation agencies, and the Grand Valley Metro Council (GVMC), the region's designated metropolitan transportation planning organization.



KCRC envisions that it will:

- Maintain its primary road network, 90 percent of which has a surface rated in good or fair condition
- Sustain the traditional Local Road Cost-sharing Program with township partners
- Eliminate seasonal weight restrictions along 115 miles of KCRC's Economic Support Network (ESN) to provide continuous, efficient, and reliable support to the area's economic development
- Consider context-sensitive design solutions consistent with sound engineering principles in collaboration with townships, stakeholder organizations, and the public
- Support the development of automated vehicles, promoting innovative strategies for the seamless integration of technology, with an emphasis on safety and mobility
- Cultivate a highly qualified and diverse workforce prepared to effectively advance within the organization, equipped with the skills needed to lead KCRC and achieve the organization's vision

Values

KCRC's values form the foundation on which culture is defined and success is measured.

These values guide KCRC's daily efforts and are embedded throughout the objectives identified in this plan.

Safety

Maintain safety as priority one for the network, employees, and community served

High-quality Service

Exemplify the highest standard of excellence, integrity, and respect for the work we do and those we serve

Preservation of Assets

Commit necessary resources to protect, prolong, and preserve the organization's transportation network, facilities, and equipment

Collaboration and Coordination

Foster partnerships on local, state, and national levels to enhance our network and services

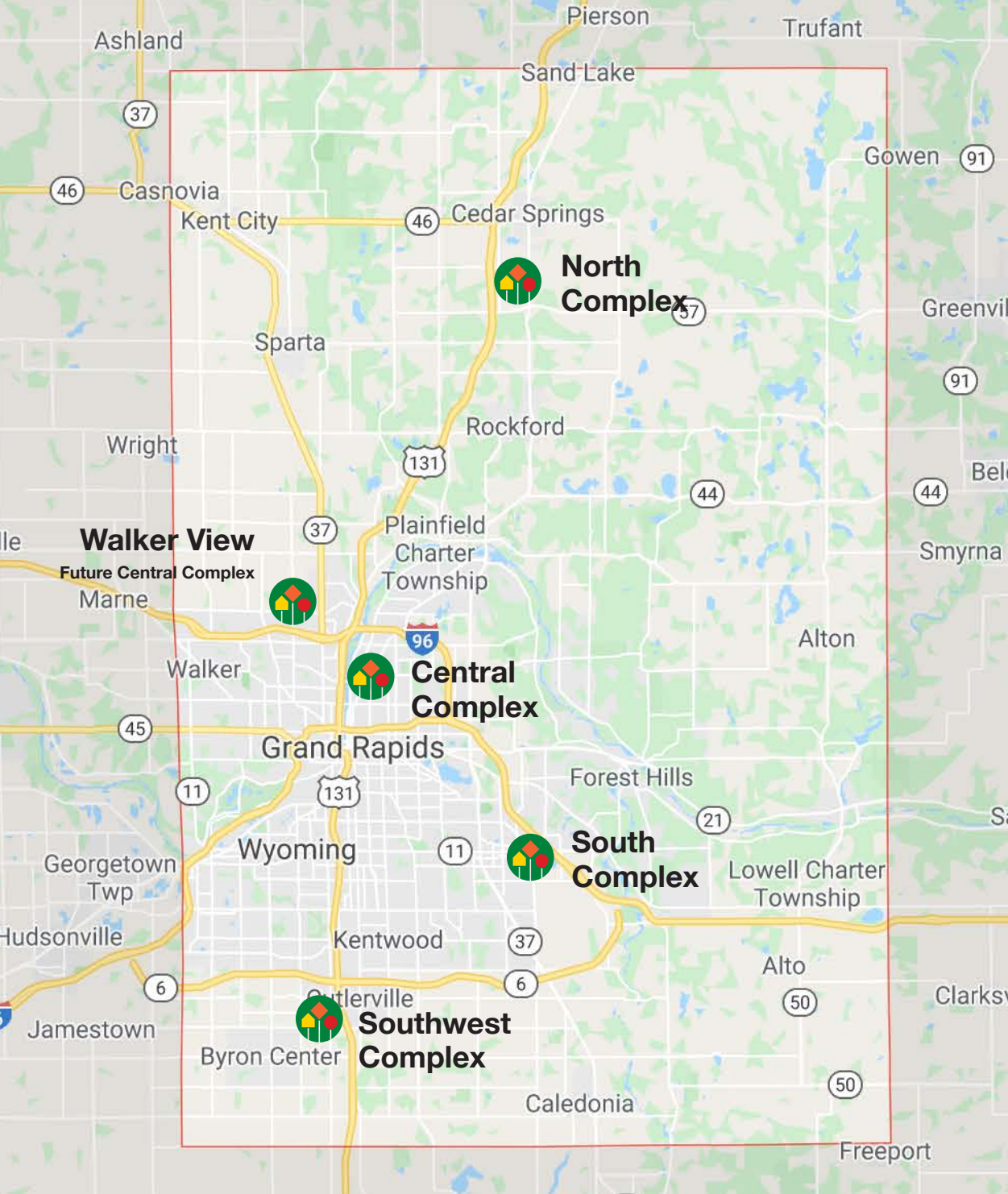
Sound Financial Management

Maximize the efficient and effective use of financial resources



Paramount to all efforts is KCRC's focus on safety

Whether addressing objectives related to the network itself, the community served, or the employees and tools necessary to accomplish each task, an emphasis on safety plays an integral role in every decision made.



Kent County Road Commission's Road Network

The second-largest road commission in Michigan

1,968
Total Centerline Miles

657 primary road miles

657 paved road miles

374 urban miles

283 rural miles

1,311 local road miles

1,000 paved road miles

311 gravel miles (unpaved)

172 bridges

Strategic Objectives

The Strategic Plan is divided into seven sections: Finance, Roads and Bridges, Traffic Management, Facilities and Equipment, Human Resources, Employee Safety, and Communications. These topics help to articulate how the organization's values translate into action and influence KCRC's culture and planning processes.

The strategic objectives identified in this plan serve as building blocks toward achieving KCRC's vision and help to articulate the steps necessary to achieve KCRC's goals. The progress toward achieving strategic objectives is illustrated by the following:



New







New objective introduced in the 2021 strategic plan











Ongoing

Ongoing objective introduced in the 2015 strategic plan; progress continues








Strategic Objectives

CATEGORY	STRATEGIC OBJECTIVE	STATUS
Finance	Use sound financial management to allocate available resources to achieve strategic objectives <ul style="list-style-type: none"> Fully fund pension and other postemployment benefit (OPEB) liabilities Analyze risk and quantify fund balance need Match financial reporting to operational plans and provide greater value to customers 	
Roads and Bridges	Preserve primary road conditions and expand the Economic Support Network through the implementation of the Long-range Plan for Primary Roads and Bridges <ul style="list-style-type: none"> Monitor the performance of completed road and bridge improvements Maximize the number of lane mile improvements per year by emphasizing pavement preservation treatments 	
	Sustain Local Road Cost-sharing Program by matching available township contributions within the constraints of the annual budget	
	Adopt and maintain bridge asset management plan <ul style="list-style-type: none"> Maintain 0 percent structurally deficient bridges as defined by the Federal Highway Administration 	
	Complete Streets	
	Utilize Complete Streets policy to guide future corridor improvements in cooperation with local units of government in Kent County and enhance outreach regarding KCRC's ongoing practices and partnerships that expand nonmotorized facilities	
	Participate in the update and implementation of the 2045 Metropolitan Transportation Plan, which supports all modes of transportation	

Strategic Objectives

CATEGORY	STRATEGIC OBJECTIVE	STATUS
Roads and Bridges	Routine Maintenance Maintain road and bridge assets in a state of good repair within the constraints of available financial resources in accordance with the following levels of priority: level one—critical, level two—high, level three—preventive	
	Work cooperatively with MDOT to maintain Kent County’s trunklines in accordance with the state maintenance contract to achieve balance between winter and nonwinter maintenance	
	Winter Maintenance Maintain current levels of service during winter operations <ul style="list-style-type: none"> • Serve the largest number of motorists as quickly as possible during winter storms, balancing quality with quantity • Complete one pass of snowplow services on the county road network within 36 hours of a storm’s conclusion 	
Traffic Management	Develop a systemwide crash analysis process	
	Maintain signs, signals, and pavement markings consistent with state and federal regulations to the maximum extent possible with available resources	
	Support the dynamic development of intelligent transportation systems, including automated vehicles	
Facilities and Equipment	Adopt a capital improvement program for KCRC equipment, buildings, and grounds <ul style="list-style-type: none"> • Develop a capital improvement schedule for KCRC complexes • Implement a replacement schedule for the fleet • Continue cost/benefit analysis and financing options for the possible new central complex facility at Walker View 	
Human Resources	Evaluate KCRC’s competitiveness in retaining and recruiting qualified individuals	

Strategic Objectives

CATEGORY	STRATEGIC OBJECTIVE	STATUS
Human Resources	Ensure that KCRC is developing individuals to assume key leadership positions within the organization through succession planning	
	Maintain staffing levels consistent with increased demand for services, both within the organization and the community at large	
	Support a commitment to diversity, inclusion, and equity in the recruitment, promotion, and retention of employees and within the organization's internal culture	
Employee Safety	Evaluate KCRC's current safety procedures and training to create and sustain a safe and secure work environment for all employees <ul style="list-style-type: none"> • Prioritize training to improve employee knowledge and awareness of safety practices and procedures 	
	Enlist supervisors and veteran employees to serve as safety liaisons to model safe practices and promote KCRC's safety culture	
	Conduct employee injury root-cause analysis in connection with job hazard analysis to enhance standards of procedures	
Communications	Enhance effective and responsive communication by maintaining consistent messaging and branding across multiplatform outreach <ul style="list-style-type: none"> • Align messaging with KCRC's strategic objectives in accordance with the organization's vision, mission, and values • Incorporate metrics to evaluate effectiveness of outreach and adapt tactics as needed to achieve objectives 	



Finance

STRATEGIC OBJECTIVE

Use sound financial management to allocate available resources to achieve strategic objectives

FINANCE

Use sound financial management to allocate available resources to achieve strategic objectives



- Fully fund pension and other postemployment benefit liabilities
- Analyze risk and quantify fund balance need
- Match financial reporting to operational plans and provide greater value to customers

KCRC must make well-informed financial decisions for the benefit of those the organization serves. That means basing the allocation of available resources on the best strategy to achieve objectives, including:

- Preserving primary road conditions and expanding the Economic Support Network
- Sustaining the local cost-sharing program by matching available township contributions
- Maintaining 0 percent structurally deficient bridges
- Preserving road and bridge assets in a state of good repair
- Preparing for potential relocation of Central Complex operations to the Walker View property

KCRC integrates predictive and prescriptive analytics to gain insight into untapped opportunities, risk exposure, and changing trends, all of which assist with planning, forecasting, and decision making. Leveraging such insight for over 30 years has helped KCRC become virtually debt-free and has positioned the organization to make decisions that better serve county residents.

Revenues

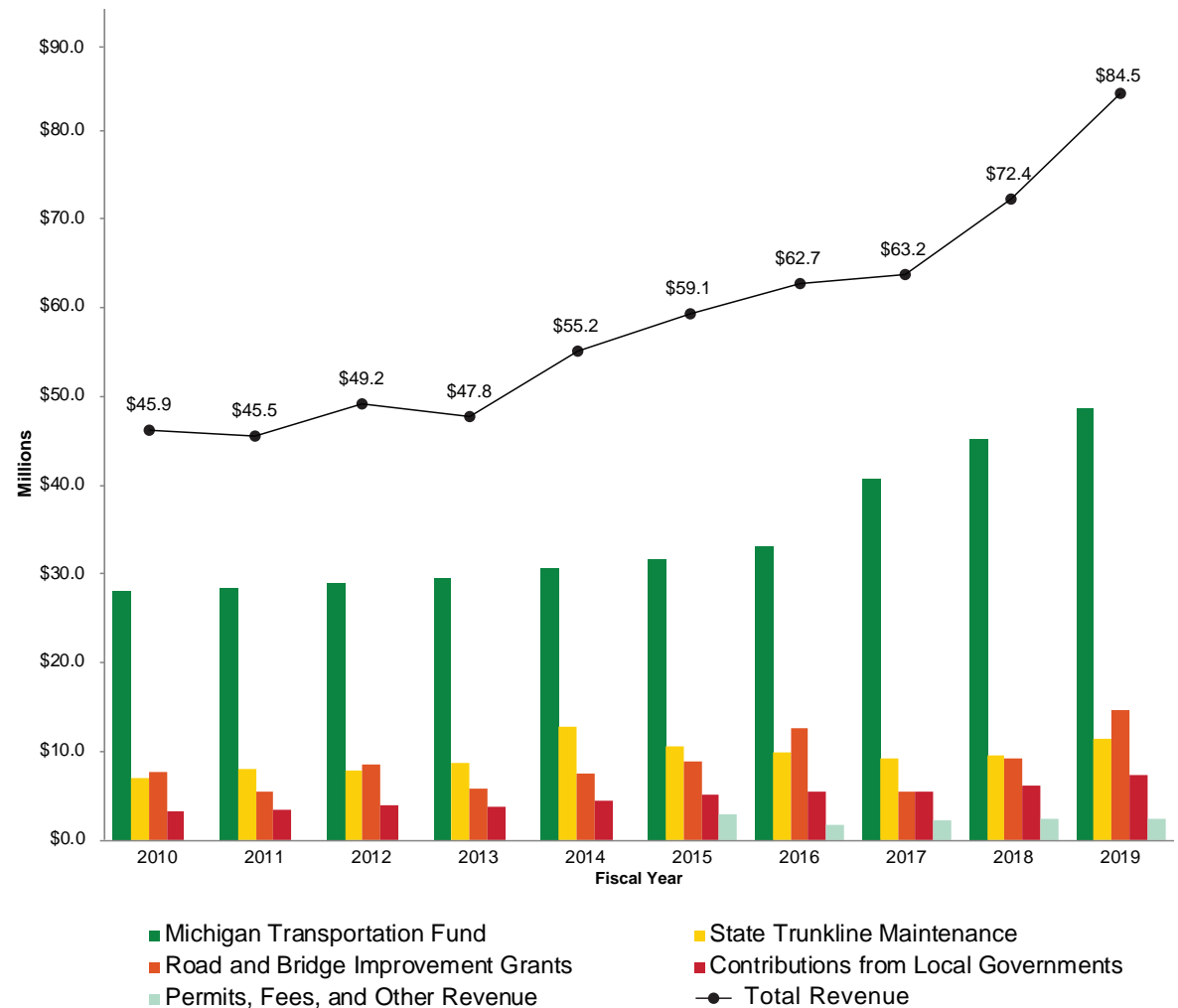
The Michigan Transportation Fund (MTF), which accounts for approximately 60 percent of KCRC's revenue, is a statewide fund generated by gasoline taxes and vehicle registration fees (Exhibit 1). MTF revenue is closely tied to Michigan's economic condition and has fluctuated considerably over the last 15 years. Since the recession of 2008, MTF revenues have risen, most significantly in 2017 with the passing of the 2015 road funding package by the Michigan Legislature. While the 2015 road funding package is expected to be fully implemented in 2021, ongoing discussions by the Michigan Legislature regarding the future of road funding could impact the amount of MTF revenue KCRC receives moving forward.

Making up almost 18 percent of KCRC's revenue is the organization's maintenance contract with the Michigan Department of Transportation. Under this agreement, KCRC maintains the state trunklines and right of way throughout Kent County, providing services such as snow removal, mowing, sweeping, and tree trimming.

KCRC continues to competitively procure federal and state grants for road and bridge preservation and improvements, and this source generally makes up approximately 15 percent of KCRC's revenue. These dollars help KCRC complete projects it may not otherwise have the resources to complete on a regular basis.

Accounting for approximately 8 percent of KCRC's revenue are contributions from local governments, which mostly include township contributions toward local road projects. KCRC's focus on collaboration with the townships has resulted in an increased investment in local road projects over the past decade (Exhibit 1).

EXHIBIT 1. KCRC Revenue Trends FY 2010–FY 2019



Expenditures

Because KCRC has nearly fully funded its pension and OPEB liabilities, the increased revenue KCRC receives is directly invested in road and bridge construction and preservation, as well as routine maintenance activities and necessary equipment purchases (Exhibit 2).

Walker View

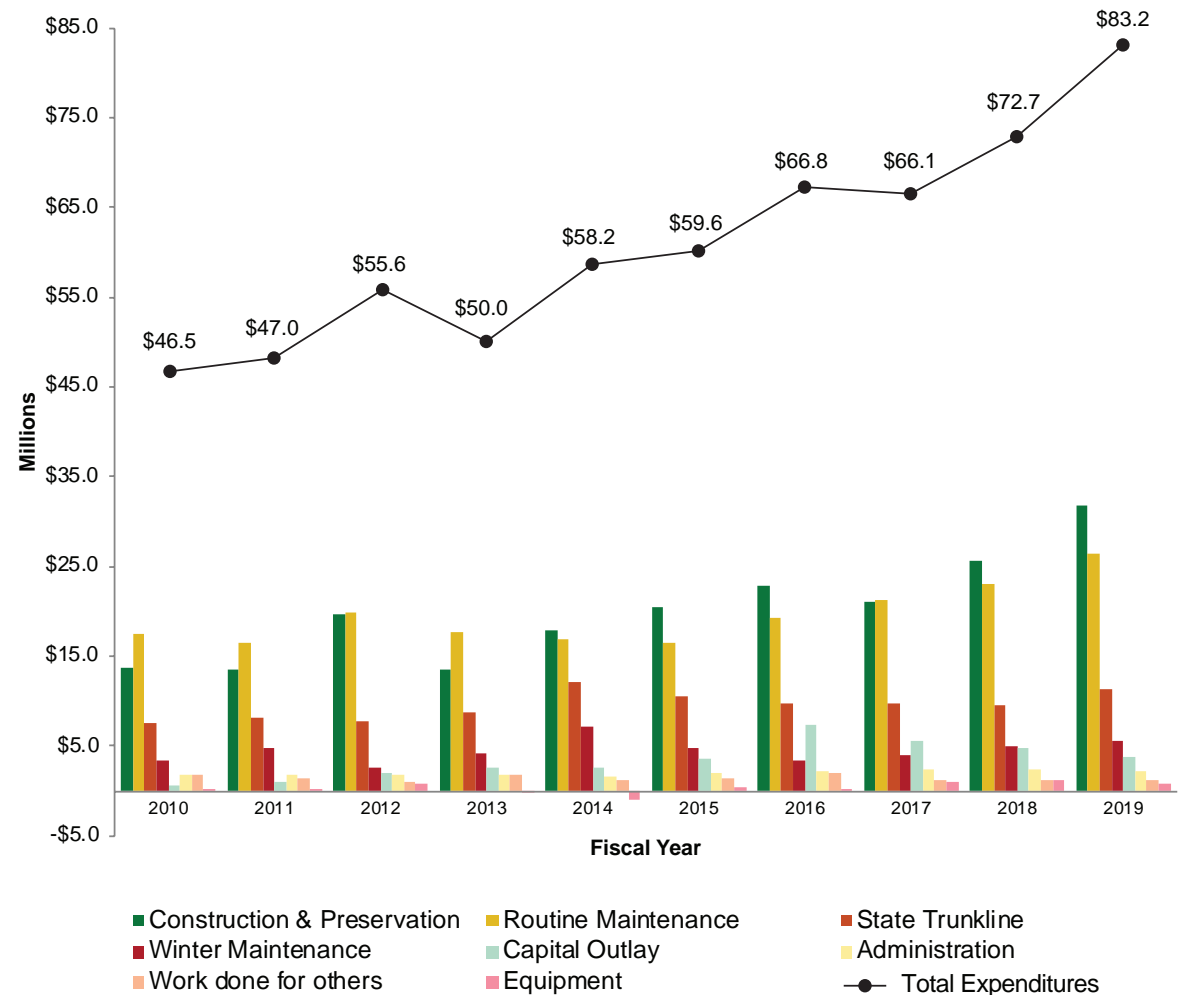
Without debt, KCRC also has greater ability to allocate savings in accordance with priorities defined in the strategic plan. Specifically, savings realized from KCRC's debt-free status have translated to an integral funding source for the possible relocation of Central Complex operations. Built in 1924, the current Central Complex property is landlocked and lacks capacity for KCRC's needed expansion of garage and storage facilities. The commission has known for some time that relocation would be necessary to expand operations and thus purchased a 29-acre parcel in the Walker View Industrial Park in 2016.

Reporting

KCRC's Finance Division is working to ensure that operational and financial reporting and analysis meet the needs of each division's planning and decision-making processes. In the past, KCRC's Finance Division has focused on its analysis, record keeping, and reporting of federal, state, and other external agency requirements. Such analysis has lacked a direct connection to the internal performance measures of KCRC's other divisions, making it difficult for directors, staff, and the public to meaningfully connect the financial reporting with KCRC operations. By tailoring the data analysis

to specific activities, the reporting can assist each division's planning and decision-making process and provide a comprehensive understanding of how each division impacts the financial system as a whole.

EXHIBIT 2. KCRC Expenditure Trends FY 2010–FY 2019



Fund Balance

Fund balance is the accounting of assets that are in excess of liabilities and are available for spending, unless otherwise restricted. Previously, KCRC's target fund balance was based on the amount of MTF revenue received; however, this strategy left insufficient room to adapt to significant fluctuations in revenue.

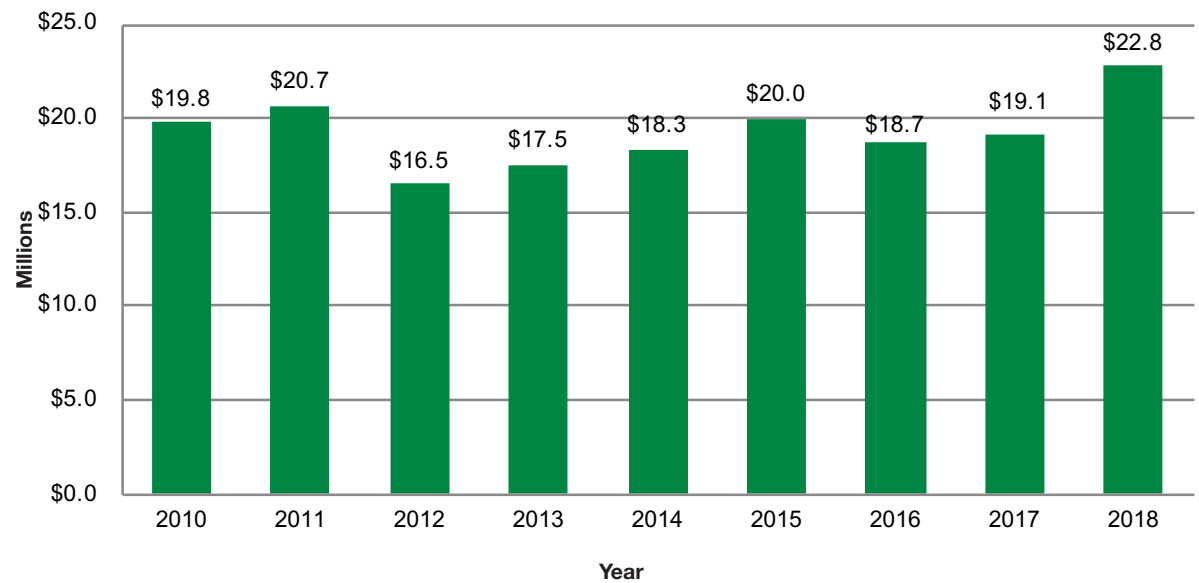
In September 2019, KCRC passed a new Fund Balance Policy, which requires a minimum level of unassigned fund balance of not less than 33 percent (four months) of the three-year average of regular operating expenditures. This ensures funds are available for continued necessary services should an unanticipated event adversely affect operations.

KCRC's fund balance is defined by five categories:

- **Nonspendable:** Inventory and prepaid items
- **Restricted:** Funds reserved for a specific purpose set by state statute or policy
- **Committed:** Funds allocated for a specific use by the board
- **Assigned:** Funds allocated for a specific use by the board or its designee
- **Unassigned:** Funds not classified in any other category

Should fund balance be depleted below the minimum level, KCRC will seek to replenish the funds within two years of use with budget or year-end surpluses.

EXHIBIT 3. KCRC Fund Balance History





Roads and Bridges

STRATEGIC OBJECTIVES

Preserve primary road conditions and expand the Economic Support Network through the implementation of the Long-range Plan for Primary Roads and Bridges

Sustain Local Road Cost-sharing Program by matching available township contributions within the constraints of the annual budget

Adopt and maintain bridge asset management plan

ROADS AND BRIDGES

Preserve primary road conditions and expand the ESN through the implementation of the Long-range Plan for Primary Roads and Bridges



- Monitor the performance of completed road and bridge improvements
- Maximize the number of lane mile improvements per year by emphasizing pavement preservation treatments

Encompassing nearly 2,000 miles of roads and 172 bridges throughout 21 townships, the KCRC network is diverse. Its corridors include both paved and unpaved roadways, connecting agricultural and rural regions to highly populated urban areas. KCRC's primary focus is to safely and efficiently manage these roadways, through proper improvements, preservation, and maintenance of the county road network.

Primary Roads

KCRC's primary roads are generally the county's longer-distance, higher-volume roadways that connect centers of population and employment and provide access to Michigan's highway network. From 2005 to 2015, KCRC experienced a decline in primary road conditions due in large part to the reduction in services and road improvements caused by low levels of funding and increased costs. With the passing of the 2015 transportation funding package, KCRC is on track to restore its primary road surface conditions, seeking to achieve 90 percent rated good or fair by 2025.

Long-range Plan for Primary Roads and Bridges

KCRC adopted a long-range plan (LRP) in 2017, thus achieving an objective defined in the 2015 strategic plan. The LRP provides a data-driven blueprint for the effective investment of resources that is aligned with KCRC's strategic objectives related to preserving and improving the county road network. Articulated in the LRP are annual performance targets that serve to measure the organization's yearly progress toward achieving these objectives. In implementing the LRP, KCRC has been able to increase the number of primary roads with good/fair surface conditions.

All-season Roads: Economic Support Network

KCRC has identified a portion of the primary road network that provides vital connections between population centers, areas of economic activity, and the state trunkline network. Consequently, this portion of KCRC's primary road network carries higher volumes of traffic and commercial activity.

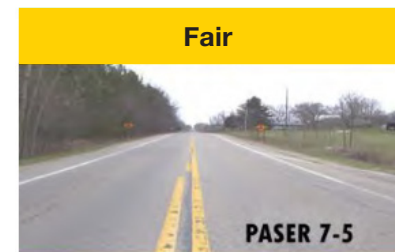
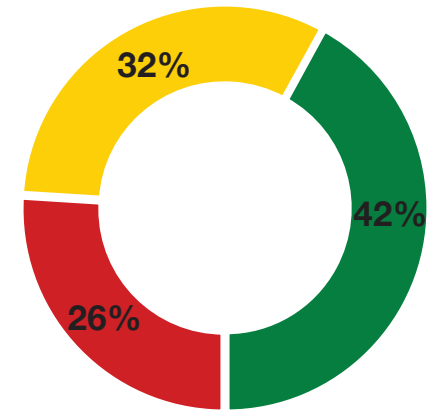
Known as the Economic Support Network, these routes consist of over 300 miles of road, of which nearly 115 miles are subject to seasonal weight and speed restrictions.

The intent of seasonal weight and speed restrictions is to protect the integrity of the road when frost is coming out of the ground by restricting load weight and travel speeds. This hinders economic activity by requiring commercial vehicles to haul lighter loads at reduced speeds. To reduce the number of Economic Support Network miles with seasonal restrictions, the LRP includes a performance measure to increase KCRC's all-season roads by three miles per year. As of the writing of this plan, the governor and Michigan Legislature are considering revenue increases for road and bridge improvements. Should the increases come to fruition, KCRC anticipates increasing the annual number of reconstruction projects to accelerate the growing number of all-season road miles along the Economic Support Network.

Rating the Network: The Right Fix at the Right Time

KCRC uses the annual Pavement Surface Evaluation and Rating (PASER) system to identify appropriate road improvements. The PASER ratings describe where the paved surface is positioned in its overall life cycle. Its main purpose is to aid in identifying the type and timing of road improvements to preserve the roadway in a state of good repair.

EXHIBIT 4. PASER and KCRC Primary Road Network 2019 Surface Condition Rating





Road Improvements

KCRC's LRP incorporates a "mix of fixes" approach to pavement management, combining different improvement and maintenance activities to address the varying needs of roads of different ages and conditions. This approach is based on an objective assessment of conditions, which is then used to determine the recommended course of action for the given road.

Road improvements made to KCRC's paved road network generally fall within one of three categories:

- **Reconstruction:** The most extensive improvement; the surface is replaced, and many times the supporting substructure is improved as well.
- **Resurfacing:** The replacement of the existing, deteriorated surface layer of the road or the overlay of a new surface over the existing pavement surface to extend the service life of the road and, in some cases, improve its load-carrying capacity. These treatments are less costly than total reconstruction but more costly than pavement preservation.
- **Pavement preservation:** The application of less than 1.5 inches of material over an existing surface to extend its service life. These preservation treatments help protect the roadway surface from the deteriorating effects of sunlight and moisture.

Identified in the LRP are annual improvement targets (Exhibit 5) aligned with KCRC's "mix of fixes" strategy to achieve a primary road surface condition rating of 90 percent good or fair by 2025.

Pavement Preservation

Central to KCRC's objective to improve and preserve its roads is pavement preservation. Historically, KCRC applied preservation treatments about five to seven years after a road had been reconstructed or resurfaced. Now, a preservation treatment is applied one to three years after reconstruction or resurfacing as a cost-effective way to protect the initial investment and prolong its benefits.

EXHIBIT 5. Lane Miles of Surface Treatments

Surface Treatment Targets	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Reconstruction Target	14	18	19	20	22	24	25	27	26	25
Resurfacing Target	4	5	5	5	6	6	6	6	6	0
Preventive Maintenance Target	111	144	154	163	175	193	149	92	89	130
Improvement Completed	169	183	199	247						



Paved Shoulders

KCRC continually pursues opportunities to expand paved-shoulder corridors along its road and bridge network because of the multipurpose benefits, including:

- Providing recovery space for errant vehicles
- Reducing shoulder maintenance costs
- Reducing edge cracking
- Providing facility for nonmotorized travel

KCRC currently has over 300 lane miles of paved shoulders across its primary road network. When designing major primary road construction or reconstruction projects, KCRC seeks to incorporate paved shoulders into the improvement where possible. For local road improvements, KCRC collaborates directly with the township, which shares the cost of the project, to explore whether paved shoulders are both possible and desired.

ROADS AND BRIDGES

Sustain Local Cost-Sharing Program by matching available township contributions within the constraints of the annual budget



Local Roads

Local roads comprise 65 percent of KCRC's network, which include over 1,000 paved road miles and nearly 311 unpaved (gravel) road miles. Kent County's 21 townships share costs with KCRC to fund local road improvements (Exhibit 6), so strategies are tailored to use available resources and meet specific township needs.

EXHIBIT 6. Township Cost-sharing Program

Paved Road Improvement

The improvement strategy for paved local roads is aligned with the primary road improvement categories: reconstruction, resurfacing, and pavement preservation.

KCRC: 50 percent Township: 50 percent

Gravel Road Minor Construction

Minor construction on gravel roads includes the addition of gravel over the width and length of a section of roadway, ditching to restore drainage, replacement of culverts, improvement of enclosed drainage systems, and tree removal.

KCRC: 45 percent Township: 55 percent

Gravel Road Major Construction

Major construction on a gravel road equates to total reconstruction of the road from gravel to paved.

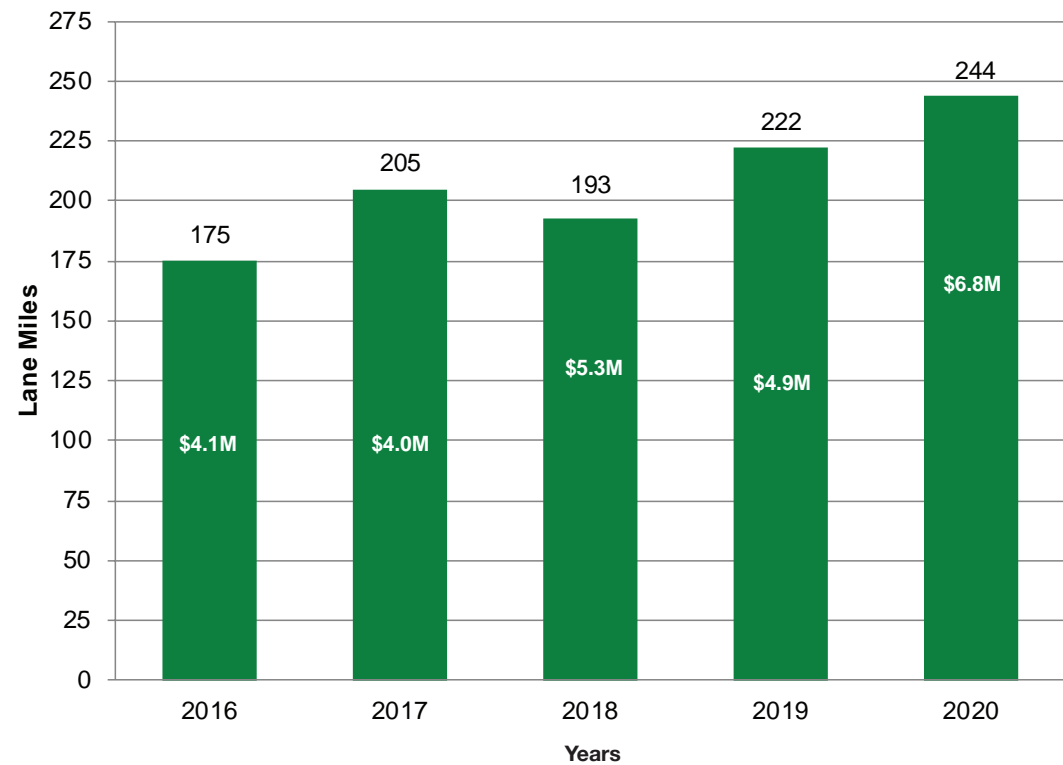
KCRC: 45 percent Township: 55 percent



Condition Ratings and Multiyear Investment

In 2015, KCRC began to rate the condition of its local roads annually rather than on a three-year cycle. The annual PASER system data has proven effective in assisting township officials with project prioritization and financial planning for multiyear improvement strategies (Exhibit 7). The cost-sharing program, PASER data, and collaborative partnership between the townships and KCRC have helped increase township investment in local road improvements, so KCRC will continue cost-sharing local improvements within annual budget constraints to sustain this trend.

EXHIBIT 7. Township Investment in Local Road Improvements



ROADS AND BRIDGES

Adopt and maintain bridge asset management plan



- Maintain 0 percent structurally deficient bridges as defined by the Federal Highway Administration

Bridges and Culverts

The KCRC network includes 172 bridges, of which 104 are culvert-type structures that span 20 feet or greater. Like its roads, KCRC rates the condition of these bridges, with staff completing inspections on a biennial basis using the Michigan Bridge Inventory Rating Scale.

Currently, all bridges within the KCRC network are rated in good or fair condition and as such, zero bridges are identified as structurally deficient. To maintain the condition of these structures, KCRC is allocating \$600,000 annually to replace or rehabilitate one to two bridges and is also replacing one to two large culverts (20 feet or greater) per year.

Improvements to KCRC's bridges generally fall within one of three categories:

- **Replacement:** The complete replacement of the bridge; this is the costliest improvement category.
- **Rehabilitation:** This includes replacement of the existing superstructure or substructure to extend the service life of the bridge. These treatments are less costly than total replacement but more costly than preventive maintenance and may include bridge rail, beam replacement, and deck replacement.
 - **Substructure:** Vertical structure that supports and holds the upper construction/ superstructure of the bridge
 - **Superstructure:** Parts of the bridge mounted on top of the substructure, including deck, girders, and slab
- **Preventive maintenance:** Cost-efficient, proactive maintenance activities that help maintain the condition of a structure in good repair. Activities include sealing, painting, and expansion joint reinstallation.

Bridge Asset Management Plan

To provide guidance for the planning, design, and implementation of a long-range bridge improvement strategy, KCRC is finalizing a bridge asset management plan. The plan will identify the age, condition, and improvement recommendations for each bridge within the network and support a proactive strategy to ultimately produce a ten-year improvement plan. The plan will facilitate ongoing maintenance and preservation efforts to keep bridges in good condition and extend their service life. It will also identify potential projects on facilities critical to linking the transportation network.





ROADS AND BRIDGES

Complete Streets

STRATEGIC OBJECTIVES

Utilize Complete Streets policy to guide future corridor improvements in cooperation with local units of government in Kent County and enhance outreach regarding KCRC's ongoing practices and partnerships that expand nonmotorized facilities

Participate in the update and implementation of the 2045 Metropolitan Transportation Plan, which supports all modes of transportation

ROADS AND BRIDGES: COMPLETE STREETS

Utilize Complete Streets policy to guide future corridor improvements in cooperation with local units of government in Kent County and enhance outreach regarding KCRC's ongoing practices and partnerships that expand nonmotorized facilities



Complete Streets are streets designed and operated within a community context to support safe mobility for all users regardless of age or ability or whether they are travelling as drivers, pedestrians, bicyclists, or public-transportation riders.

In 2015, KCRC adopted a Complete Streets policy in accordance with Michigan Public Acts 134 and 135. Articulated in the policy, KCRC is committed to:

- Considering all appropriate modes of transportation as part of project analysis
- Collaborating with townships and local municipalities to place transportation facilities where the need justifies the investment
- Exploring context-sensitive solutions to preserve the character, environment, and historical aspects of the areas where work takes place

KCRC will continue collaborating with townships and the community at large to incorporate a comprehensive approach for designing improvement projects that considers all transportation users. One example of KCRC's work in this area includes analysis completed at the trail crossings throughout KCRC's network. From the information garnered through the analysis, KCRC developed Standard Trail Crossing Traffic Control Details and will be partnering with trail owners and developers to ensure trail crossings have proper traffic controls.

ROADS AND BRIDGES: COMPLETE STREETS

**Participate in
the update and
implementation of
the 2045 Metropolitan
Transportation Plan,
which supports
all modes of
transportation**



Nonmotorized Transportation

Michigan Act 51 requires that road agencies spend not less than 1 percent of MTF funding on nonmotorized transportation services or facilities. KCRC has established strong collaborative partnerships with the state, county, and townships, serving as the Act 51 agency for the construction of nonmotorized facilities owned and maintained by these municipalities. As the Act 51 agency, KCRC assists with the communities' grant applications and planning, design, and construction oversight. To date, KCRC has collaborated on the construction of over 50 miles of nonmotorized vehicle trails adjacent to the right of way and over 30 miles outside the right of way.

Grand Valley Metro Council Nonmotorized Committee

KCRC is an active member of the Grand Valley Metro Council Nonmotorized Committee, which is responsible for identifying projects and priorities in West Michigan that improve the nonmotorized transportation network. The committee maintains a nonmotorized transportation plan that guides policy and project decisions related to pedestrian and bicycle issues. The plan is updated periodically to ensure that the needs of the public are being met and is included in GVMC's 2045 Metropolitan Transportation Plan, which is currently being finalized.





ROADS AND BRIDGES

Routine Maintenance

STRATEGIC OBJECTIVES

Maintain road and bridge assets in a state of good repair within the constraints of available financial resources in accordance with the following levels of priority: level one—critical, level two—high, level three—preventive

Work cooperatively with MDOT to maintain Kent County's trunklines in accordance with state maintenance contract to achieve balance between winter and nonwinter maintenance

ROADS AND BRIDGES: ROUTINE MAINTENANCE

Maintain road and bridge assets in a state of good repair within the constraints of available financial resources in accordance with the following levels of priority: level one—critical, level two—high, level three—preventive



Determining Priority of Routine Maintenance

Routine maintenance includes ongoing work completed on the surfaces of roads and bridges and within rights of way to keep these assets in good repair and functioning properly. These efforts help to prolong the life of a road or bridge by preventing premature deterioration. Exhibit 8 shows the estimated budget allocation for each major routine maintenance activity, exclusive of winter maintenance. This provides perspective on the resources required to address these major activities according to three levels of priority:

- **Level one—critical:** Correct conditions that pose potential safety concerns
- **Level two—high:** Address conditions that could fail in the near future and, if left unattended, may pose a threat to public health and safety
- **Level three—preventive:** Proactively repair assets to prolong their service life

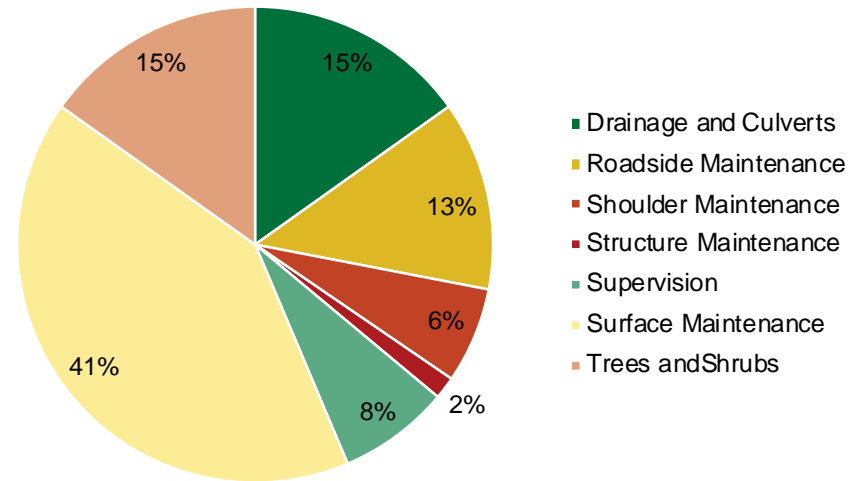
Maintenance Prioritization

Michigan law emphasizes proper maintenance of roads and bridges, mandating that these assets be kept in “reasonably safe and efficient condition.”

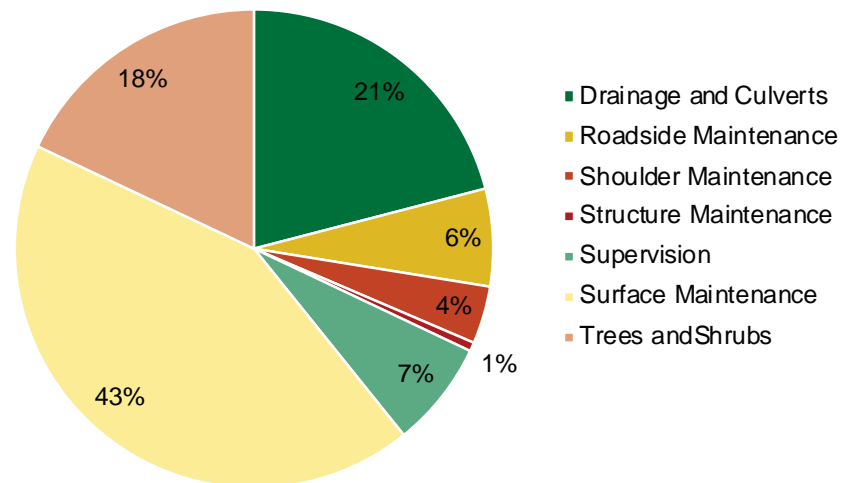
Using this mandate as a basis for prioritizing service delivery and expenditures, KCRC operates with the following guidelines for routine and winter maintenance:

- Prioritize routine maintenance work from the centerline of the road outward (i.e., maintenance issues related directly to the traveled portion of the road take precedence)
- Prioritize serving the largest number of motorists as quickly as possible, balancing quality with quantity

Primary Roads



Local Roads



ROADS AND BRIDGES: ROUTINE MAINTENANCE

Work cooperatively with MDOT to maintain Kent County's trunklines in accordance with the state maintenance contract to achieve balance between winter and nonwinter maintenance



Increased Investment

KCRC has dedicated 25 percent of the annual increase generated by the 2015 MTF funding package to routine maintenance. Since the increase's implementation in 2017, KCRC has focused the additional funds on expanding roadside vegetation management, culvert replacements, and drainage improvements. These efforts improve the efficient removal of water from the road, which in turn enhances safety and extends pavement life.

State Maintenance Contract

Separate from KCRC's work on the county road network is the maintenance KCRC completes on state trunklines under contract for MDOT. Under the contract, KCRC provides personnel, equipment, materials, and facilities to maintain the state trunkline highways and provide agreed-upon services, including snow removal, guardrail repair, pothole patching, mowing, and tree trimming. As KCRC works to right-size operations, including staff, fleet, and facilities, it will continue to more clearly define levels of service for both winter and nonwinter operations, seeking to align KCRC's strategic and long-range plans.





ROADS AND BRIDGES

Winter Maintenance

STRATEGIC OBJECTIVE

Maintain current levels of service during winter operations

ROADS AND BRIDGES: WINTER MAINTENANCE

Maintain current levels of service during winter operations



- Serve the largest number of motorists as quickly as possible during winter storms, balancing quality with quantity
- Complete one pass of snowplow services on the county road network within 36 hours of a storm's conclusion

Storm Response

Maintaining safety and mobility are the highest priorities of KCRC's storm response efforts. The intensity, timing, and duration of each winter event differ and response is adapted to address variables such as precipitation type, air and pavement temperature, traffic, wind, and time of day. Currently, KCRC strives to complete one pass of a snowplow throughout the entire road network within 36 hours of a winter storm's conclusion.

Resource Deployment

KCRC's fleet includes over 100 snowplows that are deployed from the north, central, south, and southwest complexes. During winter months, each KCRC complex staffs a full day crew and reduced night crew (approximately one-third the size of the day crew). State trunklines are maintained by both day and night crews while county routes are typically maintained by day crews. In order to complete one pass of plowing operations across the entire state and county network within a 36-hour period, 109 full-time driver/operator positions, supplemented by seasonal and part-time workers, are required. During severe winter storms, other KCRC personnel (both supervisory and nonsupervisory) who have maintained their commercial driver's licenses are called upon to assist.

To serve the most motorists in the least amount of time, KCRC first serves the roads with highest traffic volumes and speeds. Snow removal crews typically address roadways in the following order:

1. State highways (roads beginning with U.S., I, or M)
2. County primary roads (e.g., Byron Center Avenue, West River Drive)
3. Local paved roads (e.g., Egypt Valley Avenue, Homerich Avenue)
4. County local gravel roads, lake drives, subdivision streets

Innovation: Equipment and Materials

Innovations and improvements to equipment, materials, and their applications have improved the cost-efficiency and response times of KCRC's winter operations. For example, the use of wing plows, pictured below, has expanded snowplow capabilities during a single pass of a road. As KCRC upgrades its fleet, each new snowplow will be equipped with at least one wing plow.

The choice of material (salt, sand, salt/sand mix, and liquid calcium chloride) and amounts used depend on temperature, forecasted precipitation, and time of day. To lower the melting point and improve material effectiveness at lower temperatures, KCRC pre-wets granular salt and sand with calcium chloride. Pre-wetting also helps reduce bounce-off and ensures the material stays on the road. In addition, KCRC snowplows are equipped with groundspeed computers to more efficiently control the rate of material application.





Traffic Management

STRATEGIC OBJECTIVES

Develop a systemwide crash analysis process

Maintain signs, signals, and pavement markings consistent with state and federal regulations to the maximum extent possible with available resources

Support the dynamic development of intelligent transportation systems, including automated vehicles

TRAFFIC MANAGEMENT

Develop a systemwide crash analysis process



Proper traffic control is integral to the overall safety of the network for the motorists and nonmotorized users. KCRC proactively manages traffic operations throughout the network to minimize vehicle crashes and maximize mobility. To accomplish this, KCRC:

- Collects and reviews traffic count data on a three-year rotation along network corridors and intersections
- Monitors and investigates traffic crashes
- Performs corridor safety audits for proposed improvement projects
- Maintains traffic control assets in compliance with state and federal regulations

Proactive Traffic Management

At the intersection level, the analysis of traffic volume, speeds, and crash data is essential to ensure that proper traffic control measures are installed and modified if and when changes to conditions warrant. At the network level, traffic counts and trends are identified to monitor overall performance and traffic growth. KCRC regularly investigates serious traffic crashes to identify road conditions and traffic controls present at the time of the crash and analyze possible improvements.

Crash Rate Analysis

Crash rates for intersections within the KCRC network are calculated using crash and traffic volume data. Intersections are ranked by their crash rate and intersections with rates above the average are reviewed for possible safety improvements. Several intersections have recently received sign upgrades based on the review, including the T-intersection at Peach Ridge Avenue at 22 Mile Road. Here, larger signs were installed and reflective strips were added to the signposts.

Corridor Safety Audit

A corridor safety audit (CSA) process consists of a comprehensive review of the existing conditions along a roadway corridor that is scheduled for improvement. The audit includes analysis of crash data and a thorough field inspection. The inspection is comprised of a review of traffic crash history as well as roadway geometric features, including visibility issues, lane widths, curve layout, number of lanes, shoulder width, and turn lanes. Safety modifications are then recommended for incorporation into the improvement project based on the findings.

KCRC completes, on average, more than ten CSAs a year. Audits have led to such improvements as corridor widening, shoulder improvements, culvert replacements and extensions, sign upgrades, and sight-distance improvements.

TRAFFIC MANAGEMENT

Maintain signs, signals, and pavement markings consistent with state and federal regulations to the maximum extent possible with available resources



Traffic Control Devices: Signs, Signals, and Pavement Markings

Traffic operations are managed in accordance with the *U.S. Department of Transportation's Manual on Uniform Traffic Control Devices (MUTCD)*. The manual defines the standards used by traffic engineers nationwide to “install and maintain traffic control devices on all public streets, highways, bikeways, and private roads open to public travel.” The MUTCD contains nine traffic signal warrants that include vehicle and pedestrian volumes and crash experience criteria. Before installing traffic signals, one of these warrants must be met. Similar warrants have been developed for the installation of all-way stops as well as other traffic control devices.

Traffic signals and signs provide important information to drivers at all times, both day and night, and their visibility must be maintained for maximum effectiveness. Signs are installed based on upgrade needs, including widening construction, plats, expansions, and accidental knockdowns. KCRC seeks to update and replace signs using the following timelines:

- KCRC projects updating five signals per year based on a 20-year average signal life
- KCRC seeks to upgrade 20 percent of signs per year to achieve compliance with federal regulations

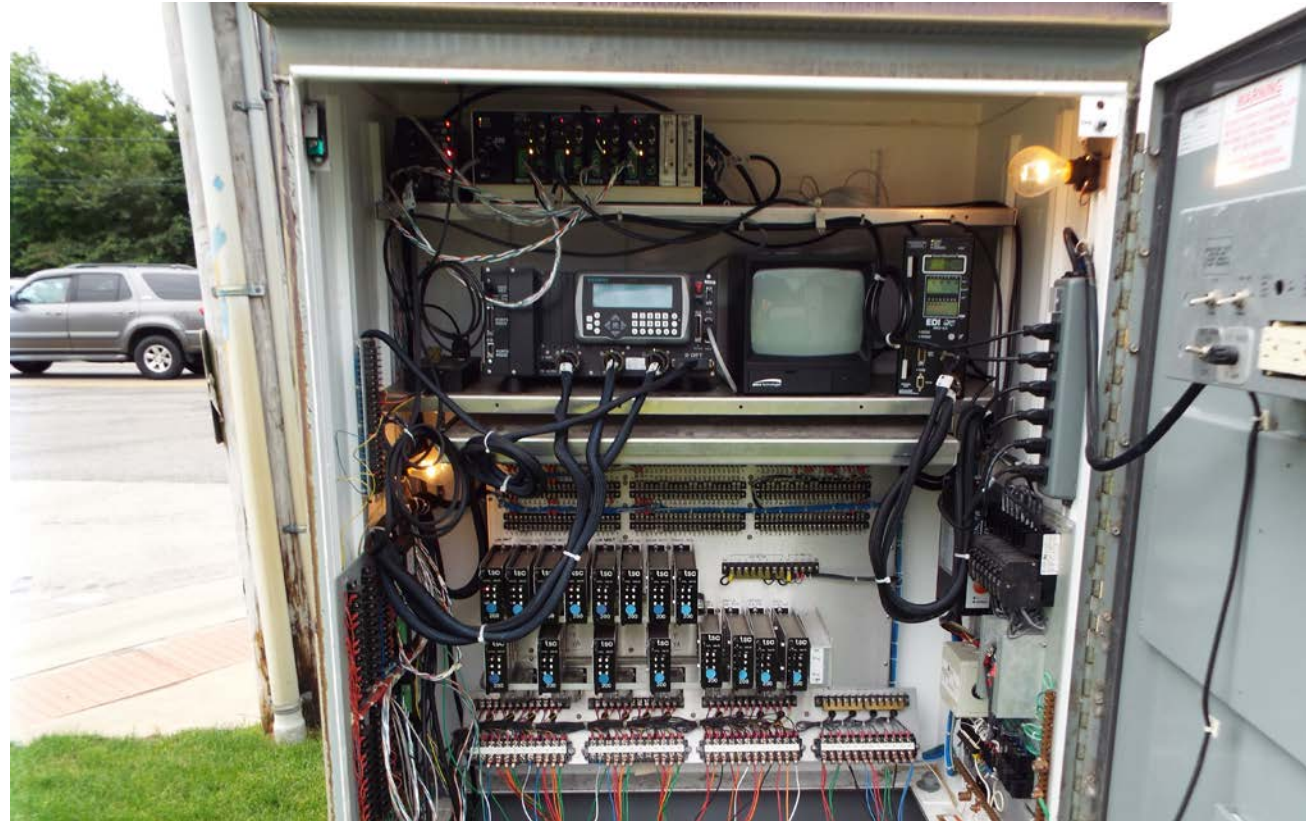


TRAFFIC MANAGEMENT

Support the dynamic development of intelligent transportation systems, including automated vehicles



As technology advances, the possibilities to improve safety and efficiency across transportation networks do as well, so it is essential for road agencies like KCRC to balance the management of existing traffic assets with the integration of new technologies. To stay current with automated vehicle trends, KCRC participates in national organizations and collaborates with local and regional partners in a traffic signal optimization project to review and modify cross-jurisdictional signal timing patterns, enhancing overall traffic flow. Additionally, new traffic signal installations now include control equipment with adaptable smart signal technology that enhances communication between automated vehicles and traffic signals. Traffic signs and pavement markings also comply with federal mandates for reflectivity so that they are recognizable to vehicle sensors.





Facilities and Equipment

STRATEGIC OBJECTIVE

Adopt a capital improvement program for KCRC equipment, buildings, and grounds

FACILITIES AND EQUIPMENT

Adopt a capital improvement program for KCRC equipment, buildings, and grounds



- Develop capital improvement schedule for KCRC complexes
- Implement a replacement schedule for the fleet
- Continue cost/benefit analysis and financing options for possible new central complex facility at Walker View

Capital Improvement Program

KCRC is currently finalizing a capital improvement program that includes a thorough inventory, analysis of condition, and prioritized five-year plan for improvement and replacement of KCRC's facilities and equipment. The program will advance KCRC's commitment to a systematic and proactive approach to capital improvement investments.

Facilities

The first step in the capital improvement process for facilities is to complete a condition assessment for each major complex asset. Based on the asset, the assessment will be completed by a third-party consultant, field expert, or qualified KCRC employee and will factor in the physical condition of the asset, its likelihood of failure, and the consequence of failure to KCRC's operations. Based on the recommendations derived from the assessment, KCRC will determine a prioritization of investment, replacement schedule, and associated costs.

Right-sizing: Future Relocation of Central Complex

Constructed in 1924, KCRC's Central Complex at 1500 Scribner Avenue in Grand Rapids is situated on 14.2 acres. The complex underwent remodeling in the 1950s and 1980s. However, because it is landlocked by its borders - two city streets, a railroad and the Grand River - it lacks capacity for expansion. Therefore, KCRC has known for some time that relocation would be necessary to accommodate the increasing demand for services and road improvements related to the growth and development within the county's central urbanized area that is maintained out of the Central Complex.

In 2016, KCRC purchased a 29-acre parcel in the Walker View Industrial Park in Walker, Michigan, that met the three requirements for relocation: space to accommodate expansion, a centralized location in Kent County, and proximity to the state trunkline network. The design development process of the Walker View site projects that relocation will substantially increase maintenance and storage capacity while reducing administrative office space by over 35 percent.

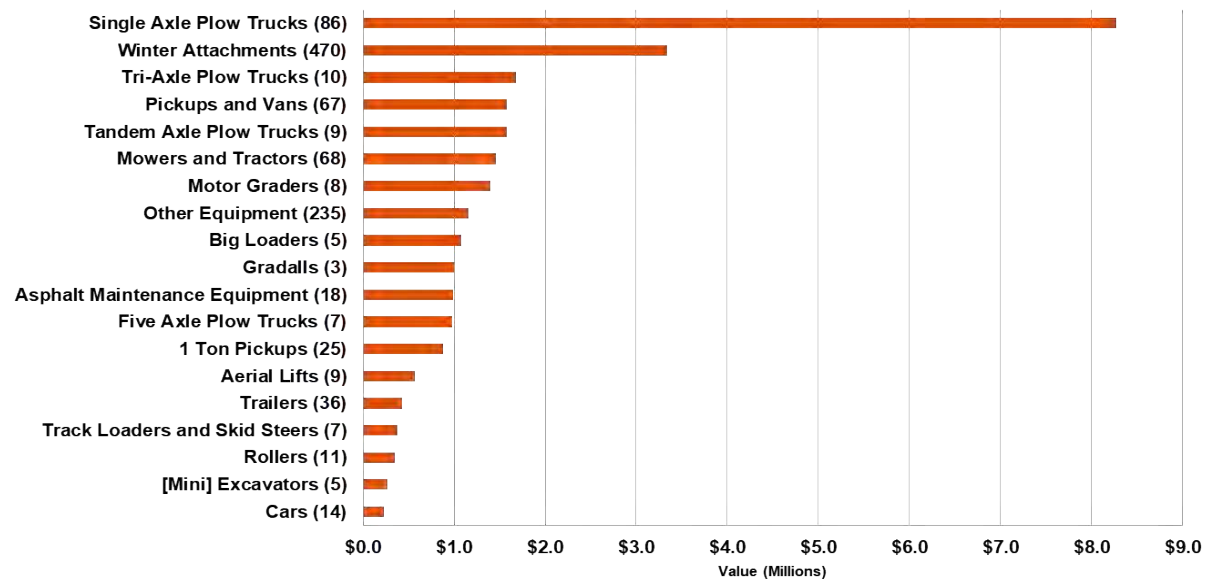


In 2020, KCRC signed an agreement with the City of Grand Rapids providing the City a one-year option to decide to purchase the Scribner property. While the City performs its due diligence review of the Scribner property, KCRC is proceeding with phase one construction at the Walker View site. This work includes mass site grading and construction of material and equipment storage facilities. Scheduling of phase two construction will be determined once the City makes its decision regarding the Scribner property.

Equipment

The reliability of KCRC’s truck fleet and other equipment is imperative to KCRC’s daily operations. This is most critical during times of emergency or harsh weather conditions, when the community’s ability to safely navigate the roads relies on KCRC’s timely and efficient response. Therefore, the capital improvement program focuses on investment and preventive maintenance strategies that maximize equipment on the road and minimize time in the garage.

EXHIBIT 9. Value of Fleet by Type of Equipment—\$27 Million





Fabrication

KCRC's snowplows are possibly the most versatile pieces of equipment within the fleet. These trucks are used year-round, not only for winter storm response efforts, but also to haul materials for routine maintenance activities and construction projects. To optimize the trucks' performance and consistency of design, a cab and chassis are purchased from a third-party vendor and then customized to KCRC specifications by KCRC's fabrication shop. The mechanics custom fit the truck with major components, including its underbody scraper, box, hydraulics, and electrical features.

Replacement Strategy

Historically, KCRC's primary fleet replacement strategy has been based on the age of the vehicle. While developing the capital improvement program, KCRC has analyzed other criteria to prioritize replacement based on cost-efficiency and performance. KCRC's customized trucks represent significant investment but have a small resale market after years of heavy use, so replacement of these pieces is focused on performance-based criteria rather than market-driven return. Conversely, pickup trucks and other vehicles are purchased with limited or no customization and viewed as short-term investments with higher market return.



Human Resources

STRATEGIC OBJECTIVES

Evaluate KCRC's competitiveness in retaining and recruiting qualified individuals

Ensure that KCRC is developing individuals to assume key leadership positions within the organization through succession planning

Maintain staffing levels consistent with increased demand for services, both within the organization and the community at large

Support a commitment to diversity, inclusion, and equity in the recruitment, promotion, and retention of employees and within the organization's internal culture

HUMAN RESOURCES

Evaluate KCRC's competitiveness in retaining and recruiting qualified individuals



Recruiting

Recruiting and developing talent is integral to KCRC's productivity. To attract, retain, and motivate qualified employees with competitive salaries, KCRC conducts a periodic review of the labor market through a wage and classification study for both hourly and salaried staff. The pay grade structure and corresponding salary ranges are designed to allow for market-competitive compensation along with support of internal advancement and/or succession planning opportunities. The pay grade structure within which an employee is situated is determined by the employee's position, job complexity, knowledge, skills, education, relative work experience, performance, and tenure with the organization.



HUMAN RESOURCES

Ensure that KCRC is developing individuals to assume key leadership positions within the organization through succession planning



Succession Planning

Within the next five years, KCRC projects 51 employee retirements, or 22 percent of its workforce, including members of the leadership team. As KCRC plans for the future, it is essential to have an integrated, systematic approach that identifies employees, evaluates their abilities, and prepares them for future advancement into key positions that are critical to achieving KCRC's strategic objectives.

In 2018, KCRC introduced a new succession planning process, focusing first on its executive leadership positions. The five-step process includes assessment of key positions, core competencies, current workforce potential, and program effectiveness. It will become the responsibility of each supervisor with key positions to annually monitor development activity and success of employees working in those positions to ensure succession planning takes place in concert with KCRC's mission, values, and vision contained in the current strategic plan.



HUMAN RESOURCES

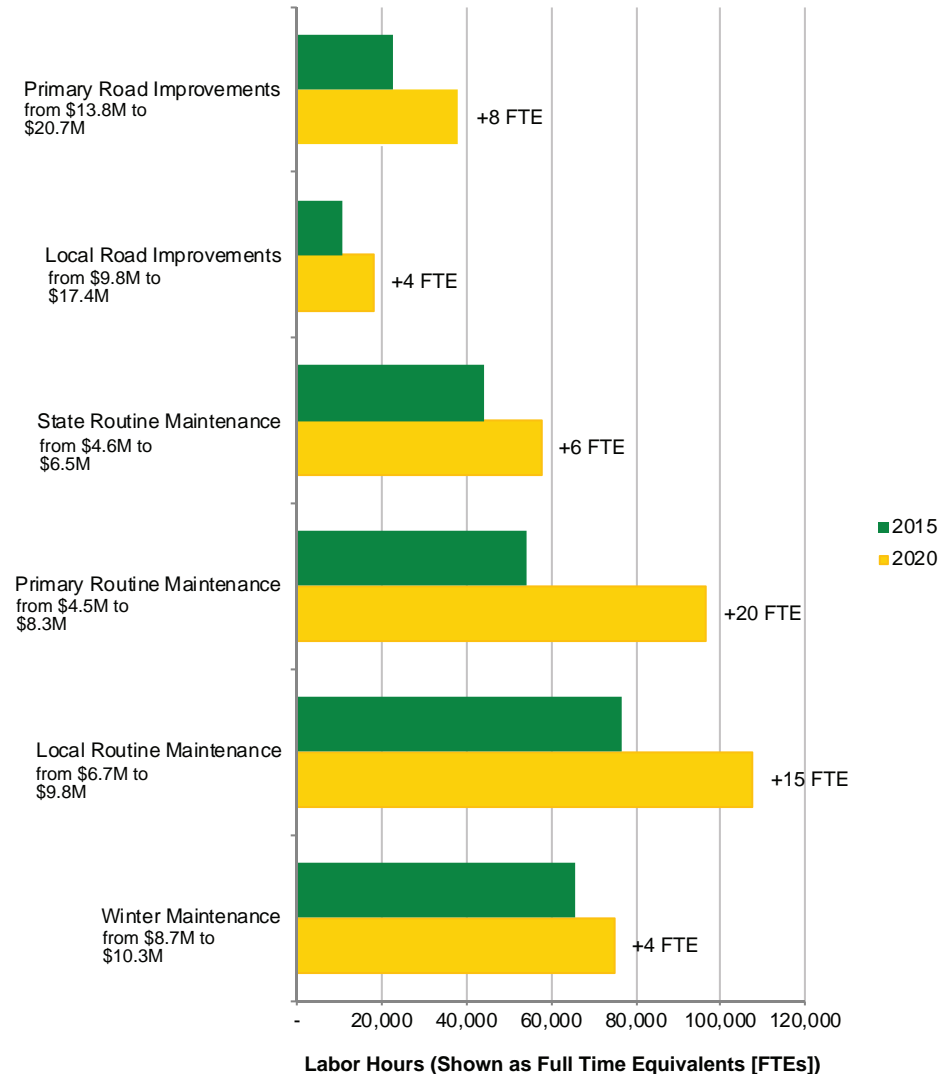
Maintain staffing levels consistent with increased demand for services, both within the organization and the community at large



Right-size Staffing

A reduction in revenue levels from 2005 to 2012 required subsequent reductions in staffing levels. As MTF revenues and expenditures increase, so too does KCRC's need to maintain staffing levels consistent with increased demand for services. In response, KCRC is analyzing how to align staffing levels to best address strategic objectives, LRP road improvement targets, and public demand.

EXHIBIT 10. KCRC Growth of Labor Hours from 2015–2020



HUMAN RESOURCES

Support a commitment to diversity, inclusion, and equity in the recruitment, promotion, and retention of employees and within the organization's internal culture



KCRC believes that the core values of collaboration and coordination not only underscore the importance of fostering strong partnerships with other agencies, but also relate to cultivating productive relationships within the organization itself. Aligned with this, KCRC strives to promote diverse backgrounds and experiences among staff to leverage different perspectives and help achieve the organization's strategic objectives.

Over the course of the next one to three years, human resources will work to define diversity, build inclusion, and ultimately create systems for sustainability as they relate to hiring, promotion, and the organization's overall workplace environment.





Employee Safety

STRATEGIC OBJECTIVES

Evaluate KCRC's current safety procedures and training to create and sustain a safe and secure work environment for all employees

Enlist supervisors and veteran employees to serve as safety liaisons to model safe practices and promote KCRC's safety culture

Conduct employee injury root-cause analysis in connection with job hazard analysis to enhance standards of procedures

EMPLOYEE SAFETY

Evaluate KCRC's current safety procedures and training to create and sustain a safe and secure work environment for all employees



- Prioritize training to improve employee knowledge and awareness of safety practices and procedures

Training

The Michigan Occupational Safety and Health Act (MIOSHA) details the standard rights and responsibilities of both employees and employers under Michigan occupational safety law. MIOSHA standards and guidelines serve as the foundation for KCRC employee training by ensuring compliance with state safety regulations. The employee safety superintendent continuously strives toward training opportunities beyond what is required by MIOSHA, enhancing employee knowledge, performance, and safe working practices.

Under the guidance of the employee safety superintendent, unscheduled onsite safety audits have also been incorporated. These spontaneous inspections occur within KCRC complexes and at external work zones to evaluate employee adherence to KCRC and MIOSHA standards and procedures, providing an opportunity for corrective action before an incident occurs.

EMPLOYEE SAFETY

Enlist supervisors and veteran employees to serve as safety liaisons to model safe practices and promote KCRC's safety culture



Safety Committee

KCRC's safety committee is integral to the organization's objective to promote employee engagement and a safety culture. Composed of representatives from each of the divisions, the committee meets with the employee safety superintendent on a bimonthly basis. During committee meetings, the group reviews accident reports and safety-related issues, discusses best practices, and proposes steps to manage safety risks in the workplace.

Aligned with these discussions, the employee safety superintendent provides a weekly "Toolbox Talk" posting that addresses relevant issues targeting myriad topics that directly affect KCRC employees.

EMPLOYEE SAFETY

Conduct employee injury root-cause analysis in connection with job hazard analysis to enhance standards of procedures



Root-cause Analysis

KCRC constantly strives to reduce the number and severity of on-the-job accidents and injuries. By conducting root-cause analyses, KCRC maintains a process of identifying the underlying cause of a problem and then planning, testing, and implementing solutions to reduce or remove the issue from the workplace.





Communications

STRATEGIC OBJECTIVE

Enhance effective and responsive communication by maintaining consistent messaging and branding across multiplatform outreach

COMMUNICATIONS

Enhance effective and responsive communication by maintaining consistent messaging and branding across multiplatform outreach



- Align messaging with KCRC's strategic objectives in accordance with the organization's vision, mission, and values
- Incorporate metrics to evaluate effectiveness of outreach and adapt tactics as needed to achieve objectives

Like its “mix of fixes” approach to improving road conditions, KCRC engages various platforms to convey its messaging in the most effective ways. During severe flooding events in 2017 and 2018, for example, Facebook and Twitter served as invaluable tools to relay vital information to both the public and media and to direct stakeholders to further resources on the website. In addition, personal interaction offered at public information meetings for proposed improvement projects have proven effective in addressing specific questions and concerns from property owners. Alternately, KCRC concisely conveys support or concern regarding proposed legislation by writing legislators and including data and information that can be shared or quoted, as needed. Regardless of platform, the voice of the outreach must remain identifiably KCRC's, aligned with the core values that underscore the organization.

KCRC's messaging hierarchy begins with the organization's mission, vision, and values and aligns with the strategic objectives and corresponding performance measures. As KCRC enhances the channels of outreach used, the consistency of messaging across these platforms is imperative. Outreach must be concise, accurate, and aligned with the messaging hierarchy.

Also critical to KCRC's communication approach is the use of data and metrics to evaluate and adjust outreach efforts based on audience behavior and feedback. To monitor its digital outreach, KCRC has integrated analytics tools on its website and social media platforms. Evaluation of website traffic helped inform the 2018 update to the KCRC website, which incorporated more responsive features, enhanced navigation tools, and updated Section 508 accessibility compliance.

Critical to KCRC's communication approach is the use of data and metrics to evaluate and adjust outreach efforts based on audience behavior and feedback. To monitor its digital outreach, KCRC has integrated analytics tools on its website and social media platforms. Evaluation of website traffic helped inform the 2018 update to the KCRC website, which incorporated more responsive features, enhanced navigation tools, and updated section 508 accessibility compliance.

