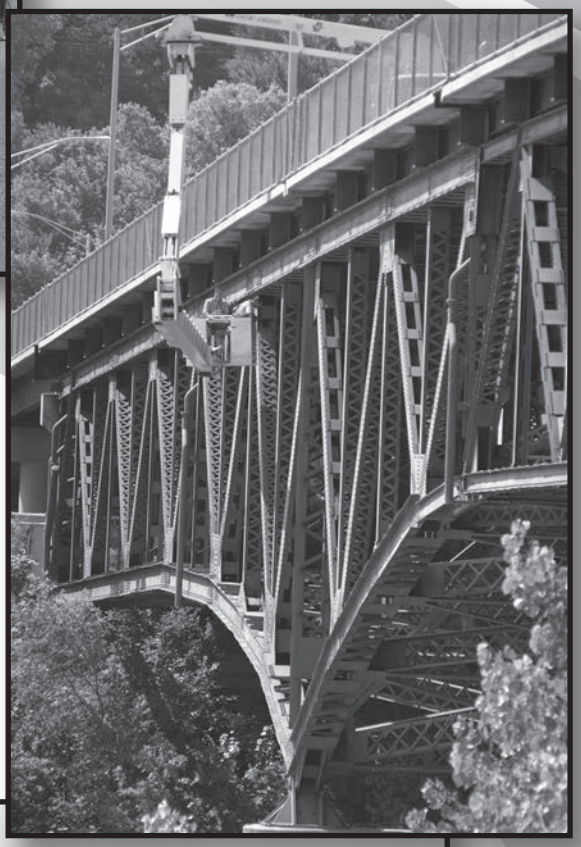
Project Selection Criteria



PROJECT SELECTION CRITERIA

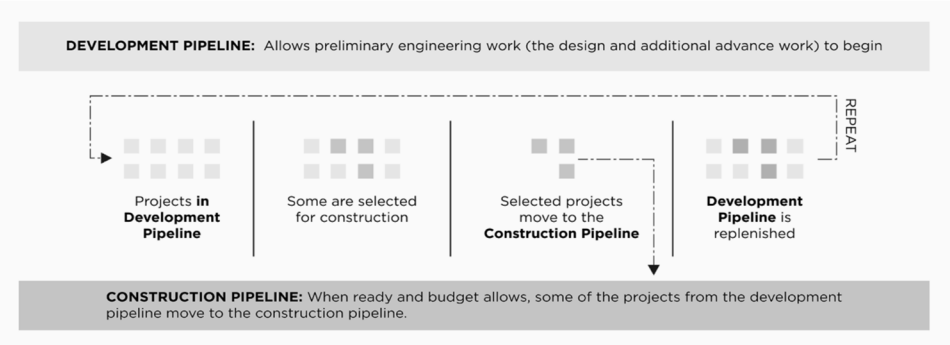
Projects in the STIP are created from various levels of government (city, county, and state) using many different processes and criteria. The criteria described in this section are those used by KDOT for the projects currently programmed in FFY 2025-2028 and listed in this document in Appendix A- the Project Index. At the close of the 2020 State legislative session, the legislature passed a new transportation program called the Eisenhower Legacy Transportation Program, which is abbreviated as (IKE). The IKE webpage may be viewed at https://ike.ksdot.gov/. The IKE program is designed to be flexible and responsive to shifting needs in Kansas transportation. The new state transportation program is in effect from July 1, 2020, the beginning of state fiscal year (SFY) 2021 through (SFY) 2030 which ends June 30, 2030. The first focus of the new program was to bring to construction the remaining delayed T-WORKS projects and this has largely been accomplished. Of the eighteen delayed T-WORKS projects, a single phase of each project has been let to construction. Two project phases of a project remain to let and are currently scheduled for construction in 2026.

Along with the completion of the delayed T-WORKS projects, IKE continues to emphasize preservation of the existing state system with funding levels in IKE for projects that address existing roadways and bridges infrastructure set for replacement at the rate used. This renewed dedication to our state system will safeguard our existing system and help move the state in a positive direction towards meeting the adopted federal preservation performance measures (for more information, refer to the Performance Measure narrative). As preservation projects are usually smaller in scale and generally selected on a yearly basis, most preservation related projects only appear in the first year of the STIP Project Index. These projects are identified by the 1RR subcategory included in their project information in Appendix A. The preservation projects for 2025 have been largely selected and programmed are in Appendix A- the Project Index.

Another aspect of IKE is funding for projects in the Modernization and Expansion program. Since funding is limited for these two programs and projects are generally larger in scale and more costly, projects are selected for construction from a pool of development pipeline projects. Projects in the development pipeline pool are in the design stage of development and are approved for such activities as preliminary design, right of way acquisition, utility relocations and

final design. As projects are either selected for the development pipeline or selected for construction and promoted from the pool of development pipeline projects, newly selected projects will be amended into the STIP using the amendment procedures in place.

Every two years, local consult meetings will be conducted across the state with the next round of meetings anticipated to be in the summer/fall of 2025. At these meetings, together with our local partners, new projects will be selected and added to the development pipeline. While this will result in more projects available in the development pipeline than existing funding allows to be constructed, this method ensures a steady supply of projects is available for advancement to construction with no lag between development and the construction phase. This process allows for better leverage of federal funds and a more efficient use of resources. Projects will be selected to advance from the development pipeline to construction based upon need and other factors, like local support. This ensures that projects with the greatest need and support are selected and that limited resources are used efficiently and effectively (see diagram).



Along with addressing prior projects and the established Core programs, new categories were created in IKE to address newly identified needs that emerged from the local consult dialogues held in the summer and fall of 2021 before IKE's passage. These programs were established in IKE to address emerging concerns like rural broadband expansion, transportation technology, and safer drivers. Rural broadband expansion and transportation technology is being coordinated jointly by the Office of Broadband in the Kansas Department of Commerce and KDOT. In KDOT, two new subcategories were established to address these initiatives: the Innovative Connected Technologies (ICT) subcategory in the Modernization program and the Transportation Technology Development (ITP) subcategory in the Local Support program. In general, the ICT group of projects will be captured in the STIP as the work is usually associated with State roadways, while the ITP projects are not included in the STIP document as the program is a non-Core program administered by LPAs on local roads. Another new program to provide safer new drivers is the Driver's Education Scholarship Fund (DESF). Projects for this program are not included in the STIP as they are not funded with FHWA federal funding and are not road related projects. The final new program in IKE is the Preser-

vation Plus program, which is unique in that the program was created to provide funds to augment existing selected projects where the addition of safety actions or broadband is sensical, creating efficiencies in programming. No projects are directly associated with this new program, which is managed under the PPP subcategory in the Core program of Preservation. Instead, as existing state funded projects are identified from the Preservation or Modernization programs, although all program categories are eligible, to which a modest influx of funding would allow beneficial safety actions or broadband additions to be achieved, funding will be transferred from the Preservation Plus subcategory for the additional work.

Finally, IKE continues to provide provisions for other transportation modes in the state including rail, air, and transit. While other modes are very valuable and bring many benefits to Kansans, with the exception of transit, these other modes are not included in the requirements codified in the U.S.C. Title 23 and are not addressed in the STIP. Transit information is provided in the Public Transit Program narrative, with information provided to the level required by U.S.C. Title 23 and by the Federal Transit Administration (FTA).

While the passage of IKE is vital for progress in transportation in Kansas, KDOT recognizes that many of the funding streams for the highway program are not guaranteed for only highway use. Some of the revenue streams that KDOT relies on for the State highways and the new transportation program are at the discretion of the Legislature- specifically the Sales & Compensating taxes. In the prior program, T-WORKS, reductions in this source and in the total funding available to KDOT impacted the program that KDOT was able to deliver and the condition that State Highways were able to be maintained. Under the new program, IKE, these uncertainties in funding continue as the distribution of the Sales & Compensating taxes remain at the discretion of the legislature. However, the 2020 legislature session moved in a positive direction by enacting IKE and by providing three funding streams for IKE-dedicated funding, funding that is at the discretion of the legislature and funding through additional bonding. Bonding is anticipated for a portion of IKE and is expected to be utilized in all four years of the period of this STIP.

Although a totally dedicated funding stream was not secured for IKE, the manner in which types of projects are funded has been modified from past transportation programs in an effort to reduce the impact of uncertain funding and minimize decline in the existing transportation system. In IKE, KDOT will use “protected” sources of funding, such as the gas tax and federal funding, for ongoing preservation of the current system and revenues from less secure sources, like the Sales & Compensating taxes, to fund the higher profile projects from program categories like Modernization and Expansion. While projects from these two program categories may contribute

to the health of the system, they are not critical to preserving the health. Additionally, under the new transportation program, KDOT will leverage partnerships with local communities to help maintain the transportation system.

The passage of a new federal transportation program, Bipartisan Infrastructure Law (BIL), also known as the Infrastructure Investment and Jobs Act, alongside the state program, the Eisenhower Legacy Transportation Program (IKE), gives KDOT the assurance needed to continue with the development and execution (let to construction) of projects from IKE through 2028. The only drawback to the new federal transportation program is that funding has only been secured through 2026 as the program was only funded for six years; as discussed in the Program Financing portion of this STIP, funding during the last two years of this STIP, FFY 2027-2028, is estimated at current BIL levels. KDOT is comfortable that the assumptions within this STIP are prudent and conservative, since they are based on the funding levels laid out in both IKE at the state level and BIL at the federal level. With these two programs in place, there is a reasonable expectation that the commitment of funding needed for projects will be available for the four years of this STIP. The certainty gained from having these two programs in place allows KDOT to focus fully on the work of delivering IKE to Kansans through the continued development of design pipeline projects and the promotion of many of these design projects to the construction pipeline on a periodic rolling two-year basis.

Additionally, State funding resources have rebounded fully from the effects of the COVID-19 pandemic, returning to pre-pandemic levels with no downtrends observed to this point in response to inflation and the elevation in gas prices the nation is currently experiencing. However, KDOT's Office of Finance and Budget and the two budgeting committees at the State level are monitoring monthly data to ascertain if either are beginning to impact the States' economy. If KDOT resources begin to trend downwards and action becomes warranted, KDOT will implement changes in the KDOT Cash-Flow and, if needed, in the volume of projects being programmed.

One impact from inflation that KDOT is experiencing is an increase in bid prices when letting projects to construction. The quick uptick in pricing, especially for fuel, has necessitated KDOT to look at project estimates more frequently than is the norm in the life cycle of a project. Generally, cost estimates are reviewed at key points in a project's development at creation, at field check, at approval for design, and, also, bi-annually in estimate reviews. However, KDOT is discovering an additional estimate evaluation is needed 3-6 months prior to letting to construction, due to the rapidity of change being seen in pricing. While the need for additional estimating

is presenting some challenges to KDOT, the agency is taking the necessary steps needed to meet the changing conditions.

To facilitate program management under IKE, KDOT categorizes road and bridge construction projects into four broad groups or Core category programs: Preservation, Modernization, Expansion and Local Construction. Under IKE, the Preservation program projects will continue to be selected on an annual basis through a yearly review process, and federally funded projects from the Preservation program not captured in the initial STIP document will be amended using the amendment process in place. Projects from the Modernization and Expansion programs will progress through a development pipeline. As previously discussed, development pipeline projects will continue to be added through the local consult process on a two-year schedule with additional development pipeline projects anticipated to be selected in summer/fall of 2025. Each year some projects will be advanced from the development pipeline to construction (letting) for the upcoming two-year period as the budget allows. Through this rolling two-year approach, KDOT maintains increased flexibility to respond to economic pressures or opportunities as they arise by selecting projects to advance to construction as funding allows while maintaining a pool of projects ready to advance if the opportunity arises. Maintaining this pool of development pipeline projects increases efficiency and ensures that there is very little lag time between funds becoming available and a project moving to letting for construction.

For projects in this STIP, the rolling selection process usually means that most of the projects in the first two years have been selected and programmed for construction while many of the projects in the latter two years are yet to be selected or are in the design development pipeline. However, as discussed in more detail in the Program Financing narrative, because many new programs in BIL either have requirements that must be met before programming funds or the fund requirements have not been established, projects have not been developed for many of the new BIL fund program groups (and thereby no obligations are estimated). This is anticipated to be rectified with time as the requirements that allow obligation of funding will be in place and information concerning the requirements of the fund program will be established at the federal level.

The FFY 2025-2028 projects listed in this STIP in Appendix A are those projects that have been evaluated and programmed to proceed in one or more phases of work and are anticipated to obligate in one or more years of the STIP. Not all of the projects listed are approved for construction and may instead only be approved for one or some combination of the design development work phases of preliminary engineering, right of way, or utility. Additionally, projects with federal funding that have an annual selection process, such as railroad

crossing projects, may be partially represented in the STIP document because of timing differences between the development period of the STIP and the project selection period. Finally, projects using many of the new BIL fund groupings have not been developed yet. Projects with federal funds that meet the criteria of U.S.C. Title 23 or projects that are regionally significant that move into or are selected and developed after the preparation of the STIP document will be added to the STIP through amendment as described in the "STIP Revision Procedures" (https://www.ksdot.gov/Assets/wwwksdotorg/bureaus/burProgProjMgmt/STIP/MultipleUseAssets/2010-Approved-STIP-Revision-Procedures-official.pdf).

In addition to IKE program guidance and the requirements of the federal transportation acts, the July 2021 approved 2020-2045 Kansas Long Range Transportation Plan (LRTP), https://www.ksdot.gov/Assets/wwwksdotorg/bureaus/burTransPlan/Documents/KDOT_LRTP.pdf, provides a framework of goals and objectives used in the development and selection of projects in this STIP. The goals and objectives in the adopted LRTP were developed over the course of 2019 through mid-2021 in cooperation with many stakeholders and partners across the state, including the six Kansas Metropolitan Planning Organizations (MPOs), ensuring that the goals and objectives are relevant for and representative of the people KDOT serves- Kansas citizens.

To augment the 2020-2045 LRTP, and as directed by FHWA as part of their recently adopted performance-based data driven approach to asset management and funding allocation, Kansas developed a Transportation Asset Management Plan (TAMP) in 2018. KDOT issued an updated version of the TAMP in 2022 which is available at the following link: https://www.ksdot.gov/Assets/wwwksdotorg/bureaus/burTransPlan/pubtrans/pdf/KDOT_TAMP.pdf. The TAMP evaluates current infrastructure to assess the funding level and work effort required to maintain said infrastructure in acceptable condition. Based on information gleaned from the TAMP, the agency, stakeholders, and legislature worked together to ensure that a key goal of both the 2020-2045 LRTP and the IKE program is providing funding levels for replacement of infrastructure at the rate that infrastructure is used to ensure that the current State system is maintained in acceptable condition. Together, the 2020-2045 LRTP and TAMP assist KDOT in their management decisions, from project selection evaluations to project design and implementation, providing the foundation for KDOT's day-to-day decision-making processes and are embodied by IKE, and the projects selected and programmed in this STIP. In turn, the execution of the projects listed in this STIP moves KDOT towards achievement of the performance measures identified in both the 2020-2045 LRTP and the TAMP.

─ PROJECT SELECTION─
(An Expanded Process)

IKE continues the project selection method established under T-WORKS with engineering factors playing a key role, supplemented with economic impact evaluation and/or local input in some KDOT programs. KDOT categorizes highway construction projects into four broad programs─ **Preservation** for projects that maintain what is already in place (pavement rehabilitation and reconstruction and bridge repairs and replacements); **Modernization** for projects that improve safety by improving the existing roadway (shoulder improvements, flattening hills, straightening curves, and improving interchanges); **Expansion** for projects that add to the existing system (new lanes and interchanges); and **Local Construction** for projects on county and city roads. Within each of these programs are funding and/or project-type groups that separate projects into more specific groups or subcategories.

Project Selection Criteria				
	Engineering Factors	Regional Priorities	Economic Impact	Other
Preservation	100%	-	-	
Modernization	80%	20%	-	
Expansion	50 %	25%	25%	
Local Construction				100 %

The Project Selection Criteria chart shows the criteria applied to each of the programs and the factor(s) weight applied for scoring and selecting projects from the Core programs that are in this STIP document. The project selection criteria applied to each of the programs is specific to what is most relevant to the work accomplished in the program. For example, priority formulas and other data driven tools work well to select preservation-type projects but are not as effective when used solely in the selection of projects in the Modernization and Expansion programs. Modernization types of projects benefit from engineering factors augmented by regional priorities and Expansion projects, being larger in scale, are best considered with the perspective of engineering factors, regional priorities, and analysis of the economic benefits/impacts. Revising the project selection criteria to include regional priorities and economic impacts allowed a way for stakeholder considerations and regional benefits to be included in the evaluation of projects, creating a more inclusive and collaborative process. The fourth program, Local Construction, while a Core program, is not a program for which KDOT determines the selection criteria; instead, local public authorities (LPAs) are 100 percent responsible for determining the project selection criteria for this program. The Local Construction process is coordinated at KDOT by the Bureau of Local Projects and is discussed in greater detail in the Local Construction Program located at the end of this narrative section. Finally, looking to the future, KDOT continues to explore ways to improve project

selection, which is an objective identified in the 2020-2045 LRTP. Specifically, the plan highlights the need for KDOT to continue to refine and improve the effectiveness of the project selection criteria with an emphasis on finding new and better methods to evaluate and integrate economic development and job growth into the criteria.

The Priority Formula, crash data, cost analysis, traffic flow modeling, and other tools are used to determine engineering factors; while the 2020-2045 LRTP, MPO plans, State Safety plans, local entity plans, local consult meetings, and the TAMP are all tools used by KDOT to determine regional priorities and economic impacts. By employing the project selection criteria, KDOT ensures that selected projects meet the goals and objectives of the 2020-2045 LRTP, the TAMP guidelines, the rules codified in federal regulations including BIL, and the requirements of IKE legislation. Together, these tools aid KDOT in maintaining existing infrastructure at acceptable levels, in making sound decisions about future infrastructure needs, and enable project selections that meet both goals.

─ PRESERVATION ─

(Taking care of what we have)

The first Core program category in IKE is the Preservation program. The functions of this program are to protect the public's investment in its highway system by preserving the "as built" condition for as long as possible and improving roadway safety. Without proper maintenance, the cost for major repairs and/or replacement at a future date will be significantly greater than the cost of timely maintenance. Roadway safety actions such as signage, pavement markings, rumble strips, and lighting focus on keeping vehicles on the roadway and minimizing the consequences of a vehicle leaving the roadway. Projects within this category contribute to the 2020-2045 LRTP goals of Safety & Security and Asset Preservation and are the focus of the TAMP. As a step towards safeguarding the investment already made in existing infrastructure, the newly enacted IKE provides for funding levels for the replacement of infrastructure at the rate it is used.

Projects within the Preservation program are further divided into subcategories that share similar work types. The Preservation program includes the subcategories: Bridge and Culvert Repair (BSR & BCR), Bridge Painting (BSP), Bridge Replacement or Rehabilitation (PBR), Bridge Re-deck (PDR) and Culvert Bridge (PCR), Contract Maintenance (CMN), Emergency Repair (EMR), Interstate Basic Improvement (IRP) and Non-Interstate Basic Improvement (RIP), Interstate Resurfacing (ISR), Miscellaneous for Preservation (NHP), Non-Interstate Resurfacing (1RR), Signing (SOS), Pavement Marking (PMR), Preservation Plus (PPP), Railroad Crossing Surfacing (RRS), Signing & Lighting Repair and Replacement (SLR), and State Route Removal (SRR). Each of these subcategories is described in more detail on the following pages.

The project selection criteria for projects in the Preservation program rely entirely on engineering factors, and selections in most subcategories are made annually. New to this program is the Preservation Plus subcategory created with the enactment of the IKE program. As discussed previously, this subcategory will have no projects associated with it directly. Instead, this subcategory will be a source of funds available to be transferred to projects from other subcategories, where additional funds will allow for safety gains. For example, a 1RR overlay project where rumble strips may be added with a small addition of funding transferred from the Preservation Plus subcategory.

Bridge and Culvert Repair
(BSR & BCR)

The Bridge Repair and Culvert Repair subcategories are for bridge and culvert repairs of lesser magnitude than the Bridge Replacement/Rehabilitation and Culvert/Bridge Rehabilitation subcategories. These subcategories aim to restore the structural integrity of bridges and culverts. Bridge/culvert repair work includes overlaying concrete decks, replacing or resetting expansion joints, resetting bearing devices, repairing abutments, piers, or girders, and repairing damage from external sources. Currently, all projects within Culvert Repair (BCR) are state funded and selection is on an annual basis. Projects in the Bridge Repair (BSR) subcategory are funded either solely with state funds or, when qualifying, with a combination of federal and state funds. Like Culvert Repairs, Bridge Repair projects are selected on an annual basis. The projects in these subcategories assist KDOT in attainment of the federal bridge infrastructure performance targets. Those bridge repair projects funded with federal funding programmed after the development of this STIP document will be amended using the procedures in place.

To select bridge projects, each KDOT District, using the Bridge Evaluation Engineer's recommended repair list, submits prioritized lists of candidate bridge and culvert projects to the Bureau of Construction and Materials and the Bureau of Design. Each candidate project is reviewed for the structure's condition history and latest inspection to confirm necessary repairs or replacement. Statewide lists are prioritized using such factors as maintenance effort, safety, traffic, and engineering judgment. These lists are then submitted to the Division of Program and Project Management for review to confirm that the candidate structures are not programmed for future work under any other KDOT program. The prioritized lists are then merged to create the yearly statewide repair list.

Bridge Painting
(BSP)

Work performed in this subcategory is funded with state funds. Currently, project selection for Group A bridges is on an annual basis as need dictates and funding allows. KDOT districts are responsible for painting Group B bridges and work is performed as need

dictates. Projects in this subcategory aid in reaching the federal bridge infrastructure targets.

There are approximately 800 bridge structures on the Kansas State Highway System that require periodic painting to slow corrosion of the structural steel. These structures contain nearly 242,000 tons of structural steel. They are categorized into two groups:

Group A: Structures that have 10 tons or more of structural steel. The Bridge Management Engineer prioritizes these structures (approximately 760 bridges) according to the Bridge Inspection Manual's "Paint Condition Rating." The statewide prioritized list is then reviewed by the Division of Program and Project Management to verify that each candidate structure is not programmed for future work under any other KDOT program. Projects are scheduled in order of priority until available funds are exhausted.

Group B: Consists of structures that have less than 10 tons of structural steel. Statewide this number is approximately 40 bridges. The districts where these bridges are located are responsible for prioritizing and painting these structures.

Bridge Re-Deck and Culvert Rehabilitation
(PDR & PCR)

The Bridge Re-deck (PDR) subcategory addresses bridges where the bridge superstructure and substructure are in satisfactory condition, but the bridge deck is deteriorated to the point that a Bridge Repair (BSR) type project is not adequate. The Culvert Rehabilitation (PCR) subcategory addresses culverts that are beyond the scope of a Culvert Repair (BCR) project, but do not qualify as a Bridge Replacement/Rehabilitation (PBR) project. Projects in these subcategories are funded either solely with state funds or, when qualifying, with a combination of federal and state funds and aid in the attainment of the federal bridge infrastructure performance targets.

Each District, using the Bridge Management Engineer's recommended repair list, submits prioritized lists of candidate projects to the Bureau of Design. Each candidate project is reviewed for the structure's condition history and latest inspection to confirm necessary repairs or replacement. Statewide lists are prioritized using such factors as maintenance effort, safety, traffic, and engineering judgment. The lists are submitted to the Division of Program and Project Management for review to confirm that each candidate structure is not programmed for future work under any other KDOT program. The prioritized lists are

then merged to create the yearly statewide repair list that is programmed within the limits of available funding.

Bridge Replacement/Rehabilitation (PBR)

The Bridge Replacement and Rehabilitation subcategory is designed to replace or rehabilitate sub-standard bridges. Sub-standard bridges are those in a deteriorated condition or with deficiencies in load-carrying capacity, width, or traffic service. Projects within this subcategory are funded with a combination of federal and state funds and aid in the attainment of the federal bridge infrastructure performance targets.

Bridge Priority Formula		
(Attributes/Adjustment Factors)		
		Adjustment Factors
Attribute (Need Value)	**Rel. Weight**	**AADT[1]**
Bridge Width (Driver Exposure Attribute)	0.222	0 to 1
Deck Condition	0.169	0 to 1
Structural Condition	0.359	0 to 1
Operating Rating	0.250	0 to 1
Sum of All Weights	**1.00**	

1 Average Annual Daily Traffic- The number of vehicles per day on a roadway segment averaged over one.

Bridge projects are selected using the Bridge Priority Formula (a schematic is provided above), along with input from Bridge Design and District personnel. The formula was developed by KDOT and Woodward-Clyde Consultants in 1981 and has been revised since then to incorporate updated technology, policy direction, other available data, and district/local input. Bridge conditions are determined using this formula, and those bridge projects with higher relative ratings are moved to the top of the priority list to be addressed first within available funding and scheduling considerations.

Contract Maintenance (CMN)

Maintenance activities are performed to offset the effects of weather, deterioration, traffic wear, damage, and vandalism. Eligible projects are those that KDOT is not adequately staffed or equipped to perform. Due to the diverse types of actions and/or geographic location, contracting for the service is the most cost-effective approach for the agency. These projects are funded using state funds and aid in the attainment of the federal road infrastructure performance targets.

Selection is based on priority as seen from a statewide perspective. Basic criteria for contract maintenance projects are: 1) inability to perform necessary actions with existing maintenance forces; 2) ineligibility for other maintenance programs; 3) unforeseen (generally the result of weather or traffic conditions). Projects are selected on the basis of statewide need for corrective action, rather than selection based on a balanced distribution between districts. Projects will be programmed in each year within the limits of available funding.

Emergency Repair
(EMR)

State funds are reserved annually for emergency repairs that occur as the result of accidents or weather-related disasters. Allocation of these funds is authorized by the State Transportation Engineer as events occur that warrant the need.

Interstate Basic Improvement and Non-Interstate Basic Improvement
(RIP & IRP)

Interstate and Non-Interstate Basic Improvement projects involve pavement rehabilitation or replacement without the widening of shoulders, the addition of passing or through lanes, or intersection/interchange improvements. Projects in the Non-Interstate Basic Improvement subcategory and the Interstate Basic Improvement subcategory are funded with a combination of federal and state funds.

The projects in these two subcategories are selected using the pavement condition-related attributes of the Non-Interstate and Interstate Priority Formulas along with input from district personnel. For additional discussion of the formulas, refer to the Modernization section of Project Selection Criteria. These two subcategories assist in attainment of both road and bridge infrastructure federal performance targets. (Bridge targets are aided because projects in these subcategories, while driven by road conditions primarily, perform work on associated bridges in the given area.) Projects programmed in these subcategories after the development of this STIP document will be added using the amendment procedures in place.

Interstate Resurfacing
(ISR)

Center-line miles of divided Interstate roadway are resurfaced or repaired annually through the Interstate Resurfacing set-aside program. Input from the Pavement Management System is used to decide which sections of interstate are to be resurfaced. Resurfacing aids in maintaining road condition and, as such, helps achieve the federal road infrastructure performance targets. Generally, projects in this subcategory are state funded, but occasionally projects qualify for federal funding and are programmed with a combination of federal and state funds.

Miscellaneous for Preservation
(NHP)

This subcategory was established in SFY 2012. This subcategory is reserved for atypical preservation projects that occasionally arise. The scopes of work for projects in this subcategory do not fit into the standard Preservation subcategories. However, the scope of work is preservation related with the desire to use preservation program funding. These projects are predominantly state funded and since these are non-routine projects, project selection is based upon need.

Non-Interstate Resurfacing
(1RR)

Approximately 1,200 miles of two-lane, non-Interstate pavement are resurfaced or repaired annually through this state set-aside funded program. Since most of these projects are selected on an annual basis, projects for this group appear only in the first year of the STIP. The program's intent is to maintain non-Interstate pavements in adequate condition and keep rideability at an acceptable level. These projects are selected by using the Pavement Management System (PMS) along with input from district personnel. PMS is an integrated set of procedures that were developed by KDOT and Woodward-Clyde Consultants. It recommends pavement maintenance and rehabilitation strategies on both a network and a project level. For KDOT, as identified in IKE, preservation of our road system is a priority and as such a significant portion of the available 2021 funding is focused on this subcategory. Larger dollar projects in this subcategory are funded with a combination of federal and state funds, while smaller dollar projects and projects that do not meet eligibility requirements for federal funding are funded with state funds only. Federally funded projects in this subcategory that are programmed after the development of this STIP document will be amended using the procedures in place. Resurfacing aids in maintaining road condition and as such helps in the attainment of the federal road infrastructure performance targets.

Pavement Marking
(PMR)

This subcategory was established in 1996 to address a then newly passed federal requirement for minimum retroreflectivity of pavement markings. Improvements in this category utilize high-performance, long-life pavement marking materials. Efforts are also made to identify those marking materials with wet weather retroreflectivity. This program is limited to projects that do not have high performance markings included under another KDOT program or are in need of replacement to meet FHWA retroreflectivity requirements.

Retroreflectivity data is collected annually and used in project selection. The Bureau of Traffic Engineering staff may also use District request, roadway traffic volumes, past performance of marking material, geometry, surface condition, surface type, crash history, and, in the case of new marking materials, the research benefit, to identify projects. Projects in this subcategory are generally funded with 100 percent Highway Safety Improvement Program (HSIP) federal funds and selected annually. PMR projects help address the Strategic Highway Safety Plan (SHSP) goal of decreasing roadway departures and are referenced specifically in the SHSP, Appendix A. By helping to lower roadway departures, this subcategory of projects contributes to KDOT's effort to improve overall roadway safety and to meet the established federal safety performance meas-

ure targets. (For more information about performance measures refer to the Performance Measures narrative section of this document.)

Preservation Plus
(PPP)

Preservation plus is a subcategory to provide a pool of funding for transfer to projects from other subcategories where gains in safety may be made with the additional funds. Projects are generally already planned projects where through the addition of funding a benefit in safety may be made at the location of the planned project. Generally, projects receiving this funding will be from the Preservation or Modernization programs, although all subcategories could be eligible if they meet the requirements of increasing safety. This subcategory aids in reaching KDOT's safety performance measures by adding varying types of safety measures to existing, planned projects.

Railroad Crossing Surfacing
(RRS)

The Railroad Crossing Surfacing subcategory was established in SFY 2000 to address projects that are at-grade highway/railroad crossing approaches and surface upgrades. Eligible crossings are rural State Highway System Crossings and State Highway System City Connecting Link crossings in cities with populations up to 2,500.

Projects are selected from applications for crossing surface improvement projects submitted by railroad companies and KDOT district personnel. Project scopes include all necessary materials and activities required for long-term crossing surface and approach improvements. These projects are funded with 50 percent state and 50 percent railroad company funds. Project selection is usually on an annual basis and the projects achieved in this subcategory support improved roadway safety and aid in reaching the federal safety performance targets.

Signing
(SOS)

Established in 1996, this subcategory addresses necessary sign replacements on the State Highway System in response to a then, new federal requirement for minimum retroreflectivity of signs. This program targets sign replacements based upon overall sign age, highway route mileage statewide, and the total mileage of all the routes in each of KDOT's six districts for that year. If project selection occurs after the STIP preparation period, new projects will be amended to the STIP using the amendment procedures in place.

These projects are generally funded with 100 percent HSIP federal funds, however, HSIP will only fund remaining projects, while new projects will be funded with state funds. The signing projects contribute to the SHSP goals of increased intersection safety and are referenced specifically in the SHSP, Appendix A. The SOS subcategory of projects

contributes to increased overall roadway safety and helps in KDOT's effort to meet the established federal safety performance measure targets.

Signing & Lighting Repair & Replacement (SLR)

This subcategory was created in SFY 2012 to address the need for signing and light structure maintenance across the state. These structures include signing, lighting, signals, cameras, and dynamic messaging signs and currently, there are approximately 3,723 of them under KDOT's responsibility. The projects in this set-aside are funded 100 percent with state funds. The role of this program is to enable KDOT to monitor and prioritize the maintenance of these structures.

Structure inspections are performed annually, with the most recent inspections performed in SFY 2023. The annual inspection cycle continues with inspections that began in SFY 2024. Based on the observations made during the inspection, ratings are assigned to each structure. Using this information, the Signing & Lighting Structure Team in the Bureau of Structures and Geotechnical Services then compiles the ratings and prepares a prioritized list recommending structures for replacement or repair. Projects are programmed from this list using the available set-aside funds to the extent the allotted funds allow. By aiding intersection safety, projects in this subcategory contribute to KDOT's effort to improve overall roadway safety in Kansas and to meeting the federal safety performance measure targets.

State Route Removal (SRR)

The State Route Removal (SRR) subcategory was established in SFY 2013 as a mechanism for the transfer of short state routes to the Local Public Authority (LPA). Routes under consideration for transfer function more in the manner of local roads and are a better fit under the LPA jurisdiction. The transference results in state route reduction, thereby reducing state maintenance costs. Candidates for the SRR program include stub routes, spur routes, and business routes.

Projects are selected based on coordination with LPAs that elect to participate in the set-aside program. LPAs accept the route transfer in existing condition and in return receive a lump sum payment funded with state funds. The payment amount is determined based on a per center route mile cost and is intended to offset future maintenance costs. Participation in the program is at the discretion of the LPAs. Routes are selected based on order of submittal and the availability of funds in conjunction with the approval of the Director of Operations.

─ MODERNIZATION ─
(Improving safety & existing roadways & structures)

The Modernization program category is the second major component of IKE and addresses the 2020-2045 LRTP goals of Safety and Security and Transportation System Management. Projects in this program category aim to improve existing roadways and enhance safety by flattening hills, adding shoulders, straightening curves, and improving intersections. Under IKE, a combination of engineering factors and regional priorities are applied to select projects for this program category. As well as supporting the goals and objectives of the 2020-2045 LRTP, projects in the Modernization program improve overall roadway condition, contributing to KDOT's attainment of the established federal safety performance and road and bridge infrastructure condition targets.

Fourteen Modernization projects were announced in June 2020, ten were announced in December 2021, and another ten were announced in March 2024 for IKE. The projects were added to a pool of development pipeline projects, the design stage where activities like preliminary design, right of way acquisition, utility relocations and final design are done. In summer 2021, 2022, and 2023, modernization projects from the development pipeline were selected and advanced to construction. The next anticipated selection for additional projects for development will be after local consult meetings to be held in Fall 2025. For more information about the development pipeline and the construction pipeline refer to the IKE webpage at https://ike.ksdot.gov/. Projects are selected based on need, local support, and available funding. There is not a specified list of Modernization projects to be constructed during IKE and the number of Modernization projects that go forward will vary from year-to-year.

The subcategories included in this program are: Clear Zone Safety (CLZ), Corridor Management (COR), General Safety Improvements (GSI), Guardrail Improvements (GFU), Highway Lighting (LTG), Innovative Connected Technologies (ICT), Interstate Roadway Geometric Improvements (IRE), Non-Interstate Roadway Geometric Improvements (RIM), Resurfacing with Improvements-Practical Design (1RS), KCC Railroad Crossing Projects (KCC), Miscellaneous for Modernization (MPR), Scenic Byway (SBW), State Safety Projects (SAF), and the Strategic Safety Improvement Program (SSI).

Clear Zone Safety
(CLZ)

This subcategory was established in state fiscal year (SFY) 2021 to address narrow state routes with inadequate right of way to expand the roadway and provide adequate shoulders or other improvements outside the mainline roadway. Improvements in this subcategory are limited to segments where right of way acquisition is necessary. Eligible safety improvements include adding

shoulders, flattening foreslopes, extending structures, removing obstacles, and other clear zone related improvements.

Annually, the Bureau of Transportation Safety (BTS) provides a candidate map for KDOT districts to consider for possible corridor improvements. The map identifies corridor segments with narrow pavement, lack of right of way, narrow or no shoulders, steep foreslopes, a level of service of safety (LOSS) of IV, and D and E KDOT route classifications. Annually, districts should submit projects to BTS, who conducts the project evaluations and selection. Project submittals should consider LOSS, unprotectable features, clear zone obstructions, right of way needs, utilities, grading, preliminary engineering, structures, shouldering materials, and geometric concerns. Though geometric concerns may be addressed, they are not the primary focus of this program. Project submittals are accompanied by a preliminary cost estimate. Call for projects will take place in late November or early December to align with the district 1RR project annual project selections.

Projects in this subcategory are funded through state funds. These projects help to address the Strategic Highway Safety Plan (SHSP) goal of decreasing roadway departure crashes. By helping to lower roadway departures, this subcategory contributes to KDOT's effort to improve overall roadway safety and to meet federal safety performance measure targets.

Corridor Management (COR)

The Corridor Management set-aside program was created to address the growing need for KDOT, cities, and counties to jointly manage transportation corridors, particularly in high growth developing areas. To be eligible for these funds, a location must be designated as a planned corridor or area in a District Access Management Plan, have prepared a KDOT-approved planning instrument, and when appropriate, executed an interlocal cooperation agreement. Exceptions are made carefully and, on a case-by-case basis. Projects in this subcategory help the State of Kansas in attaining their safety performance measure targets.

Projects are solicited on a rolling basis with KDOT's participation typically being limited to the construction work phase; however, in some special cases, Corridor Management funds may be used for advance right-of-way acquisition. Additionally, projects funded under the Corridor Management set-aside program have a per-project maximum of $2 million. For more information about District Access Management, refer to the KDOT access management internet page at https://www.ksdot.gov/accessmanagement/.

General Safety Improvements (GSI)

This subcategory was established for general safety improvements at various individual locations across the state.

The goal of this subcategory, through a combination of safety analysis and prediction along with KDOT personnel input, is to identify and address individual locations throughout the state such as curves, intersections, or short tangent sections with a documented crash history. Additionally, this subcategory is intended to address locations that demonstrate potential safety issues that are not currently being addressed by other KDOT programs or subcategories.

Selected projects may include (though are not limited to) signing improvements, intersection improvements, shoulder improvements, and high-friction surface treatments that provide cost effective solutions to reducing crashes at identified locations. In general, funding for this subcategory is with the HSIP federal safety funds at a 90 percent federal and 10 percent state funding pro rata for most projects, except for certain safety improvements as listed in 23 U.S.C. 120 (c) which are eligible for 100 percent federal safety funding.

Projects in this subcategory are developed as the opportunity arises and are programmed intermittently. These projects, when undertaken, often contribute to the SHSP goals of reduction in roadway departures and/or increased intersection safety and are referenced specifically in the SHSP, Appendix A. The GSI subcategory of projects contributes to increased overall roadway safety and help in KDOT's effort to meet the established federal safety performance measure targets.

Guardrail Improvements
(GFU)

This subcategory was re-established in FY 2020 for the purpose of addressing blunt end guardrail removal or replacement on the National Highway System (NHS) in Kansas. Blunt end guardrails on the NHS are anticipated to be removed or replaced over a period of six years. Projects are funded with either federal or state funds and contribute to increased overall roadway safety, helping KDOT's effort to meet their established federal safety performance measure targets.

Highway Lighting
(LTG)

Lighting is beneficial to the safety and operation of the highway system and is the focus of this subcategory created in FY 2000. When making project selections, the Bureau of Traffic Engineering uses the engineering factors of a roadway's volume and nighttime crash history, along with the existing regional priorities in the area of a proposed project. To receive funding, projects selected for this program may not be included under another KDOT program.

Projects are selected on an as-needed basis and are usually funded with 100 percent HSIP federal funds or a combination of state safety funding. Lighting projects help to address the Strategic Highway Safety Plan (SHSP) goal of improving intersection safety and are referenced specifically in the SHSP. By aiding intersection safety, projects in

this subcategory contribute to KDOT's effort to improve overall roadway safety in Kansas and to meet the established federal safety performance measure targets.

At some locations in the state, lighting is installed by the LPA after obtaining a highway permit. In general, when the LPA elects to install lighting, the LPA is responsible for the cost of installation, maintenance, and operation.

Innovative Connected Technologies (ICT)

Innovative Connected Technologies (ICT) is a forward-looking subcategory created for the study, evaluation and integration of newly emerging technologies that affect or will affect Kansas roadways in the future. Projects in this subcategory will be varied with most selections focused on the modernization of the State Highway System (SHS) for the adaptation of the system to the vehicles traveling on them.

Part of the SHS adaptation will be accomplished through projects that deploy Connected Vehicle Infrastructure (CVI) along our State Highway System. CVI prepares roadways for deployment of technologies, like Vehicle-to-X (V2X), that allow vehicles to communicate with their surroundings, and the Internet of Things (IoT), that allows for the internet connectivity capabilities of objects like roads, traffic signals, and signs. This interconnectivity will allow these objects to interact with other connected devices. Other projects in this subcategory will be research oriented for the evaluation of current and future technologies to assess integration, capabilities, and limitations. These research projects may be performed in-house, be awarded to consultants, or be projects managed and developed by university staff depending on which choice is the best fit to meet the needs and scope of the project.

Funding for this program is currently with state funds and $3 million per year has been designated in IKE to be available for projects in this subcategory. Applications for project considerations are done annually.

As this program subcategory continues to evolve, it is anticipated that there will be multiple funding sources that may include federal, state, local, and even private sources. Additionally, where appropriate, funds from this subcategory may be applied jointly with another subcategory where the goals of both align and cost benefits are attained by the combined scope. Since this is a newer subcategory, immediate impact of the projects from this subcategory on performance measures will be limited. However, future projects from this subcategory should contribute to KDOT's effort to improve overall roadway safety and to improve roads and bridges in Kansas, contributing to KDOT's attainment of the established federal safety performance measure targets and infrastructure targets for roads and bridges.

Interstate Priority Formula (Attributes/Adjustment Factors)

		Adjustment Factors					
		Facility Type		Shoulder Type		Route Class (See below)	AADT[1] (See below)
Attribute (Need Value)	Relative Weight	Divided	Undivided	Stabilized	Unstabilized		
Commercial Traffic	0.140	0.376	1.0	0.519	1.0	0 to 1	0 to 1
Rideability	0.189					0 to 1	0 to 1
Pavement Structural Evaluation (PSE)	0.447					0 to 1	0 to 1
Observed Condition	0.224					0 to 1	0 to 1
Sum of All Weights	**1.00**						

[1] **Average Annual Daily Traffic-** The number of vehicles per day on a roadway segment averaged over one year.

Non-Interstate Priority Formula (Attributes/Adjustment Factors)

			Adjustment Factors							
			Accident Rate (See below)	Posted Speed (See below)	Facility Type		Shoulder Type		Route Class (See below)	AADT[1] (See below)
	Attribute (Need Value)	Relative Weight	*	*	Divided	Undivided	Stabilized	Unstabi-lized	*	*
Driver Exposure Attributes	No. Of Narrow Structures Per Mile	0.086	0 to 1	0 to 1					0 to 1	0 to 1
	Shoulder Width	0.089	0 to 1	0 to 1	0.54	1.0	.0607	1.0	0 to 1	0 to 1
	No. Of SSSD[2] Per Mile	0.069	0 to 1	0 to 1					0 to 1	0 to 1
	Lane Width	0.101	0 to 1	0 to 1	0.5	1.0			0 to 1	0 to 1
	No. Of SHC[3] Per Mile	0.099	0 to 1	0 to 1					0 to 1	0 to 1
	Volume/Capacity (Maximum Default Value = 1.15)	0.091							0 to 1	0 to 1
	Commercial Traffic (Maximum Default Value = 725)	0.065			.037 6	1.0	0.519	1	0 to 1	0 to 1
	Rideability	0.088							0 to 1	0 to 1
	Pavement Structural Evaluation (PSE)	0.208							0 to 1	0 to 1
	Observed Condition	0.104							0 to 1	0 to 1
	Sum of All Weights	**1.00**								

* Non-Interstate Priority Formula (Adjustment Factors)

Accident Rate	Adjustment Factor	Posted Speed	Adjustment Factor	Route Class	Adjustment Factor	Capacity –Adjusted AADT[4]	Adjustment Factor
High	1.0	≥55 MPH	1.0	A	1.0	20,000	1.0
Medium	0.858			B	0.9	10,000	0.925
Low	0.734	≤55 MPH	Varies from	C	0.7	6,000	0.895
			0 to 1	D	0.5	2,000	0.865
				E	0.3	0	0.850

Interstate Roadway Geometric Improvements/Non-Interstate Roadway Geometric Improvements
(RIM, IRI)

Interstate and Non-Interstate Roadway Geometric Improvements projects are major highway improvements that, in addition to pavement rehabilitation or replacement, include wider shoulders or intersection improvements but do not include passing or through lanes or interchanges. Projects within these subcategories are usually funded with a combination of federal and state funds. The work accomplished in the projects from these subcategories impact KDOT's attainment of both safety and road and bridge infrastructure performance targets.

Roadway projects are selected using the Non-Interstate and Interstate Priority Formulas, which supply the engineering factors, along with regional priorities in the area of the proposed projects as determined through local consult meetings. The formulas used for the engineering factors were developed by KDOT and Woodward-Clyde Consultants in 1981 and have been modified since to incorporate updated technology, policy direction, and available data. (Schematics of the formulas are on the preceding page.) The formula combines road attributes with weighting factors and adjustment factors to determine a needs-based score for each section of pavement evaluated. A high score in this evaluation is a factor that contributes to a section of pavement being selected for pavement rehabilitation or replacement. Projects for construction from these subcategories will be selected from the development pipeline and announced as selected.

KCC Railroad Crossing
(KCC)

Prior to 1999, this program was administered by the Kansas Corporation Commission (KCC). Since then, KDOT has managed the program. This is a state funded program supplemented with railroad company funds. Eligible crossings in this program are crossings that do not meet the federal funded program eligibility requirements, but if updated, would improve safety, and as such help meeting the safety performance target. To be considered for this program, LPAs must submit potential crossings for funding. Projects are programmed in the order requests are made.

Miscellaneous for Modernization
(MPR)

This subcategory is reserved for atypical modernization projects that occasionally arise. The scopes of work for projects in this subcategory do not fit into the standard modernization subcategories. However, the scope of work is related to the modernization program and the desire is to reflect this by using the modernization program funding. Since these projects are non-routine in nature and predominantly state funded, they are programmed on a need only basis. Projects from this group aid in reaching the safety performance measure targets.

Resurfacing with Improvements
(1RS)

Resurfacing with Improvements projects are pavement rehabilitation projects with modest shoulder improvements using practical improvement principles. These projects are evaluated and selected at the same time as the Preservation Non-Interstate Resurfacing (1RR) projects, and, like those projects, selections are on an annual basis. Since these projects are selected on a yearly basis, the projects in this group are only in the first year of the STIP.

This group is an extension of the 1RR group of projects (described in Preservation). The 1RR list developed from the PMS system is further analyzed by KDOT personnel and, from the analysis, projects are identified as candidates for minor shoulder enhancements and resurfacing. These projects become the 1RS projects for the year and, like the 1RR project selection, the number of projects programmed from one year to the next fluctuates. Currently, projects within this subcategory are programmed on a need basis. Projects that qualify will be funded with a combination of state and federal funds, while those that do not will be funded with state funds. Projects in this subcategory help the State of Kansas move towards the established road infrastructure and safety performance measure targets

Safety
(SAF)

This subcategory provides for improvement of standalone intersections or spot locations. The addition of turn lanes, traffic signals, roundabouts, pavement resurfacing, signing, and pavement marking provide cost effective solutions to reducing crashes at eligible locations. Most of the projects in this subcategory are for improvements along the Kansas State Highway System in areas either within communities or in rural locations.

The Bureau of Traffic Engineering (BTE) identifies possible projects by conducting studies on the physical and operational characteristics of high-crash locations. Identified projects are ranked in descending order by average annual net return, with priority given to the project with the highest average annual net return and overlapping regional priority.

Generally, funding is expected to continue to be used for high crash locations identified by the Bureau of Traffic Engineering. Whenever feasible, safety projects will be combined with existing projects already selected, where adding a safety feature like turn lanes to the existing project is practical. In this way, the limited safety funds are stretched and used as efficiently as possible. Currently, projects in this subcategory are usually state funded. However, occasionally pro-

jects are eligible for federal HSIP funding. Safety projects included in this subcategory assist KDOT in meeting their established federal safety performance measure targets.

Strategic Safety Improvement Program
(SSI)

Created in state fiscal year 2020 and continued in IKE, this program focuses on a variety of projects that, when addressed, enhance safety in a strategic and cost-effective manner. This subcategory differs from the safety subcategory in that the projects selected are not limited to location, scope, or annual solicitation. Possible projects would address a variety of improvements including shoulder widening, the addition of turning lanes, and larger scale intersection improvements such as roundabouts. IKE has designated that $10M per year be applied to projects in this subcategory with the intent that the subcategory provides an additional flexible source for response to safety needs throughout the state.

Projects in this subcategory, when eligible, may be funded with HSIP federal funding and state funding. Projects that do not qualify for HSIP federal funds will be funded with state funds only or with a combination of state and local funds. Safety projects included in this subcategory assist KDOT in meeting their established federal safety performance measure targets.

Scenic Byways
(SBW)

Currently, in Kansas there are twelve designated byways- nine scenic, two of which are National Scenic Byways, and three historic byways. These byways were established and developed through a grant from FHWA's Scenic/Historic Byways program.

Under Map-21, most of the Scenic/Historic Highway program was eliminated from eligibility for federal funding with only a few specified activities like construction of turnouts, overlooks, or viewing areas still qualifying for federal funding. As a result of the change in federal support for this program, KDOT has turned over administration of the Kansas Byways program to the Kansas Department of Wildlife and Parks (KDWP). Decisions regarding this program, including new projects and funding levels, now reside with KDWP. KDOT cooperates with KDWP in matters concerning the scenic byways and participates in funding maintenance of the existing scenic byways for items like kiosk repair and update and informational signage repair and update.

─ EXPANSION ─
(Adding something new)

The third program category of projects is Expansion. Under IKE, a combination of engineering factors, economic impact, and regional priorities are applied to select projects in this program category. Projects in this program add new

lanes or interchanges, enhance driving by relieving congestion and improving access, enhance economic development, increase job growth and retention, and substantially improve safety. With such a broad and encompassing role, this program impacts several of the goals and objectives of the 2020-2045 LRTP, with projects from this program contributing to one or several of the LRTP goals and objectives of Safety & Security, Transportation System Enhancement, and Freight & Economic Vitality, and Stewardship. Projects in this program support KDOT's performance measures related to safety and road and bridge infrastructure.

The first IKE project selection announced in June 2020 included 26 projects from the Expansion category, a second announcement of 10 projects was made in December 2021, and the most recent announcement of 7 projects was made in March of 2024. Development pool projects are approved for the design phase(s) of work that include activities like preliminary design, right of way acquisition, utility relocations, and final design. Selected projects were advanced to construction from the development pool in Summer 2021, 2022, and 2023, and are approved for construction with all phases of work including preliminary engineering, right-of-way acquisition, utility relocations and construction approved. Additional projects for development are expected to be selected after local consult meetings to be held in Fall 2025. For more information about the development pipeline and the construction pipeline, refer to the IKE webpage at https://ike.ksdot.gov/. Unlike previous transportation programs, there is not a specified list of Expansion projects to be constructed during IKE and the number of Expansion projects that go forward will vary from year to year. This approach allows the state to remain flexible and responsive to shifting transportation needs and changes in the economic environment.

Projects in the program are grouped into the following subcategories: Advanced Acquisition of ROW (AAR), Cost Share Program (CSP), Economic Development (EDP), Interstate Capacity Improvement (IRC), Intelligent Transportation Systems (ITS), and Non-Interstate Capacity Improvement (RIC).

Advanced Acquisition of ROW (AAR)

Advanced Acquisition of ROW projects use State of Kansas, and, if applicable, local funds to acquire ROW for highways planned to be converted to urban freeways. There are several benefits from AAR projects:

1) Reduces acquisition and transportation infrastructure cost by purchasing before development takes place,
2) Reduces delay in roadway projects and disruption to communities,
3) Promotes orderly urban growth,
4) Creates goodwill and support for KDOT from communities,
5) Promotes voluntary transactions, thus reducing eminent domain costs (monetary and public relations),

6) Alleviates hardship to property owners and local governments by addressing the uncertainty about the impact of proposed long-range projects on the owner's ability to sell or develop property.

Projects are generally funded with a combination of State and local funds, with KDOT currently requiring a one-third match from local communities wishing to use AAR funds to acquire properties. However, a reduced match may be negotiated for communities without the resources to pay the full one-third match, or when communities are able to demonstrate that the acquisition has limited benefit to the community. Projects from this subcategory are developed on a need only basis, often in response to proposed private developments.

Cost Share Program
(CSP)

The Cost Share program, whose purpose is to increase job growth and retention in the state, was developed in 2020 under T-WORKS and continues under IKE. There is broad eligibility within this program within scope and mode. Possible projects may address an important transportation need like safety, access improvement, congestion relief, and/or improvement of a current roadway condition. Likewise, projects in this program are not limited to roadway improvements only. This is a multimodal program that accepts projects from all modes, including on or off the state roadway system, rail, airports, public transit, and bicycle/pedestrian projects. Since this is a multimodal program, not all the projects achieved under this subcategory will be included in the STIP index of projects. Only those projects related to roadways and bridges are captured. Projects related to other modes will be reported under their respective reporting mechanisms.

Through this program, KDOT will provide financial assistance to local entities for construction projects that improve safety through the leveraging of state funds to increase the total transportation investment and aid improvement of the transportation system in both rural and urban areas throughout the state. Eligible projects will include investments that provide transportation benefits and are not eligible for other KDOT programs. A minimum of 15 percent non-state cash match is required for a project to be considered. Generally, projects will be administered by Local Public Authorities (LPA), although non-governmental projects will be considered. Projects will be funded with a combination of local and state funds, private and state funds, or a combination of all three. For program details, see the KDOT website at https://www.ksdot.gov/CostShare/CostShareProgram.asp.

Economic Development
(EDP)

Economic development projects are projects that help spur financial growth. A key priority identified in the LRTP, and in the recent local consult meetings, is the continuing need for IKE, and the projects within, to be linked to the state's economic priorities. While it is a focus for all programs to reflect the state economic priorities, this subcategory is designed to aid specific projects that will assist communities in spurring financial growth in their areas. In evaluating the potential impact of proposed economic development projects, KDOT utilizes a scoring system that looks at economic impact, cost-per-job ratio, and benefits to the Kansas economy. In addition to scoring well, desirable projects are those that align with regional priorities of an area, have the recommendation of KDOT staff, and the endorsement of external partners.

To increase flexibility during the ten-year period of IKE and beyond, proposed economic development projects will be reviewed and selected on an ongoing basis. In this way, a source of funding will be available as desirable opportunities arise. Generally, these projects are funded using a combination of state and local funding.

Interstate Capacity Improvement & Non-Interstate Capacity Improvement
(RIC & IRC)

Interstate and Non-Interstate Capacity Improvement projects are major highway improvements that include passing or additional through lanes or interchanges, in addition to pavement rehabilitation or replacement and geometric improvements. Projects in these categories are selected using the updated project selection process launched by KDOT in the previous program, T-WORKS, and continued in IKE as discussed previously. The work accomplished in the projects from this subcategory impact KDOT's attainment of the safety, road, and bridge infrastructure performance targets.

Given the scope of projects and significant capital required for projects in the RIC and IRC subcategories, projects are usually funded using a combination of federal and state funds. Projects from these subcategories will be generated from the development pipeline. Project selections will be made on a need basis, as revenues allow, with preference given to those projects that have local support. There is not a specified list of Expansion projects to be constructed during IKE and the number of RIC/IRC projects that go forward will vary from year-to-year. As projects progress through the development pipeline, from initial design, to right of way acquisition, utilities, final design, and, eventually, some projects to construction, the approved phases of work will be amended to the STIP using the amendment process in place.

Intelligent Transportation Systems (ITS)

The Intelligent Transportation Systems (ITS) program funding was established to promote ITS technology in Kansas. ITS funding is used to install technology such as advanced sensors, electronics such as cameras and signs, as well as to improve and establish communications systems and management strategies to increase the safety and efficiency of the transportation system. As such, the projects developed under this subcategory assist KDOT in reaching their safety performance targets.

In the early 2000s, KDOT awarded part of ITS funding to local cities, counties, and other agencies as seed money to promote ITS on a local level, and, also, selected projects that allowed the first installations of KDOT ITS statewide and establishment of the KC Scout Traffic Management Center (TMC) and the statewide WichWay TMC. Projects were awarded based on a variety of factors such as safety benefits, cost effectiveness, and the economic impact of the project.

Since 2016, projects have been selected by the ITS Bureau through coordination with KDOT field staff, Project Management Consultant (PMC) staff, KDOT Road Design, and local agencies using the same type of criteria and have been focused on Transportation System Management and Operations (TSMO) strategies. TSMO is an integrated approach to optimize the performance of existing infrastructure by implementing multimodal, intermodal, and often cross-jurisdictional systems, services, and projects. ITS projects may be selected based on benefits such as improved freight travel time reliability, management of ITS assets through end-of-life replacements, improvement of KDOT's statewide ITS system and the two traffic management centers that KDOT manages, and promotion of state-of-the-art traffic incident management (TIM) strategies. ITS projects are often funded with a combination of state and local funds.

─ LOCAL CONSTRUCTION─
(City and county road improvements)

Local Construction is the fourth program category in IKE and projects primarily involve improvements on city or county roads, with a few projects focused on safety. As discussed previously, most of the project selections in this program are at the discretion of LPAs and are selected based on the criteria they have in place. The work in this program is varied in nature, with some projects focused on maintaining existing roadways with preservation as the focus, while others are smaller, expansion-type projects, and finally, a few are oriented towards improving roadway safety. A small portion of the projects within this program are safety related and are selected by KDOT. With the primary focus on local roads, the majority of projects in this program address the 2020-2045 LRTP goal of Stewardship. While the few safety related projects not on local roads in the program address the Safety & Security goal of the 2020-2045 LRTP.

Most of the work completed in this program does not contribute to achieving the federal performance measures and targets as the focus is predominantly on local non-NHS roadways. The exceptions are the federal safety projects covered by the HAZ and HES subcategories, the High Risk Rural Road projects which are part of the RES subcategory, and the Railroad/Highway Crossing Protection projects managed under the RXR and RRX subcategories. These subcategories, and the projects within, assist KDOT in reaching the federal safety performance targets. While the remaining subcategories within this program do not aid in meeting the federal performance targets, the work encompassed is vital to maintaining the roadways and bridges throughout the State in a safer condition and better state of repair and is therefore of great benefit. The funding within this program of projects is also varied, coming from a combination of state and local, or federal and state or local sources.

Like the other programs already described, the Local Construction program is grouped into subcategories of similar work type. The subcategories are: HSIP Safety Projects- off-system (HAZ), HSIP Safety Projects- on-system (HES), KLINK- Surface Preservation (K1R), KLINK- Pavement Restoration (K2R), KLINK- Geometric Improvements (K3R), Local Bridge Transfer (LBT), Local Fund Transfer (LFT), Local Administered projects (LOC), KDOT Administered projects (RES), HSIP Railroad Crossing Protection- on-system (RRX), HSIP Railroad Crossing Protection- off-system (RXR), Safe Routes to Schools projects (SRT), and Transportation Enhancement (TEX) projects. These subcategories are described in more detail on the following pages.

City Connecting Link Improvement Program (CCLIP)

KLINK- Surface Preservation, Pavement Restoration and Geometric Improvement (K1R, K2R, K3R)

The City Connecting Link Improvement Program (CCLIP) provides funds for the repair or improvement of any route of the State Highway System located within the corporate limits of a city. All City Connecting Links, except those on the Interstate System or on fully controlled access sections of the Freeway System, are eligible to participate in this program. The CCLIP program is comprised of three subcategories, each addressing specific types of work.

The first of these subcategories is the CCLIP Surface Preservation program (K1R), which focuses on the preservation and or improvement of the driving surface of City Connecting Links on the State Highway System. Projects in this subcategory focus on overlaying, pavement patching, sealing, or other surface type maintenance work. Additional work like bridge improvements, curb and gutter repair or replacement, drainage improvements, construction or improvement of sidewalks beyond the ADA ramps, or geometric improvements may be included in a project but shall not be eligible for program funding. Projects in this subcategory are funded with a combination of state

and city funds with only the construction and construction engineering phases eligible for state participation. The maximum state participation for a project in this subcategory is set at $400,000. The city required match is determined based upon population.

The second subcategory in the program is the newly created CCLIP Pavement Restoration (K2R). The goal of this subcategory is to address deficiencies in road surface that are extensive or severe in nature, requiring measures and funding that exceed the scope of the K1R subcategory. Projects within this group may involve full-depth pavement replacement or extensive rehabilitation. Other related qualifying work includes, but is not limited to, curb and gutter replacements or repair and storm sewer repairs. In general, projects in this subcategory focus on the restoration of the roadway condition without modification. Projects may be funded with a combination of city, state, and federal funding, with federal funding utilized in the construction and construction engineering phases only. The maximum state participation for a pavement restoration project is set at $1,500,000 and the city matching share is determined by population.

CCLIP Geometric Improvement (K3R) is the third and final subcategory in the CCLIP program. Projects in this subcategory are intended to address safety and capacity issues of a roadway. Typical projects include, but are not limited to, intersection improvements, addition or extension of turn lanes, lane widening, and sight distance improvements. Projects may be funded with a combination of city, state, and federal funding, with federal funding utilized in the construction and construction engineering phases only. Like the K2R subcategory, the maximum state participation is set at $1,500,000 per project and city matching share is determined by population.

KDOT's Bureau of Local Projects (BLP) solicits projects for the CCLIP program from eligible cities. Projects are evaluated (including a site visit to each proposed project site), selections are made, and projects are then programmed. Depending on the timing of project selections, projects programmed will be in the STIP project listings (Appendices A-C) or added to the STIP document through the amendment process. For more information about this program contact the KDOT Bureau of Local Projects at 785-296-3861 or visit KDOT's BLP webpage at https://www.ksdot.gov/bureaus/burLocalProj/default.asp.

Federal Safety Projects
(HAZ & HES)

Projects funded through the federal-aid Highway Safety Improvement Program (HSIP), provide safety improvements on all public roads. The construction and construction engineering costs of projects in these two subcategories are generally funded with federal safety (HSIP) funds at 90 percent federal pro rata and 10 percent local or state matching funds. However, some safety improvements, as listed in 23 U.S.C. 120 (c), are

eligible for 100 percent federal funding. Most of the safety funding is administered by the Bureau of Transportation Safety (BTS), while the Bureau of Traffic Engineering (BTE) is responsible for project management. The HAZ and HES subcategories focus on intersection safety, and both are aligned with the Strategic Highway Safety Plan (SHSP). The subcategory HAZ applies to Non-State Highway System while the HES applies to State Highway System. Jointly, these two subcategories contribute to the federal safety performance measure targets by addressing all public roads.

For projects managed by the BTE, cities are requested to submit high crash locations within their city/county. The project application must also include recommended improvements and all available data such as crash reports and traffic counts. BTE and BTS may help with missing information.

To select projects from the application submissions, BTE and BTS will review the data provided and add any available resources. The following is a typical review for meeting the criteria:

1. Crash analysis is performed to determine if the proposed improvement will effectively address the existing crash pattern. This is accomplished by a review of crash reports, collision diagrams, speeds, and traffic volumes. If the proposed improvement does not appear to address the crash behavior, the bureau staff will offer an alternative improvement. Typically, the use of Crash Modification Factors (CMF) will determine whether the identified crash types are being impacted.
2. Benefit-cost is another requirement used to determine if the project will be funded. The minimum benefit-cost ratio is a number greater than 1. Benefit-cost is a function of crash reduction cost and cost related to the project.

Project submittals are then ranked based upon a benefit-cost analysis and any predictive analysis that might be available for the location. Selections are generally made based upon a combination of project rankings and engineering judgment until all funds have been programmed. Projects selected in these subcategories may be financed with federal and local funds, with federal and state funds, or with state funds only. First consideration for projects is given to local off-system locations due to the crash data at these locations having the highest crashes. However, local off-system projects have a low number of project requests to utilize the available funding. KDOT will utilize the remaining funds in the following ways:

1. KDOT has developed a “Pipeline” of projects using traffic studies and other resources, such as state-system network screening, to list and prioritize projects.
2. The HSIP funds that would utilize the HAZ or HES subcategories may be transferred to one or more of the remaining HSIP programs.

3. As indicated by the 2020-2024 SHSP, there are two systemic intersection programs that may be funded through these subcategories: low-cost improvements at stop-controlled intersections and low-cost improvements at signalized intersections.

Local Bridge Improvements (LBT)

The Kansas Local Bridge Improvement Program (KLBIP) was initiated in 2014 and provides funds to Local Public Authorities (LPA) for the rehabilitation or replacement of deficient locally owned bridges. The focus of this program is to reduce the number of deficient bridges in the state in a cost-effective manner. This program targets bridges with span length of 50 feet or less, which comprise more than half of all deficient bridges in the state. Eligible bridges are on very low-volume roads, have a span of 50 feet or less, and shall be classified as structurally deficient or functionally obsolete. Longer bridges or bridges on higher volume roads are also eligible but are limited to the same state funding amounts. At origination, this program was funded for only the initial year.

However, funding was then revived in SFY 2020 and was planned to continue in the IKE program so more rural bridges may continue to be addressed. The goal of projects in this subcategory is to increase the state of repair of rural bridges across the State of Kansas. In IKE, $5M of funding per year of the ten-year program was planned to be available to address these bridges. The maximum state participation per individual project is $150,000; unless the LPA agrees to close and remove a second deficient bridge on their system, then the maximum state dollars is increased to $200,000.

In the fall of 2021, due to the passage of the Bipartisan Infrastructure Law (BIL), the funding levels and emphasis of the program was modified. Due to the influx of federal bridge dollars in BIL, KDOT was able to make more state dollars available for this program. Today the program focus is bridges not eligible for Off-System Bridge Program funding and off-system bridges of significant cost that cannot be adequately funded through Off-System Bridge Program. It is now being funded at approximately $20,000,000 per year. Project funding is a maximum of 75 percent to 100 percent state funding for construction and construction engineering based on county population density to replace or rehabilitate eligible bridges and a reduction of required local match is available if they permanently remove/close additional eligible bridge(s) at a rate of $1,000 per linear foot of bridge closed ($50,000 minimum).

The program is competitive, with projects selected through an application process, with the most recent call for applications having been in the spring of 2024. Once a project is selected for funding, KDOT and the LPA will enter into an agreement for the project. All project development and administration are the responsibility of the

LPA. After project selections are announced and funding is awarded, the LPA must advance the project through letting within 24 months. For more information about this program contact the KDOT Bureau of Local Projects at 785-296-3861 or visit KDOT's BLP webpage at https://www.ksdot.gov/bureaus/bur-LocalProj/default.asp.

Local Construction Locally and State Administered (LOC, RES, LFT)

All projects in these three subcategories, while performed on city and county roads, have a wide range of scopes, with elements from each of the three state programs- Preservation, Modernization, and Expansion. Local construction projects are divided into three subcategories: LOC, for those projects administered by the LPA with federal funding; RES, for those projects with federal funding administered by KDOT on behalf of the LPA; and LFT, for those projects developed without federal funding using instead the Federal Fund Exchange Program (where the LPA has exchanged federal dollars for state dollars to administer local transportation projects).

To qualify for LOC subcategory funding and the administration of their own federally funded, Non-National Highway System (Non-NHS) projects, LPAs must first meet minimum requirements established by FHWA and KDOT. These requirements are intended to ensure that projects are developed in accordance with all applicable laws, regulations, criteria, and accepted engineering practices.

KDOT administered projects, which are grouped into subcategory RES, are similar in nature to locally administered projects, with the key difference being that the State lets the project to construction and oversees the work on behalf of the LPAs. Local construction projects in the LOC and RES subcategories are funded with a combination of federal and local funding, with a usual funding ratio of 80 percent federal funds and 20 percent local funds. Since the LOC and RES subcategories of projects are federally funded, these projects are listed in the STIP or in the applicable TIP when an MPO area is involved.

Projects in the third subcategory, LFT, are funded with local and state funds, with the state funds coming from an exchange of LPA federal obligation for the state funds. While the LFT subcategory is included in this discussion, the subcategory is not part of KDOT's Local Construction program and does not use federal funds. As a result, LFT projects are not included in the STIP. A discussion of the LFT subcategory projects is included in this narrative to explain the decrease in the number of RES and LOC projects undertaken, and the corresponding decrease in LPA projects present in the STIP. Most LPAs have elected to use the LFT program to fund repairs on city and county roads. For more information concerning the Federal Fund Exchange Program, refer to the Program Finance

section of this narrative or contact the Bureau of Local Projects (contact information provided at beginning of this section).

Also, included in this program is a subset of projects funded with HSIP funding for High Risk Rural Roads (HRRR). Under past federal transportation acts, funds for high-risk rural roads were reserved for these roads. This funding was not continued in the FAST Act and was treated similarly in BIL, as well. However, safety on Kansas rural roads is a concern that KDOT elects to continue to address. HRRR funds are intended for roads with a history of crashes higher than the statewide average. Projects are intended to address roadway departures and intersection safety and are generally funded with HSIP funds at a 90 percent federal share and a 10 percent local share, although the funding pro rata may vary. These projects are referenced specifically in the Strategic Highway Safety Plan (SHSP) Local Roads section (https://www.ksdot.org/Assets/wwwksdotorg/bureaus/burTrafficSaf/reports/reportspdf/SHSP2020.pdf). The high-risk rural road projects contribute to KDOT's effort to improve overall roadway safety in Kansas and aid in KDOT's efforts to meet the established federal safety performance measure targets.

Regardless of the funding used for repairs, LPAs select all projects in a similar manner using the same set of criteria for all selections. Projects are often proposed because of safety concerns, the need to maintain existing facilities or structures, and community needs fueled by growth and other factors. To assist in their selection process, KDOT bridge inspection data and other management systems are available to locals to use in their decision-making processes.

The LPA is responsible for public involvement in the selection/prioritization process of projects, with the public involvement for each project being determined by the complexity of the project scope. At a minimum, public involvement should include a public notice indicating when a governing body will make decisions about reviewing needs, selecting projects, and setting priorities for federal-aid projects. As each project selected develops, additional public involvement may be warranted. The public involvement in the project development process will be in accordance with KDOT's publication "Sharing the Future- Public Involvement in the Kansas Transportation System" (link provided in Public Involvement narrative section).

After the selection and prioritization process is completed, projects are programmed. For federally funded projects, these lists are the local entities' portion of the STIP and identify their prioritized road or bridge construction projects. These projects are incorporated into the STIP or TIPs as appropriate.

Railroad/Highway Crossing Protection (RRX & RXR)

This federal-aid program funds protective device installation and hazard

elimination at railroad/highway grade crossings on public roads. Federal-aid HSIP funding finances up to 100 percent of the cost of these projects. In accordance with Section 130 of the 1973 Federal-aid Highway Act, KDOT has established a state rail crossing inventory and formula to prioritize all 5,026 active at-grade public crossings in Kansas.

Priority Formula For Railroad Crossings

Hazard Index = AADT x T x W

Where

AADT = Average Annual Daily Traffic

T = Average Trains per day

W = 0.1 for gates, 0.6 for flashing lights, & 1.0 for cross bucks

The priority formula "hazard index" is used to rate the relative hazard potential for all crossings and is based on the following three factors- highway traffic, train traffic, and a warning device. Annually, a few of the highest ranked crossings that have not been addressed in prior programs are selected for review. A preliminary review of the crossings is conducted to verify crossing inventory information.

Crossings from this list that pass the preliminary review are scheduled for on-site diagnostic reviews. The diagnostic review team consists of KDOT, railroad, and local government staff. This team makes recommendations for each crossing as to type of warning system, crossing surface work, approach roadway improvements, drainage improvements, and brush and timber clearing. A rough cost estimate of the recommendations is developed for each crossing.

The on-site review is sent to the local government officials who have maintenance responsibilities for the highway or roadway. When crossing projects receive funding commitments from local government, railroad, and the State, a project implementation procedure is started that leads to improvements at the crossing.

In conjunction with the United States Department of Transportation's national highway/railroad crossing safety initiatives, KDOT is also addressing railroad corridor highway/railroad crossing safety projects. For approval of a corridor project, there must be a reasonable number of highway/railroads crossing closures. The highest priority highway/railroad crossings in the corridor are improved with active flashing light and gate signal systems. Projects in these two subcategories are reviewed and selected on an annual basis. Currently the selection and programming of 2024 projects is underway.

Projects in these subcategories help KDOT to continue to manage a longstanding program related to the intersection of highway and railroad lines to address the Strategic Highway Safety Plan (SHSP) goal to reduce the potential for, and severity of, intersection and intersection-related crashes and are referenced specifically in the Kansas SHSP 2020-

2024, Chapter 6 Intersections. These projects contribute to KDOT's effort to increase overall road safety in Kansas and to meet the established federal safety performance measure targets.

Safe Routes to School (SRT)

Under BIL, the Safe Routes to School (SRTS) program continues to be treated in the same manner it was under the FAST Act and remains merged with the Transportation Alternatives program (TA). Likewise, the TA program continues to be treated as a set-aside program of the federal STBG program as was established in the FAST Act. All TA funded projects, regardless of project type, are funded at an 80 percent federal fund and 20 percent match ratio from local, state, and/or allowable federal sources.

For planning purposes, the focus of the SRTS program is increasing the number of school children who walk or bike to school. SRTS provides reimbursements to local public authorities and school districts for projects or activities that will make walking and bicycling to school safe, enjoyable, and routine. In this subcategory, projects are selected by soliciting applications and then selecting projects through a competitive selection process. To qualify for consideration, applications must meet one of the following three criteria:

1) Project provides for plan development of Safe Routes to School programs, with possible future funding to implement the plan. A SRTS Plan is prerequisite for future infrastructure funding consideration.
2) Project provides for infrastructure such as improvements to pedestrian and bicycle crossings, sidewalks, traffic calming, on- and off-street bicycle facilities, secure bicycle parking, and traffic diversions.
3) Project provides for non-infrastructural activities above and beyond those activities covered in the other two criteria.

Local public authorities, individual schools and school districts are sent requests for projects when funding is available for the SRTS program, submissions are evaluated, and selections made. The selected projects are then added to the STIP document or amended using the amendment process in place depending on the timing of the selections. A call for projects for the Transportation Alternatives, https://www.ksdot.gov/bureaus/burtransplan/TransAlt.asp, funding opportunity that includes SRTS programming is expected in early 2026. More information about the SRTS subcategory is available at: https://www.ksdot.gov/bureaus/burTraffiEng/sztoolbox/Safe_Routes_to_School.asp.

Transportation Enhancement
(TEX)

As in the FAST Act, BIL continues to treat the federal Transportation Enhancement (TE) program as part of the Transportation Alternatives (TA) program, which itself is a set-aside of the federal STBG program. Projects in the TEX subcategory must correspond with one of the following criteria:

1) Project provides environmental mitigation related to stormwater management or reduction in wildlife mortality from vehicles,
2) Project provides construction of pedestrian and bicycle facilities,
3) Project provides conversion and use of abandoned railroad corridors for trails,
4) Project provides construction of turnouts, overlooks, and viewing areas (formerly part of the now discontinued federal Scenic Byways program)
5) Project provides community improvement through inventory, control, or removal of outdoor advertising, historic preservation and rehabilitation of historic transportation facilities, vegetation management practices, and archaeological activities relating to impacts from the execution of a transportation project.

As part of the TA set-aside program, projects in this subcategory are funded at an 80 percent federal fund and 20 percent match ratio from local, state, and/or allowable federal sources, and projects are selected by an application process. Eligible projects must demonstrate their financial ability to meet their obligation. Projects selected that do not meet the deadline for entry into the STIP document will be amended to the STIP using the amendment process in place. The next call for projects is expected to take place in early 2026. More information about the Transportation Enhancement and TA Program is available at https://www.ksdot.gov/bureaus/burtransplan/TransAlt.asp.