

Jobs ■ Safety ■ Economic Development



Economic Impact Analysis

WHY: In the last four years, KDOT has hosted over 60 meetings in which more than 1,000 Kansans participated to help craft a new approach to transportation. One priority to emerge was that **transportation investments need to be linked with the State's economic priorities.** Utilizing economic impact analysis is a way to **make sure Kansas is getting the biggest bang for its buck.**



ECONOMIC BENEFITS: *Past transportation programs have provided an economic boost for Kansas communities both in the short-term and in the long-term. The short-term effects apply to the construction work. For instance, one project on US-69 in southeast Kansas resulted in more than 600 local businesses getting additional work/customers. From glass shops to hotels to wrecking services and cell phone companies— transportation projects create a ripple effect. There are also long-term effects from projects. For example, five case studies on Kansas transportation projects revealed that those projects created more than 50,000 jobs and added \$6.1 billion to the State's economy. And it's anticipated by utilizing economic impact analysis, T-WORKS will generate even greater economic benefits across Kansas.*

WHICH PROJECTS: Economic impact analysis is only used as a selection factor for **expansion projects.** Expansion projects add lanes or interchanges.

HOW: The economic model, TREDIS, is used to analyze the potential economic impact of expansion projects. TREDIS estimates the number of **long-term jobs**, increase in **Gross Regional Product**, **added safety benefits** and **income growth** that would result from an expansion project. These factors are weighed against the cost of the project to determine its overall economic impact score. To get that score, TREDIS relies on county-level economic data about employment patterns, business activity and freight movements by type, amount and value. Rural and urban projects are scored separately.

How much improvement could I get for \$10 million?

2 miles of 4-Lane Expressway

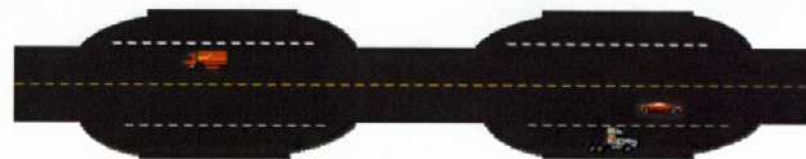
Cost = \$10 million



OR

10 miles with Passing Lanes

(2 passing lanes, each 2 miles long)
Cost = \$10 million



PASSING LANES: The scenarios above help showcase the cost difference for building passing lanes versus 4-lane expansion projects. Given that our dollars are limited, passing lanes can be a viable solution for stretching those dollars and maximizing the amount of improvements being made across the state. It's worth noting that passing lanes can be more than just adding a lane. They can also involve intersection improvements, resurfacing, and acquiring additional right-of-way if necessary. Passing lanes can provide substantial improvement for a community or region. (Please note that the cost estimates shown here are averages and could vary some from project to project).

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For questions about Northeast Kansas projects contact Clay Adams at (785) 296-3881 or Clay@ksdot.org

Developing Regional Spending Ranges

To develop the regional spending ranges, KDOT looked at a wide range of categories that impact transportation needs such as population, miles of roadway, and daily vehicle miles of travel. Below is an analysis of some of the factors that KDOT looked at broken down by region of the state.

	Region					
	Northeast	North Central	Northwest	Southeast	South Central	Southwest
Population	46%	7%	3%	10%	28%	5%
Projected Population (2030)	53%	6%	2%	9%	26%	4%
State Highway Miles	19%	16%	16%	16%	19%	15%
Total Roadway Miles	17%	16%	17%	14%	22%	14%
Daily Miles Traveled on Highways	39%	11%	8%	12%	23%	6%
Daily Truck Miles Traveled on Highways	29%	17%	15%	11%	21%	7%
Daily Miles Traveled on all Roads	40%	10%	6%	11%	27%	6%
Employment by Place of Work	50%	7%	3%	8%	28%	4%
Employment by Place of Residence	46%	8%	4%	9%	28%	5%

A closer look at the Northeast Region

- Kansas' 10,000+ miles of highways roads are evenly distributed throughout the state. As such the Northeast region has about the same number of miles (19%) as the other regions.
- The region has a relatively large population (46%) and is projected to increase in the future (53%)
- Just as the population is large, so are the number of daily vehicle miles of travel (40%).
- Truck traffic is lower (29%) than overall traffic in the region (40%) because trucks tend to have longer trip lengths that cross the entire state.

Proposed Ranges of Regional Spending

Expansion and Modernization Projects

The above information was reviewed to develop ranges for distributing the \$1.7 billion in available funds for Expansion (4-lanes, passing lanes, etc.) and Modernization projects (shoulders, straightening curves, etc.). These proposed ranges are shown below (in millions):

\$75 to \$125	\$100 to \$200	\$500 to \$800
\$100 to \$150	\$300 to \$600	\$125 to \$225

Total Available Statewide: **\$1,700**

Total Highway Spending including Preservation

The most important aspect of the T-WORKS program is that it will fully fund preservation of the highway system. The graphic below illustrates the proposed spending when you add in the likely preservation spending (in millions):

\$675 to \$925	\$700 to \$1,000	\$1,700 to \$2,300
\$450 to \$650	\$1,000 to \$1,500	\$625 to \$875

Total Available Statewide: **\$6,300**



Northeast Candidates

August 2010

Proposed Range:
\$500 - \$800 million

These projects all scored in the top tier of the 2009 Local Consultation process.

Packages **A** and **B** are examples of combinations of projects and are provided for illustrative purposes. These packages are intended to foster discussion about options for selecting projects for the region. KDOT is interested in hearing your thoughts about these packages and your ideas for other combinations of projects.

A freeway means the only way to get on or off the highway is at an interchange with on- and off-ramps, which typically aren't spaced much closer than 2 miles apart.

An expressway means that there are still side roads connecting to the road and that there could be stop signs or traffic signals.

Trade-off Example

Many of the needs in the Northeast are very expensive, such as the Gateway Project in Johnson County. To maximize available revenue and address as many needs as possible, a likely trade-off is that many of these more expensive projects will have to be constructed over multiple phases and years. This will allow for many more needs to be met than if just one or two mega projects were to be completed. Because these projects are so large and far reaching, local and innovative funding options should be explored to the extent possible.

Trade-off Example

Not all of the expensive needs are in the Kansas City Metro area. The I-70 Polk Quincy corridor in Topeka and the South Lawrence Trafficway are important projects that are also over \$100 million each.

Comparison of Example Packages

Scenario	Cost	Economic Benefit	Miles Completed
A	\$740M	\$8.3B	18
B	\$713M	\$5B	35

The Economic Benefits were developed using the TREDIS economic modeling package. This represents the long-term economic benefit to the region such as job creation and retention and the additional economic activity that will be a direct result of the transportation improvement. It also includes traveler benefits such as increased safety and time savings. In the Northeast region, both scenarios focus on the phases of the larger mega projects that have the most benefit and therefore both packages have significant benefits. Package A has higher benefits in part because it includes the K-7/I-70 interchange and an additional phase of the Gateway project, both of which result in significant economic benefits.

The total costs for all Top Tier projects in the region ranges from \$2.0 billion with the lower cost scopes up to \$3.5 billion with the higher cost scopes

Package

B

A

B

B
freeway

A

B

A

B

A

B

B

A

A

A

B

A

B

B

A

B

A \$740 **B** \$713

ID	Project Description	Scope/Options	FY '16 Cost (millions)	Length (miles)	Notes
K-18 Expansion in Riley County			\$96	6	Plans and Right-of-Way are ready
1	Wildcat Creek to 1 mile E. of Scenic Drive	4-lane freeway	\$71	4	
2	1 mile E. of Scenic Drive to K-113/Seth Child	4-lane freeway	\$25	2	
K-4 Expansion in Shawnee and Jefferson County			\$100	7	Preliminary plans ready
3	Oakland Expressway (US-24) to 54 th St	4-lane freeway	\$75	3	New alignment
4	54 th St to Meriden	4-lane expressway	\$25	4	
US-24 Expansion in Shawnee County			\$118	9	
5	Silver Lake to Countryside Rd (2 Mi W of US-75)	4-lane expressway	\$75	7	
6	Countryside Rd (2 Mi W of US-75) to existing 4-lane in Topeka	4-lane expressway	\$43	2	Plans ready, inc. Menoken Rd IC and RR Overpass
7	US-36 Expansion from Troy to Wathena in Doniphan County	4-lane expressway	\$38	6	
8	US-50 Expansion in Lyon County from Chase County to Emporia	4-lane expressway	\$29	6	
9	US-75 Expansion from Lyndon to Carbondale in Osage County	4-lane freeway 4-lane expressway	\$84 \$66	13	
10	US-75 Expansion from Holton to K-20 in Jackson County	4-lane expressway Passing lanes	\$88 \$25	13	
11	New Interchange on I-35 for KC Intermodal in Johnson County		\$25	—	Letting Scheduled Jan 2012
12	The Gateway Project: I-435/I-35/K-10		\$750	—	Plans underway
	Phase: I-435 to Quivira and I-35 from 119th to I-435		\$28	—	Scheduled to be let spring 2012
	Phase: I-435 from Pflumm to US-69		\$89	—	
	Phase: K-10 eastbound movements to I-435 and I-35		\$150	—	
13	I-35 Expansion in Johnson County		\$280	9	
	Old US-56 to 119th St	Add lanes	\$104	4	
	I-35/I-435/K-10 to US-69	Add lanes	\$113	3	
	US-69 to 67th St	Add lanes	\$63	2	
14	I-70 Polk Quincy Viaduct in Topeka	6-lane freeway	\$145	1	
15	New Interchange on K-10 at 15th St in Lawrence		\$13	—	
16	South Lawrence Trafficway (US-59 to K-10)	4-lane freeway	\$188	7	Possible Tolling, Plans underway
17	K-10 Expansion from K-7 to I-435 in Johnson County	8-lane freeway	\$240	4	Possible Tolling, Incl. K-7/K-10 IC
	K-7 Expansion north of I-35 in Johnson County		\$294	4	
18	I-35/K-7 Interchange reconstruction		\$139	—	New alignment on Lone Elm
19	I-35 to 127 th Street	4-lane freeway	\$155	4	
20	K-7/I-70 Interchange reconstruction in Wyandotte County		\$411	—	Plans underway
	Phase: Ramps in SW and NW quadrants & I-70 from K-7 to 110th		\$100	—	
	Phase: Ramps in SE and NE quadrants		\$58	—	
21	K-7 Expansion from I-70 to US-24/40 in Wyandotte County	4-lane freeway	\$20	1	
22	I-435 and US-69 Improvements		\$543	9	Plans underway
	I-435/Quivira Interchange to 115 th St		\$115	1	
	US-69 from 115th to 103rd		\$78	1	
	College Blvd and US-69		\$93	—	
	119th and US-69		\$79	1	
	US-69 from 167 th St to 119 th St		\$178	6	
23	K-16 Modernization from 3 miles west of Holton to K-116	Add shoulders	\$15	6	
24	K-31 Modernization from Osage City to US-75	Add shoulders	\$13	7	
25	K-20 Modernization from US-75 to Horton	Add shoulders	\$19	10	
Total Costs			\$2.0 billion - \$3.5 billion		