Executive Summary

The Lawrence-Douglas County Metropolitan Planning Organization (MPO) updated our Intelligent Transportation Systems (ITS) Plan in the spring of 2021. (The plan was approved by the MPO Policy Board on July 15, 2021.) The plan includes this document and the Regional Architecture Development for Intelligent Transportation (RAD-IT) website. A Steering Committee (Table ES-1) provided staff direction on this plan update and met four times.

Table ES-1: 2021 Steering Committee

Category	Agency
Federal Transportation Agencies	FTA
	FHWA
State, County, and City Highway and Traffic Agencies	KDOT
	KTA
	KC Scout
	Baldwin City
	Eudora
	Lawrence
	Doulas County
Emergency Communications	DG Emergency Communications Center
Transit Providers	Lawrence Transit
	KU on Wheels

ITS is the application of technologies and communications to improve the multimodal transportation system in an area. ITS includes detection systems and cameras for monitoring traffic conditions on roadways, dynamic message signs to provide real time travel information, vehicle location systems to track transit and emergency services vehicles, and a host of other technological elements and agency coordination processes. Essentially its equals better travel through technology.

The ITS Plan has a vision and is consistent with Transportation 2040 (the long-range transportation plan).

Lawrence-Douglas County Regional ITS Vision

The Lawrence-Douglas County Region will use Intelligent Transportation Systems to provide cost-effective and practical technologies that enhance the safety, capacity, operations, and evaluation of the multimodal transportation.

Transportation 2040 identifies four goals that are consistent with federal planning guidelines. They are:

1. **Access & Choices** – Enhance transportation options and choices for improved system performance
2. **Mobility & Prosperity** – Efficient movement of people, goods, and freight
3. **Preservation, Safety, & Security** – Prioritize preservation, safety, and security of the transportation network
4. **Sustain & Enhance** – Minimize adverse social, economic, and environmental impacts created by transportation

To implement Transportation 2040, we envision utilizing ITS technologies to improve multimodal transportation to improve movement of people and goods, reduce travel time, mitigate crashes, and enhance safety. The programs and projects require integrating ITS into the regional transportation planning and project development process. Implementation of ITS requires improving the information sharing among the region's transportation agencies and with the public. ITS can provided increased

security and safety for multimodal transportation through improved infrastructure monitoring and emergency management. ITS will allow the region to maximize the utilization of existing infrastructure and facilities. The programs and projects identified in the ITS plan often support multiple Transportation 2040 goals and have the potential to improve the regional ability to measure the performance of the transportation network. ITS programs and projects are shown in **Table ES-2** with dots to indicate which Transportation 2040 goals they support.

Table ES-2: ITS Programs and Projects Implementing Transportation 2040 Goals

	Access & Choices	Mobility & Prosperity	Preservation, Safety, & Security	Sustain & Enhance
1 Signal Coordination Program	●	●	●	●
2 Traffic Detection Improvements Program	●	●	●	●
3 Traffic Signal Performance Measures Program	●	●		●
4 Fiber Communications Expansion Program	●	●	●	
5 Camera Deployment Program			●	●
6 Emergency Signal Preemption Improvements Program		●	●	
7 Weather Monitoring Program			●	●
8 Alternative Fuels or Low-No Emissions Infrastructure and Vehicles Program	●	●	●	●
9 Work Zone Management Program		●	●	●
10 Bicycle/Pedestrian Warning Systems Program		●	●	
11 Shared Mobility	●	●		●
12 Dynamic Message Signs	●	●	●	●
13 Signal Beacon Deployment		●	●	
14 Transit Traveler Information Improvements	●	●		
15 Transit Management Improvements	●	●		
16 Transit Signal Priority		●		●
17 Parking Management System	●	●		
18 Event and Incident Management Improvements	●	●	●	●
19 Regional Virtual Data Warehouse	●		●	
20 Journey Trip Planner Tool	●	●		●
21 Connected Vehicles	●	●	●	●

Table ES-3 lists the sequenced ITS programs or projects for the L-DC Region. The inclusion of a project in this list does not mean that it has been programmed in other regional transportation plans. Many programs or projects on this list have committed funding. This Plan is a means for identifying potential ITS projects that should be considered and possibly programmed into the Region's funding processes.

It should also be noted that these are planning level cost estimates, which will need to be refined as project scopes are defined.

For more information:

View the full plan visit: https://lawrenceks.org/mpo/its

Email questions to: mpo@lawrenceks.org

LAWRENCE - DOUGLAS COUNTY MPO
METROPOLITAN PLANNING ORGANIZATION

Table ES-3: L-DC Regional ITS Programs or Projects

		Projects	Total Project/Program Cost Low Estimate		High Estimate
Ongoing Programs *(Projects that are not one time expenses)*	1	Signal Coordination Program	$ 250,000		$ 500,000
	2	Traffic Detection Improvements Program	$ 1,000,000	to	$ 1,500,000
	3	Traffic Signal Performance Measures Program	$ 236,000		$ 386,000
	4	Fiber Communications Expansion Program	$ 839,400		
	5	Camera Deployment Program	$ 366,000	to	$ 570,000
	6	Emergency Signal Preemption Improvements Program	$ 73,000		$ 170,000
	7	Weather Monitoring Program	$ 50,000		$ 500,000
	8	Electric Vehicle Infrastructure & Vehicles Program			
		8a Lawrence Public Charging Stations	$ 75,000		
		8b Private Charging Stations	$ 375,000		
		8c Transit Charging Stations	$ 5,200,000		
		8d Transit Vehicles	$ 12,412,500		$ 49,650,000
		8e Lawrence City Vehicles (Including Fleet & Operations) - 782	Unknown		Unknown
		8f Lawrence City Charging Infrastucture	Unknown		Unknown
		8g Other Cities Vehicles and Charging Infrastructure	Unknown		Unknown
		8h County Vehicles and Charging Infrastructure - 371	Unknown		Unknown
	9	Work Zone Management Program	$ 240,000	to	$ 348,000
	10	Bicycle/Pedestrian Warning Systems Program	$ 750,000	to	$ 900,000
		Total Estimated Ongoing Programs Cost	**$ 21,866,900**	**to**	**$ 54,524,000**
Near-Term *(planned for the next three years)*	11	Shared Mobility	Unknown	to	Unknown
	12	Dynamic Message Signs	$ 3,150,000	to	$ 4,200,000
	13	Signal Beacon Deployment	$ 600,000	to	
	14	Transit Traveler Information Improvements	$ 250,000	to	$ 280,000
		Total Estimated Near-Term Programs Cost	**$ 4,000,000**	**to**	**$ 4,480,000**
Medium-Term (*planned for three to six years*)	15	Transit Management Improvements	$ 722,090		
	16	Transit Signal Priority	$ 66,000	to	$ 234,000
	17	Parking Management System	$ 250,000	to	$ 1,000,000
	18	Event and Incident Management Improvements	$ 800,000	to	$ 2,000,000
		Total Estimated Medium-Term Cost	**$ 1,838,090**	**to**	**$ 3,234,000**
Long-Term *(planned for six to ten years)*	19	Regional Virtual Data Warehouse	$ 15,000	to	$ 300,000
	20	Journey Trip Planner Tool	$ 300,000	to	$ 570,000
	21	Connected Vehicles	Unknown	to	Unknown
		Total Estimated Long-Term Cost	**$ 315,000**	**to**	**$ 870,000**
		Total Cost of All Projects	**$ 28,019,990**	**to**	**$ 63,108,000**