

# 1. Purpose and Need for Action

## 1.1. Introduction

A Purpose and Need Statement describes the transportation problems that a proposed project is to address. This statement provides a description of the purpose of the South Lawrence Trafficway (SLT) project and demonstrates the need for improvements the proposed project is to address within the study area.

# 1.2. Project Overview and Background

The Kansas Department of Transportation (KDOT) and the Federal Highway Administration (FHWA) are proposing to upgrade and widen a section of the SLT, located within the south and west limits of the City of Lawrence, in Douglas County, Kansas.

#### 1.2.1. Project Limits and Termini

**Exhibit 1-1** shows the study area for the project. The study area boundaries represent the logical limits for the infrastructure improvements and environmental review. The overall project study limits begin just north of Interstate 70 at North 1800 Road/Farmer's Turnpike and extend to just east of the existing SLT/23<sup>rd</sup> Street system interchange.

The overall length is 19.0 miles and is subdivided into sections as follows:

- The West Section begins just north of Interstate 70 at North 1800 Road/Farmer's Turnpike and continues to U.S.59/Iowa Street (approximately 8.7 miles);
- The East Section begins at U.S. 59/lowa Street and continues to the existing SLT/23rd Street system interchange (approximately 6.3 miles); and
- The project study area also includes East 600 Road/Lecompton Road at Interstate 70 (approximately 0.6 mile), and U.S. 40 from K-10 to E 600 Road (approximately 4.1 miles).

#### 1.2.2. Project Background

The National Environmental Policy Act (NEPA) requires the FHWA to assess the environmental effects of projects that include federal funding or require a federal action. The NEPA process allows transportation officials to make project decisions that balance engineering and transportation needs with social, economic, and natural environmental factors. An Environmental Impact Statement (EIS) is prepared for projects where the action is expected to have significant effect on the natural and human environment.

A previous EIS was prepared by KDOT and FHWA in 1990 for the overall SLT study area. The Purpose and Need stated in that EIS was to relieve congestion on existing 23<sup>rd</sup> Street/Clinton Parkway and Iowa Street by diverting through and local traffic from these two existing streets, thereby achieving an improved level of service on the local street network. As an outcome of the approved 1990 EIS, two expressway lanes of the West Section were constructed and opened to traffic in 1996. The East Section was not constructed and a subsequent Supplemental Environmental Impact Statement (SEIS) with a "No Build" decision was approved in 2000. A subsequent EIS, in conjunction with a U.S. Army Corps of Engineers (USACE) 404 Permit, was completed in 2002 and adopted and approved by FHWA in November 2007. The FHWA then







issued a Record of Decision (ROD) in May 2008. Since the completion of the ROD, the East Section four-lane freeway was constructed and opened to traffic in 2016.

The K-10 West Leg Concept Study, conducted from 2014-2016 for KDOT, investigated the current and future needs and functions in the SLT West Section. This study considered alternatives for the future widening and upgrade of the corridor, which modified the current two-lane expressway design to a four-lane freeway design (accommodating a future widening to a six-lane section, if warranted) with limited access, and grade separated interchanges in place of existing at-grade intersections. The concept study was used as a reference document during the preparation of the SEIS.

## 1.2.3. Proposed Action

This SEIS, a supplement to the 1990 FHWA EIS (original 1990 EIS), is considering new or additional environmental impacts based on the introduction of new improvement options for the SLT corridor. The 1990 Record of Decision (ROD) for the FHWA FEIS on the South Lawrence Trafficway considered and selected a partial access-controlled expressway alternative as the Preferred Alternative for implementation, and two expressway lanes were constructed and opened to traffic in 1996, creating the SLT West Section. Due to changing traffic and safety conditions in the corridor, and because KDOT desired to evaluate and consider a range of additional alternatives, including both partial (expressway) and full (freeway) access-controlled roadway configurations, this SEIS was prepared.

The East Section of the SLT is included in this SEIS study because it was a part of the study area for the original 1990 EIS. Therefore, the entire SLT corridor was evaluated to assess potential impacts of implementing build alternatives other than expressway alternatives. There are no physical roadway improvements or modifications that require additional right-of-way (ROW) on the East Section.

# 1.3. Purpose and Need for Action

## 1.3.1. Need for Proposed Project

The original 1990 EIS established the following needs for the SLT:

- Complete the system linkage for K-10 from I-70 to existing K-10 east of Lawrence and allow linkage of US 59 to I-70 without the use of city streets;
- Alleviate existing and forecasted traffic congestion on 23<sup>rd</sup> Street and Iowa Street;
- Improve access to the University of Kansas and Clinton Lake; and
- Accommodate the need for good local access to commercial developments along lowa Street and 23<sup>rd</sup> Street

The construction and opening to traffic of the SLT West Section expressway in 1996, and later construction and opening to traffic of the SLT East Section freeway in 2016 satisfied the 1990 EIS purpose and need for the broader SLT project. KDOT is now re-examining alternatives for the SLT West Section because capacity has become insufficient to meet current and future traffic volumes, resulting in increased congestion and safety issues now that the facility connects to a four-lane freeway with controlled access on the East Section. Additionally, the now continuous highway connection that exists between K-10 Highway in the Kansas City metro area and I-70 has attracted a significant amount of regional traffic to the SLT corridor.







As a result, KDOT has updated the project needs to account for current traffic and safety conditions, and to account for regional preferences for consideration of multimodal options and support of local and regional growth. The updated project needs are to:

- Reduce congestion and improve the traffic capacity to meet existing and future travel demands.
- Enhance safety to reduce high crash rates and severity at high crash locations within the study area,
- Promote a multimodal transportation system by ensuring the project accommodates the needs of other transportation modes, and
- **Support local and regional growth** by providing and coordinating transportation connections to be consistent with planned and proposed community land use and development.

# 1.3.2. Purpose of Proposed Project

The purpose of the SLT is to provide the traveling public with an efficient and cost-effective transportation facility for users of K-10 Highway and the connected state highway system that reduces congestion, enhances safety, promotes a multimodal transportation system and supports local and regional growth. In addition, elements of the purpose and need established in the 1990 EIS were carried forward for this SEIS, which is to relieve congestion on the local street network within the City of Lawrence.

The proposed project is consistent with the identified needs and goals of KDOT's Kansas Long-Range Transportation Plan and the Lawrence-Douglas County Metropolitan Planning Organization, as outlined in the *Transportation 2040 Lawrence-Douglas County Metropolitan Transportation Plan* (2018 version).

#### 1.3.3. Reduce Congestion

It is an important goal of the proposed project to help alleviate anticipated congestion levels in the Lawrence area of Douglas County and to provide a more efficient SLT corridor for the surrounding region. Relieving congestion on the major arterials of  $23^{rd}$  Street/Clinton Parkway and Iowa Street in the City of Lawrence has been a primary focus of the development of the SLT corridor since the initial 1990 EIS. The initial EIS sought to address congestion on these major arterials by constructing a four-lane expressway and diverting traffic to the SLT, thereby achieving improved travel conditions on the local street network. The expressway alternative evaluated in this study had both at-grade intersections and grade-separated interchanges to provide access in the Lawrence area. As an outcome of the 1990 EIS, two expressway lanes of the West Section were approved, constructed and opened to traffic in 1996. At this time, the East Section was not constructed and a subsequent SEIS with a "No Action" decision was approved in 2000.

Relieving congestion and the need to divert local and regional through traffic from 23<sup>rd</sup> Street/Clinton Parkway and Iowa Street continued as an important component of the purpose and need in the subsequent 2002 EIS, which is the document that ultimately led to approval to construct the SLT East Section as a four-lane freeway. The freeway alternative approved in this study provides four travel lanes with limited access provided through grade-separated interchanges. The SLT East improvements were constructed and opened to traffic in 2016.







## 1.3.3.1. Existing Traffic Conditions

#### **SLT Corridor Congestion**

While the opening of the SLT East Section met its intended purpose of relieving congestion along 23<sup>rd</sup> Street/Clinton Parkway and Iowa Street, it also resulted in the need to evaluate traffic capacity improvements on the SLT West Section. The opening of the East Section as a four-lane freeway in 2016 has contributed to the need for additional traffic capacity on the West Section as both local and regional through traffic has shifted to the SLT. The SLT East Section completed a continuous highway connection between K-10 Highway in the Kansas City metro area and I-70 and has attracted a significant amount of regional traffic to the SLT corridor.

**Table 1-1** shows the traffic volumes on the SLT corridor before and after the opening of the SLT East Section. The table shows that traffic volumes have more than doubled on the portion of the SLT West Section from U.S.59/Iowa Street to Clinton Parkway and nearly doubled on the portion of the SLT West Section north of Clinton Parkway once the East Section was open to traffic.

Highway S	Segments	Pre-East Section 2014	Post-East Section 2018
From	To	ADT	ADT
SLT @ Iowa St	SLT @ Kasold Dr	7,150	19,300
SLT @ Kasold Dr	SLT @ 27th St	6,660	19,550
SLT @ 27 <sup>th</sup> St	SLT @ Clinton Pkwy	4 000*	14,800
SLT @ Clinton Pkwy	SLT @ Bob Billings	6,000*	17,100
SLT @ Bob Billings	SLT @ W 6 <sup>th</sup> St	9,790	18,600
SLT @ W 6 <sup>th</sup> St	SLT @ I-70	11,800	18,800

Table 1-1: SLT Corridor Mainline Volumes (Two-Way ADT)

The study team completed a Level of Service (LOS) analysis of roadway capacity and operations along the SLT corridor and at connecting intersections to assess levels of congestion. Traffic planners and engineers use LOS as a qualitative measure to characterize operational conditions and traveler perception of ease of travel. Traffic conditions are graded on a scale of LOS A through F. LOS A is the most favorable driving condition, LOS D or better is considered acceptable by KDOT during peak travel times in urban settings, and LOS E or F represents unacceptable traffic operations.

**Table 1-2** shows the change in SLT corridor congestion before and after the opening of the SLT East Section. Prior to the opening of the East Section, the two-lane expressway on the West Section operated with acceptable LOS to the south of Clinton Parkway. However, after the opening of the East Section, the West Section has become increasingly congested throughout the entire corridor since it remains as a two-lane expressway with at-grade intersections.





ADT – Average Daily Traffic

<sup>\*</sup>In 2014, Bob Billings Interchange was not yet open to traffic.



Table 1-2: Level of Service for SLT Corridor and Intersections Before and After Opening of East Section

Highway :	Segments	2014 Pre-East Section	2018 Post East Section	2014 Pre- East Section	2018 Post- East Section
From	То	AM LOS	AM LOS	PM LOS	PM LOS
SLT @ Iowa St	SLT @ Kasold Dr	D	E*	D	E*
SLT @ Kasold Dr	SLT @ 27 <sup>th</sup> St	D	E*	D	E*
SLT and 27th Street/Wakar	rusa Intersections	В	F*	В	F*
SLT @ 27 <sup>th</sup> St	SLT @ Clinton Pkwy	D	E*	D	E*
SLT @ Clinton Pkwy	SLT @ Bob Billings	- F**	E*	□**	E*
SLT @ Bob Billings	SLT @ W 6 <sup>th</sup> St	E	E*	-E**	E*
SLT @ W 6 <sup>th</sup> St	SLT @ I-70	E*	E*	E*	E*
SLT and EBI-70 Intersection		A	А	С	В
SLT and WB I-70 Intersect	ion	А	A	А	А

<sup>\*</sup> Bold indicates LOS E or worse operating conditions.

Two separate travel time studies were conducted to analyze the impact of the opening of the East Section on the AM and PM peak periods. The first study was conducted in 2014 before the opening of the East Section and the other in 2018 after the opening of the East Section. **Table 1-3** shows the results of the impact the opening of the East Section had on corridor travel times.

The travel time study results show that three of the eight segments experienced increases in travel time of approximately 50 seconds or more during both the AM and PM peak periods after the East Section opened to traffic. The area of greatest increase in travel times was from I-70 at Kasold Drive to W 6<sup>th</sup> Street on SLT with 132 seconds (2.2 minutes) in the AM and 162 seconds (2.7 minutes) in the PM. This was followed by the segment along SLT from lowa Street to Clinton Parkway at 62 seconds in the AM and 89 seconds in the PM. Travel time increases of this magnitude indicate a worsening in congestion within portions of the SLT corridor now that the East Section is open to traffic. Travel time improves slightly southbound and is virtually the same northbound between 6<sup>th</sup> Street and Clinton Parkway due to the removal of the 1500 Road intersection and the addition of the Bob Billings Parkway interchange that increased the capacity of that segment as volumes have increased.





<sup>\*\*</sup>In 2014, Bob Billings Interchange was not yet open to traffic.



Table 1-3: Travel Time (in Seconds) Before and After Opening of the SLT East Section

Highway S	egments	AM	AM	AM	PM	PM	PM
From	To	2014	2018	Difference	2014	2018	Difference
SLT @ Iowa St	SLT @ Clinton Pkwy	257	319	62	243	332	89
SLT @ Clinton Pkwy	SLT @ W 6 <sup>th</sup> St	112	114	2	111	109	-2
SLT @ W 6th St	SLT @ N 1800 Road	139	188	49	140	175	35
SLT @ W 6 <sup>th</sup> St	I-70 @ Kasold Dr	309	334	25	319	322	3
I-70 @ Kasold Dr	SLT @ W 6 <sup>th</sup> St	325	457	132	327	489	162
SLT @ N 1800 Road	SLT @ W 6 <sup>th</sup> St	130	139	9	132	135	3
SLT @ W 6 <sup>th</sup> St	SLT @ Clinton Pkwy	113	107	-6	111	110	-1
SLT @ Clinton Pkwy	SLT @ Iowa St	254	277	23	251	301	50

As part of the travel time studies, the average speed was determined for segments of the SLT. **Table 1-4** shows the impact the opening of the East Section had on average travel speeds.

Table 1-4: Travel Speeds (in Miles Per Hour) Before and After Opening of the East Section

Highway S	egments	AM	AM	AM	PM	PM	PM
From	То	2014	2018	Difference	2014	2018	Difference
SLT @ Iowa St	SLT @ Clinton Pkwy	60	53	-7	63	51	-12
SLT @ Clinton Pkwy	SLT @ W 6 <sup>th</sup> St	63	63	0	63	66	3
SLT @ W 6 <sup>th</sup> St	SLT @ N 1800 Road	56	29	-27	55	47	-8
SLT @ W 6th St	I-70 @ Kasold Dr	65	61	-4	62	64	2
I-70 @ Kasold Dr	SLT @ W 6 <sup>th</sup> St	61	43	-18	61	42	-19
SLT @ N 1800 Road	SLT @ W 6th St	59	55	-4	58	56	-2
SLT @ W 6 <sup>th</sup> St	SLT @ Clinton Pkwy	62	67	5	63	66	3
SLT @ Clinton Pkwy	SLT @ Iowa St	60	61	1	61	56	-5

Overall, the average speeds on the SLT corridor trend down after the opening of the East Section. In the AM peak, with five of the eight segments seeing a decrease in speed, two of the eight segments decrease by over 15 mph. During the PM peak, five of the eight segments see an overall decrease in speed, with two of the eight segments decreasing by more than 10 mph. Several areas have been improved since 2014 including the conversion of Kasold Drive to a right-in-right-out (which has now been subsequently closed in late 2018) and the replacement of the North 1500 Road at-grade intersection with the Bob Billings Parkway interchange. Due to these improvements, travel speeds have increased slightly along these segments.

In summary, the increase in travel times and reduction in average speeds after the opening of the East Section demonstrate an increase in traffic congestion on the West Section after the East







Section opened to traffic in 2016. This condition is expected to continue to worsen as traffic continues to shift from Lawrence area arterials to the SLT, and the SLT corridor continues to attract increased regional traffic between K-10 Highway in the Kansas City metro area and I-70.

#### **Local Arterials Congestion**

Relieving congestion on the major arterials in the City of Lawrence continues to be a primary focus of the improvements to the SLT corridor. Major arterials are defined by the federal functional classification map, last approved August 1, 2017, by FHWA. **Table 1-5** shows a comparison of the Volume-to-Capacity (V/C) Ratio for select intersections within the SLT study area before and after the opening of the SLT East Section. A V/C Ratio depicts the degree of saturation an intersection experiences during typical conditions, which is a measure of an intersection's ability to accommodate traffic demand. The FHWA considers a V/C Ratio of 0.85 or lower to indicate adequate capacity. As the V/C Ratio approaches 1, the ability of the intersection to handle traffic demand without queuing and delays diminishes. A V/C Ratio above 1 indicates excessive queuing and delay.

Table 1-5: Arterial Intersections V/C Ratio Before and After Opening of the SLT East Section

Intersection	2014 Pre-East Section AM V/C	2018 Post- East Section AM V/C	2014 Pre-East Section PM V/C	2018 Post- East Section PM V/C
N 1800 Rd & E 1200 Rd	0.22	0.21	0.20	0.23
W 6 <sup>th</sup> St & Wakarusa Dr	0.37	0.47	0.65	0.53
W 6 <sup>th</sup> St & Kasold Dr	0.64	0.72	0.77	0.80
W 6 <sup>th</sup> St & Iowa St	1.01*	0.82	0.97*	0.91*
Bob Billings Pkwy & Iowa St	0.55	0.70	0.68	0.77
Clinton Pkwy & Wakarusa Dr	0.61	0.61	0.73	0.73
Clinton Pkwy & Kasold Dr	0.58	0.50	0.82	0.82
Clinton Pkwy & Iowa St	0.59	0.58	0.91*	0.67
W 23 <sup>rd</sup> St & Massachusetts St	0.86*	0.82	2.22*	1.13*
E 23 <sup>rd</sup> St & Haskell Ave	0.70	0.74	0.96*	0.67
E 23 <sup>rd</sup> St & O'Connell Rd	0.71	0.59	1.02*	0.60
Iowa St & W 31st St	0.32	0.43	0.48	0.64
Iowa St & W 33rd St	0.26	0.32	0.54	0.54
Kasold Dr & W 31st St	0.33	0.40	0.67	1.00*

<sup>\*</sup>indicates at or over 0.85 threshold.

As **Table 1-5** shows, after the opening of the East Section, the V/C Ratio at all intersections on local arterials that were above the 0.85 threshold improved. The only two intersections that remained operating above the V/C Ratio threshold of 0.85 after the opening of the East Section were W 6th Street and Iowa Street as well as the W 23rd Street and Massachusetts Street







intersection. All other intersections that were previously above the 0.85 V/C Ratio threshold were now below that threshold after the opening of the East Section. The 31<sup>st</sup> Street and Kasold Drive intersection was shown to be slightly worse after the East Section opened as traffic shifted in order to avoid the congestion at the intersection of SLT and 27<sup>th</sup> Street, especially in the PM peak hour. The most significant improvements to local intersections occurred on 23<sup>rd</sup> Street east of lowa Street, indicating that traffic shifted to the SLT East Section once it was opened to traffic, thereby relieving congestion on local Lawrence arterials.

If no improvements to the SLT West Section are made in the future, the improvements experienced at the principal and major arterials in Lawrence could start to degrade as traffic congestion grows on the unimproved two-lane expressway.

#### 1.3.3.2. Future Traffic Conditions

**Table 1-6** illustrates how traffic volumes have increased with the opening of the East Section of the SLT and how they are projected to further increase by the design year 2045 without improvements to the SLT West Section, known as a "No Action" condition.

Table 1-6: 2045 No Action Forecasted Volumes for SLT Corridor Mainline (Two-Way ADT)

Highway S	egments	Pre- East Section 2014	Post- East Section 2018	No Action Forecasted
From	То	ADT	ADT	2045 ADT
SLT @ Iowa St	SLT @ Kasold Dr	7,150	19,300	29,200
SLT @ Kasold Dr	SLT @ 27 <sup>th</sup> St	6,660	19,550	28,700
SLT @ 27 <sup>th</sup> St	SLT @ Clinton Pkwy	/ 000*	14,800	25,000
SLT @ Clinton Pkwy	SLT @ Bob Billings	6,000*	17,100	26,800
SLT @ Bob Billings	SLT @ W 6 <sup>th</sup> St	9,790	18,600	27,800
SLT @ W 6 <sup>th</sup> St	SLT @ I-70	11,800	18,800	25,800

<sup>\*</sup>In 2014, Bob Billings Interchange was not yet open to traffic.

As can be seen in **Table 1-6**, the largest percentage increase in traffic volumes after the opening of the East Section was in the southern section of the corridor. This pattern of growth is expected to continue, resulting in the highest volumes in the 2045 No Action condition being in the section to the west of U.S.59/lowa St.

#### **SLT Corridor Congestion**

**Table 1-7** shows the LOS operating conditions for the future No Action peak periods (AM and PM) for the SLT West Section. The table shows that the expected increase in traffic volumes by 2045 will result in a significant increase in congestion along the SLT West Section. Unacceptable operating conditions of LOS E or F are forecasted to occur along all the mainline segments in both peak periods, in addition to the SLT/EB I-70 intersection in the PM peak period and the SLT/27<sup>th</sup> Street/Wakarusa Drive intersections in both peak periods.







Table 1-7: 2045 No Action Forecasted Level of Service for SLT Corridor and Intersections

Highway S From	Pre- East Section 2014 ADT	Post- East Section 2018 ADT	
SLT @ Iowa St	SLT @ Kasold Dr	F*	F*
SLT @ Kasold Dr	SLT @ 27th St	F*	F*
SLT and 27th Street/Waka	arusa Intersections	F*	F*
SLT @ 27th St	SLT @ Clinton Pkwy	E*	E*
SLT @ Clinton Pkwy	SLT @ Bob Billings	F*	F*
SLT @ Bob Billings	SLT @ W 6th St	F*	F*
SLT @ W 6 <sup>th</sup> St	SLT @ I-70	F*	F*
SLT and EB I-70 Intersec	D	E*	
SLT and WB I-70 Intersec	ction	С	D

<sup>\*</sup> indicates LOS E or worse operating conditions.

### **Local Arterials Congestion**

**Table 1-8** displays the expected increase in traffic along Lawrence local arterials by 2045 due to the lack of capacity to serve traffic along the SLT West Section as a two-lane expressway. As shown in **Table 1-8**, several intersections, including those located along Iowa Street, Kasold Drive, and 23<sup>rd</sup> Street / Clinton Parkway will operate significantly worse by 2045. The worst operating intersection prior to the East Section opening at W 23<sup>rd</sup> Street and Massachusetts Street will return to over-capacity conditions by the 2045 No Action condition without the improvement of the SLT West Section. This means that alleviated congestion on local Lawrence arterials experienced after the East Section opened to traffic could degrade if no improvements are made to the SLT West Section in the future.







Table 1-8: 2045 No Action Arterial Intersections Volume to Capacity (V/C) Ratio

Intersection	2014 Pre-East Section AM	2014 Pre-East Section PM	2018 Post East Section AM	2018 Post East Section PM	No Action 2045 N AM V/C	o Action 2045 PM V/C
N 1800 Rd & E 1200 Rd	0.22	0.20	0.21	0.23	0.38	0.32
W 6 <sup>th</sup> St & Wakarusa Dr	0.37	0.65	0.47	0.53	0.69	0.76
W 6 <sup>th</sup> St & Kasold Dr	0.64	0.77	0.72	0.80	0.80	0.92
W 6 <sup>th</sup> St & Iowa St	1.01*	0.97*	0.82	0.91*	1.00*	1.27*
Bob Billings Pkwy & Iowa St	0.55	0.68	0.70	0.77	0.86*	1.09*
Clinton Pkwy & Wakarusa Dr	0.61	0.73	0.61	0.73	0.78	1.09*
Clinton Pkwy & Kasold Dr	0.58	0.82	0.50	0.82	0.79	1.43
Clinton Pkwy & Iowa St	0.59	0.91*	0.58	0.67	0.71	1.02*
W 23 <sup>rd</sup> St & Massachusetts St	0.86*	2.22*	0.82	1.13*	1.37*	2.36*
E 23 <sup>rd</sup> St & Haskell Ave	0.70	0.96*	0.74	0.67	0.97*	0.96*
E 23rd St & O'Connell Rd	0.71	1.02*	0.59	0.60	0.80	0.79
Iowa St & W 31st St	0.32	0.48	0.43	0.64	0.57	1.31*
Iowa St & W 33rd St	0.26	0.54	0.32	0.54	0.77	0.97*
Kasold Dr & W 31st St	0.33	0.67	0.40	1.00*	0.87*	3.11*

<sup>\*</sup>indicates at or over 0.85 threshold

#### 1.3.3.3. Enhance Safety

Improving traffic safety within the study corridor and the City of Lawrence has been a focus since the initial 1990 EIS and continues to be a primary component of the purpose and need for the SLT SEIS. Crashes are a cost to the travelers of SLT in a variety of ways. Crashes may result in property damage, severe injury or even loss of life. Traffic crashes also cause congestion from blocked travel lanes and intersections, resulting in increased gas consumption and lost time. Study area improvements are intended to help reduce crash rates and the frequency and severity of crashes.

#### 1.3.3.4. Historical Safety Conditions

The SLT 1990 and 2002 environmental studies primarily focused on the impact of K-10 Highway on arterial streets that served as the existing K-10 Highway route through the city of Lawrence. The initial 1990 EIS utilized the November 1983 *Lawrence, Kansas Traffic Engineering Safety Plan* to identify safety concerns within the study area. The study found that seven of the top 20 intersections with the highest annual crash costs were along 23<sup>rd</sup> Street or 31<sup>st</sup> Street, and three of the four mid-block segments with the highest crash rates were on 23<sup>rd</sup> Street.

The subsequent SLT East Section EIS completed in 2002 continued to identify safety as a key component of the purpose and need. The 2002 EIS concluded that crash rates along city streets used as part of the existing K-10 Highway connection – specifically lowa Street between K-10 Highway and 23<sup>rd</sup> Street, and 23<sup>rd</sup> Street between lowa Street and Haskell Avenue – exceeded







the statewide average for similar facilities. It also concluded that due to projected traffic growth, even higher crash rates were expected along the K-10 Highway corridor in the future if no improvements were made to construct the SLT corridor.

## 1.3.3.5. Existing Safety Conditions

### South Lawrence Trafficway Corridor

Since the completion of the SLT East Section in 2016, local Lawrence arterial streets are no longer used as the primary route for traffic around Lawrence; this traffic has shifted to the SLT East and West Sections. The focus on safety remains and now includes the West Section two-lane expressway facility. An analysis of crash rates within the SLT's West Section (N 1800 Road to lowa Street) of the SLT before and after the opening of the East Section (lowa Street to E 23rd Street/SLT Interchange) in November 2016, shows that crash rates increased along much of the corridor after the opening of the East Section.

**Table 1-9** shows the breakdown of crash rates before and after the opening of the SLT East Section. Crash rates for the period before opening of the East Section covers January 2012 through October 2016, four years and ten months in length. Crash rates for the period after the opening of the East Section covers December 2016 through December 2019, three years and one month in length.







Table 1-9: SLT Corridor Pre and Post East Section Opening Crash Rates

	SLT Pre-East Section Opening January 2012-October 2016		SLT Post-East Section Openi December 2016- December 2019		
	Crash Rate	Fatal Crash Rate	Crash Rate	Fatal Crash Rate	
Analysis Segments (SLT)	(MVMT)	(HMVMT)	(MVMT)	(HMVMT)	
N 1800 Rd to I-70 NB Ramp Terminal	0.99	0.00	3.83*	127.53*	
Between I-70 Ramps	1.60*	0.00	3.38*	0.00	
I-70 to W 6th St	0.26	0.00	0.55	0.00	
W 6 <sup>th</sup> St Interchange	0.85	0.00	0.30	0.00	
W 6 <sup>th</sup> St to Bob Billings Pkwy	0.46	0.00	0.40	0.00	
Bob Billings Pkwy Interchange	0.46	0.00	2.85*	0.00	
Bob Billings Pkwy to Clinton Pkwy	0.56	0.00	2.22*	0.00	
Clinton Pkwy Interchange	0.96	0.00	1.45*	9.68*	
Clinton Pkwy to W 27th St	0.52	2.74*	.97*	0.00	
W 27th St to Kasold Dr (E1200)	0.63	0.00	1.91*	0.00	
Kasold Dr (E1200) to Iowa St	0.71	4.74*	1.04*	6.49*	
Two Lane Undivided Rural Highway with Partial Access Control- Statewide Average Crash Rates	1.054	2.120	0.997	1.312	

MVMT - Million Vehicle Miles Traveled

HMVMT - Hundred Million Vehicle Miles Traveled

Pre-East Section Opening Statewide Crash Rates 2012-2016

Post East Section Opening Statewide Crash Rates 2014-2018

After the opening of the East Section in 2016, there were six segments on the West Section with crash rates that exceeded the statewide average for similar facilities: N 1800 Road to I-70 WB Ramp Terminal, between the I-70 Ramp Terminals, Bob Billings Parkway Interchange, Bob Billings Parkway to Clinton Parkway, Clinton Parkway Interchange, and W 27th Street to Kasold Drive. Before the opening of the East Section, only one segment experienced crash rates above the statewide average. This indicates that crash rates have increased in comparison to the statewide average crash rate for similar facilities since the opening of the East Section. It should be noted that the Fatal Crash Rate for the N 1800 Rd to I-70 WB Ramp Terminal after the opening of the East Section is showing as 127.53 per hundred million vehicle miles traveled. There was only one fatal crash in that segment during the analysis period, the rate is high due to the short length of the segment.

**Table 1-10** shows the crashes by severity of crashes for the SLT corridor before and after the opening of the East Section. The crashes are subdivided into three severity categories – Property Damage Only (PDO), Injury Crashes and Fatal Crashes.





<sup>\*</sup> indicates exceeds statewide average crash rate.



Table 1-10: SLT Corridor Pre and Post East Section Opening Crashes by Severity Category

	Pre-East Leg Opening January 2012-October 2016 Property				Post Decembe	er 2016-D	Property	2019
Analysis Segments (SLT)	Fatal Crashes	Injury Crashes	Damage Only	Total Crashes	Fatal Crashes		Damage Only (	Total Crashes
N 1800 Rd to I-70 WB Ramp	0	1	3	4	1	0	2	3
E 850 Rd - Between I-70 Ramps	0	3	4	7	С	1	5	6
I-70 to W 6 <sup>th</sup> St	0	3	8	11	С	1	17	18
6 <sup>th</sup> St Interchange	0	0	16	16	С	1	2	3
6 <sup>th</sup> St to Bob Billings	0	0	3	3	С	0	2	2
Bob Billings Interchange	0	1	8	9	С	4	33	37
Bob Billings to Clinton Pkwy	0	2	6	8	С	4	20	24
Clinton Pkwy Interchange	0	2	13	15	1	3	11	15
Clinton Pkwy to W 27th St	1	2	16	19	C	4	22	26
W 27th St to *Kasold (E1200)	0	9	24	33	C	16	62	78
*Kasold (E1200) to Iowa St	1	1	13	15	1	4	11	16
Total	2	24	114	140	3	38	187	228

Source: KDOT Crash Records

Two fatal crashes occurred during the almost five-year period before the opening of the East Section, one between Clinton Parkway and W 27<sup>th</sup> Street and another between Kasold Drive and Iowa Street. Crash severity is a concern in this portion of the corridor due to the at-grade, signalized intersection at W 27<sup>th</sup> Street and SLT. Three fatal crashes occurred after the opening of the East Section, one fatality was N1800 Rd and the I-70 Westbound Ramp Terminal, one fatality was at the Clinton Parkway curve and the other was between US-59/Iowa Street and Kasold Drive.

**Table 1-11** shows the crashes by type for the SLT corridor before and after the opening of the East Section.





<sup>\*</sup> Indicates that the Kasold Dr and K-10 intersection was closed in November 2018

<sup>^</sup> Property Damage Only crashes do not include any crash with less than \$1000 in damage



Table 1-11: SLT Corridor Pre and Post East Section Opening Crashes by Type

Accident Type (K10)	Pre-East Leg Opening January 2012 - October 2016	Post-East Leg Opening December 2016 - December 2019
Head On	3	4
Rear End	14	73
Angle	14	35
Sideswipe	11	18
Single Vehicle	97	95
Other	1	3
Total Accidents	140	228

The most common types of crashes on the SLT corridor during the pre-East Section opening period outside of single vehicle crashes include rear end and angle crashes with 14 crashes for each, followed by sideswipe with 11 crashes. After the opening of the East Section rear end crashes remained the single highest crash type outside of single vehicle with 73 crashes. Angle and sideswipe crashes followed with 35 and 18 crashes respectively.

#### **Local Arterial Intersections**

Crash frequency in crashes per year for select arterials within the City of Lawrence were calculated for a period before and after the opening of the East Section in November 2016. The portion of Haskell Avenue at the SLT Highway Ramp Terminals was not constructed before the completion of the East Section, therefore it is shown as "Not Built" in the table below. **Table 1-12** below shows the crash frequency by year for select arterials within the City of Lawrence that connect to the SLT.

Table 1-12: Local Arterial Street Pre and Post SLT East Section Opening Crashes Per Year

		January 2012- October 2016		December 2016- December 2019		
Street	Analysis Segments (SLT)	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes	
Iowa St	N 1100 Rd to N 1250 Rd	5.38	0.00	13.30	0.00	
Iowa St	N 1250 Rd to K-10 EB Ramp Terminal	0.41	0.00	0.32	0.00	
Iowa St	K-10 Interchange	1.86	0.00	0.00	0.00	
Iowa St	K-10 WB Ramp Terminal to W 34th St	2.28	0.00	3.57	0.00	
Iowa St	W 34th St to W 33rd St	5.59	0.00	6.81	0.00	
Iowa St	W 33 <sup>rd</sup> St to W 31 <sup>st</sup> St	13.66	0.00	29.84	0.00	
Iowa St	W 31st St to Clinton Pkwy	78.67	0.00	107.36	0.00	
Iowa St	Clinton Pkwy to Bob Billings Pkwy	62.32	0.00	53.52	0.00	







		Januar Octobe	y 2012- er 2016	December 2016- December 2019	
		All	Fatal	All	Fatal
Street	Analysis Segments (SLT)	Crashes	Crashes	Crashes	Crashes
Iowa St	Bob Billings Pkwy to W 6th St	60.25	0.00	51.57	3.08
Iowa St	I-70 to south of Princeton Blvd	2.28	0.00	2.59	0.00
Iowa St	I-70 to N 1800 Rd	1.66	0.00	2.27	0.00
McDonald Dr	W 6 <sup>th</sup> St to I-70 Ramps	15.94	0.00	22.71	0.00
McDonald Dr	Between I-70 Ramps	0.41	0.00	0.00	0.00
E 1200 Rd	K-10 to W 31st St	1.04	0.00	0.32	0.00
Kasold Dr	W 31st St to Clinton Pkwy	12.63	0.00	6.81	3.08
Kasold Dr	Clinton Pkwy to Bob Billings Pkwy	13.04	0.00	12.97	0.00
Kasold Dr	Bob Billings Pkwy to W 6th St	22.77	0.00	12.65	0.00
Kasold Dr	W 6th St to N 1800 Rd	6.00	0.00	4.54	0.00
Wakarusa Dr	K-10 to Clinton Pkwy	4.14	0.00	3.57	0.00
Wakarusa Dr	Clinton Pkwy to Bob Billings Pkwy	10.56	0.00	12.65	0.00
Wakarusa Dr	Bob Billings Pkwy to W 6 <sup>th</sup> St	15.94	0.00	17.19	0.00
6 <sup>th</sup> St	Between K-10 Ramp Terminals to Wakarusa Dr	0.62	0.00	0.00	0.00
6 <sup>th</sup> St	6 <sup>th</sup> St Interchange NB Ramp Terminal to Wakarusa Dr	16.77	0.00	19.14	0.00
6 <sup>th</sup> St	Wakarusa Dr to Kasold Dr	45.34	0.21	64.22	0.00
6 <sup>th</sup> St	Kasold Dr to Iowa St	70.39	0.00	68.44	0.00
Bob Billings Pkwy	Between K-10 Ramps	0.00	0.00	0.32	0.00
Bob Billings Pkwy	K-10 Interchange to Wakarusa Dr	3.93	0.00	9.41	0.00
Bob Billings Pkwy	Wakarusa Dr to Kasold Dr	18.01	0.00	24.98	0.00
Bob Billings Pkwy	Kasold Dr to Iowa St	16.77	0.00	13.95	0.00
Clinton Pkwy	Between K-10 Ramps	0.00	0.00	0.00	0.00
Clinton Pkwy	K-10 Interchange to Wakarusa Dr	0.00	0.00	7.78	0.00
Clinton Pkwy	Wakarusa Dr to Kasold Dr	22.57	0.00	34.38	0.00
Clinton Pkwy	Kasold Dr to Iowa St	36.44	0.00	24.33	0.00
W 23 <sup>rd</sup> St	Iowa St to Massachusetts St	139.54	0.21	127.15	0.00
W 23 <sup>rd</sup> St	Massachusetts St to Haskell Ave	51.76	0.00	33.08	0.00
W 23 <sup>rd</sup> St	Haskell Ave to E Hills Dr	81.99	0.00	46.38	0.00
N 1800 Rd	Iowa St to E 1200 Rd	1.24	0.00	0.97	0.00
N 1800 Rd	E 1200 Rd to E 850 Rd (K-10)	0.83	0.00	7.78	0.00







		January 2012- October 2016		December 2016- December 2019	
Street	Analysis Segments (SLT)	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes
N 1800 Rd	E 850 Rd (K-10) to E 800 Rd	1.04	0.21	0.65	0.00
N 1800 Rd	E 800 Rd to E 600 Rd	2.48	0.00	3.24	0.00
Mass. St	W 23 <sup>rd</sup> St to W 6 <sup>th</sup> St	77.23	0.00	88.87	0.00
Haskell Ave	Between K-10 Ramp Terminals	Not Built	Not Built	0.00	0.00
Haskell Ave	K-10 to W 23 <sup>rd</sup> St	7.25	0.00	9.41	0.32
E 800 Rd	W 6th St to N 1800 Rd	0.21	0.00	0.65	0.00
All Arterial Crashes		912.24	0.62	927.02	0.97

Post East Section opening 21 of the 44 segments experienced a higher frequency of all crashes while three experienced an increase in fatal crash frequency. Overall, all studied arterials combined experienced a greater frequency of all crashes and fatal crashes after the opening of the East Section.

# 1.3.3.6. Future Safety Conditions

Future traffic volumes are anticipated to increase throughout the SLT corridor, both on SLT and the local arterial network, as population increases, and new land use and development occurs within the Lawrence metro area and throughout Douglas County. This increase in traffic could strain already stressed roadways in the study area, especially if no improvements are made to the SLT West Section as local and regional traffic continues to shift to the SLT corridor. This could contribute to an increase in crash frequency and severity if no improvements are made.

#### 1.3.3.7. Promote a Multimodal Transportation System

Multimodal planning refers to transportation and land use planning that considers diverse transportation options, typically including walking, cycling, public transit, passenger automobiles and commercial trucks, and accounts for land use factors that affect accessibility. Transportation modes that pertain to the SLT (other than passenger automobiles) include public transit, bicycle, and pedestrian modes, as well as commercial trucks for goods movement. The proposed improvements to the SLT corridor need to coordinate and be consistent with planned and proposed multimodal uses in the study area.

Transportation 2040 (T2040), adopted March 15, 2018, is the long-range transportation plan for the City of Lawrence and surrounding lands that are under the jurisdiction of the Lawrence-Douglas County Metropolitan Planning Organization (MPO). The Plan identifies future transportation needs of the region through the year 2040 and sets regional goals and system improvement recommendations for a multimodal transportation system. The following sections describe the existing and planned multimodal uses and improvements for the SLT study area.

#### 1.3.3.8. Public Transit

There are two fixed route bus service providers operating in the City of Lawrence: Lawrence Transit and KU on Wheels (KUOW); however, the KUOW routes are not in the vicinity of the SLT. The existing bus routes of the Lawrence Transit system within and adjacent to the study area







travel along W 27<sup>th</sup> Street and Wakarusa Drive northeast of the SLT/27<sup>th</sup> Street intersection, along 33<sup>rd</sup> Street just north of the U.S.59 (Iowa Street)/SLT interchange, and along Overland Drive two blocks north of 6<sup>th</sup> Street and into Rock Chalk Park.

Lawrence Transit also provides a complementary public paratransit service (T-Lift) to comply with the Americans with Disabilities Act (ADA). The University of Kansas Parking & Transit Office provides paratransit service (JayLift), which is available to KU students, faculty and staff with a KU origin or destination. Additionally, other smaller agencies in Lawrence also operate specialized transportation/paratransit services. All the paratransit services could potentially include travel on the SLT.

#### Local and Regional Transit Plans

One transit planning study, the *Commuter Park & Ride Study* (2014), relies on required SLT improvements to accommodate the study's proposed transit recommendations. The recommendations that pertain to the SLT include park and ride locations at the I-70 interchange (one lot currently exists), the U.S.40 (6<sup>th</sup> Street) interchange, and development of a shared use facility (shared with a commercial lot) at the U.S.59 (Iowa Street) interchange.

## 1.3.3.9. Bicycle and Pedestrian Facilities

A Bikeway System Map is included in the *T2040* document and shows existing and proposed/future bicycling facilities. A review of the Bikeway System Map, aerial photography, and a windshield survey of the study area indicate that bicycle facilities exist at several locations along the study area and are separated into the categories of Bike Routes (shared roadways), Bike Lanes (on-street), Shared Use Paths, and Recreational Trails. Although none of these bicycle facilities are integral with the SLT travel lanes, some run along and cross the SLT ROW. The existing bicycle-pedestrian facility that travels parallel to and in the vicinity of the SLT is classified as a Shared Use Path.

An existing Shared Use Path also crosses the SLT at the Bob Billings Parkway interchange, the Clinton Parkway interchange, and the W 27<sup>th</sup> Street intersection with the SLT. A designated Bike Route exists along N 1800 Road, and designated Bike Lanes exist through the Bob Billings Parkway interchange. There are currently no existing bicycle facilities crossing the SLT at the U.S.40 (6<sup>th</sup> Street) interchange or at the U.S.59 (lowa Street) interchange.

## Local and Regional Bicycle Plans

Several local and regional bicycle plans are described below that the SLT SEIS needs to be consistent with as the study and its improvement alternatives move forward.

- Lawrence Bikes Plan (2019) The Lawrence Bikes Plan (dated October 2019) provides
  details of the existing and proposed bikeway network for the Lawrence urbanized area,
  proposes bikeway connections throughout the remainder of Douglas County, and includes an
  Existing and Proposed Bikeways map.
- Proposed/Future Bicycle Facilities A review of the Existing and Proposed Bikeways Map indicated that proposed/future bicycle facilities that can be accommodated by the SLT improvements are at the following locations (within the SLT ROW): N 1750 Road, U.S.40 (6<sup>th</sup> Street)/SLT interchange, N 1800 Road at Lecompton Road/E 600 Road, E 600 Road between N 1800 Road and U.S.40, along U.S.40, and Wakarusa Drive south of W 27<sup>th</sup> Street.







- Lawrence Pedestrian Bicycle Issues Task Force Report (2016) This study recognized that facilities for walking, wheeling and biking are vital parts of a safe transportation system requiring annual public investment. Some of the recommendations of the study that need to be coordinated with the SLT improvements within the ROW include the following:
  - Invest in high quality pedestrian and bicycle facilities built during new road construction and existing road reconstruction projects.
  - Invest in pedestrian facilities that provide safer conditions and access for seniors and people with disabilities.
- Plan 2040 (2019) Plan 2040 is the current comprehensive land use plan for the City of Lawrence and the unincorporated areas of Douglas County. Although it does not contain a separate section specifically pertaining to bicycles and pedestrians, one of the goals stated in the Parks, Recreation, and Open Space section of Plan 2040 is to improve community accessibility and connectivity to and from existing and future parks, recreation, and open space areas and facilities by using "...street and utility improvement projects as opportunities to include sidewalks, bikeways, and trails."

## Local and Regional Pedestrian Plans

Although there are no sidewalks along the SLT mainline, some connect with the SLT Shared Use Path and some cross the SLT at the Bob Billings Parkway Interchange, the Clinton Parkway Interchange, and the 27<sup>th</sup> Street intersection with the SLT. Sidewalks currently do not cross the SLT at the U.S.40 (6<sup>th</sup> Street) interchange, nor at the U.S.59 (Iowa Street) interchange. To provide pedestrian access to and from existing and future developments on each side of the SLT, the addition of pedestrian and sidewalk facilities will be considered as part of the SLT project alternatives in order to be consistent with *T2040*, as well as the plans discussed below.

- Regional Pedestrian Plan (2016) This Plan represents a vision of a more accessible and safer pedestrian environment in the region and presents tools that cities in Douglas County can implement to improve the pedestrian environment and encourage more people to walk. Some of the strategies of the plan that need to be coordinated with the SLT improvements include the following:
  - Install traffic calming devices, where appropriate, to improve pedestrian safety and comfort.
  - Invest in pedestrian facilities built during new road construction and existing road reconstruction projects.
  - Construct ADA-compliant ramps at locations where no or non-compliant curb ramps exist.
- Lawrence Pedestrian Bicycle Issues Task Force Report (2016) See description of this report under Local and Regional Bicycle Plans above.

### 1.3.3.10. Commercial Trucks

Commercial trucks are a component of the traffic stream in the study area. The SLT corridor has regional significance for goods movement through its connections to K-10 Highway and I-70. Regional truck generating facilities within the vicinity of the SLT study area include businesses such as Berry Plastics, Standard Beverage Corporation, O'Malley Beverage and the K-Mart Distribution Center. In addition, the BNSF Intermodal Facility is located at I-35 and Homestead Road in the southwest part of the Kansas City metro area and significant commercial truck traffic







uses SLT and the K-10 Highway between Kansas City and Lawrence to connect to I-70 to and from this facility.

According to KDOT's 2018 traffic flow map (traffic counts recorded during calendar year 2017), a range of four to six percent of the daily vehicles in the SLT corridor are trucks west of U.S.59/lowa Street and approximately five percent east of U.S.59/lowa Street. By comparison, the I-70 corridor west of the SLT carries approximately 13.5 percent trucks and east of SLT carries 16.5 percent trucks. This indicates that while the SLT does not carry a high percentage of commercial truck traffic today, it still plays a regional role in the distribution of goods movement between K-10 and I-70 that needs to be considered for the SLT proposed improvements.

## 1.3.3.11. Support Local and Regional Growth

Regional land use and development patterns provide insights into a community's transportation needs. As growth and future land development occur in the vicinity of the study area, in accordance with the local and regional land use plans and specific Area Plans, it is anticipated that local and regional traffic volumes and travel times would increase on SLT and at local area arterials as a result of residential and commercial development and ensuing population growth. The SLT corridor is included as a major thoroughfare in the Plan 2040 future land use plan and all the adjacent Area Plans and is therefore compatible with these plans. In addition, the SLT corridor is included as a major freeway thoroughfare in the MPO's long range transportation plan, T2040. Capacity improvements to the SLT West Section, as well as improved access, interchange improvements, and improved transportation connections are necessary to support the planned and forecasted growth of the area. The following sections describe the future area land use and development plans in the vicinity of the SLT corridor.

#### Future Land Use Plans

*Plan 2040* is the current comprehensive land use plan for the city of Lawrence and the unincorporated areas of Douglas County. *Plan 2040* was adopted by the Lawrence/Douglas County Metropolitan Planning Commission on November 20, 2019 and finalized on November 29, 2019. *Plan 2040* incorporates the MPO's metropolitan transportation plan, known as *Transportation 2040*.

One component of *Plan 2040* was the delineation of the boundaries for the Urban Growth Area (UGA). The UGA encompasses the entire length of the SLT (both East and West Sections). However, the portion of the study area at I-70/E 600 Road (Lecompton Road) is outside the UGA. Specific "Area Plans", detailing the future land use of specific areas, have also been developed and are elements of *Plan 2040*. The specific Area Plans that include or are adjacent to the SLT corridor include the following:

- K-10 & Farmer's Turnpike Plan (Amended 2016)
- West of K-10 Plan (2015)
- Inverness Park District Plan (2012)
- Revised Southern Development Plan (Revised 2013)
- Southeast Area Plan (Revised 2011)
- Farmland Industries Redevelopment Plan (Amended 2016)

These Area Plans were reviewed and improvement alternatives for the SLT project will coordinate and be consistent with these plans for the study area.







## Planned/Future Developments

Based on a windshield survey and a review of the interactive map of "Submittals to the Planning Office" of the Lawrence Planning Department, the following planned or under-construction developments are located in or adjacent to the study area.

- Lawrence Memorial Hospital Outpatient Facility This facility is located in the northeast quadrant of the U.S.40 (6th Street)/SLT interchange, just south of Rock Chalk Park.
- Ranch Estates A planned residential development located about three-fourths of a mile north of the U.S.40 (6<sup>th</sup> Street)/SLT interchange on the west side of the SLT.
- *Mercato 2nd Addition* A planned commercial subdivision located adjacent to the northeast quadrant of the U.S.40 (6<sup>th</sup> Street)/SLT interchange.
- **Langston Commons**—A planned commercial development located adjacent to the northeast quadrant of the Bob Billings Parkway interchange.
- KTen Crossing Development A proposed large-scale shopping center located just southeast of the U.S.59/SLT interchange. Access to this site may affect the type of interchange design options.
- **The Collegiate at Lawrence** A planned multi-family housing development located just northeast of the U.S.59 (Iowa Street)/SLT interchange.

These planned or under-construction developments will be reviewed and improvement alternatives for the SLT project will coordinate and be consistent with these developments.

# 1.4. Planned and Committed System Improvements

Several other projects planned for the City of Lawrence and the Douglas County area that were taken into consideration as the proposed improvements for the SLT corridor are developed. These projects include:

- Bicycle and Pedestrian Lanes/Paths The Lawrence-Douglas County MPO has a Countywide Bikeway System Plan, the Lawrence Bikes Plan (2019) which identifies planned bicycle and pedestrian lanes and/or bike routes in the project study area that are adjacent to or cross the SLT.
- 6th Street/K-10 Interchange KDOT has developed preliminary plans to reconfigure the existing 6th Street (U.S.40)/K-10 Diamond Interchange to a Diverging Diamond Interchange. Plans for this project are continuing forward and may potentially be constructed prior to construction of the SLT West Section improvements.
- Wakarusa Drive Extension (E 1050 Road Extension) The FY 2019-2021 Douglas County CIP includes improvements to extend Wakarusa Drive as a five-lane principal arterial with a center turn lane from SLT to North 1200 Road, which will provide connection to the area south of the Wakarusa River. The CIP currently shows \$6.2 million total cost with construction in 2021. However, construction is anticipated to be completed in coordination with future improvements to the SLT and thus timing of these improvements may be affected by when SLT improvements are constructed.
- 31<sup>st</sup> Street Extension The T2040 Plan includes improvements to 31<sup>st</sup> Street to expand the
  existing two-lane section between O'Connell Road and E 1750 Road (Noria Road) to a fourlane arterial and construct a new four-lane arterial between E 1750 Road (Noria Road) and E
  1900 Road (Route 1057). The expansion of 31<sup>st</sup> Street to E 1900 Road will support planned







- development in the area southeast of the SLT/23<sup>rd</sup> Street system interchange. Funding is not yet committed for this project.
- E 1200 Road (Kasold Drive)/K-10 Intersection Closure KDOT identified this intersection
  for closure in December 2018 after more than 28 crashes have occurred at the intersection
  since 2016. The freeway experienced a substantial increase of traffic with the opening of the
  eastern leg of the SLT. This closure was completed as part of a series of interim safety
  improvements while planning for a long-term solution to expand the freeway to four lanes
  continues.
- I-70 Acceleration/Deceleration Lane Improvements The Kansas Turnpike constructed improvements to the acceleration and deceleration lanes at the Lecompton Interchange ramps where they enter and exit the I-70 Turnpike. These improvements were completed in fiscal year 2020.
- Interim Safety Improvements KDOT identified several interim safety improvements for SLT which include a queue warning system and intersection geometric improvements at SLT and Wakarusa Drive. These improvements were constructed as interim improvements until a preferred alternative to improve the SLT corridor is selected and funded.





SEIS Study Area

0.5

South Lawrence Trafficway
Supplemental Environmental
Impact Statement
KDOT # 10-23 KA-3634-01

