



Kentucky Highway District 8

ROAD AND BRIDGE CONDITIONS, TRAFFIC SAFETY, TRAVEL TRENDS, AND NEEDS

FEBRUARY 2018

PREPARED BY



Founded in 1971, [TRIP](http://www.tripnet.org)® of Washington, DC, is a nonprofit organization that researches, evaluates and distributes economic and technical data on surface transportation issues. TRIP is sponsored by insurance companies, equipment manufacturers, distributors and suppliers; businesses involved in highway and transit engineering and construction; labor unions; and organizations concerned with efficient and safe surface transportation.

The quality of life and economic health of a community is closely tied to the reliability, safety and physical condition of its transportation system. An efficient, safe and well-maintained transportation system provides economic and social benefits by providing individuals access to employment, housing, healthcare, education, goods and services, recreation and social activities, while connecting businesses to suppliers, markets and employees.

A lack of adequate transportation funding can result in deteriorated road and bridge conditions, diminished traffic safety and reduced access, all of which hamper business productivity, limit economic development opportunities, increase vehicle operating costs and reduce a region's overall quality of life.

Providing a safe, efficient and well-maintained 21st century transportation system, which will require long-term, sustainable funding, is critical to supporting economic growth, improved safety and quality of life.

TRIP has prepared the following report on travel trends, traffic safety, and road and bridge conditions in Kentucky's Highway District 8, which is located in the south central portion of the state and includes the following 10 counties: Adair, Casey, Clinton, Cumberland, Lincoln, McCreary, Pulaski, Rockcastle, Russell and Wayne.

Sources of information for the report include a survey of county governments by the Kentucky Magistrates & Commissioners Association (KMCA), the Kentucky Office of Highway Safety and the Federal Highway Administration (FHWA).

Population and Travel Trends

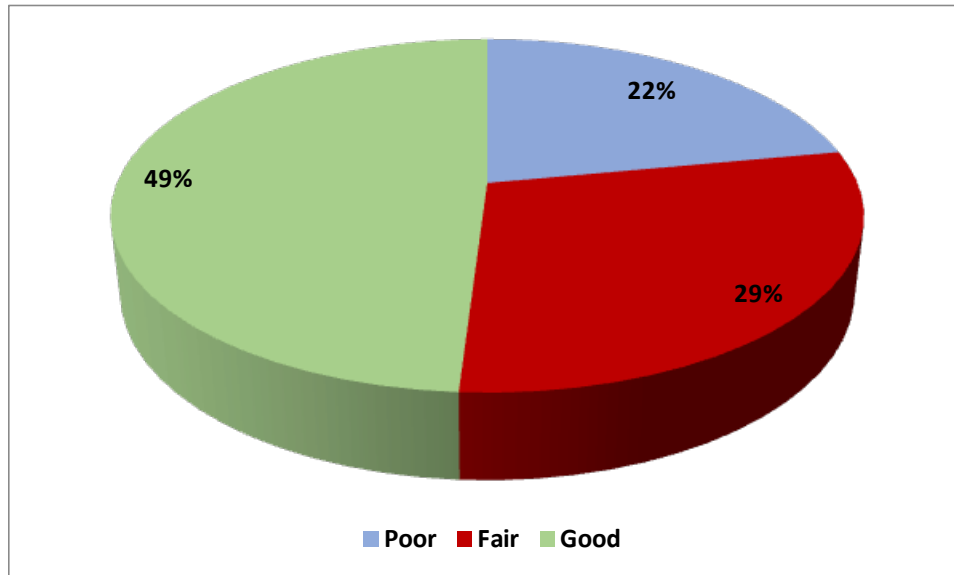
The 10 counties that comprise District 8 were home to 213,000 residents in 2016, based on estimates by the U.S. Census Bureau. Vehicle travel in District 8 totaled 2.5 billion miles in 2016, an increase of three percent from 2014 (based on data provided to TRIP by the Kentucky Office of Highway Safety).

Pavement Conditions

The life cycle of Kentucky's roads is greatly affected by the state and local governments' ability to perform timely maintenance and upgrades to ensure that road and highway surfaces last as long as possible.

Based on results of a TRIP survey completed by members of KMCA, TRIP has calculated the share of county maintained roads in poor, fair or good condition in Highway District 8. Survey responses indicated 22 percent of county maintained roads are in poor condition, 29 percent are in fair condition and 49 percent are in good condition.

CHART 1: Share of county maintained roads in poor, fair or good condition in Highway District 8.



Roads rated poor may show signs of deterioration, including rutting, cracks and potholes. In some cases, poor roads can be resurfaced but often are too deteriorated and must be reconstructed. Roads rated in fair condition may show signs of significant wear and may also have some visible pavement distress. Most pavements in fair condition can be repaired by resurfacing, but some may need more extensive reconstruction to return them to good condition.

Pavement failure is caused by a combination of traffic, moisture and climate. Moisture often works its way into road surfaces and the materials that form the road's foundation. Road surfaces at intersections are even more prone to deterioration because the slow-moving or standing loads occurring at these sites subject the pavement to higher levels of stress. It is critical that roads are fixed before they require major repairs because reconstructing roads costs approximately four times more than resurfacing them.

The KMCA survey of county governments found that 29 percent of Highway District 8's county-maintained roads are in need of resurfacing, but current funding levels will only allow for the resurfacing of three percent of county-maintained roads in 2017. The survey also found that 13 percent of Highway District 8's county-maintained roads are in need of reconstruction, but current funding will only allow for the reconstruction of less than a tenth of one percent of county-maintained roads in 2017.

Bridge Conditions:

Highway District 8 has 963 bridges that are at least 20 feet long and are included in the Federal Highway Administration’s National Bridge Inventory (NBI). According to NBI data, in 2016, 61 of these bridges (six percent) were rated as structurally deficient. Twenty-seven of the 61 structurally deficient bridges in Highway District 8 are posted with weight-restrictions, which limits them to carrying lighter vehicles.

A bridge is structurally deficient if there is significant deterioration of the bridge deck, supports or other major components. Bridges that are structurally deficient may be posted for lower weight limits or closed if their condition warrants such action. Deteriorated bridges can have a significant impact on daily life. Restrictions on vehicle weight may cause many vehicles – especially emergency vehicles, commercial trucks, school buses and farm equipment – to use alternate routes to avoid weight-restricted bridges. Redirected trips also lengthen travel time, waste fuel and reduce the efficiency of the local economy.

The following chart provides information on the 25 most heavily traveled structurally deficient bridges in Highway District 8.

CHART 2: Most heavily traveled structurally deficient bridges in Highway District 8

Rank	County	City	Route Carried	Feature Intersected	Location	Year Built	Avg. Daily Traffic
1	Lincoln		OLD US 127 N LOOP	KNOB LICK CREEK	1.0 MI SOU. OF US 127	1927	6,954
2	Cumberland		KY-90	Cumberland River	.1 MI E OF S-JCT KY 61	1951	5,095
3	Pulaski		KY-39	PITMAN CREEK	2.5 MI NOR. OF JCT KY 80	1973	4,579
4	Lincoln		Liberty Road	HANGING FORK @HUSTONVILLE	.20 MI SOU. OF JCT KY 78	1927	3,969
5	Cumberland		KY-61	CUMBERLAND RIVER	2.8 MI SO. JCT W/KY 90	1961	2,822
6	Lincoln		KY-1247	ST. ASAPH CREEK	.1 MI S-W.MAIN-STANFORD	1931	1,886
7	Clinton		KY-738	CLEAR FORK	.20 MI SOU. OF JCT US 127	1935	1,636
8	Casey		KY-49	BRUSH CREEK	.1 MI W OF JCT KY 1552	1930	1,230
9	Rockcastle		KY-1326	LITTLE RENFRO CREEK	0.8 M W of JCT KY 461	1953	1,150
10	Russell		KY-92	LIBERTY CREEK	1.8 MI WEST OF JCT KY 379	1935	792
11	Casey		KY-1552	BR OF BRUSH CREEK	.10 MI NOR. OF JCT KY 49	1967	588
12	Casey		KY-1552	LONG BRANCH	1.1 MI NOR. OF JCT KY 49	1967	588
13	Pulaski		OLD SHOPVILLE RD	FLAT LICK CREEK	.3 MI E OF JCT NEW KY 80	1932	558
14	Casey		CALVARY RIDGE RD	HATTER CREEK	0.2 MILE EAST OF KY 70	1957	521
15	Casey		KY-1547	CASEY CREEK	1.4 MI W OF JCT KY 1615	1949	488
16	Casey		KY-2310	UNNAMED STREAM	.25 MI E OF ADAIR CO.LN.	1935	457
17	McCreary		KY-1044	MARSH CREEK	2 MI NW OF E-JCT KY 92	1976	447
18	Pulaski		STAB RD	BUCK CREEK	.3 MI E JCT KY 80	1932	374
19	Lincoln		KY-300	KNOBLICK CREEK	3.5 MI N.W. OF JCT KY 78	1951	363
20	Casey		SLOAN FORK RD	SOUTH FORK CREEK	200 S OF JCT CR 5122	1974	357
21	McCreary		KY-1045	COGUR FK OF INDIAN CREEK	2.5 MI S.W. OF JCT KY 700	1957	340
22	Wayne		KY-1756	KENNEDY CREEK	792 FT-S.OF-JCT. KY 92	1981	328
23	McCreary		KY-1470	MARSH CREEK	.2 MI E OF E-JCT KY 592	1967	309
24	McCreary		KY-700	INDIAN CREEK	2.3 MI S OF JCT KY 1045	1982	301
25	Lincoln		N OLD OTTENHEIM RD	BR OF NEALS CREEK	E @JCT KY 1247	1930	238

Indicates bridge is currently closed

Indicates bridge is restricted to only lower-weight vehicles

Source: TRIP analysis of Federal Highway Administration National Bridge Inventory data.

The following chart provides information on the 25 structurally deficient bridges in Highway District 8 (carrying a minimum of 100 vehicles per day) with the lowest average rating for deck, substructure and superstructure. Each major component of a bridge is rated on a scale of zero to nine, with a score of four or below indicating poor condition. If a bridge receives a rating of four or below for its deck, substructure or superstructure, it is rated as structurally deficient.

CHART 3: Structurally deficient bridges with lowest average rating for deck, substructure and superstructure.

Rank	County	City	Route Carried	Feature Intersected	Location	Year Built	Avg. Daily Traffic
1	Pulaski		OLD SHOPVILLE RD	FLAT LICK CREEK	.3 MI E OF JCT NEW KY 80	1932	558
2	Lincoln		OLD US 127 N LOOP	KNOB LICK CREEK	1.0 MI SOU. OF US 127	1927	6,954
3	Lincoln		Liberty Road	HANGING FORK @HUSTONVILL	.20 MI SOU. OF JCT KY 78	1927	3,969
4	Casey		KY-2310	UNNAMED STREAM	.25 MI E OF ADAIR CO.LN.	1935	457
5	Wayne		KY-1756	KENNEDY CREEK	792 FT-S.OF-JCT. KY 92	1981	328
6	Cumberland		KY-90	Cumberland River	.1 MI E OF S-JCT KY 61	1951	5,095
7	Cumberland		KY-61	CUMBERLAND RIVER	2.8 MI SO. JCT W/KY 90	1961	2,822
8	Casey		KY-49	BRUSH CREEK	.1 MI W OF JCT KY 1552	1930	1,230
9	Rockcastle		KY-1326	LITTLE RENFRO CREEK	0.8 M W of JCT KY 461	1953	1,150
10	Casey		KY-1547	CASEY CREEK	1.4 MI W OF JCT KY 1615	1949	488
11	Pulaski		STAB RD	BUCK CREEK	.3 MI E JCT KY 80	1932	374
12	McCreary		KY-1470	MARSH CREEK	.2 MI E OF E-JCT KY 592	1967	309
13	McCreary		KY-700	INDIAN CREEK	2.3 MI S OF JCT KY 1045	1982	301
14	Lincoln		N OLD OTTENHEIM RD	BR OF NEALS CREEK	E @JCT KY 1247	1930	238
15	Wayne		DODSON HOLLOW RD	MEADOW CREEK	0.2 MI. S. - JCT.CR 5015	1982	165
16	McCreary		KY-478	MARSH CREEK	8.1 MI E.JCT US 27	1988	146
17	Wayne		KY-790	DRY FORK CREEK	.05 MI SOU. OF JCT KY 776	1966	102
18	McCreary		KY-1044	MARSH CREEK	2 MI NW OF E-JCT KY 92	1976	447
19	Lincoln		KY-300	KNOBLICK CREEK	3.5 MI N.W. OF JCT KY 78	1951	363
20	Lincoln		Goshen Road	LOGAN CREEK	.9 MI N OF JCT US 150	1965	238
21	Casey		HALON YOUNG RD	PEE DEE CREEK	50 S OF JCT CR 5123	1972	236
22	Pulaski		KY-39	PITMAN CREEK	2.5 MI NOR. OF JCT KY 80	1973	4,579
23	Casey		CALVARY RIDGE RD	HATTER CREEK	0.2 MILE EAST OF KY 70	1957	521
24	Casey		SLOAN FORK RD	SOUTH FORK CREEK	200 S OF JCT CR 5122	1974	357
25	McCreary		KY-1045	COGUR FK OF INDIAN CREEK	2.5 MI S.W. OF JCT KY 700	1957	340

Indicates bridge is currently closed

Indicates bridge is restricted to only lower-weight vehicles

Source: TRIP analysis of Federal Highway Administration National Bridge Inventory data.

Traffic Safety:

Three major factors are associated with vehicle crashes: driver behavior, vehicle characteristics and roadway features. It is estimated that roadway features are likely a contributing factor in approximately one-third of fatal traffic crashes. Roadway features that impact safety include the number of lanes, lane widths, lighting, lane markings, rumble strips, shoulders, guard rails and other shielding devices, median barriers, and intersection design.

Improving safety on Kentucky's roadways can be achieved through further improvements in vehicle safety; improvements in driver, pedestrian, and bicyclist behavior; and, a variety of improvements in roadway safety features.

The severity of serious traffic crashes could be reduced through roadway improvements, where appropriate, such as adding turn lanes, removing or shielding obstacles, adding or improving medians, widening lanes, widening and paving shoulders, improving intersection layout, and providing better road markings and upgrading or installing traffic signals. Roads with poor geometry, with insufficient clear distances, without turn lanes, lacking or having narrow shoulders for the posted speed limits, or poorly laid out intersections or interchanges, pose greater risks to motorists, pedestrians and bicyclists.

Based on TRIP analysis of data provided by the Kentucky Office of Highway Safety, during the three-year period of 2014 to 2016, there were 161 traffic fatalities in Highway District 8, an average of 54 fatalities per year. Forty-eight percent of traffic fatalities in Highway District 8 during this period were as a result of a vehicle leaving the roadway. During the three-year period of 2014 to 2016, there were 454 serious injuries as a result of traffic crashes in Highway District 8, an average of 151 serious injuries per year.

Based on TRIP analysis of data provided by the Kentucky Office of Highway Safety, the traffic fatality rate in Highway District 8 during the three-year period of 2014 to 2016 was 2.17 deaths per 100 million miles of vehicle travel. This compares with a statewide average of 1.54 deaths per 100 million vehicle miles of travel and a national average of 1.08.

Top Transportation Needs in Highway District 8:

As part of KMCA's survey of its members, local government officials were asked to indicate their three greatest transportation needs. The three greatest needs indicated by survey respondents in Highway District 8 were, in order:

1. need for additional road rehabilitation and repair;
2. need for additional roadway capacity to support economic development; and,
3. need for additional bridge repairs and replacements.

Respondents to the survey also noted the need for several critical transportation projects in the region, including the addition of turn lanes on US 150 in Lincoln County, the construction of a bridge across Lake Cumberland from Wayne County to Russell County and future 1-66, the widening of SH 90 to four lanes in Wayne County and the construction of additional capacity on portions of SH 92 to McCreary and Highway 27 in Wayne County.