Kentucky Highway District 6

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

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PREPARED BY

TRIP
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Founded in 1971, TRIP ® 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 6, which is located in the northernmost portion of the state and includes the following 11 counties: Boone, Bracken, Campbell, Carroll, Gallatin, Grant, Harrison, Kenton, Owen, Pendleton and Robertson.

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

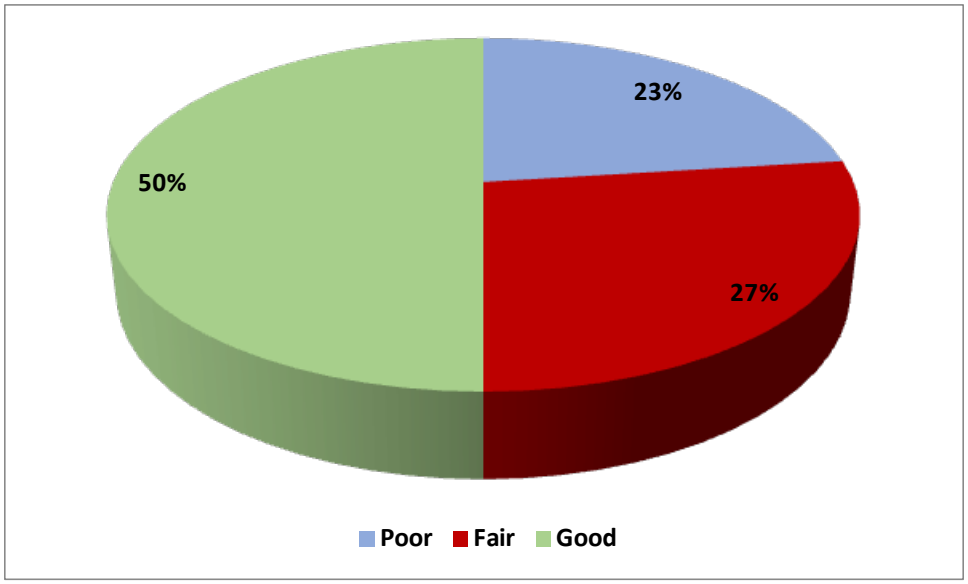
The 11 counties that comprise District 6 were home to 484,000 residents in 2016, based on estimates from the U.S. Census Bureau. Vehicle travel in District 6 totaled 5.4 billion miles in 2016, an increase of 2.5 percent from 2014 (based on data provided to TRIP by the Kentucky Office of Highway Safety).

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 6. Survey responses indicated 23 percent of county maintained roads are in poor condition, 27 percent are in fair condition and 50 percent are in good condition.

CHART 1: Share of county maintained roads in poor, fair or good condition in Highway District 6.



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 33 percent of Highway District 6's county-maintained roads are in need of resurfacing, but current funding levels will only allow for the resurfacing of nine percent of county-maintained roads in 2017. The survey also found that two percent of Highway District 6's county-maintained roads are in need of reconstruction, but current funding will only allow for the reconstruction of less than one percent of county-maintained roads in 2017.

Bridge Conditions:

Highway District 6 has 962 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, 81 of these bridges (eight percent) were rated as structurally deficient. Forty-three of the 81 structurally deficient bridges in Highway District 6 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 6.

CHART 2: Most heavily traveled structurally deficient bridges in Highway District 6.

Rank	County	City	Route Carried	Feature Intersected	Location	Year Built	Avg. Daily Traffic
1	Campbell		KY-10	TWELVE MILE CREEK	.10 MI E. OF JCT KY 199	1935	539
2	Kenton		11TH STREET	CSX RAILROAD	11TH ST E OF RUSSELL ST	1927	2,159
3	Campbell		COVERT RUN PIKE	TRIB. TO TAYLOR CREEK	75 FT E JCT. ROSSFORD AV	1954	1,260
4	Harrison		OLD LAIR RD	S FK LICKING RIVER	.1 MI E OF JCT KY 982	1925	524
5	Grant		DELANEY ROAD	NS (CNO&TP) SYSTEM	.1 MI E OF S-JCT US 25	1920	139
6	Grant		CHERRY GROVE RD	NS (CNO&TP) SYSTEM	0.5 MI. EAST OF US. 25	1920	105
7	Harrison		US-62	INDIAN CREEK	1.5 MI N.E. OF JCT KY 392	1928	3,495
8	Grant		KY-22	CLARKS CRK+BATON ROUGE R	1.0 MI N.E. OF JCT KY 36	1933	2,953
9	Campbell		KY-8	TWELVE MILE CREEK	.25 MI E OF JCT KY 1566	1946	1,027
10	Carroll		KY-36	LICK CREEK	.40 MI WEST OF JCT KY 47	1933	404
11	Kenton		GARVEY AVENUE	NS (CNO&TP) SYSTEM	3-BLOCKS SOUTH OF US. 25	1940	4,061
12	Grant		KY-22	EAGLE CREEK	2.4 MI S.W. OF JCT KY 36	1933	1,255
13	Campbell		KY-1121	BRUSH CREEK	1.2 MI S OF N-JCT KY 10	1930	753
14	Carroll		KY-55	MAJORS RUN CREEK	1.0 MI SOU. OF JCT KY 389	1924	637
15	Pendleton		KY-159	NORTH LITTLE KINCAIO CRE	1.0 MI NOR. OF JCT KY 609	1956	423
16	Bracken		KY-1159	LOCUST CREEK @ WOOLCOTT	1 MI N OF JCT KY 1011	1955	265
17	Pendleton		MILFORD RD	TRIB. TO LICKING RIVER	.3 MI S OF JCT KY 22	1900	213
18	Owen		BIG TWIN CREEK RD	BIG TWIN CREEK	3 MI W OF JCT KY 1761	1965	156
19	Bracken		KY-539	WILLOW CREEK	1.1 MI. W. -JCT. KY 19	1981	116
20	Carroll		I-71	KY 1112 & WHITES RUN CRK	SBL 2.4 MI E OF KY227 NTR	1967	14,962
21	Carroll		US-42	KENTUCKY RIVER & CITY ST	.20 MI EAST OF JCT KY 55	1952	10,117
22	Campbell		GIBSON ROAD	THREEMILE CREEK	0.75 MILE E OF S.R. 9	1975	731
23	Harrison		KY-356	S. FORK TWIN CREEK	.2 MI W OF W-JCT KY 1842	1961	705
24	Harrison		KY-1842	SO.FK. TWIN CREEK	.90 MI NOR. OF JCT KY 356	1976	314
25	Owen		KY-3102	BRUSH CREEK	1.5 MI W OF JCT KY 36	1977	231

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 6 (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.

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1	Campbell		KY-10	TWELVE MILE CREEK	.10 MI E. OF JCT KY 199	1935	539
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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 159 traffic fatalities in Highway District 6, an average of 53 fatalities per year. Forty percent of traffic fatalities in Highway District 6 during this period were as a result of a vehicle leaving the roadway. During the three-year period of 2014 to 2016, there were 742 serious injuries as a result of traffic crashes in Highway District 6, an average of 247 serious injuries per year.

According to TRIP analysis of data provided by the Kentucky Office of Highway Safety, the traffic fatality rate in Highway District 6 during the three-year period of 2014 to 2016 was 0.99 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 6:

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 6 were, in order:

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