

Kentucky Highway District 10

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

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PREPARED BY



a national transportation research group

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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 10, which is located in the east central portion of the state and includes the following 10 counties: Breathitt, Estill, Lee, Magoffin, Menifee, Morgan, Owsley, Perry, Powell and Wolfe.

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

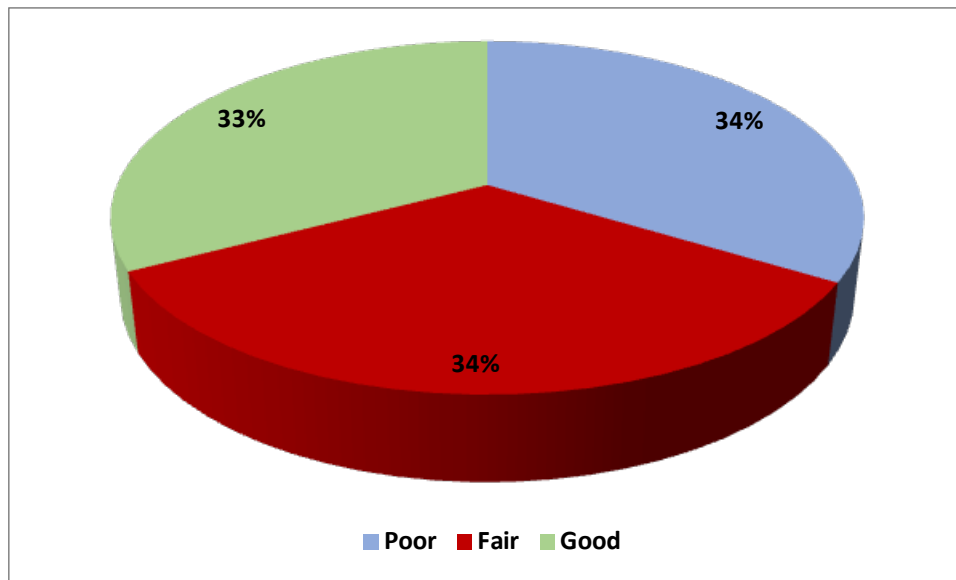
The 10 counties that comprise District 10 were home to 118,000 residents in 2016, based on estimates by the U.S. Census Bureau. Vehicle travel in District 10 totaled 1.2 billion miles in 2016. (based on data provided by the Kentucky Office of Highway Safety).

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 10. Survey responses indicated 34 percent of county maintained roads are in poor condition, 34 percent are in fair condition and 33 percent are in good condition.

CHART 1: Share of county maintained roads in poor, fair or good condition in Highway District 10.



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 57 percent of Highway District 10's county-maintained roads are in need of resurfacing, but current funding levels will only allow for the resurfacing of two percent of county-maintained roads in 2017. The survey also found that 26 percent of Highway District 10's county-maintained roads are in need of reconstruction, but current funding will only allow for the reconstruction of four percent of county-maintained roads in 2017.

Bridge Conditions:

Highway District 10 has 862 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, 67 of these bridges (eight percent) were rated as structurally deficient. Thirty-six of the 67 structurally deficient bridges in Highway District 10 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 10.

CHART 2: Most heavily traveled structurally deficient bridges in Highway District 10

| Rank | County | City | Route Carried | Feature Intersected | Location | Year Built | Avg. Daily Traffic |
|------|-----------|------|--------------------|------------------------|---------------------------|------------|--------------------|
| 1 | Estill | | KY-52 | DROWNING CRK | ON MADISON - ESTILL CL | 1957 | 8,524 |
| 2 | Perry | | MEMORIAL DRIVE | MEMORIAL DR-KY 15BUS | .1 MI N OF LYTTLE BLVD | 1950 | 7,490 |
| 3 | Wolfe | | KY 191 | Swift Camp CRK | 200 W OF WASHINGTON ST | 1927 | 6,192 |
| 4 | Perry | | KY-476 | BALL FORK | .05 MI S OF JCT KY 1087 | 1926 | 1,441 |
| 5 | Wolfe | | KY-191 | LACEY CRK | .2 MI S OF S-JCT KY 1010 | 1930 | 1,408 |
| 6 | Magoffin | | KY-30 | LICKING RIVER | .05 MI SOU. OF JCT US 460 | 1974 | 1,316 |
| 7 | Owsley | | KY-3347 | MEADOW CRK | .1 MI S OF KY 30 | 1987 | 1,263 |
| 8 | Morgan | | US-460 | WHITE OAK CRK | .5 MI N OF JCT KY 1000 | 1930 | 1,186 |
| 9 | Morgan | | US-460 | BIG SPRING BRANCH | .5 MI SE OF JCT KY 1081 | 1930 | 1,010 |
| 10 | Magoffin | | KY-1635 | OAKLEY CRK | .10 MI SOU. OF JCT KY 867 | 1975 | 983 |
| 11 | Breathitt | | MARIE ROBERTS RD | TROUBLESOME CRK | .05 MI W OF JCT KY 15 | 1948 | 790 |
| 12 | Perry | | KY-1166 | RT. FK. MACES CRK | .1 MI S OF JCT CR 5229 | 1975 | 759 |
| 13 | Estill | | KY-794 | WHITE OAK CRK | 0.3 MI. NW KY 1705 | 1981 | 645 |
| 14 | Powell | | KY-2026 | RED RIVER | 0.4 MI. NORTH KY 15 | 1965 | 494 |
| 15 | Breathitt | | KY-1812 | JOHNSON FORK | .75 MI NW OF N-JCT KY 205 | 1925 | 464 |
| 16 | Wolfe | | KY-1812 | LANDSAW FORK | .10 MI SOU. OF MTN PW UP | 1927 | 419 |
| 17 | Breathitt | | KY-1812 | COPE FK OF FROZEN CRK | .02 MI EAST OF JCT KY 540 | 1939 | 322 |
| 18 | Owsley | | OLD KY-11 | BUCK CRK | .10 MI WEST OF JCT KY 28 | 1926 | 300 |
| 19 | Powell | | MIDDLE FORK CMPGR | MIDDLE FORK OF RED RVR | .1 MI W OF JCT KY 11 | 1964 | 300 |
| 20 | Menifee | | KY-715 | RED RIVER | ON WOLFE - MENIFEE CL | 1950 | 267 |
| 21 | Breathitt | | KY-378 | FROZEN CRK @SEWELL | .7 MI N OF JCT KY 1812 | 1976 | 259 |
| 22 | Perry | | GEORGES BRANCH RD | GEORGES BRANCH | .1 MI S OF KY 3197 TERM. | 1935 | 259 |
| 23 | Perry | | LITTLE LEATHERWOOD | STRAIGHT FORK | .1 MI W OF JCT CR 5140 | 1975 | 259 |
| 24 | Perry | | BARK CAMP BR RD | LEATHERWOOD CRK | S @JCT KY 463 (DELPHIA) | 1958 | 259 |
| 25 | Morgan | | KY-1000 | WHITE OAK CRK | .10 MI WEST OF JCT US 460 | 1966 | 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 10 (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 | Morgan | | US-460 | WHITE OAK CREEK | .5 MI N OF JCT KY 1000 | 1930 | 1,186 |
| 2 | Breathitt | | KY-1812 | COPE FK OF FROZEN CREEK | .02 MI EAST OF JCT KY 540 | 1939 | 322 |
| 3 | Owsley | | OLD KY-11 | BUCK CREEK | .10 MI WEST OF JCT KY 28 | 1926 | 300 |
| 4 | Powell | | MIDDLE FORK CMPGR | MIDDLE FORK OF RED RIVER | .1 MI W OF JCT KY 11 | 1964 | 300 |
| 5 | Perry | | LITTLE LEATHERWOOD | STRAIGHT FORK | .1 MI W OF JCT CR 5140 | 1975 | 259 |
| 6 | Magoffin | | KY-1635 | OAKLEY CREEK | .10 MI SOU. OF JCT KY 867 | 1975 | 983 |
| 7 | Breathitt | | KY-1812 | JOHNSON FORK | .75 MI NW OF N-JCT KY 205 | 1925 | 464 |
| 8 | Breathitt | | KY-378 | FROZEN CREEK @SEWELL | .7 MI N OF JCT KY 1812 | 1976 | 259 |
| 9 | Perry | | KY-476 | BALL FORK | .05 MI S OF JCT KY 1087 | 1926 | 1,441 |
| 10 | Wolfe | | KY-191 | LACEY CREEK | .2 MI S OF S-JCT KY 1010 | 1930 | 1,408 |
| 11 | Owsley | | KY-3347 | MEADOW CREEK | .1 MI S OF KY 30 | 1987 | 1,263 |
| 12 | Breathitt | | MARIE ROBERTS ROAD | TROUBLESOME CREEK | .05 MI W OF JCT KY 15 | 1948 | 790 |
| 13 | Perry | | KY-1166 | RT. FK. MACES CREEK | .1 MI S OF JCT CR 5229 | 1975 | 759 |
| 14 | Wolfe | | CAVE BRANCH RD | HOLLY CREEK | .1 MI W OF JCT KY 1261 | 1970 | 158 |
| 15 | Lee | | GOOSE CREEK RD | CSX RAILROAD | 50 N. JCT. KY 52 | 1940 | 100 |
| 16 | Magoffin | | KY-30 | LICKING RIVER | .05 MI SOU. OF JCT US 460 | 1974 | 1,316 |
| 17 | Estill | | KY-794 | WHITE OAK CREEK | 0.3 MI. NW KY 1705 | 1981 | 645 |
| 18 | Perry | | BARK CAMP BR RD | LEATHERWOOD CREEK | S @JCT KY 463 (DELPHIA) | 1958 | 259 |
| 19 | Morgan | | KY-1000 | WHITE OAK CREEK | .10 MI WEST OF JCT US 460 | 1966 | 231 |
| 20 | Estill | | KY-1182 | FURNACE FORK | .20 MI N.E. OF JCT KY 52 | 1974 | 191 |
| 21 | Perry | | LITTLE LEATHERWOOD | LITTLE LEATHERWOOD CRK | .15 MI NW OF JCT CR 5139 | 1965 | 130 |
| 22 | Estill | | KY-52 | DROWNING CREEK | ON MADISON - ESTILL CL | 1957 | 8,524 |
| 23 | Powell | | KY-2026 | RED RIVER | 0.4 MI. NORTH KY 15 | 1965 | 494 |
| 24 | Wolfe | | KY-1812 | LANDSAW FORK | .10 MI SOU. OF MTN PW UP | 1927 | 419 |
| 25 | Menifee | | KY-715 | RED RIVER | ON WOLFE - MENIFEE CL | 1950 | 267 |

Indicates bridge is currently closed
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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 119 traffic fatalities in Highway District 10, an average of 40 fatalities per year. Sixty-five percent of traffic fatalities in Highway District 10 during this period were as a result of a vehicle leaving the roadway. During the three-year period of 2014 to 2016, there were 298 serious injuries as a result of traffic crashes in Highway District 10, an average of 99 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 10 during the three-year period of 2014 to 2016 was 3.13 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 10:

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 10 were, in order:

1. need for additional roadway safety improvements;
2. need for additional road resurfacing and upgrading gravel roads to paved roads; and,
3. need for additional roadway capacity to support economic development.