

Applications of

MOBILE LIDAR SCANNING

Asset Management

- Billboard management
- Automated/semiautomated extraction of signs
- Modeling and inspection
- Inventory mapping

Maintenance

- Drainage/flooding
- Vegetation management
- Bridge inspections
- Power line clearance

Research

- Unstable slopes
- Landslide assessment
- Coastal erosion

Project Development

- Feature extraction for CAD models & baseline data
- Virtual 3D design (alternatives and clash detection)

Operations

- Traffic congestion/parking utilization
- Land use/zoning
- Building Information Modeling (BIM)
- Bridge Information Modeling (BrIM)
- Emergency response
- Clearances

Construction

- Machine control and construction automation
- As-built/repared documentation
- Post construction quality control
- Pavement smoothness/quality determination
- Quantities
- American with Disabilities Act (ADA) compliance

Safety

- Extraction of geometric properties and features for analysis
- Forensics\accident investigation
- Driver assistance autonomous navigation

Tourism

- Virtual tour of attractions
- Historical preservation

Project Planning

- Roadway analysis
- Topographic mapping
- Environmental studies
- General measurements

GIS

Resources For Designers

Bridge & Drainage Structures

- **Pipe and Culvert Drainage inventory:**
<http://kytcmaps.kytc.ds.ky.gov/drainageinventory/>
Drainage inventory containing location of pipes and culverts (<20' span) on state maintained roads.
- **KYTC Bridge Data Miner:**
<http://maps.kytc.ky.gov/photolog/?config=BridgeDataMiner>
<http://kytcxa00s09p1.cit.ky.gov/photolog/?config=BridgeDataMiner>
Click on a bridge for details about structure.

Geology

- **Kentucky Geoportal:**
<http://kygeonet.ky.gov/govmaps/>
Data on topography, elevations and other web based maps of Kentucky. The Geologic Mapping link leads to the University of Kentucky Geologic Map which contains information on coal boreholes, oil & gas wells, & sinkholes.

Projects

- **Various Interactive, Mobile and Printable GIS Maps:**
<http://transportation.ky.gov/Maps/>
Displays links to over 30 maps. These maps can be downloaded, viewed on a mobile device or printed.
- **Active Highway plan:**
<http://kytcxa00s09p1.cit.ky.gov/photolog/?config=ActiveHighwayPlan>
Link to data in PMToolbox. Displays data on active construction, planning, design, ROW & Utilities projects. Use the ID button to click on a project then click on the file link.
- **Project Plan Archive:**
<http://kytcxa00s09p1.cit.ky.gov/photolog/?config=ProjectArchives>
Link to project plans on project wise. Use the ID button to click on a project then click on the file link for the plan pdf.
- **Lessons Learned:**
<http://kytcxa00s09p1.cit.ky.gov/photolog/?config=LessonsLearned>
Displays KYTC projects that have received a Post Construction Review or Value Engineering Change Proposal.

Roadway Data

- **KYTC Traffic Counts:**
<http://kytcxa00s09p1.cit.ky.gov/photolog/?config=TrafficCounts>
Displays traffic count locations, most recent AADTs and functionally classified roads.
- **General Highway Map of Kentucky:**
<http://kytcxa00s09p1.cit.ky.gov/photolog/?config=GeneralHighway>
Displays roadway mile point
- **Roadway Photo viewer:**
<http://maps.kytc.ky.gov/photolog/?config=Photolog&x1=5114935.959483551&y1=3868453.589951066&x2=5427435.959483551&y2=3971969.214951066&MODE=PL>
Zoomable, searchable, drivable photo log of the Kentucky road system. It also displays mile point and date for each picture.
- **Sign Viewer:**
<http://kytcmaps.kytc.ds.ky.gov/signviewer/>
Inventory, picture of sign, mile point, MUTCD code.

Survey

- **LIDAR data available for KYTC projects:**
<http://kytcxa00s09p1.cit.ky.gov/photolog/?config=LiDARTiles>
Displays the areas of the state with available LIDAR data.

Information on how to request LIDAR data is available on the page. Also available from the Highway Design Survey Coordination page.

District Analysis

- **District Specific Interactive Maps 3, 9, 12:**
<https://intranet.kytc.ky.gov/work/gis/>
Custom built maps with district specific data. Other districts may request this data set up through GIS.

Global
Internal only