

EXECUTIVE SUMMARY

Kentucky 2022-2045 Long-Range Statewide Transportation Plan (LRSTP)



WHY?

In keeping with Federal transportation planning requirements, the 2022-2045 LRSTP provides a basis for meeting the vision for Kentucky's multimodal transportation system by clearly identifying goals, guiding principles, and implementable actions which support the achievement of that shared vision so that we can...

GET THERE TOGETHER.



HOW?

KYTC worked together with local, state, and federal leadership to gather valuable input from public and private sectors for developing the transportation vision, goals, and objectives. The development of the LRSTP began in the fall of 2021 as Kentucky was slowly emerging from the disruptions created by the COVID-19 pandemic and heightened socio-political tensions. During that timeframe, the 2020 Census results provided the identification of major shifts within the demographics of Kentucky's population. In November 2021, the United States Congress passed the Bipartisan Infrastructure Law (BIL) to address the investment need in the nation's infrastructure, providing a funding framework for the coming years. These challenges and opportunities have been fully considered within the development of the LRSTP.

WHAT?

The 2022-2045 LRSTP is a policy-oriented document that establishes broad goals, guiding principles, and strategic actions to work toward the vision for the Commonwealth's multimodal transportation system. The LRSTP is considered a living document to be adjusted as future conditions warrant.

The 2022-2045 LRSTP vision, goals, and guiding principles were drafted through input from KYTC leadership, multimodal stakeholders, and public comments from a survey conducted during the last three months of 2021.

The LRSTP Vision is an overarching statement describing the desired transportation system to be delivered regardless of the challenges or opportunities within the possible futures or scenarios. The Vision is for a viable, reliable, and resilient multimodal transportation system to provide access and mobility for all users for the safe movement of people and goods.

To achieve the expressed vision, a set of five goals was derived from the collected input and were aligned with the seven National Performance Goals of: Safety, Infrastructure Condition, Congestion Reduction, System Reliability, Freight Movement and Economic Vitality, Environmental Sustainability, and Reduced Project Delivery Delays.

NATIONAL PERFORMANCE GOALS



Safety

To achieve a significant reduction in traffic fatalities and serious injuries on all public roads



Infrastructure Condition

To maintain the highway infrastructure asset system in a state of good repair



Congestion Reduction

To achieve a significant reduction in congestion on the National Highway System (NHS)



System Reliability

To improve the efficiency of the surface transportation system



Freight Movement & Economic Vitality

To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development



Environmental Sustainability

To enhance the performance of the transportation system while protecting and enhancing the natural environment



Reduced Project Delivery Delays

To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices

LRSTP Vision and Goals

The Kentucky LRSTP VISION is for a viable, reliable, and resilient multimodal transportation system to provide access and mobility for all users for the safe movement of people and goods.

The five interconnected LRSTP Goals which support the delivery of the LRSTP Vision for the Commonwealth of Kentucky are:



Enhance safety



Deliver a high level of maintenance and resiliency



Establish a reliable flow of people and freight



Provide local, regional, and global connectivity for communities



Deliver and operate a system that protects or enhances the natural and human environment

The five LRSTP Guiding Principles were also derived from stakeholder and public input. These Guiding Principles provide the process framework for the delivery of improvements or policies supporting the achievement of all five LRSTP Goals and are outlined as follows:



Quality of Life

Create a clean and efficient system that promotes healthy and fully engaged lifestyles while protecting the natural and human environment



Equity

Seek fairness in mobility and accessibility to meet the needs of all community members



Adaptability/Sustainability

Develop and operate a system that can adjust to the potentially disruptive forces of advances in technology, funding challenges, or human-made and natural disasters



Seamlessness

Integrate connectivity across all modes to provide reliable trip choices for people and freight



Economic Vitality

Deliver and operate a system that improves the ability of the state to provide employment and market opportunities

Scenario Planning

In April 2022, a scenario planning workshop was convened to discuss and identify what kinds of transportation networks, new investment strategies, and new policies or policy changes could be needed. Additionally, the analysis identified what parts of the transportation network might be most vulnerable and how internal business processes and structures might need to change. Within the workshop, a wide representation of transportation professionals and advocates tackled the challenges and opportunities of four possible scenarios with the LRSTP Vision, Goals, and Guiding Principles informing the decision-making within those discussions.

Workshop participants also explored impacts to how transportation projects should be prioritized for each scenario through KYTC's Strategic Highway Investment Formula for Tomorrow (SHIFT) process. Finally, participants worked together in small groups to allocate the transportation revenue that is expected to be raised under each scenario (accounting for differences in economic growth, vehicle usage, and vehicle fuel types among other factors) in programmatic investment areas to achieve necessary transportation performance. This exercise required trade-offs to prioritize the portions of the multimodal transportation system that were most essential under each scenario.

Four common investment decision themes emerged from the scenario planning analysis across the four scenarios.

- Moderate increase in investment in system preservation
- Restrained investment in the capacity of the highway system
- Expectation of improved safety due to advancing technology
- Growing investment in active transportation facilities such as sidewalks, bike lanes and transit stops

Possible Future Scenarios



Survival Modes

A future where life is harder for transportation system users due to severe weather, armed conflicts, and high energy prices.



Live, Work, Local

A future with shortening travel patterns and changing mode choices due to living and working locally with short commutes and opportunities close by.



Global Market Growth

A future with rapid adoption of new transportation technologies with rapid economic growth and expansion of freight hubs.



Tech Innovations

A future facilitated by telework, telemedicine, and electronic commerce.

The scenario planning analysis, the analysis of the system’s existing conditions, and individual modal transportation plans provided input for the development of the 2022-2045 LRSTP Plan of Action.

This Plan of Action includes recommendations on policies, policy changes, investment strategies, new programs, changes to program structure, and organizational changes to help KYTC better prepare for the impacts of the alternative futures on the transportation system.

The Plan of Action’s recommendations were grouped into four categories:

-  **Funding and Revenue**
-  **Programming and Project Decision Making**
-  **KYTC’s Organizational Structure**
-  **Standards and Processes**

Together, the recommendations help advance the Commonwealth toward all the LRSTP Goals and Objectives and achieve the LRSTP Vision for a viable, reliable, and resilient multimodal transportation system to provide access and mobility for all users for the safe movement of people and goods.

Pathways to the Plan of Action & Implementation Plan



As shown in the Pathways figure above, the Kentucky 2022-2045 LRSTP was developed and finalized using the evaluation of existing conditions, scenario planning analyses, and input from KYTC leadership, multimodal transportation stakeholders, resource agency partners, and the general public.

LRSTP Implementation Plan

An important component of this process was the creation of the LRSTP Implementation Plan in which identified tasks were formulated to support the recommendations of the LRSTP Plan of Action. Included in the Implementation Plan is a breakdown of tasks and responsibility for accomplishing each item within the four categories derived from the Plan of Action. The LRSTP Implementation Plan includes tasks such as:



Funding and revenue adjustments through engagement with Legislative and Executive Branches of State Government to:

- Identify additional potential dedicated and sustainable transportation funding opportunities to reach the proper allocation of revenues that will address the state's transportation needs.
- Consider legislative changes that could capture transportation-related costs created from redevelopment or new development (impact fees, special taxation districts, etc.).
- Consider funding possibilities that would permit the use of Road Funds for matching federal funds or providing financial assistance to the non-highway transportation modes.



Programming and project decision-making considerations in the programming of future investment strategies to:

- Consider resiliency and vulnerability in seeking investment in more reliable transportation solutions to serve areas of historical disasters more effectively.
- Provide continued investment in Intelligent Transportation Systems (ITS) to address human-made or natural disruptions to the transportation system.
- Evaluate investments in projects that increase accessibility at a lower cost such as transit or active transportation (pedestrians and bicyclists).



KYTC organizational structure changes such as:

- Continue to promote the development of a data management framework to allow real-time data integration from multiple data sources (historical KYTC data, automobiles, transit vehicles, trucks, mobile devices, infrastructure) and communication channels (fiber optics, Wi-Fi, 5G, digital short-range communications [DSRC], and other radio communications).
- Explore the possibility of creating personal service contracts with individuals who could work directly with and for KYTC to meet advancing technologies, trends, and emergency response needs.



Standards and process updates to meet growing needs that:

- Incorporate the roll-out of emerging vehicular technologies (EV, C/AV, etc.) into the planning, design, delivery, and maintenance of the system that allows flexibility in adapting the system with minimal additional expense if technologies change.
- Institute policies and legislation on the testing and operation of C/AVs in Kentucky, in particular to transit, C/AV freight, and truck platooning.
- Adjust the design process and the investment in materials to promote durability in all transportation assets, including pavement, bridges, and transit vehicles.