

# Appendix D: Active Transportation



**Kentucky's Long-Range  
Transportation Vision**

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## INTRODUCTION

Active transportation refers to any self-propelled, human-powered mode of transportation, such as walking, bicycling, and even kayaking. Within the realm of active transportation, pedestrian travel includes those who travel on foot or by wheelchair. Bicycle functions like motor vehicle travel with the exception of also being able to operate on the roadway shoulder or in a designated bicycle lane. The elements of the infrastructure that support active transportation can take multiple forms including sidewalks, multi-use paths, dedicated bicycle lanes, shared roadways, and blueway trails using streams or rivers. Many of these elements are most often found within urban areas, but the development of regional active transportation networks and independent long-distance hiking and bicycling trails have provided active transportation opportunities for many rural areas.

## THE BENEFITS OF ACTIVE TRANSPORTATION

Walking and cycling are healthy and sustainable means of transport. There are a number of benefits to active transportation which fall under five broad categories: health, mobility, neighborhood livability, economy, and environment.

Active transportation allows people to be physically active in everyday life by enabling them to walk or bike to their destinations. Even a moderate amount of daily exercise can improve both physical and mental health. These forms of active travel contribute to daily physical activity, aerobic fitness, and cardiovascular health while helping to protect against obesity, diabetes, and various other diseases. The mounting evidence on the health benefits of walking and cycling has led to public health advocacy for more walking and cycling to improve individual health and to reduce air pollution, carbon emissions, congestion, noise, traffic dangers, and other harmful impacts of car use.

Bicycling and walking also gives people who cannot drive more options for getting around independently. Those who benefit most include children (particularly for travel to and from school), seniors and those with disabilities, and people with low income. Active transportation facilities are particularly important in low-income and minority communities, or communities with high percentages of new immigrants. People in those communities are less likely to own vehicles and rely upon walking or bicycling to access daily needs such as employment, healthy food, healthcare, and education.

Active transportation can build community and create social capital and therefore, improve neighborhood livability. When residents are out walking or bicycling, they interact more with their neighbors. Streets become safer, not just in terms of traffic but crime as well since there are more eyes on the street from pedestrians and bicyclists.

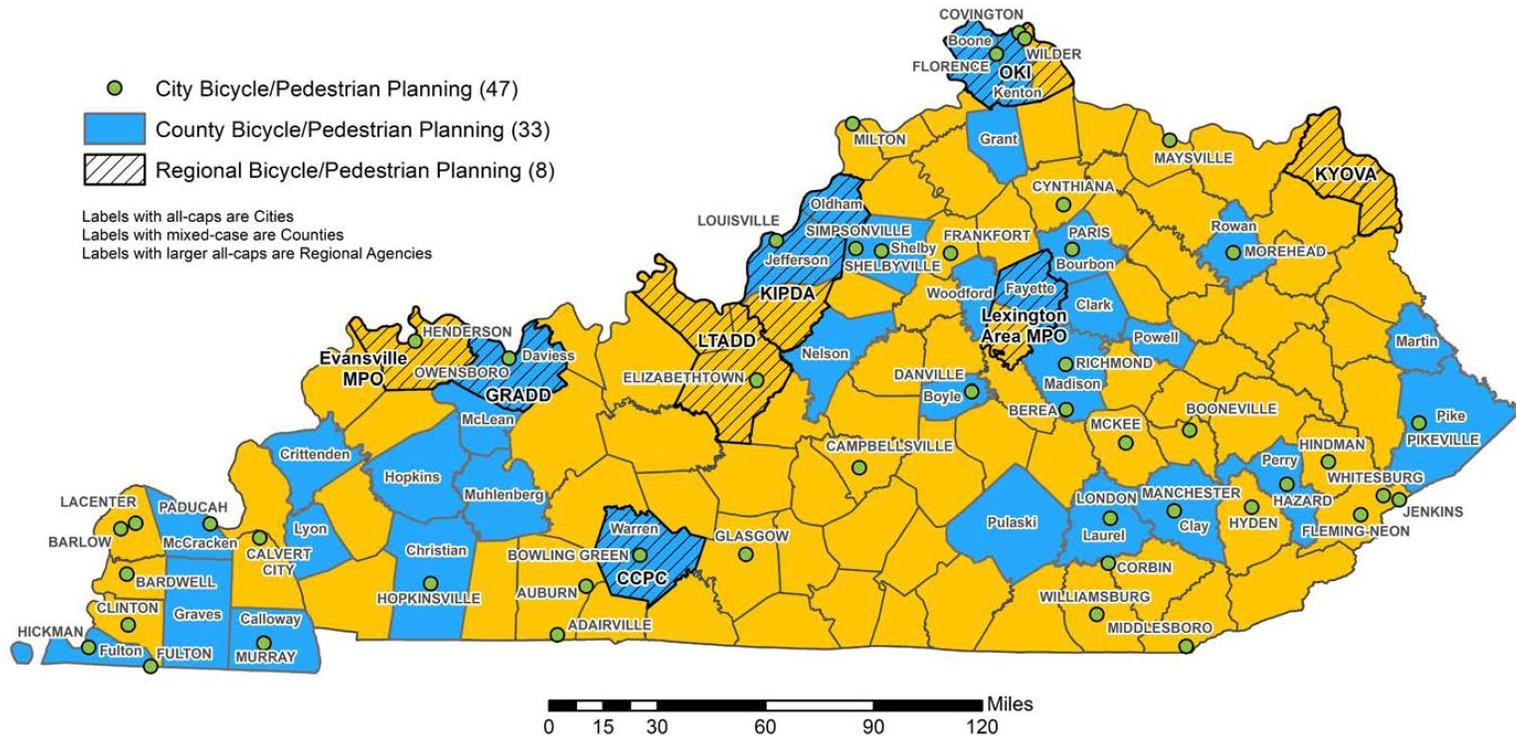
The economic benefits of bicycling and walking include lower transportation costs for individuals and families, increased property values, savings for cities from less wear and tear of streets, and a potential boost to tourism.

By encouraging less motor vehicle trips, active transportation can help address many environmental challenges with the reduction of air pollution and greenhouse gas emissions. Other environmental benefits include energy savings, less noise pollution, and less water pollution.

## KENTUCKY'S ACTIVE TRANSPORTATION NETWORK

Recognizing the need and the benefits of an active transportation element in the transportation network, the efforts of KYTC and local agencies have supported the widespread development of active transportation facilities within the state's transportation system. The underlying principle of active transportation is to provide a strategy for a system that allows a choice in modes of transportation and a reasonable balance in accommodations with the utmost priority of cyclist and pedestrian safety. The efforts over the past three decades have led to the on-going development of a broadening active transportation element within Kentucky's transportation system.

KYTC and the Kentucky Department for Public Health, SPAN/Active Living Program have developed a partnership to create Transportation Equity Reviews. To date, these have been completed for twelve communities in the past three years. These two Kentucky Cabinets are working together on programs like the State Physical Activity and Nutrition (SPAN) and Walk/Bike programs. KYTC also partners with Local Public Agencies (LPAs) around Kentucky on bicyclist and pedestrian projects.



<https://transportation.ky.gov/BikeWalk/Pages/Bicycle-and-Pedestrian-Facility-Inventory-Map.aspx>

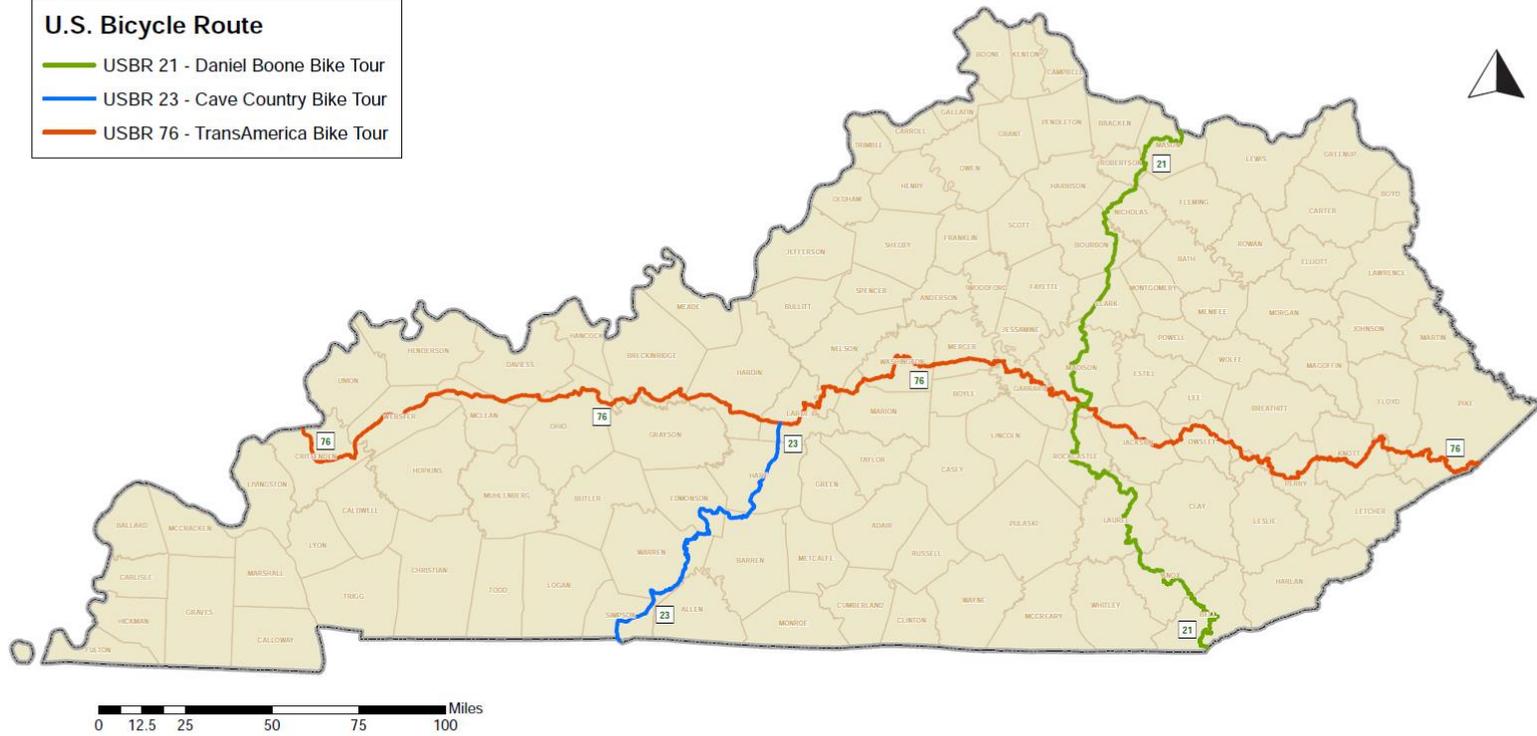


Active transportation elements across Kentucky includes the following:

- 80+ officially adopted city, county, or regional pedestrian/bicycle plans as illustrated on the map on the previous page.
- Over 300 miles of shared use paths
- 35 designated rails to trails facilities (82 miles) and 7 planned rails to trails facilities (278 miles)
  - Rails to Trails Facilities are shared-use paths on railway right of way.
  - These rail trails are usually constructed adjacent on abandoned railways.
- 3 U.S. Bike Routes (AASHTO approved)
  - USBR 21 = 251: Daniel Boone Bike Tour
  - USBR 23 = 109: Cave Country Bike Tour
  - USBR 76 = 578: TransAmerica Bike Tour
- 520 miles of water trails including a National Blueway Trail (Nolin/Green Rivers Blueway Trail)

**U.S. Bicycle Route**

- USBR 21 - Daniel Boone Bike Tour
- USBR 23 - Cave Country Bike Tour
- USBR 76 - TransAmerica Bike Tour



Source: Kentucky Transportation Cabinet. Map updated August 2022

## Statewide Policies and Plans Supporting Active Transportation

Per Kentucky Revised Statutes (KRS) 189.010, bicycles are legal vehicles and, as such, are permitted on all roadways except where they are specifically prohibited. Bicycle traffic should be expected on all roadways (except interstates, parkways, and other fully controlled access highways), but each location merits a different type of accommodation. However, pedestrians have a more limited access within the transportation infrastructure with their dependence upon sidewalks or shared-use paths.

### **Pedestrian & Bicycle Travel Policy (2002)**

In 2002, KYTC adopted policy statements in accordance with the KYTC Strategic Plan's mission and goals of improving accessibility, mobility, and safety for travelers throughout the Commonwealth of Kentucky in an environmentally and fiscally sound manner.<sup>1</sup> The Pedestrian & Bicycle Travel Policy document provides guidance for where and when it may be necessary to include pedestrian and bicycle facilities into new or reconstructed roadway projects. The policy statements are incorporated in the KYTC Design Manual and the Design Executive Summary guidance. This policy was identified as needing an update in 2007.<sup>2</sup> In response to this need, the massive increase in community pedestrian and bicycle plans across Kentucky, and the growing public demand for active transportation facilities, the KYTC Division of Planning has undertaken a Kentucky Statewide Bicycle and Pedestrian Plan and the development of a KYTC Complete Streets Policy which both will be posted on <https://transportation.ky.gov/BikeWalk/Pages/Home%20Page.aspx>.

KYTC has a full-time Statewide Bicycle and Pedestrian Coordinator to help ensure that all pedestrian/bikeway policies are implemented. The coordinator provides technical assistance to state and local health, transportation, tourism, and enforcement agencies as requested. This includes pedestrian and bikeway project assistance for planning, design, construction, and maintenance, as well as support with safety information, research, and program guidance. The coordinator facilitates the implementation of the Americans with Disability Act (ADA) by providing guidance on preferred design elements and best practices.

### **2015 Kentucky Statewide Rail Plan**

This plan defines the goals, system strategies, and policies to improve the state's rail transportation network, which also includes potential sites for rails to trails systems. The plan highlights current and potential rail trails within the state and any proposed extensions, as well as funding sources at state and national levels. According to National Rails-to-Trails Conservancy, Kentucky has 19 total rail-trails which include 82 miles of rail-trails, and 14 current projects are underway with a potential 178 miles of rail-trails.<sup>3</sup>

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<sup>1</sup> <https://transportation.ky.gov/Pages/AboutUs.aspx>

<sup>2</sup> *Highway Design Guidance Manual*, (March 2017) Commonwealth of Kentucky Transportation Cabinet. <https://transportation.ky.gov/Highway-Design/Highway%20Design%20Manual/HD-1500.pdf>

<sup>3</sup> <https://www.railstotrails.org/our-work/united-states/kentucky/#state>



## Pedestrian Facilities on Urban Roadways

In accordance with the KYTC policy, the incorporation of pedestrian facilities will be considered on all new or reconstructed state-maintained roadways in existing and planned urban and suburban areas if the roadway project involves one or more of the following factors.<sup>4</sup>

- A pedestrian facility already exists on the current roadway.
- The recommended roadway cross-section is urban (curb and gutter).
- Project limits are adjacent to an existing residential, commercial, industrial, institutional, public, or semi-public use area, or are adjacent to an area planned to develop one of these uses within the next 20 years. Planned development may be determined by zoning designations, a local comprehensive plan, or the public-involvement process.
- A state, locally, or regionally adopted pedestrian network or policy has designated pedestrian improvements in the area of the specific roadway project or for that classification of roadway.
- A KYTC Small Urban Transportation Study has specific pedestrian improvements recommended for the roadway project.
- Pedestrian traffic exists along the current roadway. This may be determined by the observation of pedestrian traffic or by the public-involvement process.
- Public interest in and demand for pedestrian facilities are determined at the planning and preliminary engineering public-involvement stages.

## Pedestrian Facilities on Rural Roadways

Incorporation of pedestrian facilities will be considered on all new or reconstructed roadways in rural areas if the roadway project involves one or more of the following factors.<sup>5</sup>

- Pedestrian traffic exists along the current roadway. This may be determined by the observation of pedestrian traffic or by the public-involvement process.
- Project limits are adjacent to planned or anticipated development within the next 20 years of residential subdivisions; commercial, industrial, institutional, public, or semi-public use area; or other projects necessitating pedestrian connectivity. Planned development may be determined by zoning designations from a local comprehensive land use plan, interviews with local political and economic leaders to gauge anticipated growth in the project area, or the public involvement process.

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<sup>4</sup> *Highway Design Guidance Manual*, (March 2017) Commonwealth of Kentucky Transportation Cabinet. <https://transportation.ky.gov/Highway-Design/Highway%20Design%20Manual/HD-1500.pdf>

<sup>5</sup> *Highway Design Guidance Manual*, (March 2017) Commonwealth of Kentucky Transportation Cabinet. <https://transportation.ky.gov/Highway-Design/Highway%20Design%20Manual/HD-1500.pdf>

- A state, locally, or regionally adopted pedestrian network or policy has designated pedestrian improvements in the area of the specific roadway project or for that classification of roadway.
- Gaps in connectivity exist between two or more developed areas/community destinations currently separated by no more than 1.5 miles.
- Public interest in and demand for pedestrian facilities are determined at the planning and preliminary engineering public-involvement stages.

## Bicycle Facilities

As stated above, bicycles are considered by Kentucky statute to be legal vehicles and as such are permitted on all roadways within the state, except on those where they are specifically prohibited (e.g., parkways and interstate highways). Bicycles can safely share the roadways with motor vehicles when appropriate consideration is made during the design and construction of new or reconstructed roadways. This consideration includes review of various accommodation per each location. Accommodation includes signage, rumble-strip design, bicycle-friendly grates, wide curb lanes, shoulder bikeways, bicycle lanes, and shared use paths.

Incorporation of bicycle facilities will be considered on all new or reconstructed roadways (including the resurfacing of roadways and shoulders) in existing and planned urban, suburban, and rural areas when the roadway project involves one or more of the following factors.<sup>6</sup>

- A bicycle facility already exists on the current roadway.
- Project limits are adjacent to an existing residential, commercial, office, industrial, institutional, public, or semi-public use area or adjacent to an area planned to develop into one of these uses within the next 20 years. Planned development may be determined by a local comprehensive plan or the public involvement process.
- A state, locally, or regionally adopted bicycle plan has designated bicycle improvements or a bikeway in the area of the specific roadway project or for that classification of roadway.
- A KYTC Small Urban Transportation Study has specific bicycle improvements recommended for the roadway project.
- Bicycle traffic exists along the current roadway. This may be determined by the observation of bicycle traffic or by the public-involvement process.
- Public interest in and demand for bicycle accommodations are determined at the planning and preliminary engineering public-involvement stages.

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<sup>6</sup> *Highway Design Guidance Manual*, (March 2017) Commonwealth of Kentucky Transportation Cabinet. <https://transportation.ky.gov/Highway-Design/Highway%20Design%20Manual/HD-1500.pdf>

## Choosing Types of Bicycle Facilities

After determining that a bicycle facility is necessary, the type of facility will be selected. The following are brief descriptions of typical bicycle facilities:

### *Shared Lanes*

Width is the most critical variable affecting the ability of a roadway to accommodate bicycle traffic. In order for bicycles and motor vehicles to share the roadway without compromising the level of service and safety for either, the facility should provide sufficient paved width. Bicycle-safe drainage inlets shall be used when bicyclists are anticipated in roadways with curb and gutters.

### *Paved Shoulders*

Adding or improving paved shoulders often can be the best way to accommodate bicyclists in rural areas and benefit motor vehicle traffic.

### *Shoulder Bikeways*

Bikeway is a generic term for any road, street, path, or way that in some manner is specifically designated for bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes.

- Shoulder bikeways should have a minimum of 4 feet of paved surface beyond rumble strips, 5 feet when guardrail is present; however, 6 feet is preferred.
- No additional striping should be applied to designate a shoulder bikeway.
- The bicycle lane symbol should not be used as pavement marking on a shoulder bikeway. The bicycle lane symbol is used to designate facilities exclusive to bicycle use and is not appropriate on a shoulder bikeway. See the MUTCD for appropriate signing.<sup>7</sup>

### *Wide Curb Lanes*

It may be appropriate to add additional width to the outside lane to accommodate bicycles. Wide curb lanes for bicycle use are usually preferred where shoulders are not provided, such as in restrictive urban areas. An outside or curb lane wider than 12 feet can better accommodate both bicycles and motor vehicles in the same lane. In many cases where there is a wide curb lane, motorists will not need to change lanes to pass a bicyclist. Bicycle-safe drainage inlets shall be used in conjunction with widened pavements.

In general, 14 feet of usable lane width is the recommended width for shared use in a wide curb lane. Usable width normally would be from edge stripe to lane stripe or from the longitudinal joint of the gutter pan to lane stripe (the gutter pan should not be included as usable width).

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<sup>7</sup> *Manual of Uniform Traffic Control Devices (MUTCD)*, <https://mutcd.fhwa.dot.gov/htm/2003r1/part9/part9-toc.htm>

Restriping to provide wide curb lanes may also be considered on some existing multi-lane facilities by making the remaining travel lanes and left-turn lanes narrower. An engineering analysis based on applicable design criteria and a careful review of traffic characteristics will be provided to aid any decision for restriping existing facilities.

### *Bicycle Lanes*

Bike lanes can be incorporated into a roadway when it is desirable to delineate available road space for preferential use by bicyclists and motorists and to provide for more predictable movements by each. Bike lanes should be one-way facilities and carry bike traffic in the same direction as adjacent motor vehicle traffic. On one-way streets, bike lanes should generally be placed on the right side of the street. Bike lanes on the left side are unfamiliar and unexpected to most motorists.

The recommended width of a bike lane is generally 5 to 6 feet from the face of a curb or guardrail to the lane stripe (the width of the gutter pan is included). For roadways with no curb and gutter or guardrail, the minimum width of a bike lane should be 4 feet.<sup>8</sup>

## TRENDS, CHALLENGES, AND OPPORTUNITIES

### Trends

Kentucky has made productive strides forward in the development of infrastructure for bicyclists and pedestrians. Urban and rural communities across the state are poised for a renaissance in walking and cycling as a travel mode choice. Walking and cycling is occurring more often to access destinations for errands, commuting, and socialization.

According to 2017 National Household Travel Survey, more than half of all trips in the United States are within a 20-minute bike ride or less, and more than one in four trips are within a 20-minute walk or less. Approximately 90 percent of public transportation trips are accessible by walking or bicycling.

### Challenges

While sidewalks may be present, many of them do not meet today's ADA standards due to narrow widths or lack of curb ramps meeting ADA specifications. While streetlights and trees increase pedestrian comfort, when space is limited, they can become obstacles. Long crossing times and intimidating intersections, particularly along arterials, make it difficult for pedestrians to access key destinations across the county.

Narrow roadways and limited right-of-way make it challenging to implement separated bikeways. High traffic corridors are intimidating to most bicyclists. Gaps in the bikeway network make it difficult to choose bicycling as a safe and efficient commute choice. Lack of bikeways through intersections pose

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<sup>8</sup> *Highway Design Guidance Manual*, (March 2017) Commonwealth of Kentucky Transportation Cabinet. <https://transportation.ky.gov/Organizational-Resources/Policy%20Manuals%20Library/Highway%20Design.pdf>

a significant safety risk. The nation is faced with pressing issues affecting the quality of life and economic well-being of our residents. With increasing fuel prices, a growing interest in the health benefits of walking and bicycling, and the concerns of the impacts of vehicle emissions on environmental quality and climate change, active transportation's role in handling trips will be expanding in the future. Steep hills can make bicycling and walking difficult in some areas. Finally, Highway Road funds cannot be used to finance bicycle or pedestrian projects unless included as part of the roadway design such as sidewalks and bike lanes.

### Opportunities

Relatively small investments in walking and bicycling can help address fossil fuel consumption, reduce health-care costs via physical activity, and contribute to the economic well-being of local communities and individuals. Expanding and improving bicycle and pedestrian infrastructure means providing a multimodal transportation network that makes bicycling or walking viable modes of travel. That viability of active transportation is dependent upon ensuring that the pedestrians and bicyclists are safe, comfortable, and seamlessly connected whether they are crossing a street, navigating a bike lane, or walking down a well-maintained sidewalk.

Kentucky also has a dedicated walk/bike advisory board, the KY Bicycle and Bikeways Commission. This group receives dedicated funding for walk/bike projects through the sales of the Share the Road plates.

