RADCLIFF/ELIZABETHTOWN
METROPOLITAN TRANSPORTATION PLAN

2050
METROPOLITAN TRANSPORTATION PLAN

Planning for the transportation needs of the region.

Planning for the transportation needs of the region

January 2025

LINCOLN TRAIL AREA DEVELOPMENT DISTRICT
750 S. PROVIDENT WAY
ELIZABETHTOWN, KENTUCKY 42702-0604

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Radcliff/Elizabethtown Metropolitan Transportation Plan

January 2025

Preparation of this report has been financed by the Federal Highway Administration, the Kentucky Transportation Cabinet, and the Radcliff/Elizabethtown MPO. The financial assistance notwithstanding, the contents of this report do not necessarily reflect the official views or policies of all of the funding agencies. Accuracy of the information presented herein is the responsibility of the Radcliff/Elizabethtown MPO.

2050 Metropolitan Transportation Plan
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Resolution of the Policy Committee of the Radcliff/Elizabethtown Metropolitan Planning Organization Approving the 2025-2050 Metropolitan Transportation Plan

Whereas, Section 123, Title 23, USC requires a continuing comprehensive transportation planning process be carried on cooperatively in areas of more than 50,000 population and that the urban transportation planning process shall include development of a 20 year, fiscally balanced plan of transportation improvement projects; and

Whereas, the Policy Committee is the official decision-making body of the Radcliff/Elizabethtown Metropolitan Planning Organization (MPO) for the Radcliff/Elizabethtown Urbanized Area, and is responsible for developing a Transportation Plan; and

Whereas, the 2025-2050 Metropolitan Transportation Plan was developed by the Radcliff/Elizabethtown MPO and reviewed by the Kentucky Transportation Cabinet and appropriate federal, state and local officials; and

Whereas, the transportation planning process is being carried on in conformance with all Federal requirements and has been so certified; and

Whereas, the Radcliff/Elizabethtown Urbanized Area has been found to be in attainment of national air quality standards;

Therefore, be it resolved, that the MPO Policy Committee, at its regular public meeting on January 9th, 2025, approves the 2025-2050 Metropolitan Transportation Plan for the Radcliff/Elizabethtown Urbanized Area.

Chairperson

1-9-2025

Date

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Chapter 1

Introduction

Introduction

Purpose of the Metropolitan Transportation Plan (MTP)

The Metropolitan Transportation Plan, hereafter referred to as the MTP, is the cornerstone document of the metropolitan transportation planning process. Transportation legislation lists the development and maintenance of the MTP as a core function of a Metropolitan Planning Organization (MPO). The legislation directs the MPOs to develop and update a multimodal MTP for the metropolitan area covering a planning horizon of at least 20 years. The MTP works to present a focused approach for regional transportation planning. It defines goals and objectives for the development of the transportation system that provide an avenue for transportation policies, projects and solutions.

Components of the MTP include identification of existing regional transportation issues, projections of future transportation demand for regional transportation systems, and long-term, fiscally constrained transportation planning strategies for 2050. Projects are analyzed and prioritized based on reasonably available funding estimates. The MTP is multimodal, and it includes an analysis of the transportation network as a whole with chapters dedicated to roadways, public transportation, and bicycle and pedestrian facilities. Overall, this MTP is a regional document that defines the course for transportation investment over the next 25 years.

Metropolitan Transportation Planning Process

The Metropolitan Planning Organization

A Metropolitan Planning Organization (MPO) is a federally mandated transportation policy-making body that is made up of representatives from local governments and transportation agencies who have authority and responsibility within the metropolitan planning area (MPA).

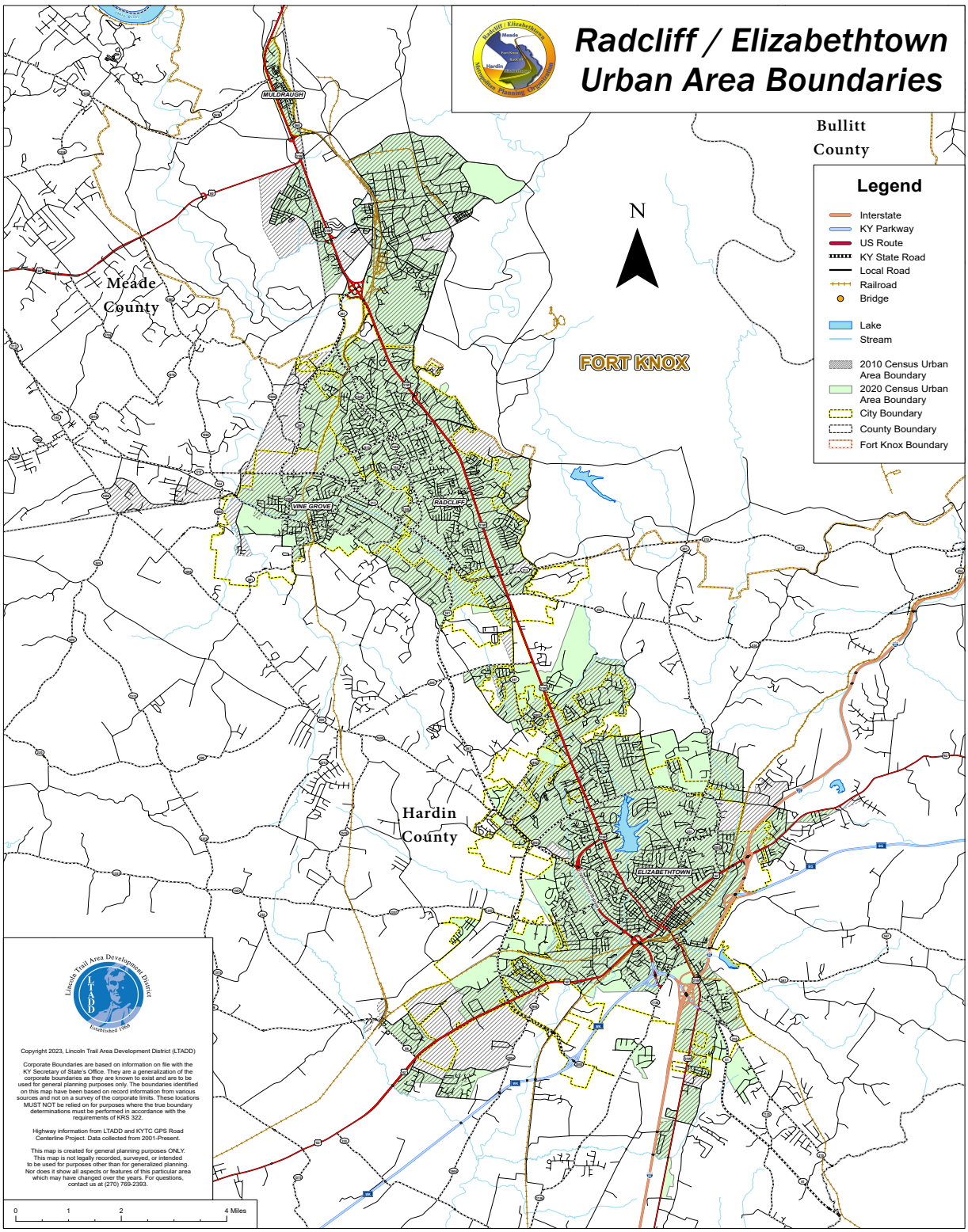
With the passage of the Federal-Aid Highway Act of 1962, Congress made metropolitan transportation planning a condition for receiving federal funds for transportation projects in urban areas with a population of 50,000 or greater. The Radcliff/Elizabethtown MPO was established in 2003. Following the 2000 census, the Census bureau designated the Radcliff/Elizabethtown area as an urbanized area. This required the formation of an MPO for the following communities:

- Elizabethtown
- Radcliff
- Vine Grove
- Fort Knox
- Portions of Unincorporated Hardin and Meade Counties

The Lincoln Trail Area Development District (LTADD) was designated as the administrative agency for the Radcliff/Elizabethtown MPO in 2003 by the Commonwealth of Kentucky, with approval by the United States Department of Transportation.

For simplification purposes, once established, the Radcliff/Elizabethtown MPO set its metropolitan planning area (MPA) to include all of Hardin and Meade counties. Hardin County includes the urbanized areas of Radcliff and Elizabethtown, and the incorporated cities of Sonora, Upton, West Point, and Vine Grove. Meade County includes the county seat of Brandenburg, and the incorporated cities of Ekron and Muldraugh. The MPO planning area also includes the Fort Knox Military Reservation. See figure 1 below.

Figure 1.1 MPO Urban Area Boundary



Metropolitan Planning Process

Metropolitan Transportation planning is the process of examining travel and transportation issues and needs in metropolitan areas. It explores connections between mobility, multi-modal transportation systems, environmental conditions, land use, and safety. It includes a demographic analysis of the metropolitan planning area, as well as travel patterns and tends. The planning process includes an analysis of alternatives to meet projected future demands, and for providing a safe and efficient transportation system that meets mobility needs while not causing adverse impacts on the physical environment.

The Federal-Aid Highway Act of 1962, and those that have followed, encouraged a continuing, cooperative, and comprehensive (3-C) transportation planning process. This 3-C process is conducted between MPOs, states and public transit providers in these urban areas. The MTP specifically incorporates the 3-C planning process because it evaluates all transportation modes (Comprehensive), coordinates with local, state, federal, and private agencies and individuals (Cooperative), and anticipates future needs with the long-range (25 year) approach (Continuing).

In addition to conducting the 3-C planning process and maintaining the MTP, MPOs are responsible for carrying out additional provisions of the current federal transportation legislation. These responsibilities include: regional transportation planning involving the public, project selection, alternative evaluation within the planning area, soliciting, prioritizing, and developing a 4-year Transportation Improvement Program (TIP), and developing an annual Unified Planning Work Program (UPWP).

Federal Requirements

As required by federal law, the MPO must prepare and update a Metropolitan Transportation Plan (MTP) for the transportation planning area. Aside from ensuring that the metropolitan transportation planning process is a 3-C process, the MTP must consider and implement projects, strategies, and services that will address the following ten (10) planning factors, 23 CFR 450.36:

1. Support the economic vitality of the metropolitan area, especially be enabling global competitiveness, productivity, and efficiency.
2. Increase the safety of the transportation system for motorized and nonmotorized users.
3. Increase the security of the transportation system for motorized and nonmotorized users.
4. Increase accessibility and mobility for people and freight.
5. Protect and enhance the environment, promote energy conservation, improve quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns.
6. Enhance the integration and connectivity of the transportation system for all modes.
7. Promote efficient system management and operation.
8. Emphasize the preservation of the existing transportation system.
9. Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation; and
10. Enhance travel and tourism.

Goals and Objectives

The MPO's Goals and Objectives are based on ten (10) planning factors in the federal transportation legislation. The goals and objectives provide focus and direction for the MPO's decision-making process as well as serve as a guide throughout the process of updating the MTP. They were most importantly utilized to evaluate and rank projects to determine which should be included in the 2050 MTP. This listing of goals and objectives follows below.

Radcliff/Elizabethtown Metropolitan Transportation Plan
Goals and Objectives

Vision

The vision of the Radcliff/Elizabethtown Metropolitan Planning Organization is to provide a safe and efficient transportation system that is inclusive of all modes of transportation and enhance the quality of life of the citizens of this region. A list of goals and objectives is required by 23 CFR 450.306.

Transportation Goals and Objectives

1. Promote Transportation Safety
    - Eliminate the number and severity of traffic accidents by improving existing and potential high crash locations in keeping with the Vision Zero Statements adopted by local jurisdictions.
    - Improve substandard roadway geometrics where necessary
    - Support and/or undertake public education programs to emphasize safety and promote safe driving practices
    - Provide improved conditions to enhance emergency services
2. Preserve Existing Transportation Facilities & Systems
    - Consider costs and benefits of improvements in the MPO planning process
    - Emphasize reconstruction and upgrades to existing highway systems
    - Apply access management principles to aid in preserving the existing highway network
    - Identify and implement minor construction and traffic operation improvements to improve traffic flow and safety
3. Provide an Efficient Transportation System
    - Reduce traffic congestion and improve travel times in the region
    - Plan for both existing and future travel demand
    - Promote cost efficiency in the implementation and/or operation of transportation facilities and/or improvements
    - Encourage the implementation of access management policies to improve the overall efficiency of the transportation system
    - Improve the overall capacity of the highway network
4. Enhance Connections Between Transportation Systems
    - Provide for frequent and convenient transfer between all modes of transportation

- Where justified, provide new highway connections to provide improved access and mobility for the overall transportation system in the area.
- Promote improved access to intermodal transportation facilities

5. Support Community Development & Economic Growth
    - Provide transportation service for areas of new growth and potential development
    - Provide transportation service to aid in preserving existing communities and developments
    - Where possible, provide transportation improvements to areas experiencing economic decline.
    - Improve the transportation network to enhance travel and tourism, including highway, transit, bicycle, and pedestrian improvements.
6. Increase access and mobility for the movement of freight
    - Provide new or improved transportation options and/or connections for economic centers that depend on freight
    - Provide transportation improvements that enhance the quality of life of traditionally underserved populations
7. Provide a Balance between development and quality of life
    - Recognize the need for transportation improvements, but be sensitive to environmental, social and cultural resources in doing so
8. Enhance alternatives to traditional automobile/highway travel, such as transit, bicycle, and/or pedestrian travel
    - Where possible and warranted, encourage the incorporation of bicycle/pedestrian facilities into major improvement projects.
    - Continue to pursue the need and possible implementation of public transportation of a public transportation system in the Elizabethtown/Fort Knox/Radcliff/Vine Grove area
    - Coordinate MPO planning efforts with the expansion of the local airport board.
9. Promote the security of the transportation system
    - Where and when possible, utilize intelligent transportation systems (ITS) to enhance the security, safety, and efficiency of the transportation network.
    - Improve the resilience and reliability of the transportation system by promoting improvements that allow the system to recover and regain functionality after a major disruption of disaster.
    - Support and encourage the utilization of TRIMARC's Notify Every Truck Program along the interstate 65 corridor.
    - Coordinate MPO Planning efforts with the district 4 Incident Management Team

Development and Content of the Metropolitan Transportation Plan (MTP)

The MTP must utilize the most up-to-date available, valid information and data to provide long- and short-range strategies and actions for the MPO planning area. The MTP must preserve and enhance the multimodal transportation system., and facilitate the safe and efficient movement of people and goods. The MTP must also address no less than a 20-year planning horizon.

- Projections of future demand of people and goods over the period of the plan (25 years);

- Inventory of existing and proposed transportation facilities, with emphasis on nationally and regionally significant factors
- Operational and management strategies that improve the efficiency and safety of the existing transportation system;
- Capital investment and other strategies that preserve the existing and future transportation system and improve multimodal capacity based on regional priorities and needs;
- Evaluation of environmental impacts and potential mitigation activities;
- Pedestrian and Bicycle facilities
- Transportation and transit enhancement activities
- A financial plan that demonstrates that the plan is fiscally constrained;
- Comparison of the MTP with state and local conservation plans and maps as well as natural and historic resource inventories, if available;
- A safety element that incorporates or summarizes the priorities, goals, and countermeasures, or projects for the MPO planning area contained in the state's Strategic Highway Safety Plan;
- Reasonable opportunity for the public and all relevant parties to review the MTP and to provide comments;
- Current and projected transportation demand for people and goods; and
- A system performance report evaluating the conditions and performance of the transportation system.

Air Quality Attainment

Currently, the Radcliff/Elizabethtown MPO Planning Area is in attainment with all Federal air quality regulations. An attainment area is an area considered to have air quality that meets or exceeds the U.S. Environmental Protection Agency (EPA) National Ambient Air Quality Standards as defined in the Clean Air Act Amendments.

However, the EPA periodically updates the air quality standards. In the future, the MPO could become a non-attainment area if standards are made more stringent or pollution increase in the region. In particular, the MPO must monitor 8-hour ozone.

Performance-Based Planning

Performance-based planning was mandated for all MPOs in the Moving Ahead for Progress in the 21st Century (MAP-21) transportation legislation. The performance-based planning requirements were carried over into the following transportation bill, Fixing America's Surface Transportation (FAST) Act. This was again carried over with the Bipartisan Infrastructure Investment and Jobs Act (IIJA) signed into law November 15th, 2021. The National Performance Goals laid out in transportation legislation are:

- 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 of the National Highway system
- System Reliability – To improve the efficiency of the surface transportation system
- Freight Movement and 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 goals by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

Performance-based planning and programming (PBPP), as established by CFR 450.306(d) refers to the application of performance management within the planning and programming processes of transportation agencies to achieve desired performance outcomes for the multimodal transportation system. PBPP attempts to ensure that transportation investment decisions are made – both in long-term planning and short-term programming of projects – based on their ability to meet established goals.

The Radcliff/Elizabethtown MPO is working with its regional, state, and Federal partners in order to meet with Federal requirements. This plan integrates the performance measure required by the FAST Act and more recently the IIJA.

Consistency with Other Plans and Programs

Federal law requires that the MTP is consistent with other plans, including:

- Statewide Transportation Planning Process
- Kentucky's Strategic Highway Safety Plan
- Other Safety and Security Plans
- Kentucky Freight Plan
- Statewide Transportation Improvement Program
- MPO's Transportation Improvement Program
- Coordinated Public Transit Human Services Transportation Plan (Section 5310 Program of the FTA)
- Intelligent Transportation Systems (ITS) Architecture
- Locally Adopted Planning Documents

The MTP was developed by reviewing relevant plans and including projects and recommendation from them, where possible. Roadway projects included in the Transportation Improvement Program (TIP) and state plans such as the KYTC Transportation Resilience Improvement Plan were analyzed during the MTP development process.

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Chapter 2

Public Involvement and Agency Consultation

2. Public Involvement and Agency Consultation

This chapter provides a brief overview of the community involvement activities undertaken for the 2045 Radcliff/Elizabethtown Metropolitan Transportation Plan (MTP). One aspect of the community involvement process was to obtain local input through the MPO Technical Advisory Committee (TAC). Through a series of TAC meetings, agency consultation, and a public survey, local citizens and representatives of local agencies and interests were able to provide input into the study process and ultimately into the development of the 2050 MTP. The public involvement process helped provide a study process and transportation plan that is responsive to local transportation needs, thus fostering a sense of local ownership of both the process and the plan. The MPO's public involvement plan can be found here: https://radcliff-elizabethtown-mpo.org/wp-content/uploads/2021/04/2021_Participation_Plan.pdf

Technical Advisory Committee

The Radcliff-Elizabethtown MPO Technical Advisory Committee (TAC) serves as the advisory group on technical decisions for the MPO. The TAC is responsible for recommendations regarding the type and extent of transportation improvements for the MPO. The transportation improvements are then submitted to the MPO Policy Committee for review and approval. Representatives from local planning agencies, city and county governments, Fort Knox, the Elizabethtown/Hardin County Airport Board, the Transit Authority of Central Kentucky (TACK), and the trucking industry currently serve on the TAC. A list of TAC members is shown in **Appendix A**.

This committee provided oversight and guidance for the Metropolitan Transportation Plan update by providing technical input and different local perspectives throughout the duration of the project. Six (6) meetings were held with the TAC on the following dates during 2024: February 7th, April 3rd, June 5th, August 23rd, September 19th, and December 4th.

Agency Consultation

The MPO Participation Plan contains a list of agencies that the MPO consults with concerning major developments in the transportation planning process. During the update of the MTP the MPO consulted with these local, state, and federal agencies through an email message requesting feedback into the plan update. As required by federal law, the MPO requested any available plans, maps, or inventories from local, state and federal agencies that the MPO should consider during the MTP update process. (No Comments were received.)

Public Review and Comment of the Metropolitan Transportation Plan (MTP)

The MTP was put out for public comment a review on November 12th 2024, through December 12th, 2024. The plan was made available on the MPO website and links to the plan were distributed across social media via both Facebook and X (Twitter).

No public comments were received.

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Chapter 3

Existing Transportation System

3. Existing Transportation System

Planning for the future transportation network and improvements to the system starts with evaluating what currently exists. This chapter provides an overview of the conditions and characteristics of the existing transportation system.

Roadways and Bridges

The roadway network and bridges are the backbone of the transportation system in the Radcliff/Elizabethtown urbanized area. As of November 2024, the state-maintained roadway milage in the planning area is 1769.99 lane miles or 689.721 centerline miles, with 169 state-maintained bridges.

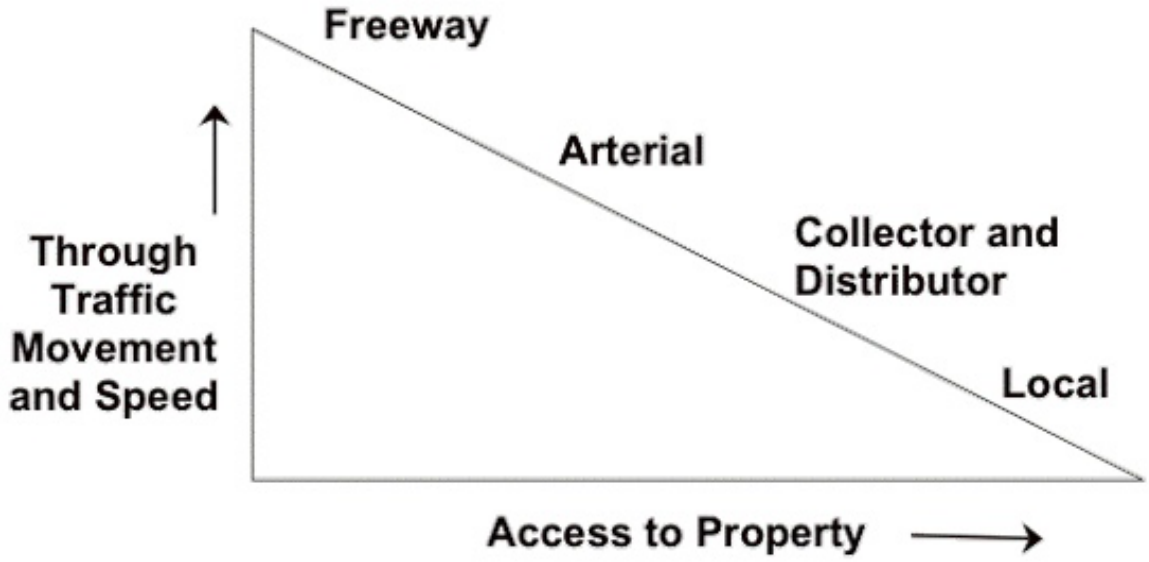
Table 3.1 Major Roadways

Route	Description
I-65	I-65 runs north-south from the Indiana State line to the Tennessee state line intersecting the MPO Planning Area.
Bluegrass Parkway	The BG Parkway begins in Elizabethtown at I-65 and runs east, terminating at US 60 in Woodford County.
Western Kentucky Parkway	The WK Parkway begins in Elizabethtown at its connection with I-65 and extends west through Hardin County terminating at I-69 in western Kentucky.
US 31W	US 31 W is a major north-south route extending from Nashville to Louisville. The route runs directly through the heart of the MPO planning area, providing access to many important locations including Elizabethtown, Radcliff, and Fort Knox.
US60	US 60 is a major east-west route through the United States extending from Virginia Beach at its eastern most terminus to its western terminus at I-10 in Arizona. In the MPO planning area, US 60 extends from the Meade/Breckinridge County line to US 31W near Fort Knox.
US62	US 62 runs from southwest to northeast from the U.S./Mexico border at El Paso, TX to Niagara Falls, NY. In the planning area, US 62 traverses Hardin County from the Grayson County line to the Nelson County line.
KY313	KY 313 is approximately 34 miles in length and extends from I-65 in the southern portion of Fort Knox in Hardin County and extends to the Matthew E. Welsh Bridge near Brandenburg. I-64 crosses about 18 miles north of Brandenburg in Corydon, IN, therefore, KY 313 provides a connection between I-64 and I-65, making it a major freight route through the MPO planning area. The route also intersects US 31W in Radcliff
KY361	KY 361 is an approximate 16.5-mile route that extends from US 31W in Elizabethtown to the Bullion Boulevard entrance into Fort Knox. The route was constructed as an alternative north-south route on the west side of US 31W to help alleviate traffic congestion along US 31W.
KY3005	KY 3005 (Ring Road) is a route in Elizabethtown that extends from the Western Kentucky Parkway on the west side to US 62 on the east side of the city. The route also intersects with US 31W and provides access to numerous commercial areas in Elizabethtown.

Highway Functional Classification

Each type of roadway serves a specific function in the highway network. Roadways are divided into functional classes based on their intended balance of mobility (speed) and access to adjacent land. Their designs vary in accordance with this functional classification. The diagram below demonstrates the hierarchy and function of each roadway type from Interstates/Freeways down to local streets.

Figure 2.1



Interstates

Interstates are the highest classification of Arterials and were designed and constructed with mobility and long-distance travel in mind. Since their inception in the 1950's, the interstate system has provided a superior network of limited access, divided highway offering high levels of mobility while linking the major urban areas of the United States.

Determining the functional classification designation of many roadways can be somewhat subjective, but with the Interstate category of Arterials, there is no ambiguity. Roadways in this functional classification category are officially designated as Interstates by the Secretary of Transportation, and all routes that comprise the Dwight D. Eisenhower National System of Interstate and Defense Highways belong to the Interstate functional classification category and are considered Principal Arterials.

Other Freeways/Expressways

Roadways in this functional classification category look very similar to Interstates. While there can be regional differences in the use of the terms 'freeway' and 'expressway', for the purpose of functional classification the roads in this classification have directional travel lanes are usually

separated by some type of physical barrier, and their access and egress points are limited to on- and off-ramp locations or a very limited number of at-grade intersections. Like Interstates, these roadways are designed and constructed to maximize their mobility function, and abutting land uses are not directly served by them.

Arterials

These facilities are important components of the overall transportation system. They serve as feeders to interstates and expressways, and as principal travel routes between major land use concentrations within the MPO planning area. Arterials are typically divided facilities (undivided where right-of-way limitations exist) with relatively high volumes of traffic and traffic signals at major intersections. The primary function of arterials is to move traffic; they are the main means of local travel. A secondary function of arterials is land access. Principal arterials often serve major centers of metropolitan areas and longer trips. Minor arterials provide service for trips of moderate length and are often smaller facilities. Minor arterials also offer connectivity to the higher arterial system.

Collectors

These facilities provide both land service and traffic movement functions. Collectors serve as intermediate feeders between arterials and local streets. They accommodate short distance trips. Since collector streets are not intended for long through trips, they are generally not continuous for any great length. Major Collector routes are normally longer, have lower driveway densities, higher speed limits, and larger traffic volumes than Minor Collectors.

Local Streets/Roads

Locally classified roads account for the largest percentage of all roadways in terms of mileage. They are not intended for use in long distance travel, except at the origin or destination end of the trip, due to their provision of direct access to adjacent land. They are often designed to discourage through traffic. Local Roads are often classified by default. In other words, once all Arterial and Collector roadways have been identified, all remaining roadways are classified as Local Roads.

Highway Systems

All highways are classified in the State System and the Functional Highways Classification System. Many area roadways are also part of the National Truck Network (NN) and the National Highway System. Below is a synopsis of the highway systems:

- Under KRS 177.020 the State Primary Road System classifies state-maintained roadways by the type of service and function they provide. 603 KAR 3:030 designates the following classes:

- State Primary System: Interstates, Parkways, and other long distance, high volume intrastate routes of statewide significance that generally link major urban areas within the state.
- State Secondary System: Regionally significant routes of shorter distance which provide mobility and access to land use activity, generally serving smaller cities and county seats within a region.
- Rural Secondary System: Routes of sub-regional significance which might include urban arterial streets and other collectors, often with access to land use activity such as farm-to-market routes as their main function.
- Supplemental Roads: All other state-maintained routes such as frontage roads, cross roads and local access roads such as farm-to-market routes as their main function.

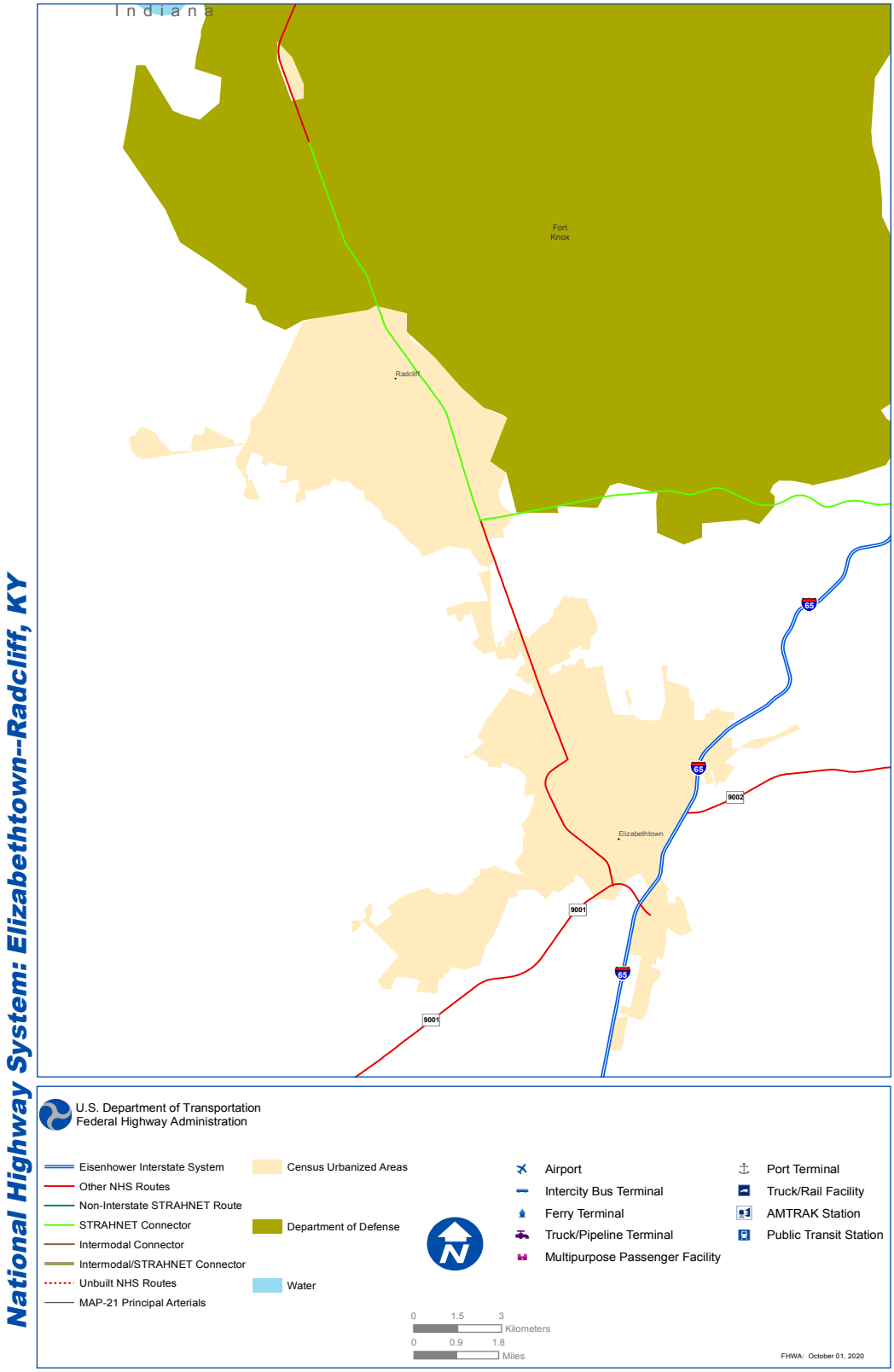
- The National Highway System consists of roadways important to the nation's economy, defense, and mobility. The National Highway System (NHS) includes the following subsystems of roadways (note that a specific highway route may be on more than one subsystem):

    - Interstate: The Eisenhower Interstate System of highways retains its separate identity within the NHS.
    - Other Principal Arterials: These are highways in rural and urban areas which provide access between an arterial and a major port, airport, public transportation facility, or other intermodal transportation facility.
    - Strategic Highway Network (STRAHNET): This is a network of highways which are important to the United States' strategic defense policy and which provide defense access, continuity and emergency capabilities for defense purposes.
    - Major Strategic Highway Network Connectors: These are highways which provide access between major military installations and highways which are part of the Strategic Highway Network.
    - Intermodal Connectors: These highways provide access between major intermodal facilities and the other four subsystems making up the National Highway System.

The National Highway System (NHS) includes the Interstate Highway System as well as other roads important to the nation's economy, defense, and mobility. The NHS was developed by the Department of Transportation (DOT) in cooperation with the states, local officials, and metropolitan planning organizations (MPOs).

The following routes are located on the National Highway System in the MPO planning area: I-65, Bluegrass Parkway, Western Kentucky Parkway, US 31W, US31 Bypass, and KY 313.

Map 3.1


National Highway System: Elizabethtown--Radcliff, KY
Indiana
Fort Knox
Radcliff
Elizabethtown
65
9001
9002
U.S. Department of Transportation
Federal Highway Administration
Eisenhower Interstate System
Other NHS Routes
Non-Interstate STRAHNET Route
STRAHNET Connector
Intermodal Connector
Intermodal/STRAHNET Connector
Unbuilt NHS Routes
MAP-21 Principal Arterials
Census Urbanized Areas
Department of Defense
Water
Airport
Intercity Bus Terminal
Ferry Terminal
Truck/Pipeline Terminal
Multipurpose Passenger Facility
Port Terminal
Truck/Rail Facility
AMTRAK Station
Public Transit Station
0 1.5 3 Kilometers
0 0.9 1.8 Miles
FHWA: October 01, 2020

- National Highway Freight Network (NHFN)

The Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law, replaced the Fixing America's Surface Transportation Act (FAST Act) in November of 2021. The IIJA continued the directive to FHWA from the FAST act mandating the existence of the National Highway Freight Network (NHFN) to strategically direct federal resources and policies toward improved performance of highway portions of the U.S. freight transportation system.

The NHFN includes the following subsystems of roadways:

- Primary Highway Freight System (PHFS): This is a network of highways identified as the most critical highway portions of the U.S. freight transportation system determined by measurable and objective national data. As of November 2024, The network consists of 41,799 centerlines miles, including 38,014 centerline miles of Interstate and 3,785 centerline miles of non-Interstate roads.
- Other Interstate portions not on the PHFS: These highways consist of the remaining portion of Interstate roads not included in the PHFS. These routes provide important continuity and access to freight transportation facilities. These portions amount to an estimated 10,265 centerline miles of Interstate, nationwide, and will fluctuate with additions and deletions to the Interstate Highway System.
- Critical Rural Freight Corridors (CRFCs): These are public roads not in an urbanized area which provide access and connection to the PHFS and the Interstate with other important ports, public transportation facilities, or other intermodal freight facilities.
- Critical Urban Freight Corridors (CUFCs): These are public roads in urbanized areas which provide access and connection to the PHFS and the Interstate with other ports, public transportation facilities, or other intermodal transportation facilities.

Prior to designation of CRFCs and CUFCs, the NHFN consists of the PHFS and other Interstate portions not on the PHFS, for an estimated total of 51,029 centerline miles.

States and in certain cases, Metropolitan Planning Organizations (MPOs), are responsible for designating public roads for the CRFCs and CUFCs in accordance with section 1116 of the FAST Act (Replaced by the IIJA Bipartisan Infrastructure Law). State designation of the CRFCs is limited to a maximum of 150 miles of highway or 20 percent of the PHFS mileage in the State, whichever is greater. State and MPO designation of the CUFC is limited to a maximum of 75 miles of highway or 10 percent of the PHFS mileage in the State, whichever is greater. Guidance in accordance with the FAST Act section 1116 will be developed to provide information on the identification, designation, and certification of these corridors.

I-65 is the only route in the MPO planning area on the NHFN.

- Kentucky Revised Statutes require weight limit restrictions on the state's highway system. There are three weight classification limits: 1) AAA – 80,000 lbs. gross vehicle

weight; 2) AA – 62,000 lbs. gross vehicle weight; and 3) A – 44,000 lbs. gross vehicle weight. The majority of study area routes evaluated in the planning study process are classified as AAA.

Geometric Characteristics

Geometric characteristics for major routes in the study area include the number of lanes, lane widths, shoulder widths, route speed limits, roadway type, terrain, and pavement condition. This information is summarized below:

- The majority of study routes have lanes between 9 and 12 feet in width.
- Shoulder widths vary between 0 and 12 feet throughout the metropolitan planning area.
- Posted Speed limits range from a low of 25 mph in some parts of the "urban" areas to 70 mph on interstates and parkways in the study area.
- The majority of area routes is undivided roadways.
- Terrain in the metropolitan planning area is mostly rolling, with some flat areas.

A variety of pavement types exist in the metropolitan planning area, including bituminous penetration, composite, high flexible, high rigid, and mixed bituminous.

Traffic and Operational Conditions

The traffic counts utilized for the purpose of this transportation plan update reflect 2024 data from the Kentucky Transportation Cabinet's (KYTC) Highway Information System (HIS) database. The traffic volumes, shown on the Average Daily Traffic map on page 26, represent the average daily traffic (ADT) along roadway segments for each of the highways analyzed for this plan. The greatest traffic volumes in the Radcliff/Elizabethtown MPO planning area occur along Interstate 65 and US 31W. The highest volume along I-65 is approximately 60,000 near the interchange with the Bluegrass Parkway. The intersection of US 31W and Ring Road has an ADT of over 35,000.

The traffic along I-65 is monitored continuously through the use of Automated Traffic Recorder (ATR) stations. On other routes, the KYTC conducts traffic volume counts along state roadways in Kentucky on a two-to-four-year cycle, depending on the roadway classification. Traffic volumes are estimated for routes when counts are not conducted in a particular year.

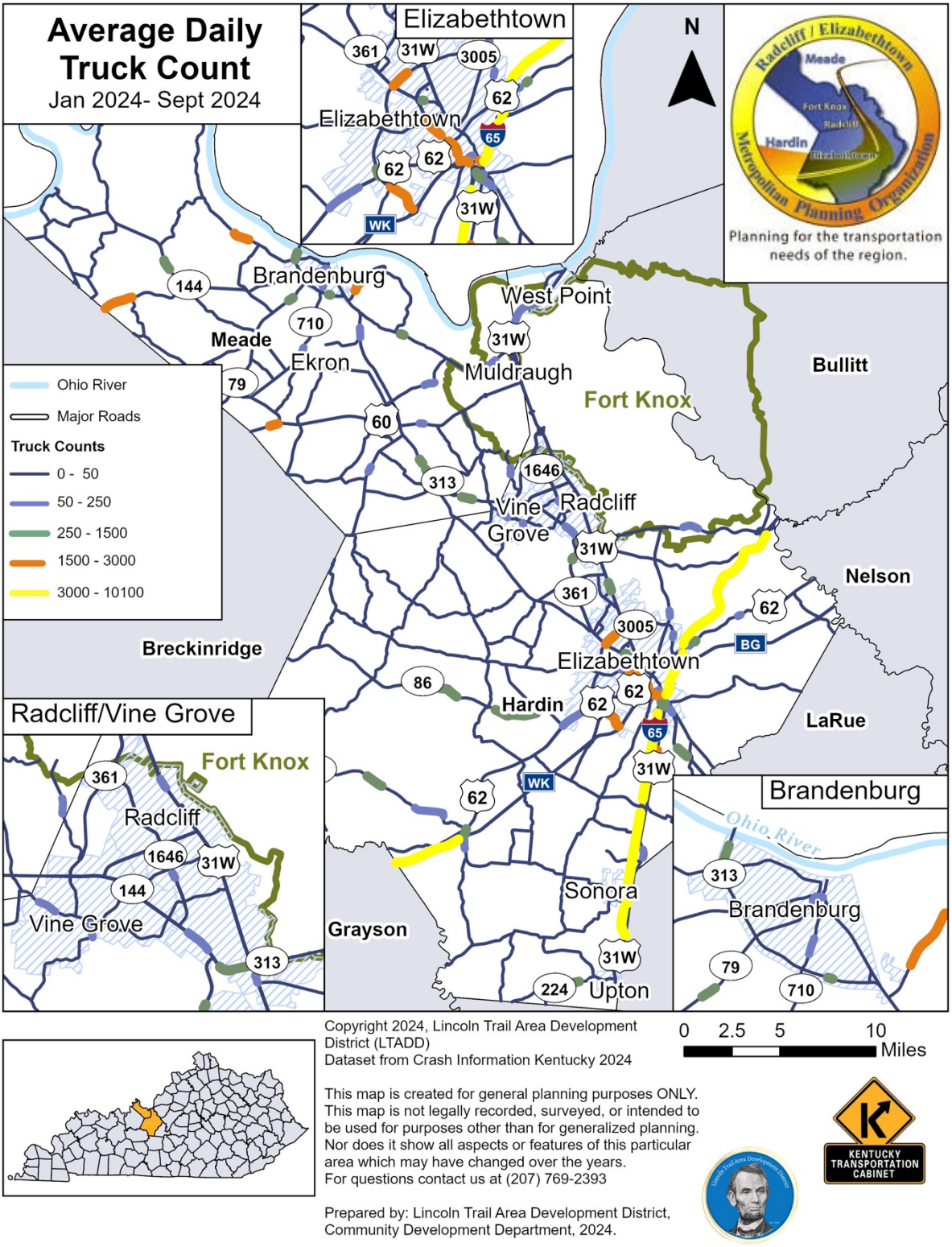
A new Travel Demand Forecasting Model (model) was developed in August 2024 for the Radcliff/Elizabethtown MPO planning area, which includes the Fort Knox military post. The model is calibrated to the 2022 base year and provides forecasts for future year 2050. The model incorporates the basic model structure of other small area models used by KYTC, including KYTC's preferred standard user interface (TransCAD) for managing scenarios.

Freight

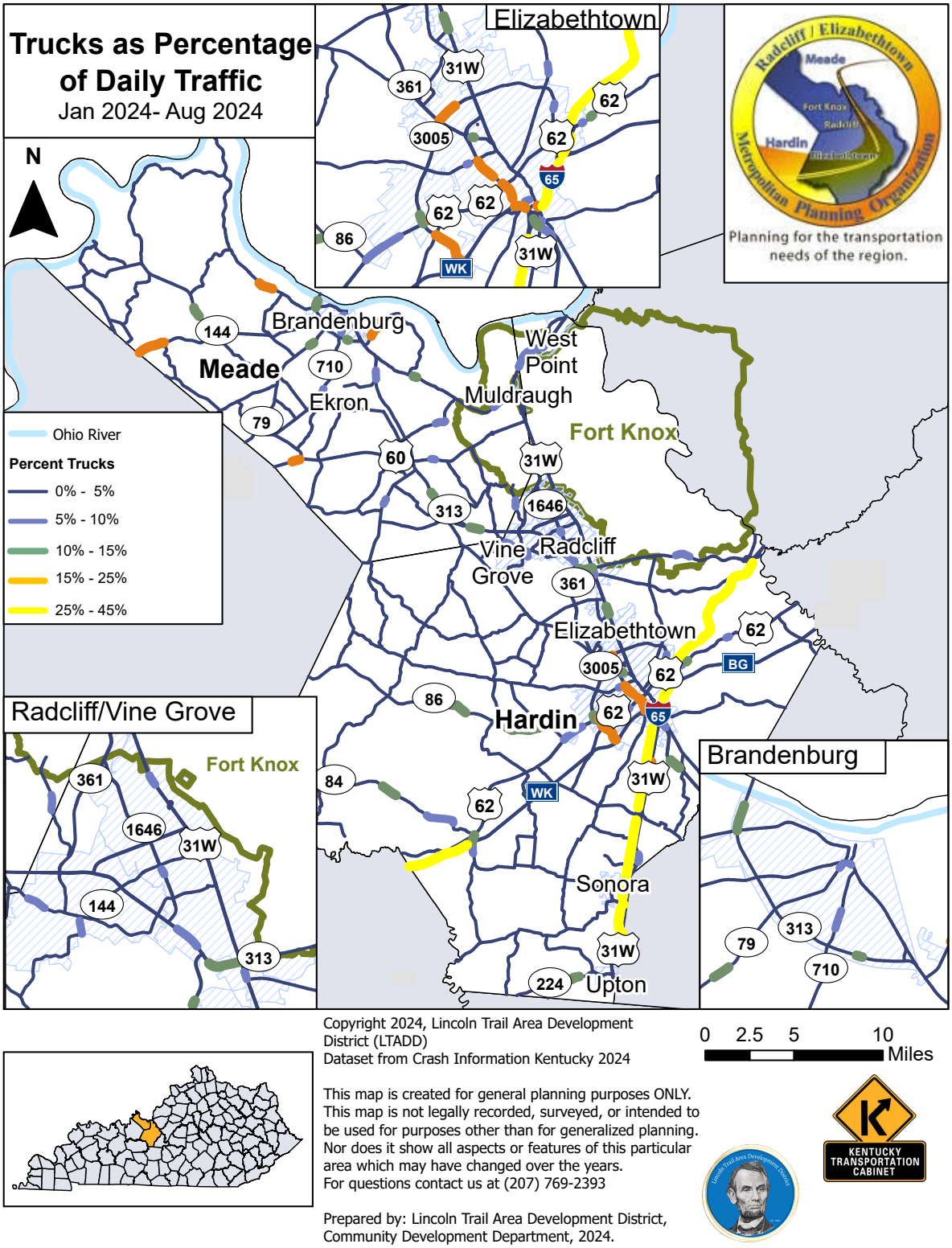
The movement of goods is an important component of the transportation system. As discussed below, the air, water, and rail modes play an important role in the movement of freight through the Radcliff/Elizabethtown area. According to the Federal Highway Administration's Freight Analysis Framework (FAF), almost three quarters of the shipments by weight within Kentucky were shipped via truck in 2020 (FHWA Freight Analysis Framework, Version 5, 2022). It is estimated that as much as 98% of freight movement in the MPO planning area is transported by truck. These figures are expected to remain steady over the next 30 years. This fact places tremendous importance on a highway network that can handle this level of freight movement. It also expresses the importance of improving these other modes of transportation to help take the strain off of the highway system. The MPO will promote projects that enhance freight movement by emphasizing both facility type and the percent of truck traffic in the project scoring process. An example of a project that have enhanced the movement of freight in the MPO planning area is the KY 313 improvements from KY 361 to KY 1638 in Meade County. With the new steel company, Nucor, locating in Brandenburg, truck traffic is expected to increase significantly along this route because it is a major connector between I-65 and I-64. It will be important to continue pursuing similar road projects through the region to accommodate additional development of this type. A more recent project that targeted towards this goal has been the reconstruction of the Glendale interchange near the new Blue Oval SK battery plant. The area is likely to see dramatic growth and a significant spike in truck traffic over the next 5 years and this project will hopefully help prevent traffic flow issues throughout the area going forward.

According to the Freight Analysis Framework Commodity Flows by State, the top commodities, by weight, transported in Kentucky include: coal, gravel, waste, scrap, and gasoline (FHWA Freight Analysis Framework, Version 5, 2022). The top products by value that are transported through the state include: motor vehicles, machinery, and transportation equipment. Truck percentages are shown on the map on page 27.

Map 3.2


Average Daily Truck Count
Jan 2024- Sept 2024
Elizabethtown
N
Radcliff / Elizabethtown Metropolitan Planning Organization
Planning for the transportation needs of the region.
Ohio River
Major Roads
Truck Counts
0 - 50
50 - 250
250 - 1500
1500 - 3000
3000 - 10100
Brandenburg
West Point
Meade
Ekron
Muldraugh
Fort Knox
Bullitt
Vine Grove
Radcliff
Nelson
Breckinridge
Elizabethtown
Hardin
LaRue
Radcliff/Vine Grove
Fort Knox
Radcliff
Vine Grove
Grayson
Sonora
Upton
Brandenburg
Ohio River
Brandenburg
0 2.5 5 10 Miles
Copyright 2024, Lincoln Trail Area Development District (LTADD)
Dataset from Crash Information Kentucky 2024
This map is created for general planning purposes ONLY. This map is not legally recorded, surveyed, or intended to be used for purposes other than for generalized planning. Nor does it show all aspects or features of this particular area which may have changed over the years.
For questions contact us at (207) 769-2393
Prepared by: Lincoln Trail Area Development District, Community Development Department, 2024.
KENTUCKY TRANSPORTATION CABINET

Map 3.3


Trucks as Percentage of Daily Traffic
Jan 2024- Aug 2024
N
Elizabethtown
Radcliff/Vine Grove
Brandenburg
Ohio River
Percent Trucks
0% - 5%
5% - 10%
10% - 15%
15% - 25%
25% - 45%
Meade
Hardin
Fort Knox
Brandenburg
West Point
Muldraugh
Ekron
Vine Grove
Radcliff
Elizabethtown
Sonora
Upton
Planning for the transportation needs of the region.
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Prepared by: Lincoln Trail Area Development District, Community Development Department, 2024.
0 2.5 5 10
Miles
KENTUCKY TRANSPORTATION CABINET

Safety Analysis

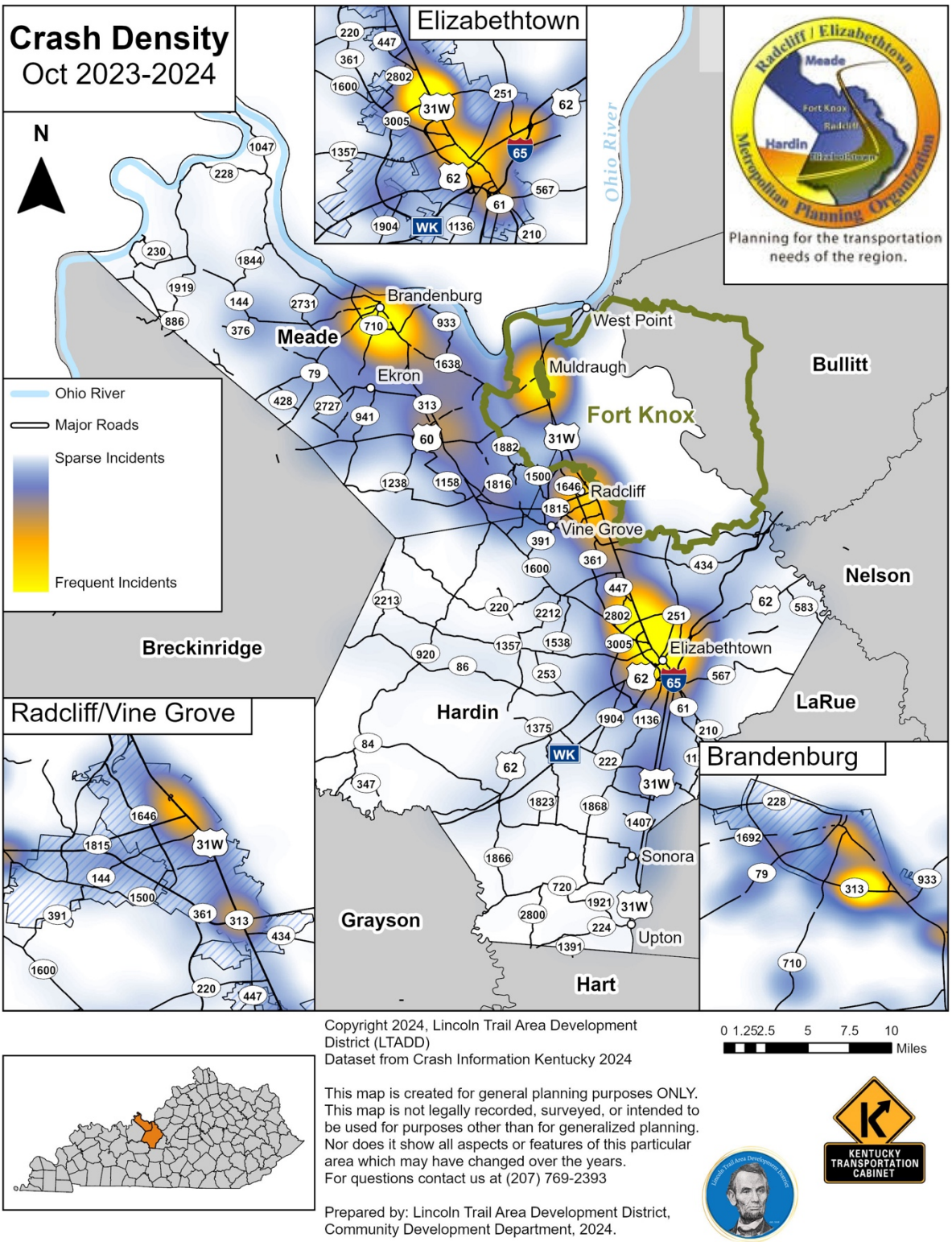
The Crash Density map on the next page provides a snapshot of crash densities with the two-county planning area based on data from the Kentucky State Police (KSP). As expected, the majority of crashes occur within the most heavily populated areas and those areas with the highest amount of traffic. Particular routes of concern include: I-65, US 31W, US 62, KY 3005 (Ring Road), KY 313, and KY 1051.

Based on 2020-2022 data from the Kentucky Office of Highway Safety Strategic Highway Safety Plan (SHSP 2020-2024), both Hardin and Meade counties rank in the top 40 counties for crashes involving serious injuries. Specifically, Hardin County ranks #4 and Meade County is #24. Likewise, both counties are in top 40 for traffic crashes involving fatalities. Hardin County is in the top 5 in this category at #3. Meade County ranks #20 in terms of fatal crashes (Kentucky Strategic Highway Safety Plan, 2020-2024). The table below details the past four years of available crash data, from the KSP Traffic Report, for Hardin and Meade Counties:

Table 3.2

2018-2022 Crash Data, Hardin and Meade Counties						
	Hardin County			Meade County		
Year	Total	Fatal	Injury	Total	Fatal	Injury
2018	3,047	20	486	404	4	129
2019	3,031	12	480	480	8	130
2020	2,225	15	371	379	6	92
2021	2,666	20	423	420	11	97
2022	2,631	20	417	414	9	119

Map 3.4


Crash Density
Oct 2023-2024
N
Ohio River
Major Roads
Sparse Incidents
Frequent Incidents
Elizabethtown
Radcliff/Vine Grove
Brandenburg
Ohio River
Radcliff / Elizabethtown Metropolitan Planning Organization
Meade
Fort Knox
Radcliff
Hardin
Elizabethtown
Planning for the transportation needs of the region.
Brandenburg
West Point
Muldraugh
Ekron
Vine Grove
Radcliff
Sonora
Upton
Meade
Bullitt
Fort Knox
Nelson
Breckinridge
Hardin
LaRue
Grayson
Hart
Copyright 2024, Lincoln Trail Area Development District (LTADD)
Dataset from Crash Information Kentucky 2024
This map is created for general planning purposes ONLY. This map is not legally recorded, surveyed, or intended to be used for purposes other than for generalized planning. Nor does it show all aspects or features of this particular area which may have changed over the years.
For questions contact us at (207) 769-2393
Prepared by: Lincoln Trail Area Development District, Community Development Department, 2024.
0 1.252.5 5 7.5 10
Miles
KENTUCKY TRANSPORTATION CABINET

Public Transportation

The Transit Authority of Central Kentucky (TACK) is the primary public transportation provider in the Radcliff/Elizabethtown MPO planning area. TACK has authorization to operate an urban public transit system under the Federal Transit Act of 1991.

CKCAC (Central Kentucky Community Action Council) began d.b.a. Transit Authority of Central Kentucky (TACK) in April 1994, at the request of the Kentucky Transportation Cabinet.

Effective 1 July 2003, the Elizabethtown/Radcliff area was determined to be an urbanized area and has a Metropolitan Planning Organization Designation. Due to this designation, Hardin and Meade counties are now within the urbanized area and TACK offers public transportation services to these areas under funding provided for by the US Code Title 49, Section 5307. In April 2012, TACK reorganized as a separate entity from CKCAC and is now organized as a public transit authority.

TACK currently offers the following public transportation services within the Radcliff/ Elizabethtown urbanized area: Medicaid Transportation Services, Senior Transportation Services, Veteran Transportation Services, Vanpool Services, Park and Ride Services, and transportation options for the general public and employees at Fort Knox. TACK's services are also available to persons with disabilities.

The MPO has studied the need for a fixed-route public transit system a couple of different times over the past several years. A study was conducted in 2013 through a contract with the Corradino group that proposed a three-route fixed route public transportation system with circulator routes in Elizabethtown and Radcliff/Vine Grove with a connecting route running north to south. At the time it was determined that implementation of such a system was not feasible based on the cost and the anticipated ridership. A second study, the REMPO Public Transportation Study was conducted more recently in 2024. This study proposed a similar route system with routes in Elizabethtown and Radcliff/Vine Grove and a connector route in between. The study has only more recently been completed but based on anticipated ridership and alternative funding mechanisms being proposed there seems to be more momentum for implementation this time around.

Bicycle/Pedestrian

Bicycle signage exists in several Elizabethtown neighborhoods; however, minimal system continuity or connectivity exists between neighborhood routes. A state-designated bicycle touring route exists in southern Hardin County along KY 84 and portions of KY 567, KY 1136, KY 1868, and some local roads. More recently KY 261 was constructed with a striped bicycle lane.

Since the early 1970's, Greenspace, Inc. has been developing a trail system in the Elizabethtown area with the ultimate goal of developing a complete greenbelt around the city. Saunders Springs is a 26-acre wooded area in Radcliff that includes hiking and walking trails. Meade County has trails along the Ohio River and Buttermilk Falls. Otter Creek Park also has trails for hiking,

horseback riding, and mountain biking. Otter Creek Park is a recreation area of the Kentucky Department of Fish and Wildlife and a fee is required for entering the park.

Existing sidewalks are available on many local streets and roads throughout the MPO planning area to encourage pedestrian travel, but they are not provided on many of the major study routes.

In 2016 and 2018, the MPO developed a Bicycle Facilities Plan and a Pedestrian Facilities Plan. These two plans provide recommendations for improvements to the Bicycle/Pedestrian system. The improvements are outlined in Chapter 7.

Airports

The Elizabethtown Regional Airport at Addington Field is a Class C2 general aviation airport. The airport has an 18,000 square foot general aviation terminal with maintenance and shops facilities. The Elizabethtown Regional Airport has a 15,000 square foot hangar for corporate aircraft storage. T-hangars are also provided for aircraft. The airport's runway is currently 6,001 feet long by 100 feet wide with a parallel taxiway.

The Elizabethtown Regional Airport is a very busy general aviation airport that supports business and industry locally and in surrounding communities. Business and industry jet aircraft utilizing the airport facilities currently exceeds 1,500 jet aircraft operations. The airport is also home to the aircraft and crews of Life Net Air Medical Services, a 24-hour emergency regional air medical evacuation service.

In more recent years, the Elizabethtown Airport Board (EAB), in response to numerous inquiries and in recognition of the substantial growth that is occurring throughout Central Kentucky, has embarked on a project to restore passenger airline service at the Elizabethtown Regional Airport. To accomplish this initiative, the EAB contracted with a consultant in 2006 to conduct a market feasibility study. A 24-county market area with a population of approximately 610,000 was identified.

Other phases of this project included regional outreach, airline recruitment, airport infrastructure issues, and passenger recruitment. The infrastructure needs identified include: completion of the Instrument Landing System, a rework and expansion of the safety area on Runway 23; necessary weight bearing loads for the runway, taxiway, and ramp areas; and the construction of a passenger terminal facility, which has been designed by a local architectural firm, all of which have now been completed.

The other airport within the Radcliff/Elizabethtown urbanized area is Godman Army Airfield on the Fort Knox Military Reservation. Godman is utilized primarily for military purposes. The Louisville International Airport is located approximately 40 miles from the Radcliff/Elizabethtown area and has numerous options for passenger air service. It is also the central hub for United Parcel Service's (UPS) national and international airfreight shipments.

Chapter 7 contains more information on proposed airport facility improvements.

Waterways

Kentucky is second to only Alaska in the number of miles of navigable waterways (Kentucky Water Transportation Corridors, Public Riverport Development and Intermodal Access, 2000). Kentucky has 1,090 miles of navigable waterways with the Ohio River making up the largest portion as it provides the entire northern boundary of the Commonwealth, including Meade County. The Meade County Riverport Authority was established in 2001 to begin the process of developing a riverport along the Ohio River near Brandenburg. The Meade County Riverport Board currently owns a 50-acre site just east of Brandenburg next to Arch Chemicals, Inc. In 2014, ground was broken for the construction of the regional port facility for area producers to market their grain, including specialty grain crops. The completed terminal has provided the agriculture community with a more economical way of processing and storing multiple commodities, separating specialty grains for export and loading commodities onto barges. The project included grain handling facilities and related equipment, including scale and sampling capabilities. The facility was designed in such a way so that future upgrades and expansion will be economical.

Railroads

Two major rail lines extend through the Radcliff/Elizabethtown urbanized area. CSX Transportation (CSX) is a Class I carrier that operates approximately 23,000 miles serving every major market east of the Mississippi River. Within Kentucky, CSX operates approximately 1,700 route miles, making it Kentucky's largest railroad company. One CSX rail line runs east west through Meade County and provides connection between Louisville and Henderson, KY. The other CSX rail line runs through Hardin County and provides connection between Louisville and Nashville. This rail line is also a part of the Strategic Rail Corridor Network (STRACNET) providing a connection between national military facilities.

The Paducah and Louisville (PAL) Railroad is classified as a regional carrier and operates approximately 270 miles of rail line within Kentucky between Paducah and Louisville. In Paducah, the PAL connects to the Burlington Northern Santa Fe and Illinois Central. Connections to Norfolk Southern Railway, CSX, and Canadian Pacific are provided in Louisville. Within the study area, the PAL passes through Hardin County in close proximity to Meade County along portions of the route. The PAL serves local industries, as well as Fort Knox. A portion of the line between Fort Knox and Louisville is designated as a STRACNET connector.

There are no major truck-rail intermodal transfer facilities within the Radcliff/Elizabethtown urbanized area. However, existing rail lines and highways provide connection to a variety of intermodal facilities in the Louisville area. In addition, it is anticipated that the proposed Meade County Riverport would have a rail connection and be served by CSX Transportation.

Overview of Performance Measures

The Moving Ahead for Progress in the 21st Century Act (MAP-21) signed into law in 2012, the Fixing American's Surface Transportation Act (FAST ACT) signed into law in 2015, and the

Infrastructure Investment and Jobs Act (IIJA) signed into law in 2021, require that all state departments of transportation and metropolitan planning organizations use a performance-based planning and programming approach as part of a Transportation Performance Management (TPM) program, transforming transportation decision making into a performance-driven and outcome-based process.

These Acts established national performance goals in several key areas: Safety, Pavement Condition, Bridge Condition, System Reliability, and Transit Asset Management. Within each of these broad performance management categories, state departments of transportation and metropolitan planning organizations (MPOs) are required to set specific performance targets. The targets for highway-related measures have been set by the Kentucky Transportation Cabinet (KYTC). The Radcliff/Elizabethtown MPO has approved the support of KYTC's performance targets by agreeing to plan and program projects that will help toward the achievement of these targets. The Transit Asset Management (TAM) targets were established by the Transit Authority of Central Kentucky (TACK) and, subsequently, adopted by the Radcliff/Elizabethtown MPO. The detailed performance measure targets for each of the specific areas are outlined below.

Safety

The Kentucky Transportation Cabinet (KYTC) developed performance targets for the following five areas of safety performance. KYTC utilized data from 2018-2022 to establish the targets for 2024. The MPO has approved a Resolution stating that the MPO concurs with and supports KYTC's safety performance measure targets by agreeing to plan and program projects, through the KYTC Strategic Highway Investment Formula for Tomorrow (SHIFT) and MPO Metropolitan Transportation Planning processes, so that they contribute toward the accomplishment of the safety targets.

Table 3.3 FY 2024 Safety Targets

FY 2024 Safety Targets				
	Baseline 2017-2021	FY2024 Targets	Baseline 2018-2022	FY2025 Targets
Number of Fatalities	765	757	761	745
Number of Serious Injuries	2800.6	2644	2764.6	1.54
Fatality Rate/100M VMT	1.556	1.560	1.568	2542
Serious Injury Rate/100M VMT	6.04	5.520	5.700	5.84
Non-Motorized Fatalities and Serious Injuries	293	297	297.8	311

Asset Management and System Performance

The Asset Management performance measures established by KYTC monitor both pavement and bridge performance. Pavement performance targets have been set for both interstate and non-interstate National Highway System (NHS) roadways and track the percentage of good and poor conditions for both. The bridge performance targets track the percentage of good and poor bridge conditions based on the deck area of the bridge. The System Performance targets analyze

travel time reliability for the both passenger and commercial vehicles on interstate highways and non-interstate National Highway System (NHS) routes. For commercial vehicles, the Truck Travel Time Reliability (TTTR) Index measures the reliability of roadways for commercial vehicle travel. For instance, a high TTTR might indicate that traffic congestion could cause a delay for on-time deliveries.

Just as with the Safety Performance Targets, the MPO has concurred with the Asset Management and System Performance targets established by KYTC. The MPO will plan for and program project improvements, through the KYTC Strategic Highway Investment Formula for Tomorrow (SHIFT) and MPO Metropolitan Transportation Planning processes, that contribute toward the accomplishment of these performance targets.

Table 3.4 Asset Management and System Performance Targets

Asset Management and System Performance Targets										
						Baseline			Target	
						Year	Data		2-Year	4-Year
Asset Management										
	Pavement Performance									
		% Good Interstate				2022	66.2		55	60
		% Poor Interstate				2022	0.9		4	3
		% Good Non-Interstate				2022	58.6		35	40
		% Poor Non-Interstate				2022	1.3		6	5
	NHS Bridge Performance									
		% Good Condition by Deck Area				2022	28.6		31	27
		% Poor Condition by Deck Area				2022	3.8		3.7	3.6
System Performance										
	Level of Travel Time Reliability (LOTTR)									
		% Reliable Interstates				2022	97.6		95.0	93.0
		% Reliable Non-Interstates NHS				2022	93.7		91.0	91.0
	Truck Travel Time Reliability (TTTR)					2022	1.26		1.30	1.35

Transit Asset Management

The Transit Authority of Central Kentucky (TACK) is the primary public transportation provider for the Radcliff/Elizabethtown metropolitan planning area, which includes Hardin and Meade Counties in Kentucky.

TACK established Transit Asset Management (TAM) Plan targets in accordance with Federal regulations enacted through the Moving Ahead for Progress in the 21st Century Act (MAP-21) for performance measures and target setting. It is the intent of these targets to improve transparency and accountability throughout the transportation planning processes. In July 2016,

the Federal Transit Administration (FTA) issued a final rule requiring recipients of FTA funds to maintain and document minimum Transit Asset Management (TAM) standards. The targets below will be updated annually for each asset category in order to achieve compliance with the federal regulations for State of Good Repair (SGR) targets.

The MPO established the TAM targets listed below from TACK's TAM Plan 4-year targets.

Table 3.5 TAM Targets

FY 2024 MPO Transit Asset Management (TAM) Targets				
Asset Category	Asset Class	2025 Target	2026 Target	2027 Target
Revenue Vehicles (% of vehicles that have met or exceeded their Useful Life Benchmark)	Articulated Bus	N/A		
	Automobile	N/A		
	Over the Road Bus	N/A		
	Bus	0%	75%	50%
	Cutaway Bus	23%	25%	25%
	Double Decker Bus	N/A		
	Ferryboat	N/A		
	Mini-Bus	N/A		
	Mini- Van	N/A		
	Rubber Tire Vintage Trolly	N/A		
	School Bus	N/A		
	SUV	N/A		
	Trolley Bus	N/A		
	Van	25%	25%	50%
	Transit Wagon	N/A		
	Custom 2	N/A		
	Custom 3	N/A		
Equipment	Non/Revenue/Service Automobile	N/A		
	Steel Wheel Vehicles	N/A		
	Trucks and other Rubber Tire Vehicles	N/A		
	Custom 1	N/A		
	Custom 2	N/A		
	Custom 3	N/A		
Facilities	Administrative	0%		
	Maintenance	N/A		
	Parking Structures	N/A		
	Passenger Facilities	N/A		
	Custom 1	N/A		
	Custom 2	N/A		
	Custom 3	N/A		

Planning for the transportation
needs of the region.

Chapter 4

Socioeconomic, Land Use, and Environmental Issues

4. Socioeconomic, Land Use, and Environmental Issues

The development of a long-range vision for the regional transportation system requires an accurate view of the socioeconomic and environmental conditions of the planning area. This chapter provides an overview of the current and projected socioeconomic data for the MPO planning area. A Title VI analysis, a discussion of land use conditions, environmental and cultural resources, and environmental mitigation measures are also included in this chapter.

Demographics

The population of the MPO planning area has increased by 5.7% since the last MTP update according to U.S. Census Bureau estimates. The Kentucky Data center estimates that the population will continue to grow to 158,560 by 2050 (Table 2). Considering the population is expected to grow by approximately 20,000 people over the planning horizon, future population growth is likely to have a significant impact on the transportation system. With the development occurring at the Blue Oval SK site in Glendale, the population growth could quickly become even more rapid and even more impactful, especially considering the amount of traffic that will likely be commuting to the site and surrounding areas.

The population growth in Meade County over the last few years has likely been caused by the construction of the Nucor, steel factory near the Meade County Riverport. It has had an impact on both population growth as well as vehicular and truck traffic along KY 313 and other routes between Interstate 65 and Brandenburg. The MPO has been keeping a close eye on these impacts to determine proper improvements to the transportation network to help maintain and facilitate this growth.

Population will play a key role in the transportation planning process over the planning horizon of this MTP. Population characteristics for the MPO area are outlined in Tables 1 through 3 below. The socioeconomic data in these tables was originally based on Census estimates and estimates developed by the Kentucky State Data Center. However, based on expected changes resulting from the Blueoval Sk Development, these estimates and projections may need to be revisited in the near future.

Table 4.1 - Annual Estimates of the Resident population for Kentucky and Counties: 2020-2023						
	2020		Population Estimates			
	Census	Estimate Base	2020	2021	2022	2023
Kentucky	4,508,836	4,508,836	4,505,836	4,509,394	4,512,310	4,526,154
Counties						
Hardin	111,309	111,309	111,309	111,607	111,862	112,273
Meade	28,616	28,616	28,616	29,735	29,964	30,131
Total	139,925	139,925	139,925	141,342	141,826	142,404
Source: U.S. Census Bureau						

Table 4.2 - Total Population, Census 2020, Projections 2025-2050 Kentucky and Counties								
	Census 2020	Estimate 2022	Projections					
			2025	2030	2035	2040	2045	2050
Kentucky	4,505,836	4,512,000	4,580,836	4,641,150	4,686,067	4,721,118	4,750,369	4,785,233
Counties								
Hardin	111,309	111,862	115,110	118,974	122,367	125,394	128,130	130,771
Meade	28,616	30,001	30,277	30,300	30,027	29,508	28,756	27,789
Total	139,925	141,863	145,387	149,274	152,394	154,902	156,886	158,560
Source: Kentucky State Data Center, University of Louisville								

Table 4.3 - Annual Estimates of the Resident Population for Incorporated Places in Kentucky						
Population 2020-2023					Population Change	
	Census	Population Estimates			2020-2023	
	2020	2021	2022	2023	Number	Percentage
Kentucky	4,508,836	4,509,394	4,512,310	4,526,154	17,318	0.38%
Brandenburg	2,875	2,913	2,929	2,962	87	3.03%
Ekron	175	173	173	185	10	5.71%
Elizabethtown	31,433	31,931	31,892	32,978	1545	4.92%
Muldraugh	1,036	1,032	1,019	1,014	-22	-2.12%
Radcliff	22,953	22,942	22,953	23,042	89	0.39%
Sonora	564	566	568	565	1	0.18%
Upton	702	707	713	710	8	1.14%
Vine Grove	6,560	6,700	6,880	6,907	347	5.29%
West Point	944	943	942	1071	127	13.45%

Title VI Analysis

In 1994, President Clinton issued an Executive Order to address Environmental Justice in minority and low-income populations. The Executive Order focused attention on Title VI of the Civil Rights Act of 1964, which states, "No person in the United States shall, on the ground of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." The Executive Order provided that "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." In support of the Executive Order, the United States Department of Transportation (DOT) issued an Order on Environmental Justice in 1997, followed by a Federal Highway Administration (FHWA) Order on Environmental Justice in 1998.

Over the years, US DOT and FHWA have encouraged a proactive approach to the implementation of Title VI, aimed at preventing discrimination in its programs, policies, and activities. This proactive approach can reduce conflicts and also reinforce compliance with other related requirements; such as, the National Environmental Policy Act (NEPA) of 1969 (which addresses social and economic impacts), and public involvement in statewide and metropolitan planning and project development. The Socioeconomic Data related to Title VI can be found in Appendix B.

The total population of the Radcliff/Elizabethtown MPO “Urbanized Area” is 78,211 based on the 2020 Census. The MPO “Planning Area” is comprised of Hardin and Meade counties, which have 2020 population estimates of 111,309 and 28,616 respectively for a total MPO planning area population of 139,925.

An analysis of the population shows that nearly 83% of the population in the MPO planning area is white. Hardin County has an African-American population at 12.4%. The African American population in the MPO planning area is a little over 10.5%. All other races in the planning area represent around 7% of the total population. The male-female breakdown in the MPO area is nearly 50/50.

The evaluation of language skills within the Radcliff/Elizabethtown MPO planning area shows a little over four (4.4%) percent of the population speaks English less than well. Likewise, the analysis of literacy skills illustrates that less than three percent (2.58%) of the population has less than a 9th grade education. According to Census 2020 figures, 23.28% percent of the population in the MPO area has some form of disability. This amounts to 25,078 persons, 19,797 in Hardin County and 5,281 in Meade County. The poverty level of persons age 18 and over in the MPO planning area is 11.31%, a total of 12,1081 persons. The percentage of persons below the poverty level in Meade County is 11.79%, while Hardin County is 11.17 percent. These numbers are lower than the state and on par with national averages.

Finally, the assessment of occupied housing units with no vehicle shows that 1,226, or 2.23%, of occupied housing units do not have a vehicle. This compares to 2.01% for the state overall and over 2.11% in the United States.

The data from the Title VI analysis gives the MPO a snapshot of the populations that should be considered from targeted outreach for public involvement and consultation. While the majority of the figures in this analysis show that the MPO area falls below state and national averages, the MPO will make efforts to be sure that everyone in the community is given ample opportunity to comment on MPO plans and programs. The tables in Appendix B highlight these figures.

Land Use and Development

Land use patterns vary widely across the MPO planning area. While population and development densities are centered around the cities of Elizabethtown, Radcliff, Vine Grove, Fort Knox, and Brandenburg, there are areas within both Hardin and Meade counties that are very rural in nature. Residential, commercial, and industrial development is sprawling throughout the planning area, which requires most citizens to drive their personal vehicles to reach their desired destinations, whether it be their job, shopping, medical facilities, etc. This demonstrates the interconnectedness of land use and transportation.

Transportation and land use are interwoven in a continuous cycle. The construction or improvement of roadways improves accessibility, which leads to development, which increases traffic demand, and so on. Land use development plays a prominent role in the development of the Metropolitan Transportation Plan (MTP). Local development patterns were discussed and documented as part of the update of the travel demand model. Discussions with local planning officials have taken place throughout the development of the MTP through the MPO's Technical Advisory Committee (TAC). This has helped to ensure that the transportation plan was sensitive to current land use, current and foreseen development trends, and desired future land use of the area. Beyond the travel demand model, local land use officials played prominent roles in the development of the following elements of the MTP, including the identification and prioritization of proposed improvement projects and development of the recommendations.

One of the critical issues discussed in the original MTP for the Radcliff/Elizabethtown MPO was communication between transportation and land use decision-makers. Throughout the years, the MPO has fostered this communication which is demonstrated in memorandum of understandings that have been developed for US 31W and KY 361 (Patriot Parkway). As development occurs, the MPO will continue to play a prominent role in the coordination of the transportation and land use discussions.

Environmental Mitigation Measures

The implementation of transportation is the responsibility of the Kentucky Transportation Cabinet. As projects advance into the preliminary engineering and environmental stage, KYTC will determine proper environmental mitigation measures to reduce the impact of a transportation project on the surrounding natural and human environment. The following is an overview of mitigation measures employed by KYTC.

Transportation projects may impact elements of the natural and human environment. Kentucky incorporates measures to minimize or mitigate those impacts that cannot otherwise be avoided. Mitigation measures vary depending upon resource affected, severity of impact, and other factors.

Kentucky has successfully created advance wetland mitigation sites across the Commonwealth. The objective of this has been to develop a "wetland bank" within each major watershed to offset wetland impacts within that region. Over 300 acres of wetlands have been restored by KYTC through this mitigation initiative. Credits generated from these activities are used by KYTC to offset impacts authorized under 404 permits issued by the US Army Corps of Engineers and 401 Water Quality Certifications issued by the Kentucky Division of Water. A similar program for mitigation of stream impacts related to Transportation projects is currently being implemented by KYTC. Furthermore, Best Management Practices (BMP) are applied to construction projects in order to minimize the impacts of erosion and sedimentation on streams.

KYTC follows its established Noise Policy in assessing the noise impacts of its projects on adjacent properties. When impacts are determined to exceed established threshold criteria and when economically justifiable, mitigation measures are incorporated within developing projects. These measures may include the construction of noise walls, installation of insulating materials in affected buildings, or minimization techniques such as alignment adjustment, lowering of grades into cut sections, construction of berms, etc.

Evaluation of historic properties in accordance with the National Historic Preservation Act is conducted for developing projects. When impacts are unavoidable, mitigation and minimization measures including, but not limited to, documentation of affected structures, enhancement and/or preservation initiatives, etc., are undertaken. Concerns for the loss of historic bridges have prompted KYTC to initiate an update of the statewide Historic Bridge Inventory. Important archaeological resources, eligible for the National Register for their data content, are investigated for the furtherance of our understanding of past cultures. Such investigations routinely include a public education component to disseminate the information gathered to the general public.

The KYTC and US Fish and Wildlife Service have worked cooperatively to address impacts to the Indiana bat that may result from KYTC projects. The Indiana Bat Conservation Fund has been established for the advancement of meaningful preservation or protective measures, research, etc. for this species. Funds are deposited within the fund based upon summer habitat loss resulting from transportation projects. KYTC also routinely consults with Federal, State, and local agencies concerning the impacts of transportation projects on their conservation plans or maps. An example of such a plan is the "Kentucky Comprehensive Wildlife Conservation Strategy" developed by the Kentucky Department of Fish and Wildlife Resources.

Summary

As projects progress, environmental justice issues will be evaluated based on proximity to the proposed improvement(s). There are many sensitive social, community, environmental, and cultural resources in the study area that have special significance for the region. These issues

will also need to be addressed in any future project development phases resulting from the 2050 Metropolitan Transportation Plan.

Planning for the transportation needs of the region.

Chapter 5

Travel Demand Model

5. Traffic Model Technical Document Summary

Overview

The Travel Demand Forecasting Model (model) was updated for the Radcliff/Elizabethtown MPO Planning area, which includes the Fort Knox military post. The model was calibrated to the 2022 base year and provided forecasts for future year 2050. The model incorporates the basic model structure of other small area models used by KYTC, including the KYTC's preferred standard user interface (TransCAD) for managing scenarios.

The traffic model is referred to as the Hardin/Meade model. Hardin County is broken down into 691 traffic analysis zones (TAZs), while Meade County has 156 TAZs for a total of 847 zones. In order to capture potential diversion due to congestion in the model, external TAZs, outside of Hardin and Meade Counties, were evaluated as a buffer area around the two MPO counties. These external zones are in Breckinridge, Bullitt, Grayson, Hart, Jefferson, Larue, and Nelson Counties.

The US Census Bureau is the main data source for the Hardin/Meade model data. Census data from 2020 was utilized to obtain critical population and household characteristics for the traffic model. For the Hardin/Meade model, census block information was obtained from the US Census Bureau and the TAZs were developed from the most recent Census Block geography. The data utilized includes: population, household units (total), housing units (occupied), and housing units (empty). Other data utilized in the development of the traffic model includes: American Community Survey (ACS), Woods and Poole Data, Employment Data (KY Workforce Cabinet), School Data from the National Center for Education Statistics (NCES), and Kentucky Data Center (KSDC). Although not currently open, the new battery plant in Hardin County was included (4000 new employees) in the base year model runs.

Model Description

The Hardin/Meade travel demand model that utilizes TransCAD standard user interface to complete a model run, or a particular step during the modeling process. There traffic modeling process stages are as follows:

- Initialization
- Trip Generation
- Distribution to Assignment (including feedback loop)

Initialization

The initialization stage calculates highway speeds and capacities on a link-by-link basis, and updates the network database. TransCAD then builds the binary network file required for subsequent steps. All output files for the model are placed in the output folder defined in the graphical user interface (GUI). The initialization stage should be run for a new alternative, and each time that change is made to any portion of the network.

Trip Generation

Trip generation is step one in the traditional 4-step model approach. A trip generation model estimates the number of trip-ends generated for each zone in the model. Only trips with both ends in the modeled area are counted. A separate external model is used to account for trips external to and through the modeled area. The number of trips estimated is based on socioeconomic characteristics such as the number of persons, households, autos, and the employment for each zone. The estimate is based on an average weekday number of trips. A trip rate is applied to these socioeconomic values to calculate trip ends by trip purpose.

Trip Distribution/Time of Day

The trip distribution model pairs, or connects, estimated productions and attractions by TAZ to each other. The resulting output is a trip table or matrix of trips from every zone to every other zone for each of the trip purposes specified in the model. In addition to productions and attractions by zone, the trip distribution model uses a travel time impedance for the distribution of trips.

The trip distribution model structure applied for the Hardin-Meade MPO model is the standard gravity model. In general, the "gravity" model suggests that the number of trips from one TAZ to another is proportional to attractions at the attraction TAZ and inversely proportional to the travel impedance between the two TAZs.

For the truck model, the trip distribution model was applied using gamma coefficients. The average travel time for each truck purpose was considered reasonable with respect to truck type and expected relationships between truck type. Comparisons to secondary sources show a reasonable comparison for light trucks. The average travel time for medium trucks shows a high variation in comparison to secondary sources, and the average travel time for heavy trucks is slightly high in comparison. As with trip generation, final validation was conducted by comparing model estimated truck trips to observed truck counts in the Hardin-Meade network. Based on this comparison, further modifications were not made to the medium and heavy truck trip distributions.

Feedback

To account for feedback and congestion, in the first iteration, time is simply the free-flow (unloaded) travel time from the network based on distance and free-flow speed. In subsequent iterations, MSA (method of successive averages) time is used. The MSA time is calculated inside Caliper's highway assignment macros and is the result of the MSA flow, the roadway link capacity, and the volume delay function.

The MSA process nearly guarantees convergence of the travel time matrices within a reasonable number of iterations. For use in the gravity model, intrazonal travel times and terminal times are added to the impedance.

Trip Assignment

The final step in the travel demand model is trip assignment. This is the process of assigning the zone-to-zone trips to the individual links in the highway network. This step is performed iteratively with overall model calibration and validation. When overall model calibration and validation is achieved, as measured by established performance measures, the trip assignment step provides the data needed for:

- Testing alternative transportation plans
- Establishing priorities between different transportation investment strategies
- Analyzing alternative locations for roadway improvements
- Forecasting design volumes needed to adequately design and construct new roadway facilities

The dependability of the output from this step is dependent upon the reliability of all the proceeding steps.

Highway trip assignment was performed separately for the AM peak (6:00 am – 9:00 am), Midday period (9:00 am – 3:00 pm), the PM peak period (3:00 pm – 6:00 pm), and the Night period (6:00 pm – 6:00 am). Trucks are assigned in one "all or nothing" assignment and are essentially preloaded on the network. The passenger car equivalents included in the model are used to account for the trucks during the auto assignment (which is capacity constrained). At the end of the assignment procedure, the time period assignments are assumed to produce a daily traffic assignment.

Traffic Model Results

The Radcliff/Elizabethtown traffic model shows 4,283,384 vehicle miles of travel in the MPO planning area in 2022. The VMT is expected to grow to 5,519,338 by the end of the planning cycle of this plan. This represents a 28.1% increase in VMT and demonstrates the importance of investing in the transportation system in this Radcliff/Elizabethtown area. The projects identified in Chapter 7 will have a tremendous impact on the safety and efficiency of the highway network over the next 25-year period, therefore, it will be very important for the MPO to continue to focus on moving these projects forward over the next several years.

Planning for the transportation
needs of the region.

Chapter 6

Metropolitan Transportation Plan Development

6. Plan Development

This chapter provides an overview of all of the elements that have gone into the development of the 2050 Radcliff/Elizabethtown Metropolitan Transportation Plan (MTP). The process includes the development of MPO goals and objectives, a review of projects in the current KYTC Highway Plan, the development of highway improvement alternatives, past studies conducted by the MPO, public feedback, evaluation and ranking of projects, and the process for selecting recommended improvements for the MTP.

Goals and Objectives

The MPO's Goals and Objectives are outlined on pages 11-14 in Chapter 1 – Introduction of the MTP. The goals and objectives are based on the ten (10) planning factors in the federal transportation legislation, Fixing America's Surface Transportation (FAST) Act, replaced by the IIJA Bipartisan Infrastructure Law. The goals and objectives provide focus and direction for the MPO's decision-making process. The goals and objectives have served as a guide throughout the process of developing the 2050 MTP. They were most importantly utilized to evaluate and rank projects for the 2050 MTP.

KYTC Highway Plan

To address needs on the state and federal highway systems, the development of the Radcliff/Elizabethtown MTP included a review of the KYTC Highway Plan, which was approved by the Kentucky General Assembly in spring 2024. The Highway Plan is KYTC's official programming document and is part of the state budget. The Plan is updated by the legislature every two years and is therefore a constantly changing document. Project funds are scheduled and set aside for improvements listed in the first two years of the Plan and estimated, subject to change, for the latter years of the Plan.

KYTC Continuous Highway Analysis Framework (CHAF)

The remainder of the projects considered for the 2050 MTP are found on KYTC's Continuous Highway Analysis Framework (CHAF) database. The CHAF database is a compilation of highway project needs for all counties in Kentucky. The CHAF database contains project descriptions, cost estimates, and local/regional/Highway District priorities. The list of projects in CHAF are the basis for the Statewide Transportation Planning process and projects are prioritized every two years by local entities, Area Development Districts (ADDs) and MPOs, and the KYTC Highway Districts through the KYTC Strategic Highway Investment Formula for Tomorrow (SHIFT) process. The prioritization of CHAF projects occurs the year prior to the development of the new Highway Plan that was discussed in the section above. Based on the number of projects identified in the Radcliff/Elizabethtown MPO planning area and the projected funding over the next 25 years for the planning area, all MPO projects were included in this version of the MTP. These projects are found in Chapter 7 of the MTP.

Evaluation and Scoring Process for Highway Projects

The Radcliff/Elizabethtown MPO Technical Advisory Committee (TAC) developed an evaluation and scoring process to assist in the ranking and scheduling of projects in the 2050 Radcliff/Elizabethtown Metropolitan Transportation Plan (MTP). The evaluation and scoring process is based on the MPO goals and objectives with some additional criteria added for project priority, feasibility, and benefit versus cost. The values in the table below comprise a composite score for all projects evaluated for the 2050 Metropolitan Transportation Plan.

Table 6.1 Project Prioritization Criteria

Project Prioritization Criteria

Criteria	Rationale		Maximum Points	MPO Goal Addressed
Traffic / Facility Type	Prioritize projects that reduce congestion.	30k+ or Interstate/Parkway = 15 20k+ or Principal Arterial = 12 10k+ or Minor Arterial = 9 5k+ or Collector = 6 Less than 5k or Local = 3	15	3
Improve Safety	Encourage projects that improve the safety of the highway network. Either project has been specifically identified as a Safety improvement project or qualitative assessment based on crash data.	Safety Improvement Project = 20 Considerable Safety Benefits = 20 Moderate Safety Benefits = 15 Mild Safety Benefits = 10 Minimal Safety Benefits = 5 No Safety Benefits = 0	20	1 & 9
Improve Freight Movement	Encourage and prioritize projects the benefit the movement of freight.	**Truck Traffic** 25% or Greater = 10 20-25% = 8 15-20% = 6 10-15% = 4 <10% = 2 No Data = 0	10	5 & 6
Local Priority	Prioritize projects that have received local support through the KYTC SHIFT process.	Project Boosted in SHIFT = 15 Project Sponsored in SHIFT = 10 Project Not Sponsored = 0	15	-
Impact on Minority & Low-Income Population - Title VI & Environmental Justice	Emphasis on projects that either enhance minority and low-income populations or avoid adverse impacts on these populations.	Positive = 10 Neutral = 5 Negative = 0	10	7
Alternative Modes of Transportation - Bike/Ped & Public Transportation	Encourage projects that have the potential to improve bicycle/pedestrian conditions and/or improves access and/or mobility for public transportation services.	10 Points or 0 based on expected impact on one or both of these modes of transportation	10	4 & 8
System Preservation	Emphasize projects that focus on the preservation of the transportation network over expansion and new routes.	100% Replacement = 10 75% Replacement/25% Expansion = 8 50% Replacement/50% Expansion = 6 25% Replacement/75% Expansion = 4 100% Expansion = 2	10	2
Benefit/Cost	Benefits of projects should exceed the costs to complete them. (Subtotal Points/Cost in Millions)	>1000 = 10 >100 = 8 >10 = 6 >5 = 4 >1 = 2	10	-
			100	

Public Feedback

Public participation and feedback are a critical element to the 2050 Metropolitan Transportation Plan (MTP) update. The public comment period for the MTP update was open from November 12th, 2024 to December 12th, 2024. The update was made available via the MPO website and was distributed across multiple social media platforms. No public feedback was received during the period.

This MTP takes all public comments into account and strives to address as many issues as possible within available funding constraints. The MTP is updated every five years because the MPO is an air quality attainment area. Chapter 7 outlines the plan for improving the transportation system in the Radcliff/Elizabethtown MPO Planning Area. Projects identified are outlined within the projected funding for the next 25-year period. Projects identified in the plan are not guaranteed for completion. The MTP is updated every five years and priorities are subject to change. Other issues that may cause a project to be delayed or removed from the plan include: lack of available funding, environmental concerns, a project is no longer needed or can be addressed by other means of implementation.

Past MPO Studies

Over the past several years, the MPO has conducted several studies regarding relevant issues in the Radcliff/Elizabethtown MPO planning area. Each of these studies has played an important role in the development of the 2050 Metropolitan Transportation Plan (MTP). The public transportation study has more details in Chapter 7, while the other four studies have identified important highway improvements that are included with the projects that have been evaluated for inclusion in the MTP.

Radcliff/Elizabethtown Public Transportation Study (2004)

The MPO contracted with Wilbur Smith Associates in 2004 to conduct a public transportation study to determine the feasibility for public transportation services and to determine the best method for meeting the need for transit services in the MPO area. To determine the feasibility and need for transit in the region, the following questions were to be answered:

- What transportation services are currently available in the MPO area?
- Is there a need for public transportation
- What types of public transportation services should be offered?
- How would public transportation be operated and administered?
- What are the cost requirements of a transit system?
- What transit facilities are needed?

US 31W Access Management Study (2006)

The US 31W Access Management Study was conducted for the purpose of improving safety and mobility along US 31W in Hardin and Meade counties. US 31W, locally referred to as “Dixie Highway,” is an economic lifeline through the communities of Elizabethtown, Radcliff, Fort Knox, Muldraugh, Sonora and Upton. The highway not only serves as a connection between

Louisville and Bowling Green, but it also provides access to businesses, industries, public buildings, homes and farms.

The study was needed because traffic and congestion have increased steadily over the years and land use changes throughout the corridor ensure that this trend will continue. Along the 41-mile study section, from West Point at the Hardin/Jefferson county line to Upton in southern Hardin County, nearly 1,000 vehicle crashes occur every year. Many of these are related to an overabundance of driveways, intersections and median openings.

The study was undertaken with its objective to seek feasible strategies to more effectively manage access along US 31W and, in doing so, improve the safety and efficiency of the highway. It was conducted through a collaborative effort between the Radcliff/Elizabethtown Metropolitan Planning Organization (MPO), the Kentucky Transportation Cabinet, local government agencies, and the public. The MPO Technical Advisory Committee served as an advisory group to the study.

The desired outcome of the study was two-fold. First, a list of access management retrofit projects was desired that could be implemented by the Kentucky Transportation Cabinet or local governments. Second, it was desired to have an overall access management plan that would provide tools for implementation and an overall framework for applying access management practices in the corridor.

Fort Knox Highway Access Study (2007)

The Fort Knox Highway Access Study was conducted to identify and address anticipated traffic problems relating to the U.S. Department of Defense 2005 Base Realignment and Closure (BRAC) Report. The BRAC Report included a number of changes that will take place on the Fort Knox Military Reservation that will affect the post and the surrounding region. The study is needed because the Radcliff-Fort Knox area has experienced significant growth in recent years. With existing roadways already experiencing capacity issues, particularly US 31W ("Dixie Highway"), the BRAC changes will only compound the issue. The study was conducted to determine projected traffic impacts that the BRAC will have on the community and to recommend improvements that will mitigate these impacts.

The study area was centered on US 31W from just south of Lincoln Trail Boulevard (KY 1815) to north of Brandenburg Station Road. Other key roads included in the analysis were North Wilson Road, Bullion Boulevard, and Logsdon Parkway (KY 1646). The study also included the three existing access gates to the post at North Wilson Road, Chaffee Gate at Bullion Boulevard, and Brandenburg Station Road.

Glendale Area Transportation Study (2021)

Looming large adjacent to historic Glendale is the Glendale Economic Development Site; one of the primary economic development sites in the Commonwealth. Identified as site 093-005 by the Kentucky Economic Development Cabinet, this 1,551-acre parcel of land is zoned for Heavy Industrial District (I-2) use.

With the proper roadway infrastructure and buffers in place, the site can blend into the surrounding rural area without compromising area mobility. This report sets forth short, medium and long-range projects that can be constructed over time to distribute costs, making the plan both fiscally responsible and scalable to grow as development occurs.

Fort Knox Regional Highway Capacity Study (2007)

The Radcliff/Elizabethtown Metropolitan Planning Organization (MPO) and the Lincoln Trail Area Development District (LTADD) conducted the Fort Knox Regional Highway Capacity Study in order to focus on the growth at Fort Knox and the resultant impacts on corridor capacity surrounding the installation. Primarily, the study was to identify potential improvements to aid in traffic flow and provide better connections to major roadways on a regional level.

The Lincoln Trail region has experienced higher-than-average growth in recent years. This increase has had an effect on the current roadway system. The 2005 Base Realignment and Closure (BRAC) Report included a number of considerable changes that took place on the Fort Knox military post that will further affect the surrounding region.

This study broadened the study area to analyze the impact of BRAC on the region surrounding the immediate impact area of Fort Knox. It focused on land use impacts as well as those to the transportation system. The regional study confirmed the needs previously identified in the previous Fort Knox study and other BRAC-related planning activities but also identified additional projects that will have an impact on the movement of traffic, including a new Fort Knox access road along South Boundary Road.

Public Transportation Implementation Study (2013)

In 2013, the Radcliff/Elizabethtown Metropolitan Planning Organization (MPO) contracted with The Corradino Group to complete a study on the potential implementation of a public transportation system. The purpose of this study was to develop a plan for a fixed-route public transportation system that will connect Elizabethtown, Radcliff, and Fort Knox. The system would also include routes that circulate within each city. The study included: refining the routes for the transit system, determining locations for stops along the routes, establishing the cost for shelters at the stops, determining the capital and operating costs for the system, determining the match required for each local government, and any other elements necessary to complete the study.

Bicycle Facilities/Pedestrian Facilities Studies (2019)

In two separate studies, the MPO analyzed needs for bicycle and pedestrian facilities. The Bicycle Facilities Study was completed in 2016 and the Pedestrian Facilities Study was completed in 2019. The intent of these studies was to improve connections between on-road bicycle facilities and sidewalks with the local trail systems to better enhance the bicycle/pedestrian environment in the planning area. Numerous improvements have been identified and are outlined in Chapter 7 of the MTP.

Public Transportation Feasibility and Implementation Study (2023)

In 2023, the Radcliff/Elizabethtown Metropolitan Planning Organization (MPO) contracted with the Micheal Baker International to complete a study on the potential implementation of a public transportation system. The purpose of the study was to take another look at developing a plan for a fixed route public transportation system that would connect Elizabethtown, Radcliff, and Fort Knox, similar to the transportation studies that had been conducted in the past. The study included identifying and refining potential routes, determining locations for stops and stop times, establishing the costs associated with getting the system properly up and running, determining what the match requirements would be for local governments, as well as identification of alternate revenue streams to fund the system that are being employed by other MPOs.

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Chapter 7

2050 Metropolitan Transportation Plan

2050 Metropolitan Transportation Plan

This chapter presents the 2050 Radcliff/Elizabethtown Metropolitan Transportation Plan, as well as the fiscal constraints under which it was developed. It is intended to guide the development and updates of the Transportation Improvement Program (TIP) for the MPO, as required by the Federal Highway Administration, and can be revised at any time with approval from the MPO Policy Committee.

Fiscal Constraint Analysis

In Kentucky, there is no distribution of allocated funds to MPO areas with a population of less than 200,000. Therefore, these MPOs, including Radcliff/Elizabethtown, must compete for project funding with all other parts of the state, both urban and rural. For this reason, historical records of spending have been reviewed and considered in helping to determine future funding levels for the Radcliff/Elizabethtown planning area.

The revenue projections for the 2024-2050 planning horizon of the Radcliff/Elizabethtown MTP are found in the table at the top of page 55. During the first six years (2024-2030), it is assumed that all current projects in the Kentucky Transportation Cabinet (KYTC) Highway Plan will be completed (or have funding programmed). Therefore, the funding amounts for the 2024-2030 period reflect the costs to complete the projects currently in the KYTC Highway Plan.

For years 2031-2050, revenue assumptions were based on an analysis of historical expenditures for highway improvement projects. Data for past expenditures of federal and state funding were available for the 25-year period from 1998 to 2023. An analysis revealed that the relative percentage of funding expended annually on projects within the Radcliff/Elizabethtown planning area (Hardin and Meade counties) ranged from a low of 1.07% to a high of 4.35% - with an average of 2.20%. This average percentage of statewide funding was assumed to be a reasonable estimate of future funding allocations (or revenues) for the 2025-2050 planning period.

Also, as part of the fiscal analysis, federal regulations require that all projects' costs be shown in Year of Expenditure (YOE) dollars. In order to accomplish YOE, the Radcliff/Elizabethtown MTP followed KYTC guidance and used a 4% escalation per year in all project phases, except the right-of-way phase, which is escalated at 5% per year. Project revenues are escalated at 4% per year. To calculate YOE costs, current project costs were inflated to the mid-point of the 5-year period in which projects are scheduled. Therefore, for a project scheduled between 2025-2030, the cost was increased to the mid-year 2028. The figures in the 2025-2050 Revenue Projections Table, at the top of page 55, reflect revenues that have been estimated as described above and adjusted for YOE over the planning horizon.

Table 7.1 Revenue Projections

Radcliff/Elizabethtown MPO 2025-2050 Revenue Projections	
5-Year Periods	**Cumulative Total Revenues**
2025-2030	427,072,800
2031-2035	423,020,688
2036-2040	495,176,578
2041-2045	579,640,311
2046-2050	678,511,273
	2,603,421,650

2050 Transportation Plan

The 2050 Radcliff/Elizabethtown Metropolitan Transportation Plan (MTP) covers improvement considerations for all modes of transportation, including Highways, Bicycle/Pedestrian, Public Transportation, Aviation, Rail, Riverport, Freight, and Transportation Alternative Program (TAP) projects.

Highway Improvements

The Highway Recommendations of the 2050 Metropolitan Transportation Plan (MTP) are summarized in the tables on the following pages. Table 1 represents the projects that are expected to be constructed between 2023-2029. These projects are currently scheduled in the Kentucky Transportation Cabinet Highway Plan. The projects listed in Table 1 are depicted just as they are in the KYTC Highway Plan. Therefore, some years may not have projects listed. However, it is expected that it will take the first six years (2023-2029) to complete the projects in the current KYTC Highway Plan. Table 2 shows the projects the Radcliff/Elizabethtown MPO has recommended for the fiscally constrained portion of the MTP. These projects were evaluated and scored based on the criteria described in Chapter 6. Some projects were moved either up or down in 5-year priority grouping based on available funding as determined by the fiscal analysis and year of expenditure dollar amounts. The maps on pages 63-66 of this chapter depict the location of projects listed in Table 2. The map identification letters are found in column 9 of Table 2.

Table 7.2: Radcliff/Elizabethtown Metropolitan Transportation Plan Highway Improvements

County	ID	Route	Begin Milepoint	End Mile Point	Type of Work	Description	Phase	Type of Fund	Fiscal Year	Total Phase Cost	Total Project Cost
Hardin	4-20013.00	US 31-W	27.745	30.263	Pavement	Address Condition of US 31-W from Milepoint 27.85 to 30.26	Design	NHPM	2024	412,500	8,250,00
							Construction	NHPM	2024	7,837,500	
Hardin	4-20046.00	I-65	78.661	82.2	Pavement	Address Condition of I-65 from Milepoint 78.661 to 82.200	Design	NHPM	2026	200,000	2,000,000
							Construction	NHPM	2026	1,800,000	
Hardin	4-20047.00	I-65	90.53	97.54	Pavement	Address condition of I-65 from Milepoint 90.53 to 97.54	Design	NHPM	2029	1,004,039	10,040,389
							Construction	NHPM	2029	9,036,350	
Hardin	4-22065.00	I-65	97.54	102.1	Pavement	Address Condition of I-65 from milepoint 97.54 to 102.1	Design	NHPM	2030	1,329,825	13,298,249
							Construction	NHPM	2030	11,968,424	
Hardin	4-153.01	KY 251	2.681	6.288	Phase I Design	KY 251 Improvements from KY 3005 to 800' South of Ky 434	Construction	SPP	2026	11,440,000	11,440,000
Hardin	4-154.30	US 31-W	20.432	28.4	Conjestion Mitigation	Addreses Congestion, Safety, and Mobility Along US 31 W from veterans way in Elizabethtown to the Nort Wilson Road Overpass	Right of Way	SPP	2025	3,890,000	51,410,000
							Utilities	SPP	2027	4,320,000	
							Construction	SPP	2028	43,200,000	
Hardin	4-171.00	Ky -1136	0	2.76	Minor Widening	Reconstruction of KY 1136 from KY 1868 to US 31W in Hardin County	Construction	STP2	2024	29,800,000	29,800,000
Hardin	4-198.00	New Route	N/A	N/A	New Route	Extend Ring Road from the Western Kentucky Parkway to I-65	Right of Way	STP2	2024	9,100,000	50,090,000
							Utilities	STP2	2025	2,000,000	
							Construction	STP2	2027	5,000,000	
							Construction	STP2	2028	10,000,000	
							Construction	STP2	2029	15,000,000	
							Construction	STP2	2030	8,990,000	
Hardin	4-201.00	US-31-W	0.005	0.008	Safety	Removal of Two at Grade CSX Railroad Crossings on Quarry Road near US31W, and the construction of a single seperated	Design	RRS	2024	250,000	4,400,000
							Right of Way	RRS	2025	400,000	
							Utilities	RRS	2025	750,000	
							Construction	RRS	2026	3,000,000	
Hardin	4-286.10	I-65	81.95	82.05	Weigh Station	I-65 Southbound Port of Entry for a Commercial Behicle Monitoring Station	Design	NH	2025	2,080,000	32,630,000
							Right of Way	NH	2026	550,000	
							Construction	NH	2028	10,000,000	
							Construction	NH	2029	10,000,000	
							Construction	NH	2030	10,000,000	
Hardin	4-442.00	US - 62	20.56	23.351	Reconstruction	Improve safety, mobility and geometrics on US-62 from I-65 to Upper Colesburg Road	Design	SPP	2025	1,500,000	7,500,000
							Right of Way	SPP	2027	3,000,000	
							Utilities	SPP	2027	3,000,000	
Hardin	4-80200.00	US - 62	18.839	20.56	Safety	Address Safety, Mobility, and Access management, along with potentially reconfiguring the	Right of Way	SPP	2026	4,400,000	32,880,000
							Utilities	SPP	2027	4,480,000	
							Construction	SPP	2029	24,000,000	
Hardin	4-80250.00	N/A	N/A	N/A	Air Quality	Extend Ring Road from US 31W to KY 61	Design	SPP	2024	1,250,000	16,490,000
							Right of Way	SPP	2026	2,200,000	
							Utilities	SPP	2026	2,240,000	
							Construction	SPP	2028	10,800,000	

County	ID	Route	Begin Milepoint	End Mile Point	Type of Work	Description	Phase	Type of Fund	Fiscal Year	Total Phase Cost	Total Project Cost
Meade	4-8702.00	KY-79	0	4.411	Safety	Address Safety and Geometric Deficiencies on KY 79 from Ky 477 to KY 144	Right of Way	SPP	2025	4,200,000	15,330,000
							Utilities	SPP	2026	2,430,000	
							Construction	SPP	2028	8,700,000	
Meade	4-8705.00	KY-79	4.411	8.237	Reconstruction	Reconstruct KY 79 from Ky 144 to KY 1051	Utilities	SPP	2025	4,680,000	22,040,000
							Construction	SPP	2027	17,360,000	

Table 2: Radcliff/Elizabethtown Metropolitan Transportation Plan Highway Improvements

County	Item ID	Route	Begin Milepoint	End Milepoint	Type of Work	Description	Phase	Map #	Total Score	Planning Cost	Planning Year of Expenditure	Design Cost	Design Year of Expenditure	Right of Way Expenditure	Right of Way Year of Expenditure	Utilities Cost	Utilities Year of Expenditure	Construction Cost	Construction Year of Expenditure	Total Project Cost	Total Year of Expenditure Cost
Meade	IP20210080	KY 313	2.365	2.385	Safety-Haz-Elm	Add turn lanes on KY 313 at the southern intersection of KY 144 near Flaherty	Identified	12	45	$ -	$ -	$ 150,000	$ 190,000	$ 200,000	$ 260,000	$ 300,000	$ 380,000	$ 2,000,000	$ 2,480,000	$ 2,650,000	$ 3,310,000
Hardin	IP20210079	KY 3005	6.55	6.8	Congestion Management	Address Access Management Issues along Ring Road from US 31W to just east of Lowes Drive. Specific focus on Walmart Lane and Lowes Drive intersections with consideration of a right turn lane at Lowes Drive.	Identified	17	41	$ -	$ -	$ 1,000,000	$ 1,000,000	$ 500,000	$ 530,000	$ 1,000,000	$ 1,040,000	$ 2,000,000	$ 2,080,000	$ 4,500,000	$ 4,650,000
Hardin	IP20060222	KY 434	0	3.133	Minor Widening	ADDRESS GEOMETRIC DEFICIENCIES AND MAINTENANCE ISSUES ALONG KY 434 BETWEEN US 31W AND KY 251	Identified	18	40	$ -	$ -	$ 250,000	$ 250,000	$ 500,000	$ 530,000	$ 350,000	$ 370,000	$ 2,500,000	$ 2,800,000	$ 3,600,000	$ 3,950,000
Hardin	IP20080747	KY 1136	4.25	9.823	Major Widening	ADDRESS CAPACITY AND SAFETY ALONG KY 1136 FROM THE PROPOSED PARTIAL GLENDALE BYPASS TO THE US 31W BYPASS IN ELIZABETHTOWN. SEE 2008 GLENDALE AREA TRANSPORTATION STUDY.	Identified	25	36	$ -	$ -	$ 2,000,000	$ 2,632,000	$ 4,500,000	$ 6,332,000	$ 2,800,000	$ 3,685,000	$ 15,000,000	$ 19,739,000	$ 24,300,000	$ 32,388,000
Hardin	IP20090011	CS 2440	4.915	5.154	Relocation	REALIGNMENT OF SOUTH WILSON ROAD IN RADCLIFF TO CREATE A NEW INTERSECTION WITH THE NORTH WILSON ROAD REALIGNMENT AT WEST LINCOLN TRAIL BLVD	Identified	31	24	$ -	$ -	$ 600,000	$ 600,000	$ 1,800,000	$ 1,890,000	$ 1,250,000	$ 1,300,000	$ 2,500,000	$ 2,800,000	$ 6,150,000	$ 6,590,000
Hardin	IP20210088	KY 2212	3.878	3.888	Safety-Haz-Elm	Intersection improvements on KY 2212 (Rineyville School Road) at KY 220/KY 1600.	Identified	30	30	$ -	$ -	$ 150,000	$ 190,000	$ 300,000	$ 390,000	$ 350,000	$ 440,000	$ 1,400,000	$ 1,740,000	$ 2,200,000	$ 2,760,000
Hardin	IP20070169	KY 144	3.835	4.85	Safety-Haz-Elm	SAFETY IMPROVEMENTS ALONG KY 144 IN RADCLIFF FROM KY 1646 TO US 31W INCLUDING RECONSTRUCTING THE INTERSECTIONS AT WOODLAND DRIVE AND AT KY 1646.	Identified	14	42	$ -	$ -	$ 800,000	$ 870,000	$ 1,100,000	$ 1,320,000	$ 2,700,000	$ 3,140,000	$ 6,000,000	$ 7,440,000	$ 10,600,000	$ 12,770,000

Total 2031-2035	
Costs	Revenues
$ 66,418,000	$ 423,020,688

Table 2: Radcliff/Elizabethtown Metropolitan Transportation Plan Highway Improvements

County	Item ID	Route	Begin Milepoint	End Milepoint	Type of Work	Description	Phase	Map #	Total Score	Planning Cost	Planning Year of Expenditure	Design Cost	Design Year of Expenditure	Right of Way Expenditure	Right of Way Year of Expenditure	Utilities Cost	Utilities Year of Expenditure	Construction Cost	Construction Year of Expenditure	Total Project Cost	Total Year of Expenditure Cost
Hardin	IP20120068	US 31 W	4.099	4.299	Improve Intersection	IMPROVE THE INTERSECTION OF US 31W AND KY 84 AT SONORA	Identified	2	53	$ -	$ -	$ 300,000	$ 320,000	$ 125,000	$ 140,000	$ 750,000	$ 810,000	$ 2,000,000	$ 2,240,000	$ 3,175,000	$ 3,510,000
Hardin	IP20070170	KY 144	1.134	2.791	Drainage Improvement	CONSTRUCT CURBS, GUTTERS & SIDEWALKS ALONG KY 144 IN VINE GROVE FROM KY 313 TO KY 1500	Identified	3	52	$ -	$ -	$ 800,000	$ 1,053,000	$ 300,000	$ 422,000	$ 600,000	$ 790,000	$ 4,400,000	$ 5,790,000	$ 6,100,000	$ 8,055,000
Hardin	IP20240014	US 31 W	14.836	15.798	Improve Intersection	Road rightsizing and intersection improvements along US 31W (East Dixie Avenue) from the Western KY Parkway to KY 1136 (New Glendale Road)	Identified	6	49	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Hardin	IP20090009	US 62	23.351	25.499	Reconstruction	ADDRESS SAFETY, GEOMETRIC DEFICIENCIES AND MAINTENANCE ISSUES ALONG US 62 EAST OF ELIZABETHTOWN FROM UPPER COLESBURG ROAD TO STOVALL ROAD.	Identified	7	48	$ -	$ -	$ 1,000,000	$ 1,082,000	$ 1,750,000	$ 2,127,000	$ 1,100,000	$ 1,287,000	$ 10,000,000	$ 12,653,000	$ 13,850,000	$ 17,149,000
Hardin	IP20080743	KY 222	4.2	4.3	Reconstruction	INTERSECTION IMPROVEMENTS TO ADDRESS SAFETY AT KY 222/KY 1136 IN GLENDALE. SEE GLENDALE AREA TRANSPORTATION STUDY	Identified	8	47	$ -	$ -	$ 100,000	$ 132,000	$ 150,000	$ 211,000	$ 75,000	$ 99,000	$ 550,000	$ 724,000	$ 875,000	$ 1,166,000
Hardin	IP20070177	KY 1600	7.34	8.528	Reconstruction	ADDRESS SAFETY, GEOMETRIC DEFICIENCIES AND MAINTENANCE ISSUES ALONG KY 1600 FROM KY 1882 TO KY 144 AT FLAHERTY (mp 1.705 MEADE)	Identified	11	45	$ -	$ -	$ 1,200,000	$ 1,579,000	$ 2,000,000	$ 2,814,000	$ 1,500,000	$ 1,974,000	$ 11,600,000	$ 15,265,000	$ 16,300,000	$ 21,632,000
Meade	IP20050005	KY 710	8.143	8.243	Safety-Haz-Elm	Address Safety Along KY 710 at KY 448 in Brandenburg	Identified	16	42	$ -	$ -	$ 85,000	$ 92,000	$ 55,000	$ 67,000	$ 90,000	$ 105,000	$ 550,000	$ 696,000	$ 780,000	$ 960,000
Hardin	IP20070173	KY 224	0	5.065	Major Widening	ADDRESS SAFETY, GEOMETRIC DEFICIENCIES AND MAINTENANCE ISSUES ALONG KY 224 FROM HART C\L TO PLEASANT HILL-UPTON RD	Identified	13	44	$ 500,000	$ 658,000	$ 4,000,000	$ 5,264,000	$ 3,500,000	$ 4,925,000	$ 2,000,000	$ 2,632,000	$ 20,000,000	$ 26,319,000	$ 30,000,000	$ 39,798,000

Total 2036-2040	
Costs	Revenues
$ 92,270,000	$ 495,176,578

Table 2: Radcliff/Elizabethtown Metropolitan Transportation Plan Highway Improvements

County	Item ID	Route	Begin Milepoint	End Milepoint	Type of Work	Description	Phase	Map #	Total Score	Planning Cost	Planning Year of Expenditure	Design Cost	Design Year of Expenditure	Right of Way Expenditure	Right of Way Year of Expenditure	Utilities Cost	Utilities Year of Expenditure	Construction Cost	Construction Year of Expenditure	Total Project Cost	Total Year of Expenditure Cost
Hardin	IP20210084	KY 222	0	4.243	Minor Widening	Address safety and geometric deficiencies along KY 222 from US 62 to KY 1136 in Glendale	Identified	20	40	$ -	$ -	$ 1,800,000	$ 2,240,000	$ 3,250,000	$ 4,230,000	$ 3,000,000	$ 3,720,000	$ 18,000,000	$ 22,230,000	$ 26,050,000	$ 32,510,000
Meade	IP20130136	CR 1002	0	1.15	Minor Widening	ADDRESS SAFETY AND GEOMETRIC DEFICIENCIES ALONG OLD EKRON ROAD BETWEEN KY 448 AND KY 313.	Identified	22	40	$ -	$ -	$ 575,000	$ 757,000	$ 1,150,000	$ 1,618,000	$ 1,150,000	$ 1,513,000	$ 4,600,000	$ 6,053,000	$ 7,475,000	$ 9,941,000
Meade	IP20130137	CR 1002	1.15	3.8	Minor Widening	ADDRESS SAFETY AND GEOMETRIC DEFICIENCIES ALONG OLD EKRON ROAD BETWEEN KY 313 AND KY 1736.	Identified	23	40	$ -	$ -	$ 800,000	$ 1,053,000	$ 1,860,000	$ 2,617,000	$ 1,060,000	$ 1,395,000	$ 6,360,000	$ 8,369,000	$ 10,080,000	$ 13,434,000
Hardin	IP20070172	KY 222	4.243	4.442	Drainage Improvement	ADD CURB AND GUTTER TO IMPROVE DRAINAGE ALONG KY 222 IN GLENDALE FROM KY 1136 TO RAILROAD TRACKS	Identified	24	37	$ -	$ -	$ 100,000	$ 132,000	$ 250,000	$ 352,000	$ 150,000	$ 197,000	$ 450,000	$ 592,000	$ 950,000	$ 1,273,000
Hardin	IP20240015	US 62	14.48	14.68	Improve Intersection	Intersection improvements at the western intersection of US 62 (Leitchfield Road) and KY 3005 (Ring Road)	Identified	26	36	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Hardin	IP20170082	CS 1297	1.122	1.222	Reconstruction	RECONSTRUCT INTERSECTION OF US 31W AT PEAR ORCHARD ROAD NW AND VETERANS WAY	Identified	27	34	$ -	$ -	$ 250,000	$ 270,000	$ 500,000	$ 608,000	$ 500,000	$ 585,000	$ 2,000,000	$ 2,531,000	$ 3,250,000	$ 3,994,000
Hardin	IP20060225	KY 1815	0	2.439	Congestion Management	ACCESS IMPROVEMENTS ALONG KY 1815 (WEST LINCOLN TRAIL BLVD) IN RADCLIFF FROM US 31W TO KY 313	Identified	28	33	$ 100,000	$ 132,000	$ 175,000	$ 230,000	$ 550,000	$ 774,000	$ 475,000	$ 625,000	$ 900,000	$ 1,184,000	$ 2,200,000	$ 2,945,000
Hardin	IP20070165	US 31 WX	1.22	1.91	Drainage Improvement	IMPROVE ROADWAY DRAINAGE ALONG US 31WX IN WEST POINT FROM RAILROAD TRACKS TO 14TH STREET.	Identified	29	32	$ -	$ -	$ 220,000	$ 290,000	$ 330,000	$ 464,000	$ 330,000	$ 434,000	$ 880,000	$ 1,158,000	$ 1,760,000	$ 2,346,000

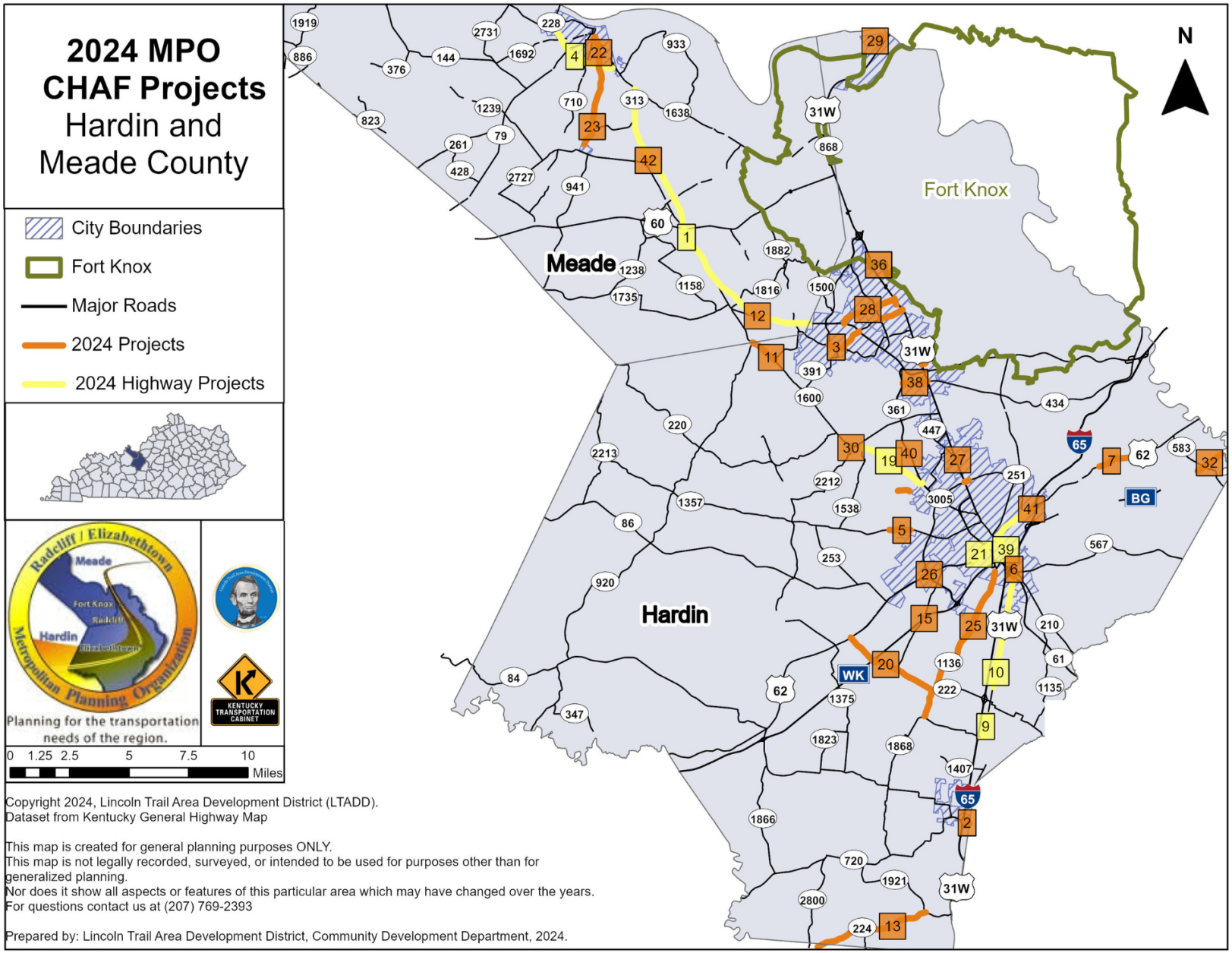
Total 2041-2045	
Costs	Revenues
$ 66,443,000	$ 579,640,311

Table 2: Radcliff/Elizabethtown Metropolitan Transportation Plan Highway Improvements

County	Item ID	Route	Begin Milepoint	End Milepoint	Type of Work	Description	Phase	Map #	Total Score	Planning Cost	Planning Year of Expenditure	Design Cost	Design Year of Expenditure	Right of Way Expenditure	Right of Way Year of Expenditure	Utilities Cost	Utilities Year of Expenditure	Construction Cost	Construction Year of Expenditure	Total Project Cost	Total Year of Expenditure Cost
Hardin	IP20070179	BG 9002	7.85	7.95	New Interchange	CONSTRUCT EASTBOUND ON AND WESTBOUND OFF RAMPS ON THE BLUEGRASS PARKWAY AT KY 583.	Identified	32	20	$ -	$ -	$ 500,000	$ 541,000	$ 750,000	$ 912,000	$ 450,000	$ 526,000	$ 1,900,000	$ 2,404,000	$ 3,600,000	$ 4,383,000
Hardin	IP20190207	PF 9999			New Route	Extension of Gateway Crossing Blvd (CS 2136) to Skyline Drive between US 31W and S. Wilson Road in Radcliff.	Identified	34	14	$ -	$ -	$ 150,000	$ 190,000	$ 1,000,000	$ 1,300,000	$ 100,000	$ 130,000	$ 1,000,000	$ 1,240,000	$ 2,250,000	$ 2,860,000
Hardin	IP20070176	KY 1136	2.768	3.942	New Route	EXTENSION FROM KY 1868 S OF GLENDALE TO KY 220 AT KY 1600 N OF ELIZABETHTOWN	Identified	35	12	$ 1,000,000	$ 1,316,000	$ 20,000,000	$ 26,319,000	$ 20,000,000	$ 28,142,000	$ 20,000,000	$ 26,319,000	$ 57,000,000	$ 75,008,000	$ 118,000,000	$ 157,104,000
Hardin	IP20100003	CS 2405	0	0.557	New Route	EXTEND KNOX BOULEVARD IN RADCLIFF FROM ITS CURRENT TERMINUS AT US 31W TO KY 361 (BULLION BLVD).	Identified	36	12	$ -	$ -	$ 750,000	$ 987,000	$ 3,500,000	$ 4,925,000	$ 2,000,000	$ 2,632,000	$ 7,800,000	$ 10,264,000	$ 14,050,000	$ 18,808,000
Hardin	IP20230024	KY 222	0	1.334	New Route	Improved east/west connection from US 62 to KY 1136 (Gilead Church Road) south of Glendale with new interchange at WK Parkway	Identified	37	12	$ -	$ -	$ 2,900,000	$ 3,020,000	$ 8,900,000	$ 10,240,000	$ 2,000,000	$ 2,400,000	$ 29,100,000	$ 36,090,000	$ 42,900,000	$ 51,750,000
Hardin	IP20070174	CS 2046	0	0.017	New Route	EXTEND KY 434 FROM US 31W TO KY 361	Identified	38	9	$ -	$ -	$ 1,200,000	$ 1,579,000	$ 2,100,000	$ 2,955,000	$ 1,500,000	$ 1,974,000	$ 12,000,000	$ 15,791,000	$ 16,800,000	$ 22,299,000
Hardin	IP20210094	PF 9999			New Route	Commerce Drive Extension from its current terminus at US62 to Buffalo Creek Drive (potential focus on the realignment of business entrance and intersection).	Identified	41	9	$ -	$ -	$ 340,000	$ 430,000	$ 1,500,000	$ 1,950,000	$ -	$ -	$ 3,390,000	$ 4,210,000	$ 5,230,000	$ 6,590,000
Meade	IP20220017	PF 9999			New Route	Construct a connector between KY 144 and KY 313 to improve access for trucks to the industrial area in Ekron	Identified	42	9	$ -	$ -	$ 300,000	$ 380,000	$ 250,000	$ 330,000	$ 200,000	$ 250,000	$ 1,500,000	$ 1,860,000	$ 2,250,000	$ 2,820,000

Total 2046-2050	
Costs	Revenues
$ 266,614,000	$ 678,511,273

Map 7.1



This map is created for general planning purposes ONLY.
This map is not legally recorded, surveyed, or intended to be used for purposes other than for generalized planning.
Nor does it show all aspects or features of this particular area which may have changed over the years.
For questions contact us at (207) 769-2393

Prepared by: Lincoln Trail Area Development District, Community Development Department, 2024.

2024 MPO CHAF Projects
Elizabethtown

Project #	Exsisting Route	Work Done	Description
22	CR 1002	Minor Widening	Address Safety And Geometric Deficiencies Along Old Ekron Road Between Ky 448 And Ky 313.
23	CR 1002	Minor Widening	Address Safety And Geometric Deficiencies Along Old Ekron Road Between Ky 313 And Ky 1736.
10	US 31 W	Minor Widening	Address Geometric Deficiencies Along Us 31w From Ky 222 To Ky 61 (Lincoln Parkway)/Western Kentucky Parkway Intersection.
15	KY 1904	Safety-Haz-Elm	Intersection Improvements At Ky 1904 (Bacon Creek Road) And Cecilia Smith Mill Road Just North Of The Bridge Over Wk Parkway To Increase Sight Distance And Improve Safety.
17	KY 3005	Congestion Man	Address Access Management Issues Along Ring Road From Us 31w To Just East Of Lowes Drive. Specific Focus On Walmart Lane And Lowes Drive Intersections With Consideration Of A Right Turn Lane At Lowes Drive.
20	KY 222	Minor Widening	Address Safety And Geometric Deficiencies Along Ky 222 From Us 62 To Ky 1136 In Glendale
21	US 62	Improve Intersec	Improve The Intersection Of Us 62 And The Us 31w Bypass Ramp At Nicholas Street In Elizabethtown
25	KY 1136	Major Widening	Address Capacity And Safety Along Ky 1136 From The Proposed Partial Glendale Bypass To The Us 31w Bypass In Elizabethtown. See 2008 Glendale Area Transportation Study.
26	US 62	Improve Intersec	Intersection Improvements At The Western Intersection Of Us 62 (Leitchfield Road) And Ky 3005 (Ring Road)
27	CS 1297	Reconstruction	Reconstruct Intersection Of Us 31w At Pear Orchard Road Nw And Veterans Way
30	KY 2212	Safety-Haz-Elm	Intersection Improvements On Ky 2212 (Rineyville School Road) At Ky 220/Ky 1600.
37	KY 222	New Route	Improved East/West Connection From Us 62 To Ky 1136 (Gilead Church Road) South Of Glendale With New Interchange At Wk Parkway
39	PF 9999	New Route	Extend Commerce Drive From Springfield Road To Us 31w At Ky 1136 On The South Side Of Elizabethtown.
40	CR 1529	New Route	Construct A New Approach To Boone Road From Ky 447 At W.A. Jenkins Road.
41	PF 9999	New Route	Commerce Drive Extension From Its Current Terminus At Us62 To Buffalo Creek Drive (Potential Focus On The Realignment Of Business Entrance And Intersection).

City Boundaries
Fort Knox
Major Roads
2024 Projects
2024 Highway Projects

0 0.250.5 1 1.5 2 Miles

Radcliff / Elizabethtown Metropolitan Planning Organization
Planning for the transportation needs of the region.

KENTUCKY TRANSPORTATION CABINET

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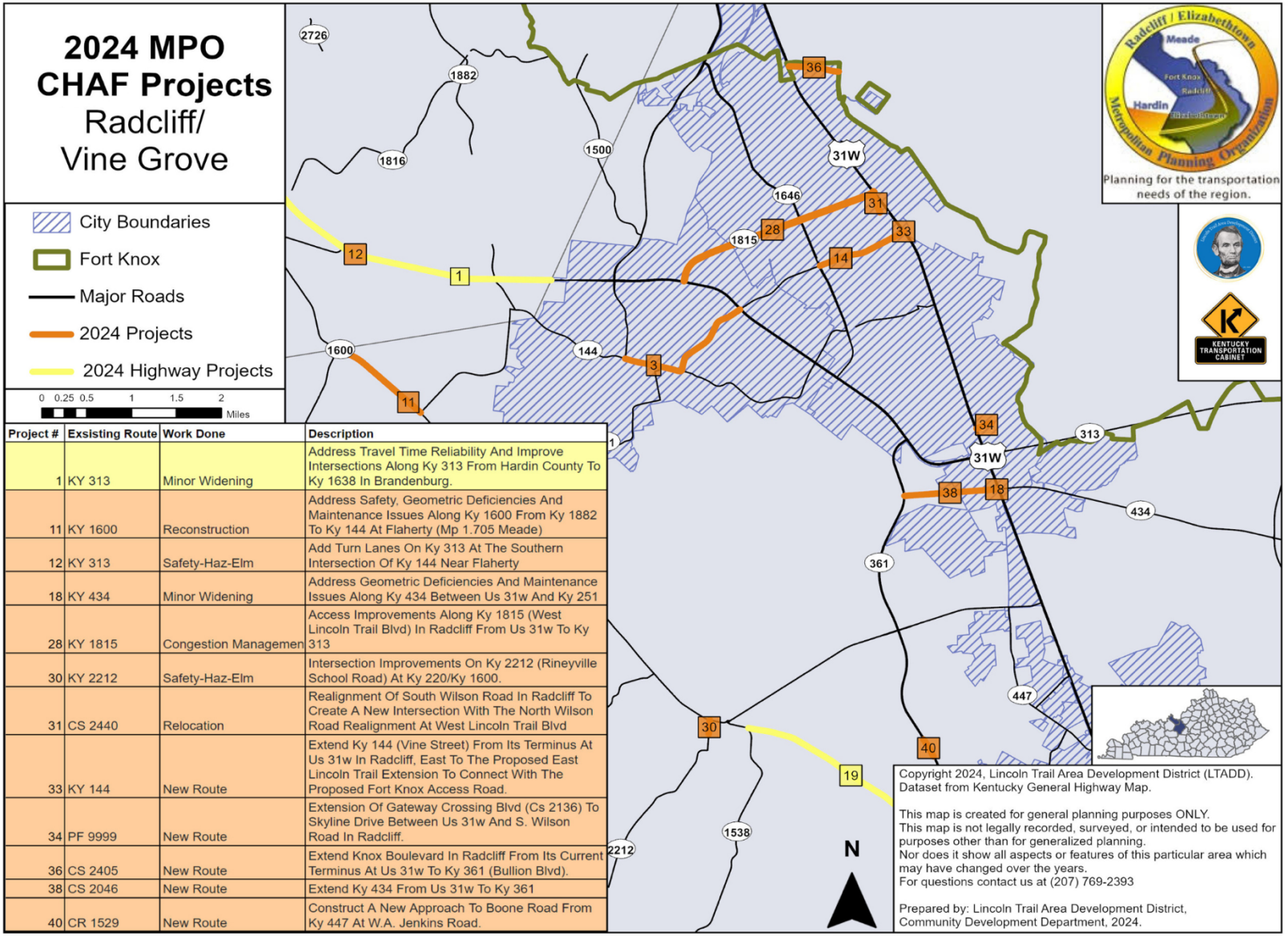
Prepared by: Lincoln Trail Area Development District, Community Development Department, 2024.

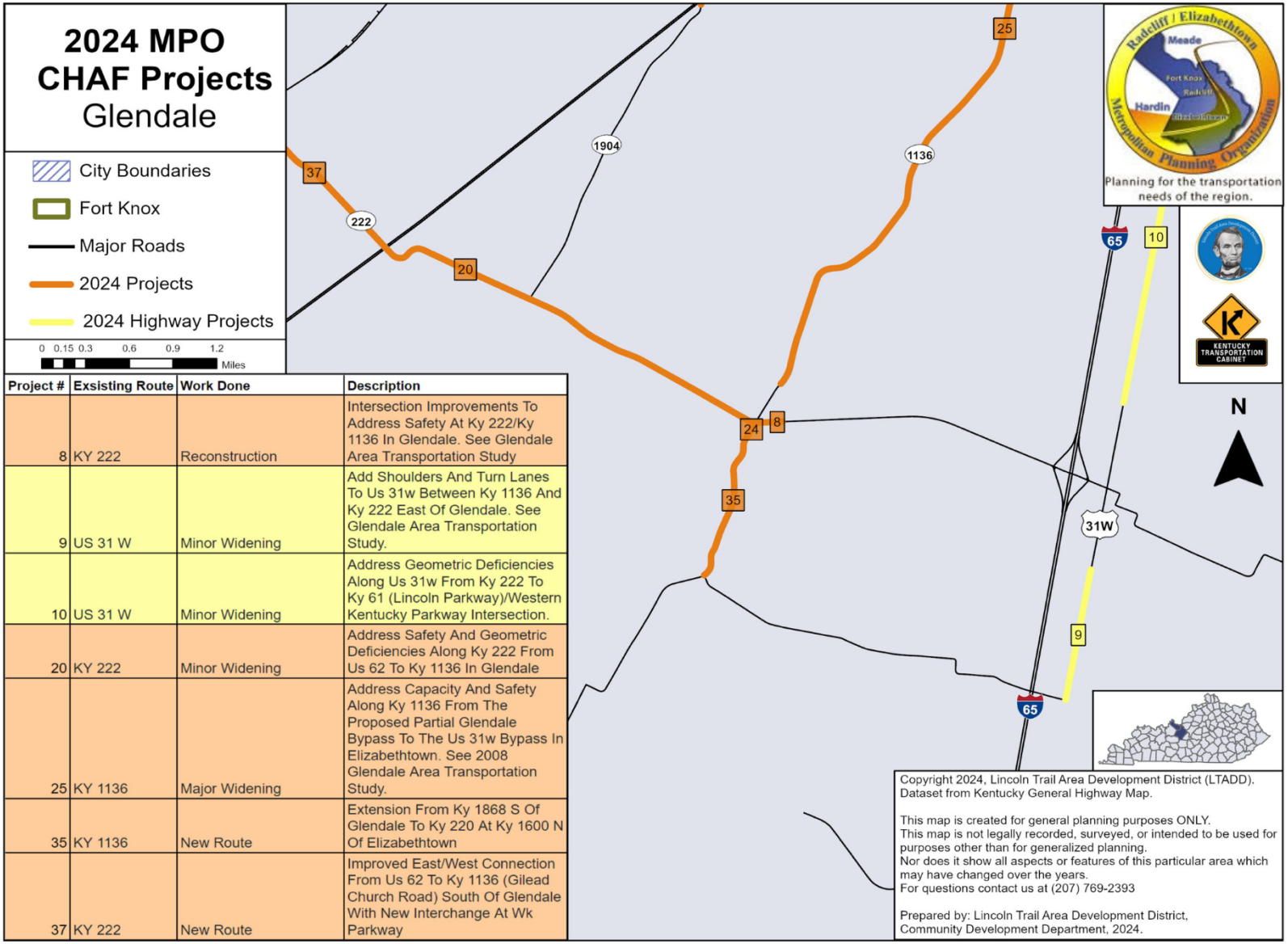
2024 MPO CHAF Projects
Radcliff/ Vine Grove



Project #	Exsisting Route	Work Done	Description
1	KY 313	Minor Widening	Address Travel Time Reliability And Improve Intersections Along Ky 313 From Hardin County To Ky 1638 In Brandenburg.
11	KY 1600	Reconstruction	Address Safety, Geometric Deficiencies And Maintenance Issues Along Ky 1600 From Ky 1882 To Ky 144 At Flaherty (Mp 1.705 Meade)
12	KY 313	Safety-Haz-Elm	Add Turn Lanes On Ky 313 At The Southern Intersection Of Ky 144 Near Flaherty
18	KY 434	Minor Widening	Address Geometric Deficiencies And Maintenance Issues Along Ky 434 Between Us 31w And Ky 251
28	KY 1815	Congestion Managemen	Access Improvements Along Ky 1815 (West Lincoln Trail Blvd) In Radcliff From Us 31w To Ky 313
30	KY 2212	Safety-Haz-Elm	Intersection Improvements On Ky 2212 (Rineyville School Road) At Ky 220/Ky 1600.
31	CS 2440	Relocation	Realignment Of South Wilson Road In Radcliff To Create A New Intersection With The North Wilson Road Realignment At West Lincoln Trail Blvd
33	KY 144	New Route	Extend Ky 144 (Vine Street) From Its Terminus At Us 31w In Radcliff, East To The Proposed East Lincoln Trail Extension To Connect With The Proposed Fort Knox Access Road.
34	PF 9999	New Route	Extension Of Gateway Crossing Blvd (Cs 2136) To Skyline Drive Between Us 31w And S. Wilson Road In Radcliff.
36	CS 2405	New Route	Extend Knox Boulevard In Radcliff From Its Current Terminus At Us 31w To Ky 361 (Bullion Blvd).
38	CS 2046	New Route	Extend Ky 434 From Us 31w To Ky 361
40	CR 1529	New Route	Construct A New Approach To Boone Road From Ky 447 At W.A. Jenkins Road.

Prepared by: Lincoln Trail Area Development District, Community Development Department, 2024.

Map 7.4



Project #	Exsisting Route	Work Done	Description
8	KY 222	Reconstruction	Intersection Improvements To Address Safety At Ky 222/Ky 1136 In Glendale. See Glendale Area Transportation Study
9	US 31 W	Minor Widening	Add Shoulders And Turn Lanes To Us 31w Between Ky 1136 And Ky 222 East Of Glendale. See Glendale Area Transportation Study.
10	US 31 W	Minor Widening	Address Geometric Deficiencies Along Us 31w From Ky 222 To Ky 61 (Lincoln Parkway)/Western Kentucky Parkway Intersection.
20	KY 222	Minor Widening	Address Safety And Geometric Deficiencies Along Ky 222 From Us 62 To Ky 1136 In Glendale
25	KY 1136	Major Widening	Address Capacity And Safety Along Ky 1136 From The Proposed Partial Glendale Bypass To The Us 31w Bypass In Elizabethtown. See 2008 Glendale Area Transportation Study.
35	KY 1136	New Route	Extension From Ky 1868 S Of Glendale To Ky 220 At Ky 1600 N Of Elizabethtown
37	KY 222	New Route	Improved East/West Connection From Us 62 To Ky 1136 (Gilead Church Road) South Of Glendale With New Interchange At Wk Parkway

Transportation System Operations and Maintenance

The nature of the metropolitan transportation planning process does not lend itself to specifically identifying future system operations and maintenance needs or projects over the period covered by the plan. Nevertheless, it is required that the MTP include system-level estimates of resources that are expected to be available to operate and maintain the transportation system.

Routine maintenance and operation of the state-maintained roadway network in the MPO area is accomplished by KYTC through the Highway District Office in Elizabethtown. Example activities include maintenance of pavement, guardrails and median cable barriers, drainage channels, and landscaping. Traffic operations are also a significant function of KYTC District Offices. Example activities include roadway lighting, traffic signals, signing and roadway striping. Over the last 10 years KYTC annual expenditures for operation and maintenance activities in Hardin and Meade Counties have ranged from a low of $14,200,000 to a high of $19,700,000. Approximately 65% of these amounts are applied toward the federal-aid system. For planning purposes, it should be reasonable to assume KYTC expenditures of approximately $14,400,000 per year over the foreseeable future.

In addition to the KYTC operation and maintenance programs, the local governments within the MPO planning area also expend significant resources for the operation and maintenance of local streets and roadways. Based on information provided by these entities, it is estimated that approximately $10,680,000 is spent annually. Approximately 40% of this total amount is provided by the KYTC through revenue sharing programs.

Combining KYTC and local government programs results in an annual expenditure of approximately $25,080,000 for operation and maintenance of the transportation system.

Grouped Projects

Transportation planning regulations applicable to the development and content of Metropolitan Transportation Plan (MTP) allow that projects that are not considered to be of appropriate scale for individual identification in a given program year may be grouped by function, work type, and/or geographic area. Such projects are usually non-controversial and produce negligible impacts - other than positive benefits for safety, traffic operations, or preservation. Typically, these types of projects are not generated by the planning process; they are usually initiated by traffic operations or maintenance functions to correct existing problems or deficiencies, or they are the result of successful grant applications by local governments or entities. KYTC identifies many of these types of projects as “Z-Various” in the Statewide Transportation Improvement Program. For the reasons noted above, KYTC and FHWA have developed streamlined procedures for incorporating such projects into the MTP and the MPO’s Transportation Improvement Program (TIP). Individual projects from grouped project categories will be incorporated into the MTP and TIP by Administrative Modification as they are defined (in terms of project description, scope, and cost) and approved. Allowing such MTP and TIP changes to be made by Administrative Modification, rather than Amendment (and the corresponding requirement for public review and demonstration of fiscal constraint), simplifies and streamlines MTP and TIP maintenance and project approval processes.

Grouped project categories utilized by the Radcliff-Elizabethtown MPO are shown in Table 3. The list of grouped projects utilized here is a combination and simplification of two lists recommended by the "KYTC and MPO Coordination – Final Recommendations of the Consolidated Planning Guidance Process Team", July 20, 2007. This was done for applicability to the Radcliff-Elizabethtown area and to facilitate understanding by MPO committee members and the public. By listing these project types in the MTP and TIP, planning process stakeholders and the general public are informed of the types of potential projects that may be added to the TIP in the future via streamlined procedures. TIP actions for these projects will not require additional public review, demonstration of fiscal constraint, or a conformity determination (if applicable).

The dollar amounts shown in the Grouped Projects Table are illustrative (and minimal) project cost amounts based on past experience and reasonableness. These numbers are included per recommended guidance and should not be interpreted as expected project awards or expenditures for any particular year. Rather than future commitments of funding, these numbers are illustrative of a reasonable level of total funding for the various types of grouped projects that, potentially, could be approved within a particular year. When projects are identified, with estimated costs, and funding decisions (type of funds and year) are made by the Transportation Cabinet (on an annual or ongoing basis), the Cabinet will forward the project to the MPO for inclusion in the MTP and TIP - with a commitment of additional funding within fiscally constrained balances available on a statewide level. It should be expected that the costs of some individual projects may significantly exceed the amounts in the Grouped Projects Table. Fiscal constraint for grouped projects is maintained by KYTC on a statewide level and is demonstrated on an annual basis for the Statewide Transportation Improvement Program.

Table 7.3						
Grouped Projects						
	2021	2022	2023	2024	2025	2026
HSIP - High-Cost Safety Improvements	100,000	100,000	100,000	100,000	100,000	100,000
HSIP - Low-Cost Safety Improvements	50,000	50,000	50,000	50,000	50,000	50,000
HSIP - Roadway Departures	100,000	100,000	100,000	100,000	100,000	100,000
HSIP - Intersections	100,000	100,000	100,000	100,000	100,000	100,000
HSIP - Commercial Motor Vehicles	100,000	100,000	100,000	100,000	100,000	100,000
HSIP - Non-Motorized Users	50,000	50,000	50,000	50,000	50,000	50,000
Guardrail/Median Cable Projects	100,000	100,000	100,000	100,000	100,000	100,000
Rail Crossing Protection	50,000	50,000	50,000	50,000	50,000	50,000
Rail Crossing Separation	100,000	100,000	100,000	100,000	100,000	100,000
Intersection Improvements for Safety or Efficiency	25,000	25,000	25,000	25,000	25,000	25,000
Other Highway Safety Improvements	25,000	25,000	25,000	25,000	25,000	25,000
Intelligent Transportation System (ITS) Projects	50,000	50,000	50,000	50,000	50,000	50,000
Traffic Signal System Improvements	100,000	100,000	100,000	100,000	100,000	100,000
Highway Signing	10,000	10,000	10,000	10,000	10,000	10,000
Pavement Resurfacing, Restoration, and Rehabilitation	100,000	100,000	100,000	100,000	100,000	100,000
Pavement Markers and Striping	100,000	100,000	100,000	100,000	100,000	100,000
Bridge Replacement	500,000	500,000	500,000	500,000	500,000	500,000
Bridge Rehabilitation	100,000	100,000	100,000	100,000	100,000	100,000
Bridge Inspection	25,000	25,000	25,000	25,000	25,000	25,000
Bridge Painting	50,000	50,000	50,000	50,000	50,000	50,000
Recreational Trail Program	10,000	10,000	10,000	10,000	10,000	10,000
Surface Transportation Block Grant Set-Aside (formerly Trans. Alternatives Program - TAP)	100,000	100,000	100,000	100,000	100,000	100,000
Commuter Ridesharing Programs	25,000	25,000	25,000	25,000	25,000	25,000
Bicycle and Pedestrian Facilities**	25,000	25,000	25,000	25,000	25,000	25,000
Park & Ride Facilities	50,000	50,000	50,000	50,000	50,000	50,000
Purchase of New Buses (to replace existing vehicles or for minor expansion)	100,000	100,000	100,000	100,000	100,000	100,000
Rehabilitation of Transit Vehicles	25,000	25,000	25,000	25,000	25,000	25,000
Transit Operating Assistance	100,000	100,000	100,000	100,000	100,000	100,000
Transit Operating Equipment	50,000	50,000	50,000	50,000	50,000	50,000
Transit Passenger Shelters and Information Kiosks	25,000	25,000	25,000	25,000	25,000	25,000
Construction or. Renovation of Transit Facilities	50,000	50,000	50,000	50,000	50,000	50,000

*Illustrative costs only - Please refer to text for explanation

** Including pedestrian facility improvements identified in Local Public Agency Transition Plans to meet requirements of the Americans with Disabilities Act (ADA)

Bicycle/Pedestrian Improvements

Bicycle and Pedestrian Facilities have grown in interest among the citizens of the MPO planning area over the past several years. In response to this interest, the MPO developed a Bicycle Facilities Plan in 2016 and Pedestrian Facilities Plan in 2019. These separate documents outline proposed improvements that will enhance on- and off-road bicycle facilities, improve connections of both bicycle and pedestrian facilities to local trail facilities, and new and improved sidewalks at various locations throughout the planning area.

Bicycle Facilities Improvements

The Bicycle Facilities Plan for the Radcliff/Elizabethtown urbanized area provides an outline for developing a connected system of on-road and off-road facilities in Hardin and Meade counties. The Radcliff/Elizabethtown Metropolitan Planning Organization (MPO) was established in 2003 with the planning area that includes these two counties. The MPO is the transportation planning and decision-making organization responsible for ensuring that the process is carried out in a comprehensive, cooperative, and continuing manner.

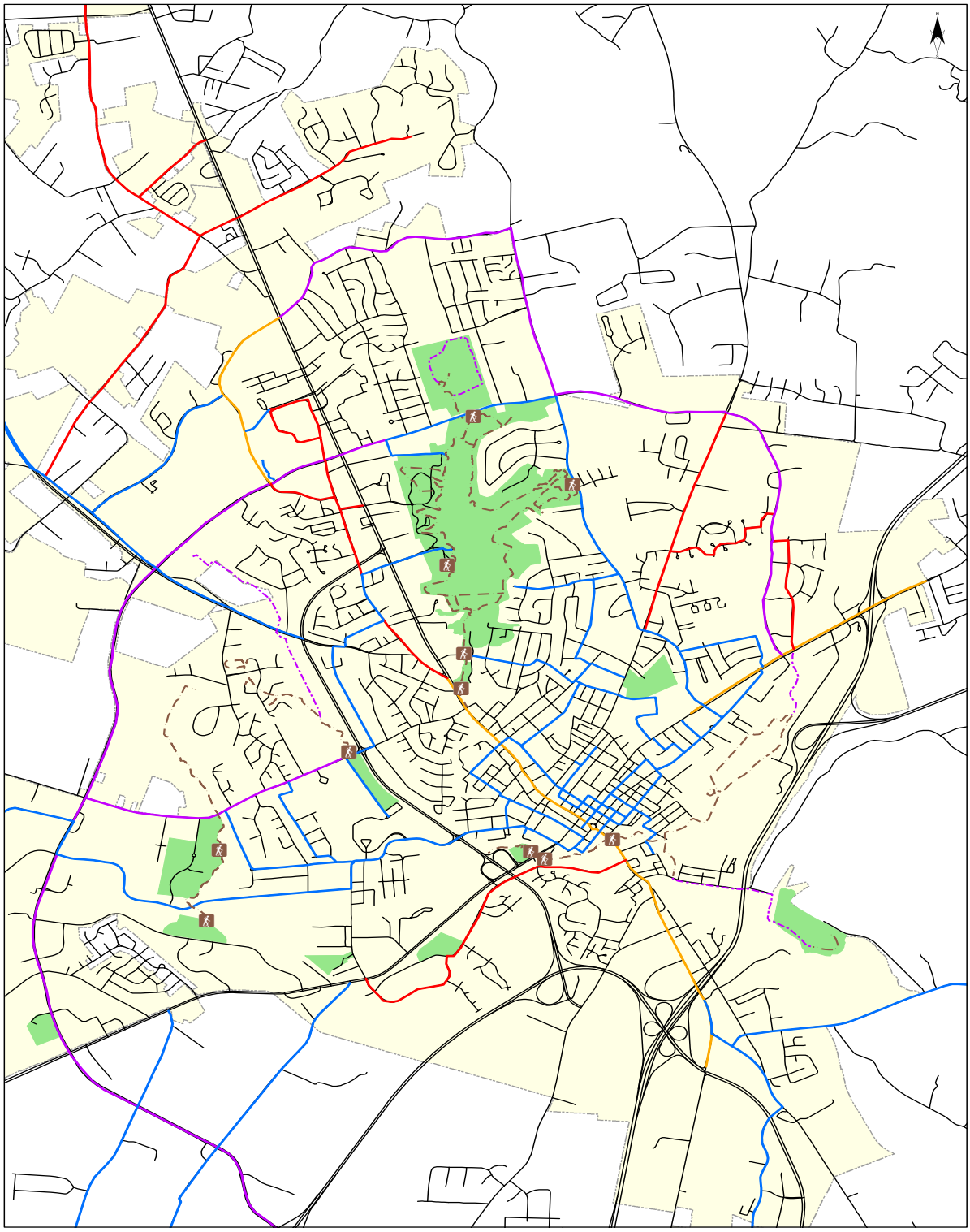
Since the early 1970's, Greenspace, Inc. has been developing a trail system in the Elizabethtown area with the ultimate goal of developing a complete greenbelt around the city. Saunders Springs is a 26-acre wooded area in Radcliff that includes hiking and walking trails. Meade County has trails along the Ohio River and Buttermilk Falls. Otter Creek Park also has trails for hiking, horseback riding, and mountain biking. Otter Creek Park is a recreation area of the Kentucky Department of Fish and Wildlife and a fee is required for entering the park.

While the cities and counties have developed trail systems over the years, an on-road system of bicycle facilities has been lacking. In 2013, Patriot Parkway (KY 361) opened to traffic and is the first roadway facility in either Hardin or Meade County to include a bike lane. The goals of this plan are to build upon these past successes and develop a fully integrated bicycle facility network in the MPO planning area.

The tables and maps below outline the proposed improvements for bicycle facilities in the MPO planning area:

Table 7.4 - Elizabethtown Bicycle Facility Improvements				
Elizabethtown	**Starting Point**	**End Point**	**Key Connection**	**Proposal**
Short-Term				
St. John Road (KY 1357)	Ring Rd	US 31W Bypass	E'town Sports Park	Bike Lane/Shared Use Path
South Wilson Road (KY 447)	WA Jenkins Rd	Hutcherson Ln	Residential/Connector	Sharrows and/or Signage
Hutcherson Lane (KY 2802)	S. Wilson Rd	Ceciliana Drive	Residential/Connector	Sharrows and/or Signage
Ceciliana Drive	Hutcherson Ln	Patriot Pkwy	Patriot Pkwy	Sharrows and/or Signage
Pine Valley Drive	US 31W	End	Residential	Sharrows and/or Signage
Pear Orchard Road NW	US 31W	Pear Orchard Rd	Residential/Connector	Sharrows and/or Signage
Pear Orchard Road	Ring Rd	Pear Orchard Rd NW	Residential/Connector	Sharrows and/or Signage
Veteran's Way	US 31W	Ring Road	Mall/Other Shopping	Sharrows and/or Signage
Buford Lane	Ring Rd	Woodland Dr	Residential/Connector	Sharrows and/or Signage
Towne Drive	Ring Rd	Around Towne Mall	Mall	Sharrows and/or Signage
Woodland Drive	Ring Rd	US 31W	Medical	Sharrows and/or Signage
Mid-Term				
North Miles Street (KY 251)	Ring Rd	Pear Orchard Rd	Residential	Sharrows and/or Signage
Winchester Blvd	N Miles St	Yorkshire Dr	Residential	Sharrows and/or Signage
Yorkshire Drive	Winchester Blvd	Colony Dr	Residential	Sharrows and/or Signage
Colony Drive	Yorkshire Dr	Ring Road	Residential	Sharrows and/or Signage
Northridge Drive	Ring Rd	Dolphin Dr	Residential	Sharrows and/or Signage
Dolphin Drive	N Mulberry St	Northridge Dr	Shopping/Residential	Sharrows and/or Signage
North Mulberry Street (US 62)	Brook St	McCormack Ave	Business	Sharrows and/or Signage
Long-Term				
Pear Orchard Road	Ring Rd	Pear Orchard Rd NW	Residential/Connector	Shared Use Path
Dixie Highway (US 31W)	Woodland Dr	Lincoln Pkwy	Downtown	Bike Lane
Ring Road (KY 3005)	Entire	Length	Freeman Lake & Nature Trails	Bike Lane/Shared Use Path

Map 7.5


City of Elizabethtown
Proposed Bikeway Connections
0
2,200
4,400
6,600
8,800
Feet
Legend
TrailHead
Potential_Trails
LocalTrail
Existing Bikeroute
Roads
LocalPark
Corporate Boundary
County Boundary
Potential Bikeroute
TYPE
BIKE LANE
SHARED-USE PATH
SIGNAGE/SHARROWS
LINCOLN TRAIL
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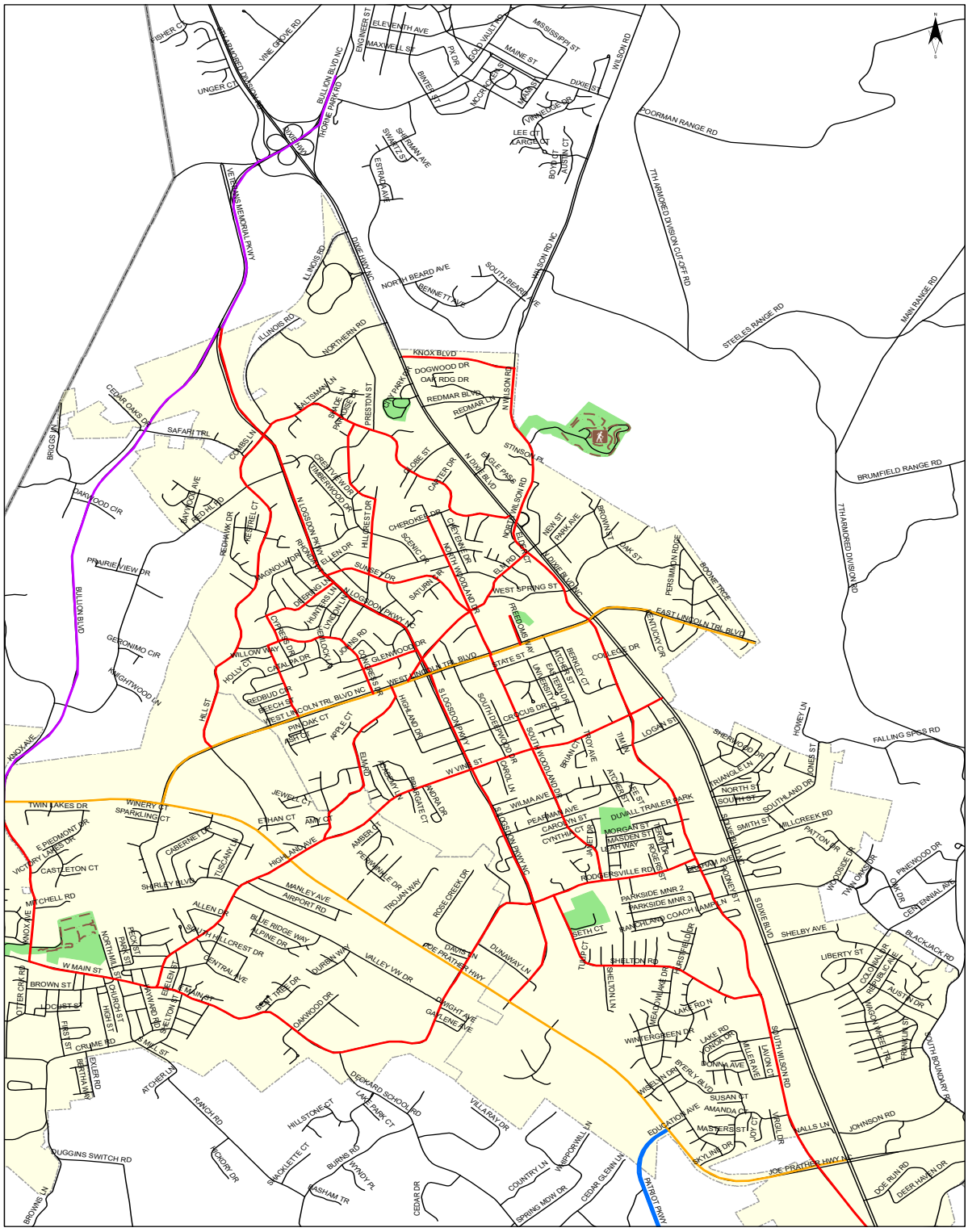
Prepared by: Lincoln Trail Area Development District, Community Development Department, 2014.

Table 7.5 - Radcliff/Vine Grove Bicycle Facility Improvements				
Radcliff	Starting Point	End Point	Key Connection	Proposal
Short-Term				
Veterans Memorial Highway (KY1646)	Bullion Blvd	N Logsdon Pkwy	Fort Knox	Sharrows and/or Signage
North Logsdon Parkway (KY 1646)	Veterans Memorial Hwy	W Lincoln Trail	Fort Knox	Sharrows and/or Signage
South Logsdon Parkway (KY 1646)	W Lincoln Trail	Rodgersville Rd	Residential	Sharrows and/or Signage
Knox Blvd	US 31 W	N Wilson Rd	Saunders Springs/Business	Sharrows and/or Signage
North Wilson Road	Knox Blvd	W Lincoln Trail	Business	Sharrows and/or Signage
South Wilson Road	W Lincoln Trail	Joe Prather Hwy	Residential	Sharrows and/or Signage
Elm Road	N Wilson Road	W Vine St	Residential	Sharrows and/or Signage
Sunset Drive	N Logsdon Pkwy	Elm Rd	Residential	Sharrows and/or Signage
Hillcrest Drive	Congress Dr	Kingswood Way	Residential	Sharrows and/or Signage
Hill Street	US 31 W	W Lincoln Trail	Residential	Sharrows and/or Signage
North Woodland Drive	Cherokee Dr	W Lincoln Trail	Residential	Sharrows and/or Signage
South Woodland. Drive	W Lincoln Trail	Joe Prather Hwy	Residential	Sharrows and/or Signage
Deering Lane	N Logsdon Pkwy	Cypress Dr	Residential	Sharrows and/or Signage
Cypress Lane	Deering Ln	Congress Dr	Residential	Sharrows and/or Signage
Congress Drive	Hill St	W Lincoln Trail	Residential	Sharrows and/or Signage
North Lorraine Street	W Lincoln Trail	Congress Dr	Residential	Sharrows and/or Signage
Freedoms Way	W Lincoln Trail	End	City Hall/ Community Center	Sharrows and/or Signage
West Vine Street (KY 144)	US 31 W	Joe Prather Hwy	Residential	Sharrows and/or Signage
Rogersville Road (KY 1500)	S Wilson Rd	Joe Prather Hwy	Residential	Sharrows and/or Signage

Shelton Road	S Wilson Rd	Rogersville Rd	Residential	Sharrows and/or Signage
W.A. Jenkins Road (KY 2802)	US 31 W	S. Wilson Rd	Schools	Sharrows and/or Signage
Mid-Term				
West Lincoln Trail Blvd	US 31 W	Joe Prather Hwy	Business	Bike Lane
East Lincoln Trail Blvd	US 31 W	End	Business	Bike Lane
Joe-Prather Highway (KY 313)	US 31 W	Bullion Blvd	Connector	Bike Lane
Long-Term				
Bullion Blvd (KY 361)	Joe Prather Hwy	Fort Knox Main Gate	Fort Knox	Bike Lane/ Shared Use Path
Vine Grove **Short-Term**				
Knox Avenue (KY 1500)	Bullion Blvd	W Main St	Residential	Sharrows and/or Signage
West Main Street (KY 144)	Knox Ave	Highland Ave	Downtown Area	Sharrows and/or Signage
East Main Street (KY 144)	Highland Ave	Joe Prather Hwy	Business	Sharrows and/or Signage
Highland Avenue (KY 144)	W Main St	Joe Prather Hwy	Business	Sharrows and/or Signage

Map 7.6


City of Radcliff
Proposed Bikeway Connections
0
1,900
3,800
5,700
7,600
Feet
Legend
TrailHead
LocalTrail
Existing Bikeroute
Roads
LocalPark
Corporate Boundary
County Boundary
Potential Bikeroute
TYPE
BIKE LANE
SHARED-USE PATH
SIGNAGE/SHARROWS
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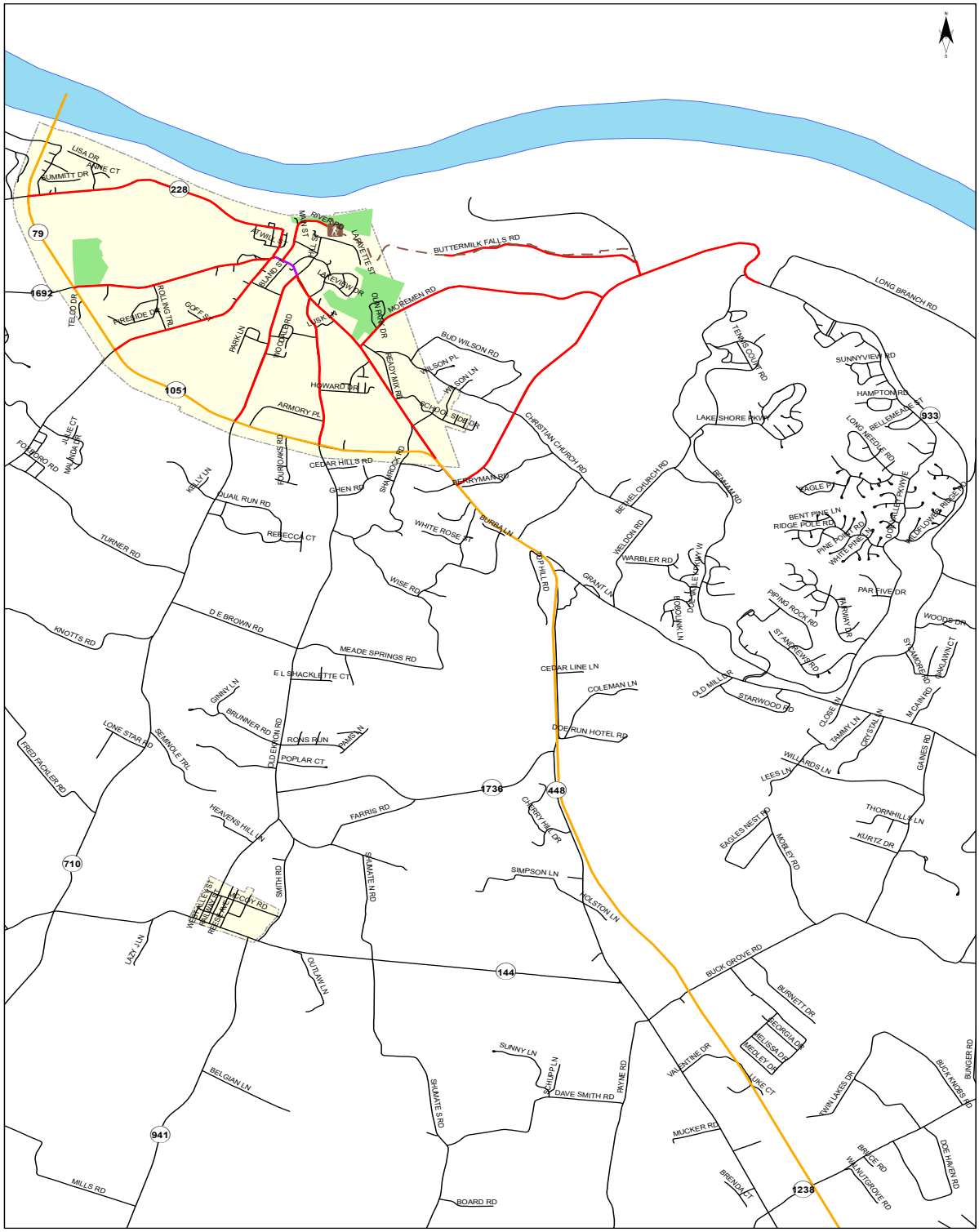
Prepared by: Lincoln Trail Area Development District, Community Development Department, 2014.

Table 7.6 - Meade County Bicycle Facility Improvements				
Meade County	Starting Point	End Point	Key Connection	Proposal
Short -Term				
KY 710	E Broadway	KY 1051	Schools	Sharrows and/or Signage
KY 448	W Broadway	KY 1051	Schools/Post Office	Sharrows and/or Signage
KY 1692	Hillcrest Drive	KY 1051	Government Offices	Sharrows and/or Signage
KY 228	High Street	KY 79	Residential	Sharrows and/or Signage
East Broadway	KY 1051	Lakeview Drive	Business	Sharrows and/or Signage
West Broadway	Lakeview Drive	High Street	Business	Sharrows and/or Signage
Main Street	W Broadway	Lawrence St	Riverfront Park	Sharrows and/or Signage
Old Ekron Road	E Broadway	KY 1051	Library	Sharrows and/or Signage
Olin Road	E Broadway	KY 933	Park	Sharrows and/or Signage
Buttermilk Falls Road	Olin Road	End	Trails	Sharrows and/or Signage
Mid - Term				
KY 933	Entire	Length	Trails	Sharrows and/or Signage
Long - Term				
KY 313	Entire	Length	Connector/Business	Bike Lane
KY 1051	Entire	Length	Business	Bike Lane

Map 7.7


Meade County
Proposed Bikeway Connections
0
2,500
5,000
7,500
10,000
Feet
Legend
TrailHead
LocalTrail
Existing Bikeroute
Roads
Ohio River
LocalPark
Corporate Boundary
County Boundary
Potential Bikeroute
TYPE
BIKE LANE
SHARED-USE PATH
SIGNAGE/SHARROWS
LINCOLN TRAIL
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For questions contact us at (270) 769-2393.
Prepared by: Lincoln Trail Area Development District, Community Development Department, 2016.

Pedestrian Facilities Improvements

The Radcliff/Elizabethtown MPO's focus on planning and implementing pedestrian facilities will offer transportation and recreation opportunities for residents by providing a connected system of sidewalks and making key connections to area trails. The MPO Pedestrian Plan serves as a blueprint for implementation and funding of pedestrian facilities in the MPO planning area. The proposed improvements are outlined in the tables and maps below:

Table 7.7 - Elizabethtown Pedestrian Facility Improvements

Elizabethtown	Starting Point	End Point	Key Connection	Proposal
US 31W Bypass	College St. Road		ECTC	Pedestrian Signal
US 31W	Veterans Way	Pear Orchard Road		Pedestrian Crossing
US 31W	Towne Mall	Walmart	Businesses	Pedestrian Crossing
US 62	West Poplar		Residential/ Downtown Businesses	Crosswalk Improvements
KY 1357 - St. John Road	US 31W		Residential/ Local Businesses	Crosswalk Improvements
KY 1357 - St. John Road	US 31W Bypass	Ring Road	Residential/Sports Park/Elem School	Multi-Use Path
US 31W	Downtown	Lincoln Parkway	Local Businesses	Sidewalks/Pedestrian Crossing
KY 361 - Patriot Parkway	US 31W Bypass	Ky 313		Bike Lane Improvements
University Drive	KY 1357 - St. John Road	ECTC	EC3/ECTC	Sidewalks
Westport Road	KY 361 -Patriot Parkway	KY 1357 - St. John Road	Residential	Sidewalks
College Street Road	US 31W Bypass	ECTC	Residential/ECTC	Sidewalks
Pear Orchard Road	North Miles	Ring Road	Existing Sidewalks on N. Miles & Ring Rd.	Sidewalks
Pear Orchard Road NW	US 31W	Pear Orchard Road	Residential	Sidewalks
KY 3005 - Ring Road	US 31W	US 62	Completion - All of Ring Road	Sidewalks
KY 3005 - Ring Road	Entire	Length	Numerous - Including Greenspace Trails/Sports Park	Multi-Use Path
Main Street	Poplar Street	US 62	Residential/ Downtown Businesses	Sidewalks
US 62 - North Mulberry	French Street	Ring Road	Local Businesses	Sidewalks
Dolphin Drive	Kroger Shopping Center	Northridge Drive	Residential/ Businesses	Sidewalks

Map 7.8

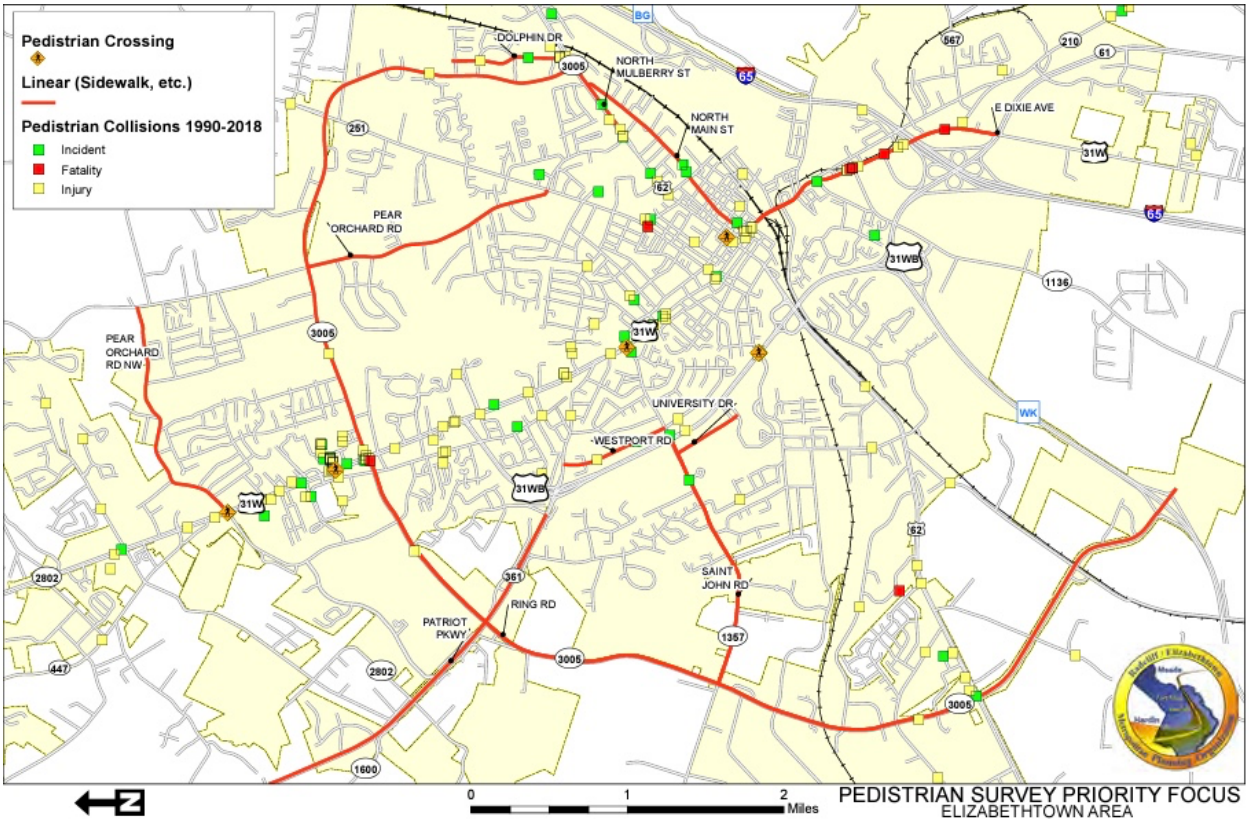


Table 8 – Radcliff/Vine Grove Pedestrian Facility Improvements

Radcliff	Starting Point	End Point	Key Connection	Proposal
KY 144 - West Vine Street	US 31W	KY 313	Residential	
KY 1646 - North Logsdon Pky	KY 1815 - W. Lincoln Trail Blvd	Bullion Blvd		Sidewalks
KY 1646 - South Logsdon Pky	KY 1815 - W. Lincoln Trail Blvd	KY 313		Sidewalks
Hill Street	US 31W	W. Lincoln Trail Blvd		Sidewalks
KY 1500 - Rogersville Road	S. Wilson Road	KY 1646 - S. Logsdon Pky		Sidewalks
KY 1500 - Rogersville Road	KY 1646 - S. Logsdon Pky	KY 313		Sidewalks
KY 1500 - Rogersville Road	S. Wilson Road			Pedestrian Signal
Vine Grove	**Starting Point**	**End Point**	**Key Connection**	**Proposal**
KY 144 - Main Street			Residential/Downtown	Sidewalks
KY 1500 - East Main Street			Residential/Downtown	Sidewalks/Bike Lanes
KY 1500 - Knox Avenue	KY 144	KY 313	Residential	Sidewalks

Map 7.9

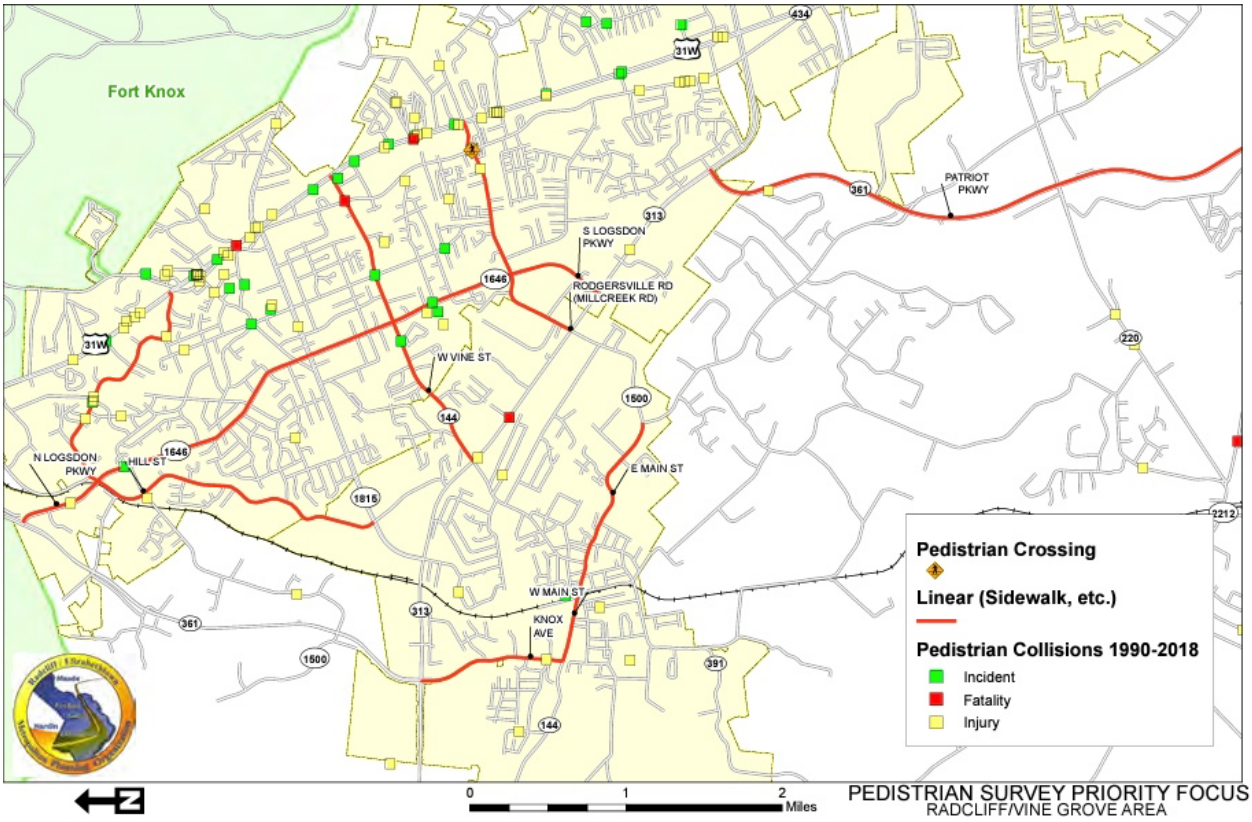
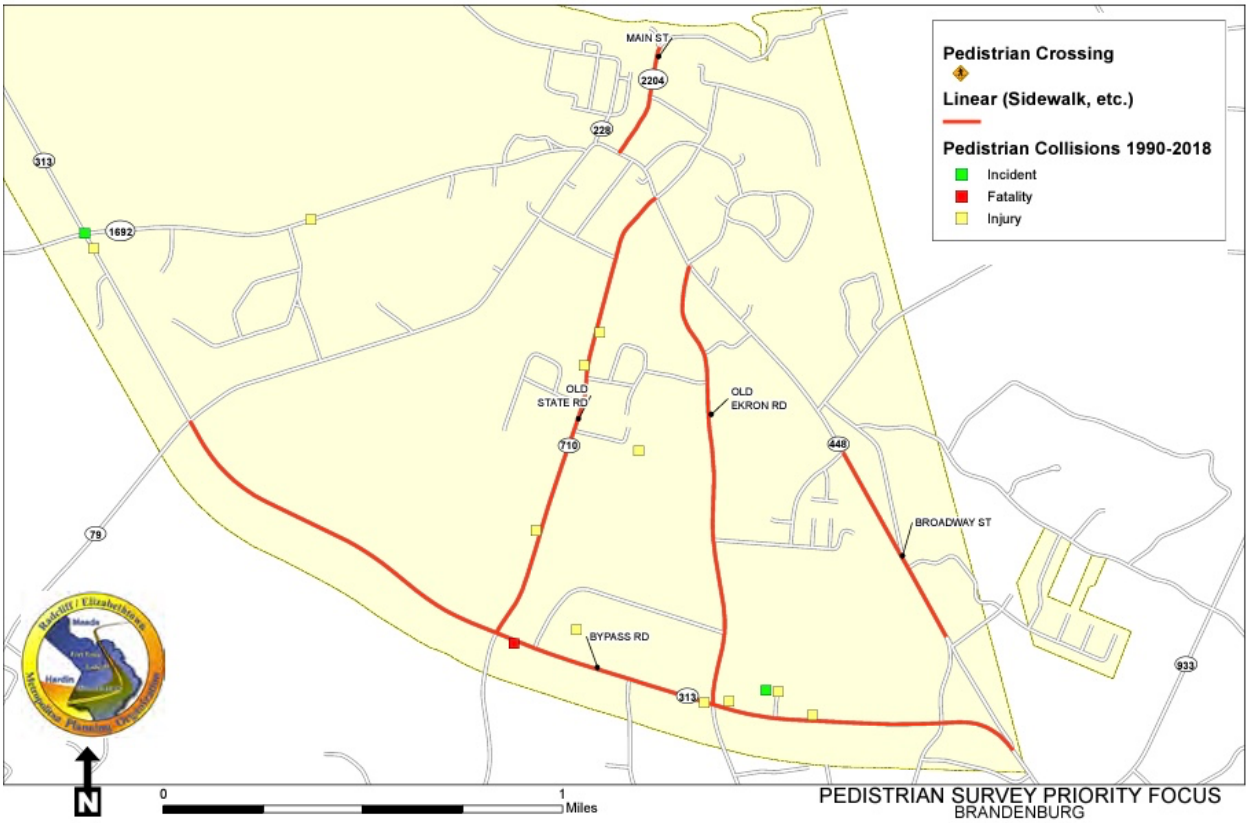


Table 9 – Brandenburg/Meade County Pedestrian Facility Improvements

Brandenburg/Meade County	Starting Point	End Point	Key Connection	Proposal
Broadway Street	Area of Brandenburg Primary School		Schools	Sidewalks
KY 1051 - Brandenburg Bypass	Broadway	High Street	Businesses	Sidewalks
Main Street	W. Broadway	Riverfront	Residential/Business	Sidewalks
KY 710	W. Broadway	KY 1051 - Brandenburg Bypass	Schools/Businesses	Sidewalks
Old Ekron Road	W. Broadway	KY 1051 - Brandenburg Bypass	Schools/Library	Sidewalks

Map 7.10



Public Transportation Improvements

The Radcliff/Elizabethtown Metropolitan Planning Organization (MPO) completed a Public Transportation Implementation Study in 2013 and then another in 2023. The purpose of these studies was to develop a plan for a fixed-route public transportation system that will connect Elizabethtown, Radcliff, and Fort Knox. The proposed routes and improvements listed below remain a long-range proposal for the area. If implemented, the system may look different than what is proposed below due the changes in future conditions. The implementation of this type of system will also depend on future need and available federal, state, and local funding.

Routes and Stops

Three routes have been proposed to address the goals of the most recent study. These are the Elizabethtown-Radcliff-Fort Knox Connector, Elizabethtown Circulator, and the Radcliff Circulator.

Elizabethtown-Radcliff-Fort Knox Connector

The purpose of the connector route is to connect Elizabethtown, Radcliff and Fort Knox. As noted under existing transportation resources, TACK currently provides a park-and-ride service that fills this function. The TACK service is targeted to the needs of those working at Fort Knox, operates only 6 trips per weekday and has only a few stops. The proposed connector route has

more stops, somewhat different routing and includes connections to local circulator services in Elizabethtown and Radcliff.

As shown in the map on the following page, the Elizabethtown-Radcliff-Fort Knox Connector (connector) routing generally runs up and down US 31 W, but does make some deviations to accommodate additional key stops. Proposed stops along the corridor for both northbound and southbound service are in the general vicinity of the following:

- Lincoln Trail Behavioral Health
- Rural King
- Dixie Highway Shopping Plaza
- Towne Mall/Walmart
- Brandy Chase Apartments

These stops have been identified to provide access to key transit generators and facilitate transfers to and from the local circulator routes. Passengers with Fort Knox as a destination will exit the vehicle at the gate and then may access the internal Fort Knox shuttle to get to their final destination.

Map 7.11


Fort Knox
Visitors Center
0 0.5 1 2 Miles
31W
Radcliff
Walmart
Radcliff
City Hall
Ollie's /
Park & Ride
Vineland
Carriage Homes
1815
Brandy Chase
Apartments
Vine
Grove
1500
Vine Grove
City Hall
Baptist Health
Urgent Care
313
313
Gateway Crossings
Lincoln Trail
Behavioral Health
Rural King
220
31W
Dixie Highway
Shopping Plaza
1600
Cool Springs
Shopping Center
65
Towne Mall / Walmart
3005
62
Hardin County
Gov't Center
Elizabethtown
Baptist Health
Hardin
Kroger /
Dolphin Dr.
Hardin County
Library
Elizabethtown City Hall
ECTC
KY Career
Center
Warm Blessings
Dollar
General
Industrial
Park
62
Elizabethtown
Park & Ride
Radcliff/Vine Grove Circulator
Elizabethtown Circulator
Fort Knox/Etown Connector
Radcliff/Vine Grove Bus Stop
Elizabethtown Bus Stop
Connector Bus Stop
Transfer Point

Elizabethtown Circulator

The following map shows a preliminary circulator route for Elizabethtown. Starting downtown near city offices and numerous local businesses, the route would leave downtown with the proposed routing:

Map 7.12

This would include stops at locations such as

- Baptist Health Hardin
- Hardin County Gov't Center
- Hardin County Library
- Ky Career Center
- Industrial Park
- Cool Springs Shopping Center
- Kroger
- Elizabethtown City Hall
- Dollar General
- ECTC

Radcliff Circulator

A preliminary Radcliff Circulator is shown in the map below. It assumes a starting location of Ollie's/ The current Park and Ride and includes several stops throughout Radcliff and Vine Grove.

Map 7.13

The route provides access to residential areas and also serves shopping areas and also serves shopping areas.

Operational and Capital Costs

The study shows a total cost estimate of $1,691,000 in annual operating costs. $743,000 for the Elizabethtown Circulator, $508,000 for the Radcliff/Vine Grove Circulator, and $440,000 for the Fort Knox/Elizabethtown Connector.

Airport

The Elizabethtown Regional Airport (ERA) is a class III regional general aviation airport that lies just west of the City of Elizabethtown. Currently, the ERA has a 6,001-feet runway and serves both commercial and industrial uses.

The extension of Ring Road (KY 3005) to the Western Kentucky Parkway and, ultimately, to Interstate 65 now provides direct highway access from the ERA to the state's major expressway system.

Over the past few years, the ERA has been exploring opportunities to restore passenger airline service to the Elizabethtown/Central Kentucky area. The Radcliff/Elizabethtown MPO fully supports these efforts and will continue to work with the ERA and its board to fully implement its goals for growth and expansion.

Rail

CSX, a Class I Carrier, and Paducah and Louisville, a Class II Carrier provides rail service to the MPO planning area. More detailed information on both of these companies can be found in Chapter 3.

Some of the major rail issues in the Radcliff/Elizabethtown area include: impacts on rail crossings, such as safety and highway traffic; providing rail access to the Meade County Riverport; and rail needs of the military at Fort Knox.

Currently, the MPO supports providing a railroad spur extension to the Meade County Riverport, east of Brandenburg. The MPO will also explore opportunities for railroad crossing closings and/or upgrades in the future as a means of ensuring a safer flow of both rail and vehicular traffic.

Riverport

The Meade County Riverport is the only riverport located within the MPO planning area. It is a 50-acre site east of Brandenburg, next to Arch Chemicals, Inc. The site is accessed via KY 933. The riverport's business plan shows operations concentrated on grain-loading, light cargo loading and off-loading. The service area includes Meade, Hardin, Breckinridge, and Larue counties.

The completed highway improvements to KY 933 and KY 313 have been very beneficial to the Meade County Riverport. Help to reduce traffic congestion and facilitate truck movement to and from both the riverport and recent industrial developments in the area.

Nucor, a state-of-the-art steel company, recently completed construction of a $1.35 billion facility near the riverport in Meade County. Nucor has created some 400 new jobs in the area. These jobs pay an average of $45 per hour and have a tremendous economic impact on Brandenburg and Meade counties as well as many of the neighboring counties. The riverport played an important role in Nucor's selection of the location and will continue to play an important role in future economic development in the area.

Freight

Interstate 65 is a major interstate route for regional and national truck movements. The Radcliff/Elizabethtown planning area is fortunate to have a transportation system that consists of Interstate 65, the Bluegrass Parkway, the Western Kentucky Parkway, US 31W, US 62, KY 61, KY 313, KY 361, etc. While the majority of freight traverses the area on I-65, these other major

routes play a significant role in the movement of freight in and through the area. There are numerous businesses and industries in the region that rely on trucks for shipping and delivery.

Freight is a major consideration for the MPO when prioritizing projects for inclusion in the MTP. First, increasing access and mobility for the movement of freight is one of the nine goals of the MPO. The MPO also evaluates all highway projects based on the percentage of truck traffic a particular segment of highway carries on a daily basis. The higher the volume of truck traffic the higher score the project will receive in the freight movement category.

While, it is a blessing to the area, it is also a concern. The movement of truck traffic through the cities has been an issue in recent years. It may become important for the MPO conduct a truck access study in the future to better define current and future trucking issues and needs, including better signage to direct trucks to major routes to keep them out of downtown areas.

Appendix A

MPO Committee Membership

MPO Policy Committee

Member	Representing	Title	Appointment		
			Elected	Member	Voting
Keith Taul	Hardin County	County Judge/Executive	X		X
Jeff Gregory	City of Elizabethtown	Mayor	X		X
JJ Duvall	City of Radcliff	Mayor	X		X
Pam Ogden	City of Vine Grove	Mayor	X		X
Troy Kok	Meade County	County Judge/Executive	X		X
David Pace	City of Brandenburg	Mayor	X		X
Brad Bottoms	KYTC District 4	Chief District Engineer		X	X
Jimmy Bradford	Fort Knox Garrison	Garrison Commander		X	
Glenn Arney	Transit Authority of Central Kentucky	Executive Director		X	
Tonya Higdon	Federal Highway Administration – KY Division	Transportation Specialist		X	
Yvette Taylor	Federal Transit Administration	Regional Administrator		X	

MPO Technical Advisory Committee

Member	Representing	Title	Appointment	
			Member	Voting
Vikki Meredith	Hardin County	Deputy Judge	X	X
Adam King	Hardin County	Planning & Development Director	X	X
Murray Wanner	City of Radcliff	Planning Official	X	X
Toby Spalding	City of Radcliff	City Engineer	X	X
Joe Reverman	City of Elizabethtown	Planning & Development Director	X	X
Mark Absher	Hardin County	County Engineer	X	X
Chris Mayhew	City of Vine Grove		X	X
Mark Richerson	Fort Knox	Engineer	X	X
Glenn Arney	Transit Authority of Central Kentucky	Executive Director	X	X
Mike Hall	Transportation Management Systems	Owner	X	X
Kevin Young	KYTC District 4	Transportation Engineer	X	
Kevin Blain	KYTC District 4	Transportation Engineer	X	
Charlie Allen	Lincoln Trail Area Development District	Civic Engineer	X	
Tonya Higdon	Federal Highway Administration - Ky Division	Transportation Specialist	X	
Aviance Webb	Federal Transit Administration	Community Planner	X	
Vicki Bourne	KYTC Office of Transportation Delivery	Director	X	
Don Cox	Elizabethtown Airport		X	X
Mikael Pelfrey	KYTC Division of Planning	Director	X	

Appendix B

Socioeconomic Data

Source: 2023 ACS Data, U.S Census Bureau.	Hardin	Meade	Radcliff/ Elizabethtown MPO	Kentucky	United States
Total Population	112,273	30,131	142,404	4,526,154	334,914,895
By Race					
White Alone	90,155	27,600	117,755	3,924,175	252,190,916
% White Population	80.3%	91.6%	82.69%	86.7%	75.3%
Black or African American	13,922	1,266	15,188	345,327	45,883,341
% African American Pop.	12.4%	4.2%	10.66%	8.8%	13.7%
Asian	2,582	241	2,823	81,471	21,434,553
% Asian	2.3%	0.8%	1.98%	1.8%	6.4%
Other	898	271	1,169	18,104	5,358,638
% Some other race alone	0.8%	0.9%	0.8%	0.4%	1.6%
Hispanic or Latino Origin	7,410	1,326	8,736	226,308	65,308,405
% Hispanic or Latino Origin	6.6%	4.4%	6.13%	5%	19.5%
Total Minority Population	22,118	2,531	24,649	601,979	82,723,979
% Minority Population	19.7%	8.4%	17.31%	13.3%	24.7%
By Female					
Total Population Age 18 years+	84,395	23,341	107,736	3,507,430	260,961,960
Total Female age 18 years+	42,534	11,580	56,178	1,787,231	132,787,423
% Female	50.2%	49.3%	50%	50.4%	50.5%
Limited English Proficiency: Speak English less than “well” for population 18 years +					
Limited English Proficiency: Speak English less than “well” for population 18 years +	3,851	905	4,756	186,494	10,525,909
Total Population 18 years and over	84,395	23,341	107,736	3,507,430	260,961,960
% Speak English less than “very well”	4.56%	3.87%	4.41%	5.31%	4.03%
Low Literacy: Less than 9th Grade Education for Population 25 Years +	1,769	671	2,440	132,132	10,694,112
Total Population 25+	74,400	20,806	95,206	3,091,499	229,707,137

% Less than 9th Grade Education	2.38%	3.22%	2.56%	4.27%	4.66%
Persons with Disabilities for Civilian Noninstitutionalized population 18 years +					
Total Population age 18 years +	84,395	23,341	107,736	3,507,430	260,961,960
Total Disabilities age 18 years +	19,797	5,281	25,078	735,204	40,671,273
% with disabilities	23.46%	22.62%	23.28%	20.96%	15.58%
Low Income: Less than Poverty Level for Population 18 Years +					
Total (18 Years +)	84,395	23,341	107,736	3,507,430	260,961,960
Income below poverty level 18 years +	9,429	2,752	12,181	516,314	29,368,675
% Income below poverty level 18 years +	11.17%	11.79%	11.31%	14.72%	11.25%
Occupied Housing Units with no Vehicle					
Total Occupied Housing Units	44,414	10,554	54,968	1,828,680	129,870,928
Occupied Housing Units with No Vehicle	1,037	189	1,226	36,827	2,739,740
% Occupied Housing Units with No Vehicle	2.33%	1.79%	2.23%	2.01%	2.11%