

Bicycle and Pedestrian Travel Master Plan

Middlesboro

Bell County, KY

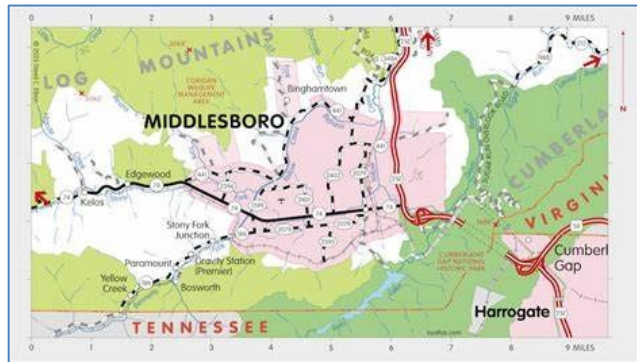


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INTRODUCTION

Bicycle and Pedestrian Master Plans are developed to address health, safety, tourism, and economic issues. The City of Middlesboro's (Bell County, Kentucky) plan focuses on the needs of the bicyclists and pedestrians in the area. According to Kentucky's Vision for Access to Physical Activity Report, active transportation, such as walking or bicycling, allows residents to get physical activity while performing daily routines, such as commuting to work or school. Walking is one of the most common forms of physical exercise for adults because it is less strenuous than using weights and does not require a lot of skill. This opportunity is supported by a Cooperative Agreement, funded by the Centers for Disease Control and Prevention (CDC). Funding is awarded to the Kentucky Department for Public Health State Physical Activity & Nutrition (SPAN) Program to implement the active living project.

PURPOSE OF THE PLAN

The purpose of the Master Plan is to identify, design, construct, and rehabilitate needed walkways and identify places to design and build future bikeways that connect neighborhoods, business centers, parks, and schools. It sets forth ideas and strategies for making Bell County an inviting place to bike and walk. The Master Plan is a guide for city, county, and state governments, developers, road builders, citizens, and bicycle and walking enthusiasts when planning and developing future projects in the community.

BENEFITS OF WALKING AND BICYCLING

There are numerous reasons and benefits to promote walking and bicycling in Bell County. Improved health and mobility, with an enhanced economy and quality of life are just to name a few.

Improved Public Health

According to United Health Foundation's 2022 Annual Report, Kentucky was ranked 43rd in America's Health Ranking. Bell County was ranked 112 out of 120 Kentucky Counties in health. It is widely recognized that regular daily physical activity reduces the risk for heart disease, diabetes, and obesity. By increasing the amount of public space for convenient and safe recreation and active transportation, Bell County can increase the overall health of the community.

Improved Mobility

Accommodation for walking and bicycling as an alternative means of exercise and travel may appeal to a broad range of individuals within the community. Better accommodation will also help those who do not have access to a means of transportation other than walking or bicycling. Parents or guardians with small children and the elderly would greatly benefit from having multi-modal choices (non-motorized transportation options) for daily travel and activity. By planning and providing more connections and greater access to all parts of the community, Bell County can increase the ability to meet transportation needs and help improve the health of its residents.

Enhanced Economy and Quality of Life

Accommodating safe walking and biking facilities in the community will create more opportunities for social interactions. A community that is walk-able and bike-able for all ages will have positive economic advantages over other communities, such as having higher property values, being more attractive to new businesses, being more inviting for new home buyers, and having more to offer tourists. By planning for future bicycle and pedestrian facilities and accommodations, Bell County can become an even more thriving community within the region.

VISION AND GOALS OF THE PLAN

The overall goal of the Bicycle and Pedestrian Master Plan is that it will guide the city and county as it moves forward with implementation. A goal summary is provided below:

Bicycle and Pedestrian Network and Support Facilities – Developing a network for safe and easy mobility throughout the city, county, and to the regional network.

Safety, Security, and Equity - Providing safe and useful connections between neighborhoods, business centers, parks, recreation facilities, and schools. Modal considerations should be made with all residents, especially those who do not have access to private motorized vehicles in mind.

Transportation and Land Use – The adjacent land within the right-of-way of roadways, near commercial areas, and government owned properties should be considered for all uses. These areas are valuable with potential when providing non-motorized travel accommodations where walking and cycling improvements are most needed.

Education and Awareness – Communication lines should remain open so that all users of the transportation network have improved awareness of the need to share the roadways and trails and recognize and observe traffic safety laws.

Maintenance and Operations – Maintain biking and walking facilities in good condition and serve the purpose for the intended users.

SOCIOECONOMIC ANALYSIS OF MIDDLESBORO

Middlesboro (population 9,410), located in Bell County, Kentucky, was established in 1886 by an Englishman, Alexander A. Arthur, who named it after Middlesbrough, Yorkshire, England. The city was developed as an iron and steel center by British investors, but the company failed due to the Panic of 1893. Eventually, the city recovered as a center for timber and coal. Middlesboro is built entirely within a meteorite impact crater which is 3.6 miles across.

Today, tourism contributes to the local economy, as well as industry and the Bell County Board of Education, the area's largest employer.

Bell County is home to the Cumberland Gap – the first great gateway to the west. Nearly 300,000 people crossed the Appalachian Mountains at the Cumberland Gap to settle in the Ohio Valley. Today, visitors can hike over 85 miles of trails and explore the 14,000 acres of wilderness. In addition, they can see the history of the region in the National Park Visitor's Center, stand in 3 states at once, explore a cave, visit the Hensley Settlement or camp under the stars.

In 2022, the percentage of residents in Bell County below the poverty level was 30.4%. Also, in 2021, the American Community Survey (ACS) provided estimates of how workers aged 16 and over traveled to work; These estimates are shown below.

POLICY FRAMEWORK AND PREVIOUS WORK

It is hoped that by adopting this Master Plan, momentum can be gained and lead into adoption of favorable communal policies and ordinances, as well as require consideration, planning, and implementation of adequate future bicycle and pedestrian facilities with all new development and major reconstructions.

Method of Transportation	Number	Percentage of Working Population
Drove alone in car, truck, or van	5014	73.3%
Carpooled in car, truck, or van	1248	18.2%
Public transportation	0	0%
Walked	297	4.3%
Other (taxi, motorcycle, bike, etc)	46	.6%
Worked at home	234	3.4%

Source: U.S. Census Bureau, Table B08141 ACS 2021 Census Reporter 5-Year Estimates

Cumberland Valley Area Development District

The concept of Area Development Districts (ADDs) originated in Kentucky in the early 1960s with the establishment of Area Development Councils. These Councils were organized in all counties and ultimately became the model for Area Development authorization in landmark federal acts such as the Appalachian Regional Development Act led by Kentuckian John Whisman and the Public Works and Economic Development Act of 1965. The fifteen Area Development Districts were formed during the period that followed, 1966 to 1972.

The mission of the ADDs is basic: To bring local civic and governmental leaders together to accomplish major objectives and take advantage of opportunities which cannot be achieved or realized by those governments acting alone.

Further, the ADDs are designed to be the focal point of a necessary Federal-State-Local partnership for improvement of the quality of life in the Commonwealth. This effort includes the elimination of, or certainly lessening of, parochialism; establishment of a forum to discuss and deal with common problems among counties; provision of a professional staff for units of government who individually cannot afford a staff; and to provide a vehicle for the delivery of services in a consistent manner where no other efficient system exists.

Each ADD is governed by a Board of Directors comprised of elected officials from the counties and communities within the district, as well as non-elected citizen members representing a cross-section of the region's social and economic institutions.

The Area Development Districts serve as forums, clearinghouses, technical centers, and as conveners for the region.

The Cumberland Valley Area Development District serves the counties of Bell, Clay, Harlan, Jackson, Knox, Laurel, Rockcastle, and Whitley.

Kentucky Transportation Cabinet Bicycle and Pedestrian Plan

In 2022, Kentucky adopted a Complete Streets, Roads, and Highways Manual. This is to be used as a guide to implement safe and equitable transportation strategies for facilities in rural and urban Kentucky. The goals of this document are to:

- Identify opportunities to promote and provide safe, convenient access to travel for all users of the transportation network while reducing crash rates and the severity of crashes.
- Improve mobility and accessibility of all individuals, including those with disabilities in accordance with the ADA.
- Safely integrate intermodal connections across the transportation network to maximize the efficient use of existing transportation facilities.
- Support mode shift to non-motorized transportation and transit in appropriate situations.
- Ensure early coordination during project scoping to identify and document potential actions or strategies to address impact or rehabilitation, reconstruction, or new construction projects to bicyclists, pedestrians, and transit riders of all ages.
- Offer internal and external training opportunities and other resource tools in the areas of planning, engineering, environmental services, education, encouragement, and evaluation to the state legislature, local elected officials, stakeholders, and local citizens.

The Middlesboro Bell County Bicycle/Pedestrian Master Plan is intended to strengthen the notion and incorporation of bicycle and pedestrian facilities in KYTC plans and projects. It's also there to provide guidance for making those considerations in the transportation project development process as early as possible. A copy of this plan will be provided to KYTC Central Office, KYTC Highway District Office 11, and to local officials to ensure that this analysis can be used to help develop projects in the area.

FACTORS THAT INFLUENCE WALKING AND BICYCLING IN BELL COUNTY

Destinations

The community has places that can be major attractions for people walking and cycling. These include retail stores, churches, playgrounds, schools, parks, medical facilities, and places of employment. It is important to provide safe and obliging options for all modes of transportation other than just for motorized travel.

Time and Distance

Walking and biking to destinations is easier and more manageable when doing so in the urbanized downtown area than in the rural sections of the county. Research shows that the average walking trip is less than 1 mile and bike trips are less than 5 miles. Trips with a “recreational” or “exercise” emphasis tend to be longer. If walking and biking become safer and more accommodating, people are more likely to do so.

Demographics

Those who are unable to drive due to age, medical or economic reasons, or don't have a driver's license due to traffic violations rely on walking and cycling for transportation. It is important to plan for the needs of all residents of Bell County. Furthermore, the county should include residents of all abilities.

Environment

Weather and traffic play an all-important role in how often people in the community walk or bike for transportation. Barriers can be created when walking or biking through the county during hot and humid summer conditions, as well as cold and wet winter conditions. Narrow, curvy roads with fast-moving traffic can also be a concern.

Community Attitudes

A positive perception can play a very important role in how frequently a person will walk or bike for transportation or recreation. If the perception is seen as socially acceptable, then the perceptions of the activity will change in a positive manner.

DESIGN STANDARDS AND GUIDELINES

The Kentucky Transportation Cabinet (KYTC) has published a Complete Streets Policy and a Complete Streets, Roads, and Highway Manual which provides guidance on planning for and accommodating pedestrians and cyclists in our state's transportation system. They are available at:

<https://transportation.ky.gov/BikeWalk/Documents/Complete%20Streets%20Policy.pdf> and <https://transportation.ky.gov/BikeWalk/Documents/Complete%20Streets,%20Roads,%20and%20Highways%20Manual.pdf>

KYTC District 11, the City of Middlesboro, and Bell County Road Department's planning activities should always include sidewalks and bicycle facilities (where feasible and practical). Rural area roadways should consider including wide paved shoulders (5 feet or wider) when and where feasible to further accommodate non-motorized transportation.

Pedestrian facilities should always be constructed to be compliant with the Americans with Disabilities Act Accessibility Guidelines (ADAAG) to accommodate all people who live in or visit Middlesboro. They are available at https://www.ada.gov/2010ADASTstandards_index.htm.

Paved roadway shoulders should include bicycle gaps within the rumble strips/stripes (10' gaps spaced every 40') to allow cyclists to exit onto the shoulder or the roadway at reasonable intervals. The rumbles should not extend continuously onto side roads. Shoulder rumbles that are deemed necessary within the urban boundaries should be the rolled type, as opposed to the more aggressive milled type.

SIGNAGE AND MAPPING

Project planners should refer to the Manual of Uniform Traffic Control Devices (MUTCD) and consult with KYTC for all signage associated with roadways, bicycle, and pedestrian facilities before recommending or installing. The MUTCD Manual can be found here: <https://mutcd.fhwa.dot.gov/>.

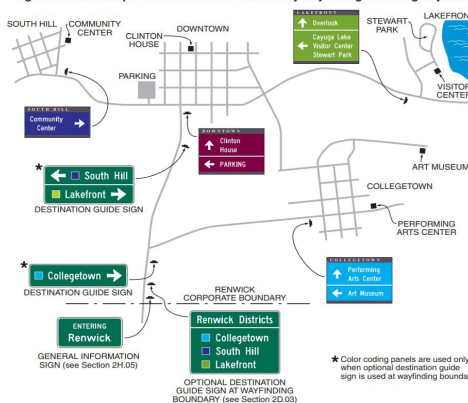
It is recommended that a city and county wide bicycle and pedestrian travel and facility map be developed and produced for current and future facilities. Appropriate bicycling and pedestrian facility wayfinding signage should be considered in conjunction with a citywide navigational map to aid non-motorized travelers with navigation around the city. Appropriate warning signs should be considered and placed in advance of all bicycling and pedestrian facilities when deemed necessary. These signs should be part of the consideration with all new transportation projects.

Figure 2D-18. Examples of Community Wayfinding Guide Signs
A - Community Wayfinding Guide Signs with Enhancement Markers



Source: From MUTCD Manual 2009 Edition with 2012 Revisions

Figure 2D-20. Example of a Color-Coded Community Wayfinding Guide Sign System



* Color coding panels are used only when optional destination guide sign is used at wayfinding boundary

DEFINITIONS

Bicycle Parking/Bike Racks

The City of Middlesboro should seek to encourage and incentivize businesses and organizations to provide secure and accessible bike parking that is convenient for users where appropriate. Bicycle racks should be in a highly visible area to prevent theft, be unobstructed, nor cause any obstruction to other traffic, and be mounted solidly to the ground or building in such a way that it cannot be easily removed. There should be a minimum clearance of 48" around the bike parking area and 72" should be allowed for a single bike lengthwise unless the rack allows vertical mounting. When feasible and possible, bike parking should be covered to protect cyclists and their bikes from the weather. Please refer to the *Association of Pedestrian and Bicycle Professionals Bicycle Parking Guidelines* for more details at [http://www.apbp.org/?page=Bike Parking](http://www.apbp.org/?page=Bike+Parking)

Bicycle Boulevard

Motorists and bicyclists share the roadway, but it is modified to be desirable for bicycle travel via traffic calming and speed reduction techniques, signage and pavement markings, and intersection crossing treatments. Bicycle boulevards typically provide for the through movements of cyclists while discouraging through trips by motorists (except those directly accessing properties along the route). Bicycle boulevards are typically planned and installed on low-volume, low speed shared streets that run parallel to a major vehicular corridor that is less desirable for bicycling.

Bicycle Rumble Strip Gap

A recurring short gap in continuous shoulder rumble strips designed to allow for ease of movement of bicyclists from one side of the rumble to the other. A typical pattern is gaps of 10 to 12 feet between groups of the milled-in elements at 40 to 60 feet intervals.

Bike Lane

A portion of the roadway is designated by striping, signage, and pavement markings for the preferential or exclusive use of bicyclists. Bike lanes can increase bicyclist comfort and safety, promote proper riding, discourage sidewalk riding, and increase awareness and visibility of cyclists to motorists. Bike lanes may also be paired with a painted buffer space to create a **"buffered bike lane"** which further separates the bicycle lane from adjacent motor vehicles lanes or parking lanes. Bike lanes may also be physically separated from motor vehicle traffic by grade or a barrier, such as a median, curb, or parking lane.

Bicycle Route

"Bike Route" signage is installed along shared roadways to provide wayfinding and to connect facilities and destinations. For instance, a bike route might be signed along a residential street that connects two trails. It may also identify a preferred route to a destination or through an area of town. The signage also provides a visual clue to motorists that they are driving along a bicycle corridor and should use caution.

Bikeway

Any road, path, or way which in some manner is specifically designated as being open to bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to

be shared with other transportation modes.

Crosswalk

That part of a roadway at an intersection included within the connections of the lateral lines of the sidewalks on opposite sides of the highway measured from the curbs or in the absence of curbs, from the edges of the travelable roadway, and in the absence of a sidewalk on one side of the roadway, the part of a roadway included within the extension of the lateral lines of the sidewalk at right angles to the center line, or any portion of a roadway at an intersection or elsewhere distinctly indicated as a pedestrian crossing by pavement marking lines on the surface, which might be supplemented by contrasting texture, style, or color. It is encouraged for crosswalks to use either the ladder style or zebra style marking.

Crosswalk Lines

White pavement marking lines that identify a crosswalk.

Curb Cut

A solid (usually concrete) ramp graded down from the top surface of a sidewalk to the surface of an adjoining street. It is designed for pedestrian uses and commonly found in urban areas where pedestrian activity is expected.

Shared-Use Path

Shared use paths are designed for multiple users, including pedestrians, wheelchairs, bicyclists, and inline skaters. They are physically separated from motorized vehicular traffic by an open space or barrier. They are either within the roadway right-of-way, or within an independent right-of-way, often along stream corridors or abandoned rail lines.

Paved Shoulder

Recommended at least 5 feet of smooth riding surface, exclusive of rumble strips, is provided for use by cyclists and pedestrians and for disabled motor vehicles.

Rumble Strip

A *shoulder rumble strip* is a longitudinal safety feature installed on a paved roadway shoulder near the outside edge of the travel lane. It is made of a series of milled or raised elements intended to alert inattentive drivers (through vibration and sound) that their vehicles have left the travel lane. An *edge line rumble strip* is a special type of shoulder rumble strip placed directly at the edge of the travel lane with the edge line pavement marking placed through the line of rumble strips.

Sharrow

Bicyclists and motorists share the travel lane, but it is marked with Shared Lane Markings (SLM) or Sharrows to help position bicyclists within the shared lane and to encourage safe passing.

Share the Road

Share the Road warning signage may be installed along shared roadways to alert motorists of the presence of bicyclists along high-use bicycle corridors. For instance, signage might be installed along a popular bicycle commuter route through a neighborhood or along a recreational route regularly used by cyclists in a rural area.

Sidewalk

A walkway separated from the roadway with a curb, constructed of a durable, hard, and smooth surface, designed for preferential or exclusive use by pedestrians.

EXISTING CONDITIONS AND ANALYSIS

From field observations, investigations, and surveys filled out by residents, very few people commute to work without some sort of motor vehicle. Some non-motorized travel was observed, but it seemed to be concentrated in lower income households throughout the county.

EXISTING BICYCLE RESOURCES AND EVENTS

The City of Middlesboro has a Historical Canal Walk. It begins from the center of downtown meandering along Yellow Creek to the entrance of Lincoln School Park.

EXISTING PEDESTRIAN RESOURCES AND EVENTS

Most of the pedestrian activity in Middlesboro is in the core downtown area and/or recreational. The running tracks in the county are associated with the local high school. Most of the running/walking activity in the area occurs in local neighborhood parks and at the track located at the high school.

Middlesboro does have one specialty sporting goods store – Hibbett Sports. Walking and running shoes are also available at several stores.

No designated walking tours of the downtown area exist. Interviews with residents and responses to the public survey also indicate a desire for enhanced marked pedestrian friendly crosswalks downtown.

Within Bell County, outdoor enthusiasts can enjoy the 1.0 mile out-and-back manmade trail near Middlesboro.

FACILITIES CURRENTLY AVAILABLE FOR BICYCLING AND PEDESTRIAN ACTIVITIES

Collection Methods

Data was obtained from the Cumberland Valley Area Development District database of bicycle and pedestrian facilities. This data was reviewed and updated as appropriate.

Results

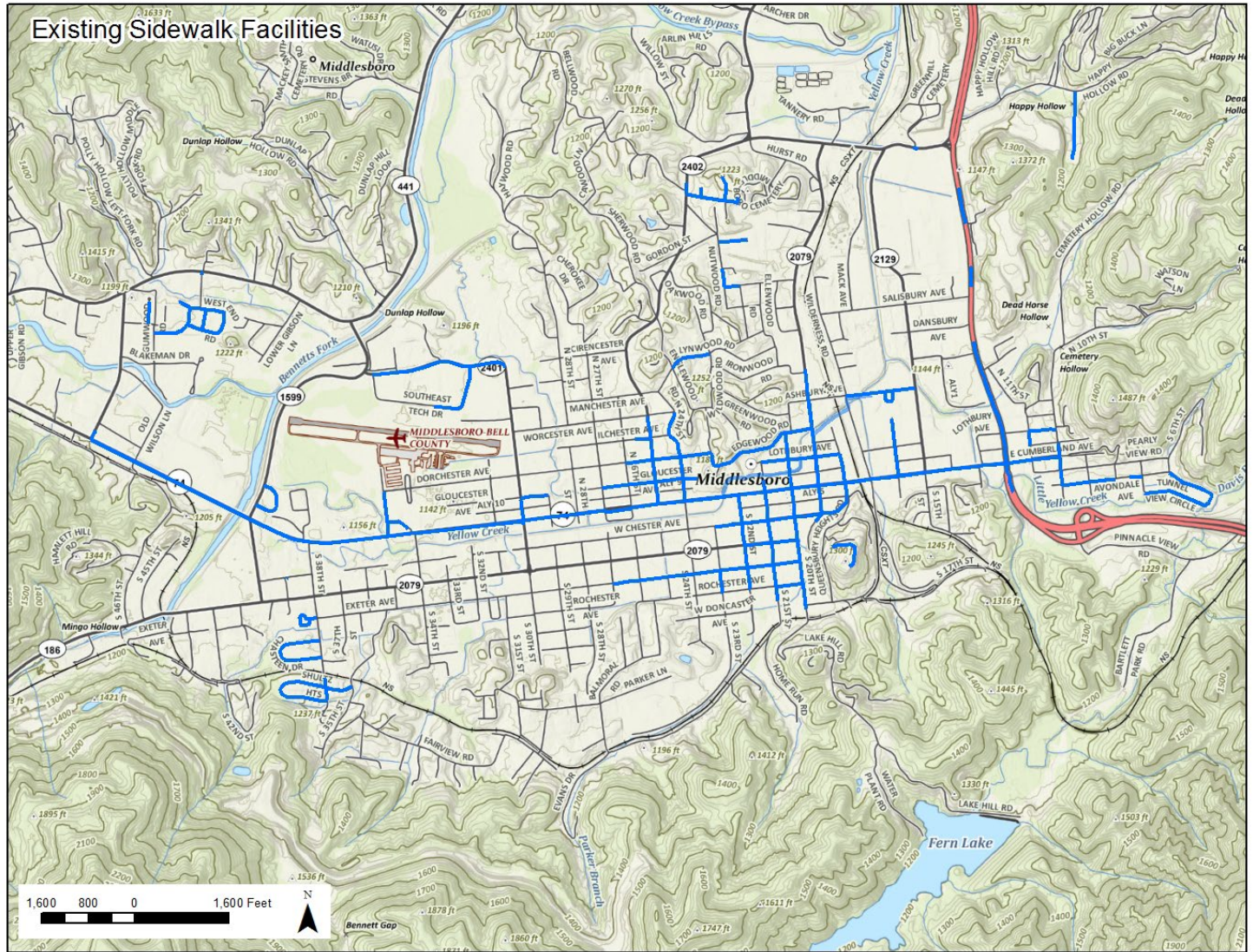
The City of Middlesboro has a network of sidewalks in the downtown area. There are gaps in the connectivity due to deteriorated or missing sidewalk sections. The total length of sidewalks in the city is approximately 23.57 miles. Marked crosswalks are placed inconsistently around the city. There are very few sidewalks outside of the downtown area.

The counts of bicyclists, pedestrians, and recreational runners that use the transportation system in Middlesboro and Bell County are not reliable. Evidence shows that the number of regular walkers and runners are few and there is a smaller number of active cyclists. The number of cyclists that are visiting is equal to or greater than those who live within the city. Strava heat maps help indicate routes heavily used by bicyclists and/or pedestrians.

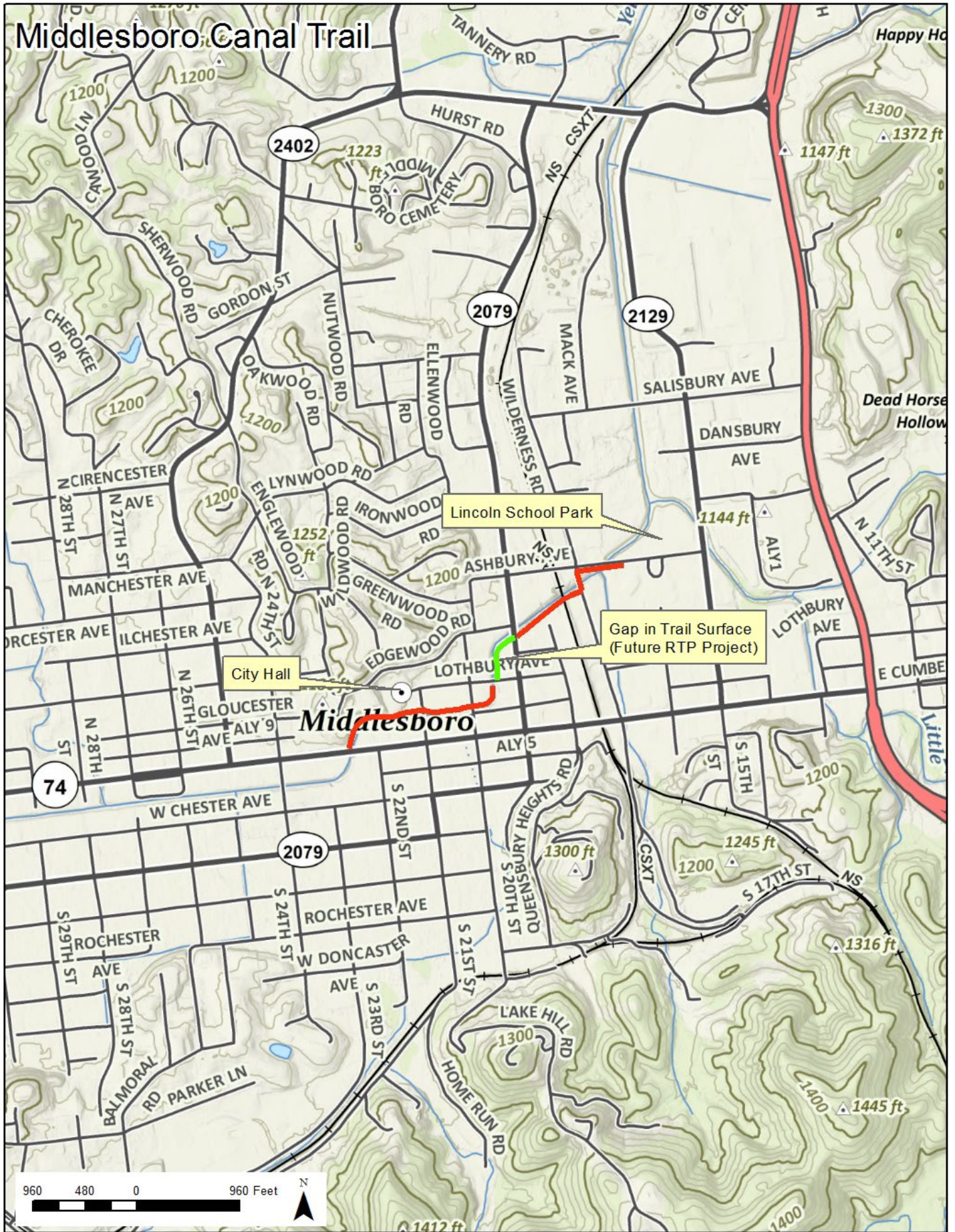
Highlights

The City of Middlesboro holds many events throughout the year where the streets downtown is blocked to motor vehicles. In July, Middlesboro hosts Fourth of July activities. Also, during the summer months Middlesboro has Music in the Park at the city park every Thursday and the Cruisin the Crater Car show every 3rd Saturday May through September. The Middlesboro Wing Fling Festival is held every first Saturday in August. The Cumberland Mountain Fall Festival is held in October and Christmas in Middlesboro is held in December at many locations around town. In addition, Cumberland Gap National Historic Park is located 1.5 miles east of town.

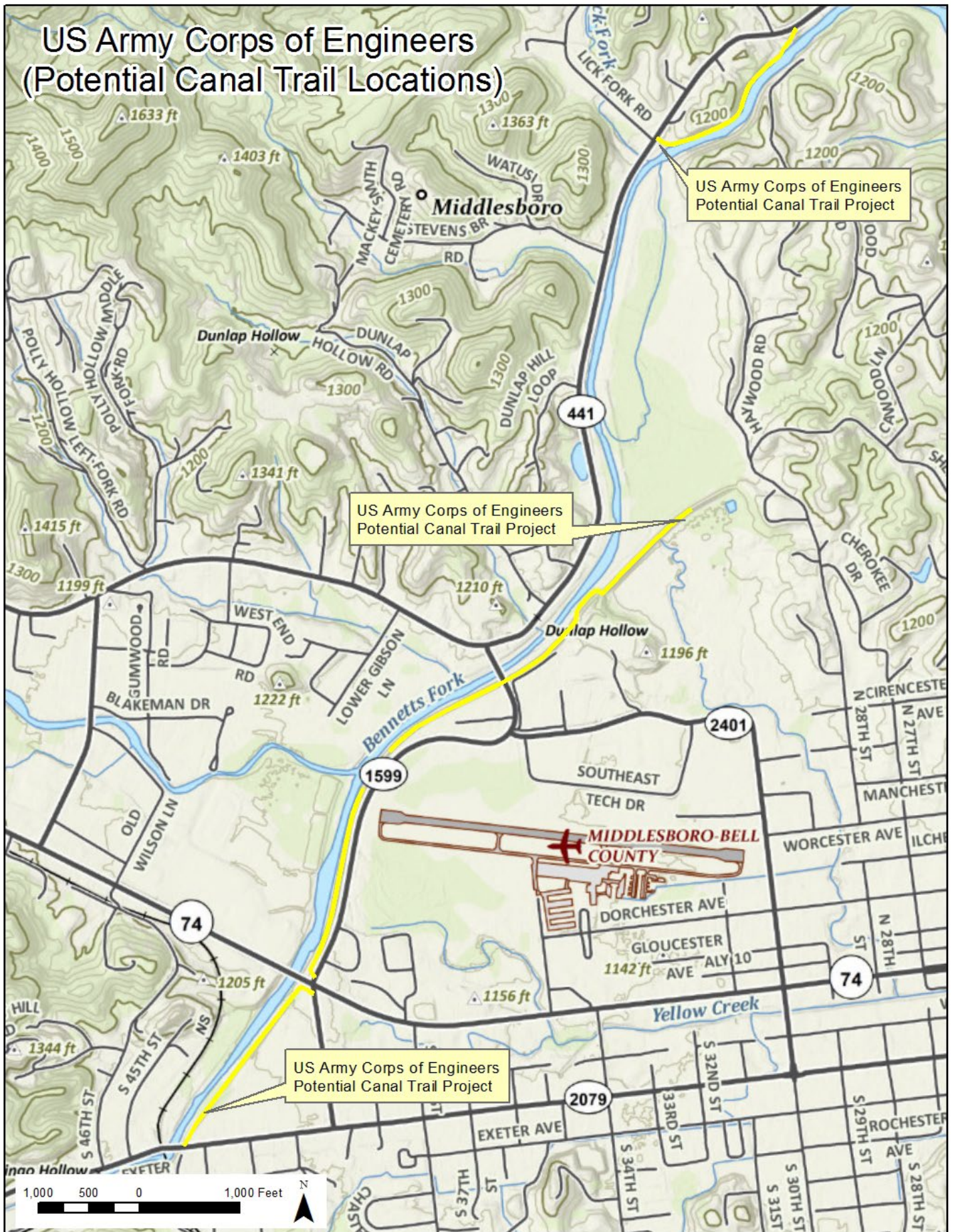
Existing Sidewalk Facilities

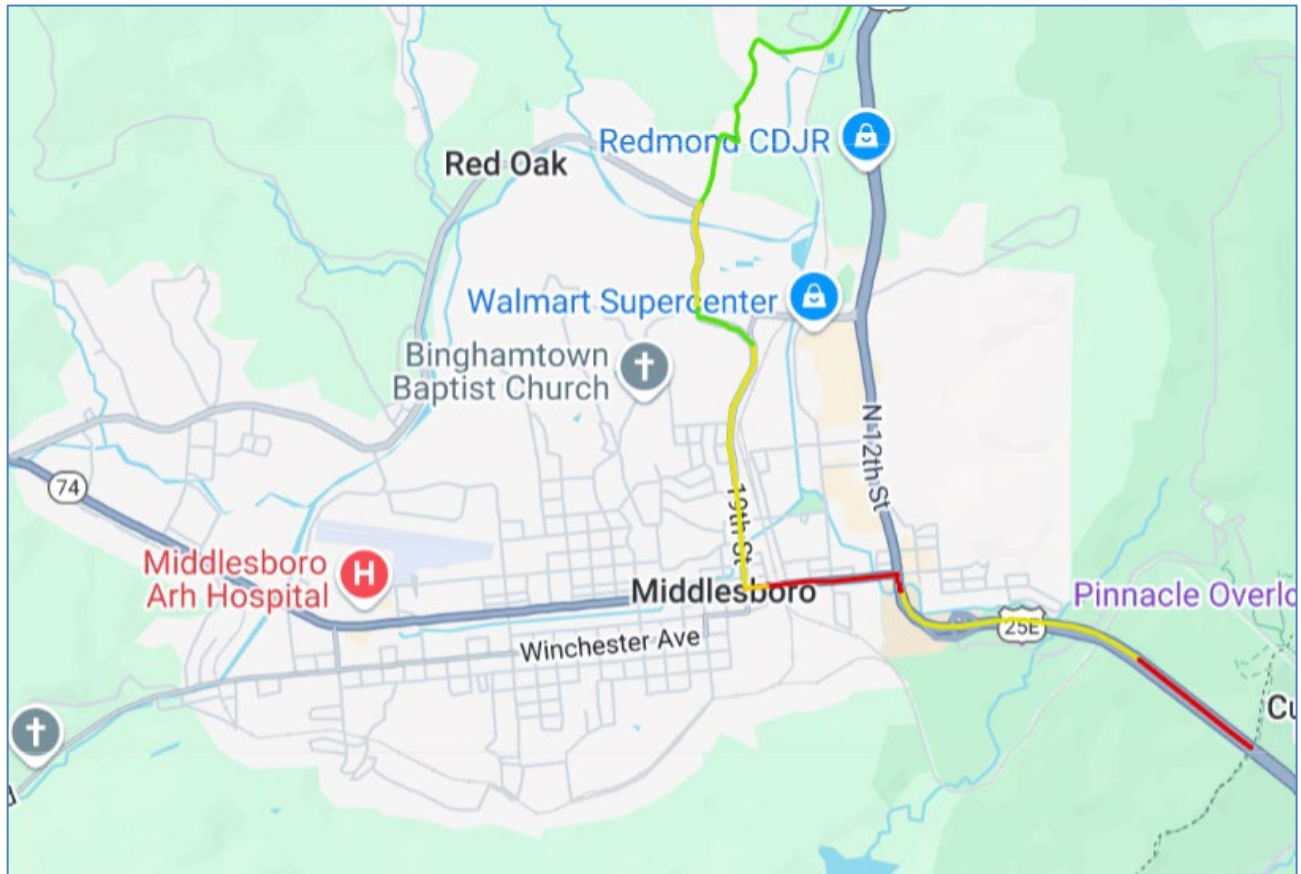


Middlesboro Canal Trail



US Army Corps of Engineers (Potential Canal Trail Locations)



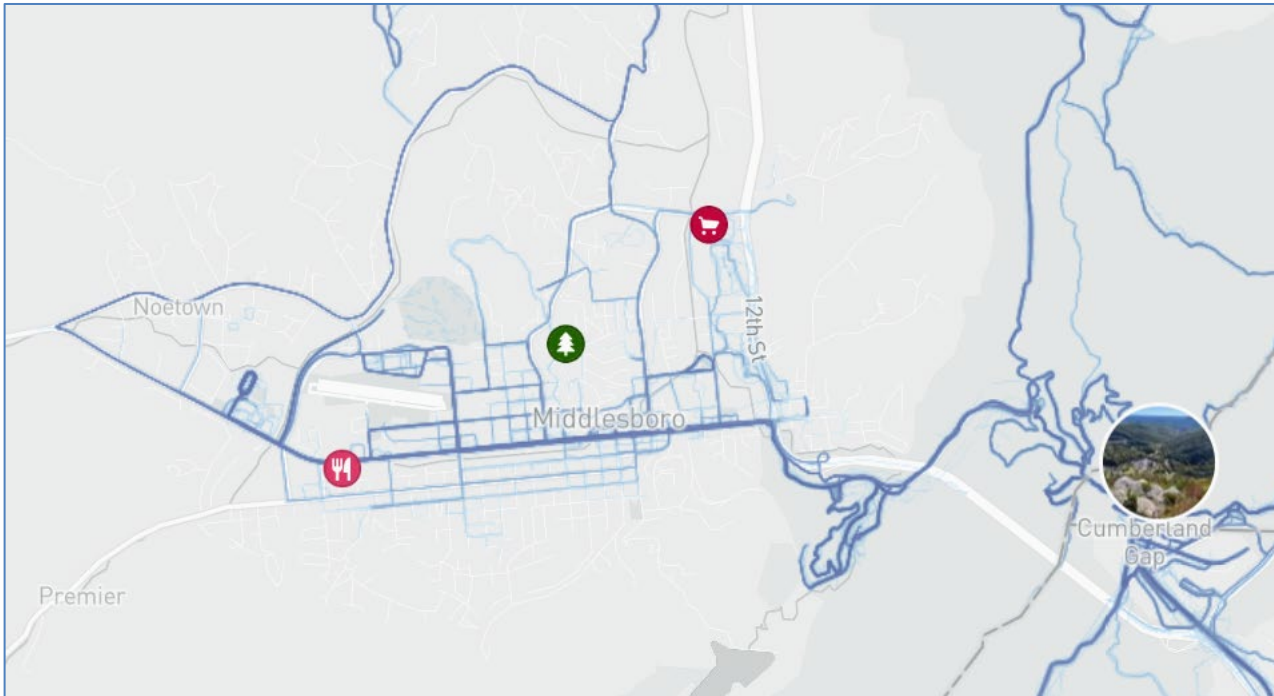


U.S. Bike Route 21 / Daniel Boone Tour (AASHTO approved)

https://drive.google.com/open?id=1LgudkiBr7p_IFVoUqb--VtaijbuTdyBQ&usp=sharing_eil

STRAVA MAPS OF CURRENT USERS

The use of Strava Heat Maps can be used in determining the popular areas for bicycling and walking. The maps below show areas for bicycling and walking activity in Middlesboro.



Strava Heat Map of Bicycle and Pedestrian Activity in Middlesboro, Kentucky

RESOURCES AND PUBLIC INPUT

COMMUNITY AND CIVIC RESOURCES

The Bell County School System has six elementary schools that contain PreK – 8th grade and one high school. These schools are scattered throughout Bell County.

The Bell County Public Library has two branches – one located in Middlesboro and one in Pineville. The Courthouse, City Hall, and the Extension Office are all located downtown.

Middlesboro has several recreational facilities. There are baseball/softball fields, basketball courts, tennis courts, a playground, several shelters, and walking track. There is also a walking track located at the high school.

The area of downtown Middlesboro is a mixture of commercial and residential development. There are retail business areas, restaurants, as well as banking and city government offices. There are also several churches in the downtown area. The downtown area contains a grocery store, hospital, medical services, a pharmacy, banks, and a farmer's market along with much more.

The data used for evaluation:

- KY Transportation Cabinet Complete Streets Policy and Design: <https://transportation.ky.gov/BikeWalk/Pages/Complete-Streets.aspx>
- KY Transportation Cabinet active highway map: <https://maps.kytc.ky.gov/activehighwayplan/>
- KY Transportation Cabinet Pedestrian Comfort Index: [https://transportation.ky.gov/BikeWalk/Documents/Pedestrian%20Comfort%20Index%20\(PCI\).pdf](https://transportation.ky.gov/BikeWalk/Documents/Pedestrian%20Comfort%20Index%20(PCI).pdf)
- KY Transportation Cabinet Bicycle Comfort Index: [https://transportation.ky.gov/BikeWalk/Documents/Bicycle%20Comfort%20Index%20\(BCI\).pdf](https://transportation.ky.gov/BikeWalk/Documents/Bicycle%20Comfort%20Index%20(BCI).pdf)
- Google Street View (Middlesboro, KY / project area): https://www.google.com/maps/place/Middlesboro,+KY+40965/@36.6143919,-83.727454,4481m/data=!3m2!1e3!4b1!4m6!3m5!1s0x885c852a4c65c50b:0x1ec5ad588a39d39a!8m2!3d36.6072567!4d-83.7142848!16zL20vMHRjcHM?entry=tту&_ep=EgoyMDI1MDUwNy4wWkXMDSoASAFQAw%3D%3D
- WalkBikeinfo.com: http://walkbike.info/wp-content/uploads/2022/04/SpringboroCentralGreenwayCostEstimateFINAL_2022.pdf
- Small Town and Rural Design Guide: <https://ruraldesignguide.com/physically-separated/sidepath>

PUBLIC INPUT AND PREFERENCES

Electronic Survey

The early stages of the plan development process included an electronic survey. The survey link was shared on the social media pages of the city, county, the ADD, and other local organizations. The survey included questions for the citizens of Middlesboro and Bell County to provide input on their walking and biking habits and preferences. This information was used in the development of the proposed bicycle and pedestrian facility networks and informed the development of goals and objectives. The following is a summary of some of the survey results. During the time the survey was online, there were very few responses and comments. The survey can be found in Appendix A. A consolidated list of locations where the survey responder's think biking and walking trails are needed the most can be found in Appendix B.

City of Middlesboro Bicycle & Pedestrian Survey

There was a Bicycle & Pedestrian Survey that was shared locally and on social media. However, due to the lack of participation, there are no results to analyze.

BIKEABILITY AND WALKABILITY AUDITS

BIKEABILITY AUDIT ANALYSIS

Due to no bike lanes or bike facilities in the county, bike-ability audits were not conducted. In the future when bike lanes and bike facilities are added, the City of Middlesboro and Bell County will include the following questions when performing a bike-ability audit. Bike lanes will be marked according to the U.S. Department of Transportation Manual on Uniform Traffic Control Devices (MUTCD).

- Did you have a place to bicycle safely?
 - a. On the road, sharing the road with motor vehicles?
 - b. On an off-road path or trail, where motor vehicles were not allowed?
- How was the surface that you rode on?
- How were the intersections you rode through?
- Did drivers behave well?
- Was it easy to use your bike?
- What did you do to make your ride safer?

WALKABILITY AUDIT ANALYSIS

Representatives from the Cumberland Valley District Health Department and from the Cumberland Valley Area Development District conducted a walkability audit of downtown Middlesboro and surrounding areas. Inventory was taken as to where crosswalk signals were not working/not available, sidewalks that were broken or unlevel, and other issues for pedestrians.

Some of the questions brought up during the Walkability Audit of Middlesboro included:

- Location?
- Is there a presence of a suitable walking surface?
- Is there potential for conflict with motor vehicle traffic due to driveway crossing, speed and volume of traffic, large intersections, and low pedestrian viewing?
- Presence and visibility of crosswalks on roads intersecting the segment? Traffic signals meet pedestrian needs with separate walk lights that provide sufficient crossing time.
- Is there cracking, buckling, overgrown vegetation, standing water, etc. on or near the walking path?
- What is the useful path width, accounting for barriers to passage along pathway?
- Is there space separating path from adjacent roadway?
- How is the access for the mobility impaired?
- What is the proximity of construction zones, fences, buildings, noise pollution, quality of landscaping, and pedestrian oriented features?
- What is the amount of shade accounting for different times of day?

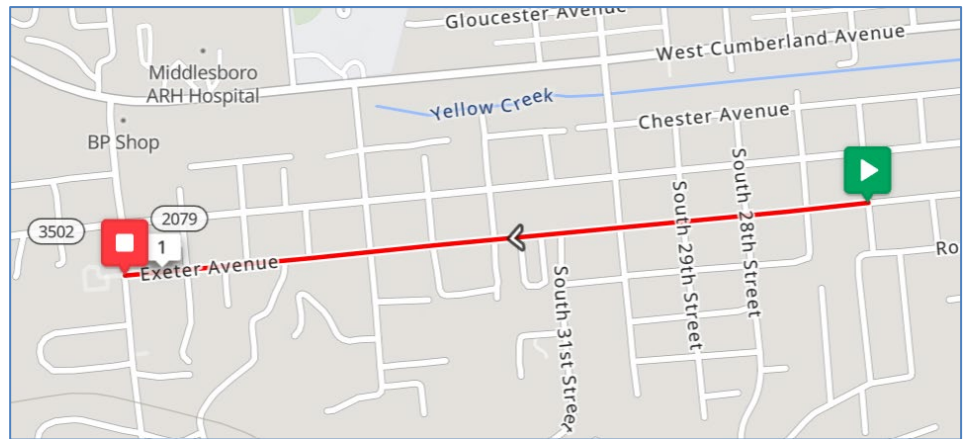
One of the first things noticed during the walking audit was the lack of signage used in town. Street signage with street names were missing in many places throughout the city. More pedestrian crossing signs could be beneficial for motorists in high foot traffic areas.

PROPOSED FACILITIES AND NETWORK

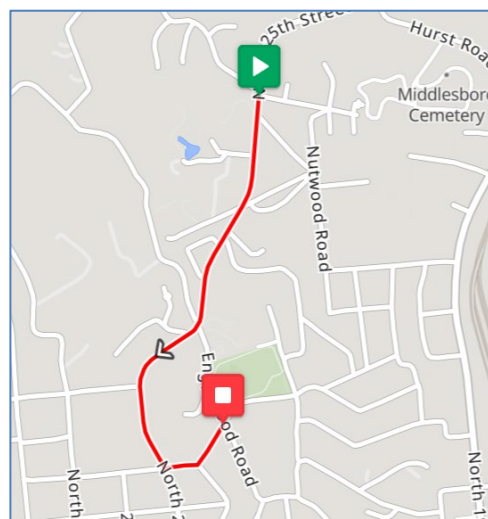
LIST OF PROPOSED PROJECTS

Every project identified and described in this section is intended to fill an existing need. These projects have been planned to take advantage of existing state or city owned property whenever possible. They have been planned to provide safe, accommodating, and cost efficient non-motorized transportation solutions. Map of proposed projects can be seen in Appendix E. The City of Middlesboro has a Walk Score of 52 out of 100. Walk Score measures pedestrian friendliness by analyzing population density and road metrics. The walk score for this location is based on the categories of dining and drinking, shopping, errands, schools, and culture and entertainment. With this score the city is considered Car-Dependent, meaning most errands require a car.

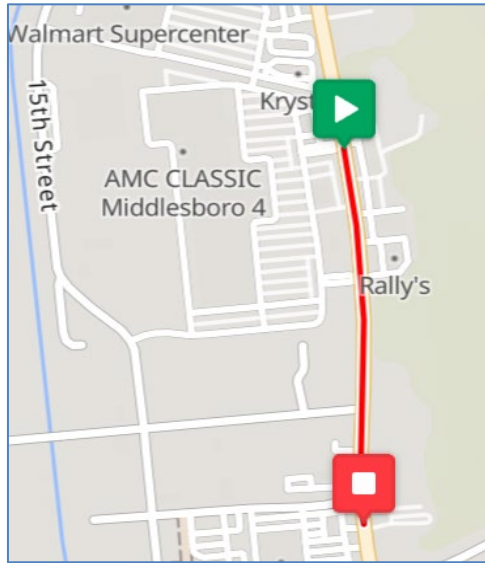
Several locations in Middlesboro need new pedestrian pathways, with proper street lighting. By providing better pathways, it will assist those walking to do so in a safe manner. There is a need to connect existing sidewalks in areas that have mixed use development with shopping, restaurants, and medical facilities. Proper lighting would also create a safer area so that pedestrians are more visible.



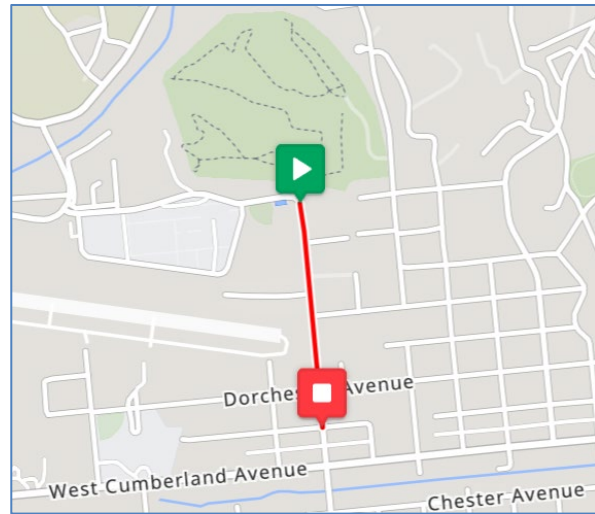
1. New sidewalk along Exeter Ave



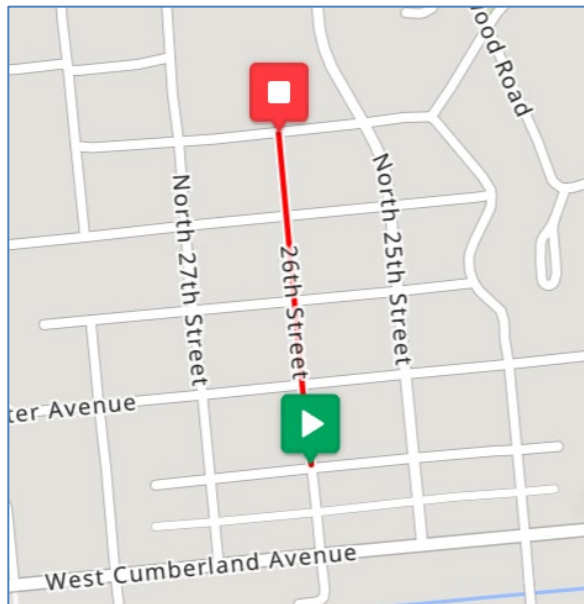
2. New sidewalks along KY-2402 / N 25th Street



3. New sidewalks along US-25 / N 12th Street



4. New sidewalks along KY-2401 / N 30th Street



5. New sidewalks along N 26th Street

Appendix A

Pedestrian and Bicycle Survey

Cumberland Valley Area Development District conducted a Pedestrian/Bicycle survey. The survey was available online and advertised on social media. Below are the questions that were asked:

1. How much do you currently travel to work, shopping, parks, or other destinations just by walking or bicycling?

- a) All the time
- b) A few times a month
- c) Once a month or less
- d) Never - I drive a car everywhere I go

2. Select all of the following that are within 2 miles or less from your house:

- a) Work
 - b) Restaurant
 - c) Medical Facilities/ Pharmacy
 - d) Friend's/Relative's House
 - e) School
 - f) Shopping
 - g) Library
 - h) Recreation/ Gym
 - i) Church
 - j) Park
- Other:

3. What are your most frequent (3+ visits per week) destinations?

- a) Work
 - b) Restaurant
 - c) Medical Facilities/ Pharmacy
 - d) Friend's/Relative's House
 - e) School
 - f) Shopping
 - g) Library
 - h) Recreation/ Gym
 - i) Church
 - j) Park
- Other:

4. Would you consider traveling more on foot or biking to your destinations (compared to driving a car) if you had a better path?

- a) School Bus
- b) Car
- c) Bicycle/Walking
- d) N/A

5. Select all the factors that discourage you from making more trips on foot or bike? Traffic

- Lack of Signage
- Not Enough Sidewalks No
- Bike Lane

___ Too Far from Home

___ Not Physically Able

6. Do you like to walk or bike for recreation or exercise?

- a) Walk
- b) Bike
- c) Both
- d) No

7. If Middlesboro had more user-friendly pedestrian and bicycling, would you use them more regularly (three or more times per week)?

- a) Yes (___ Walk ___ Bike)
- b) No

8. How do your children/grandchildren get to school most often?

- a) School Bus
- b) Car
- c) Bicycle/Walking
- d) N/A

9. Select all factors that discourage you from allowing your children/grandchildren from walking or biking to school?

- a) Traffic
- b) Lack of Signage
- c) Not Enough Sidewalks
- d) No Bike Lane/Rack
- e) Too Far from Home

10. What sidewalks need repair/replacement in Middlesboro/Bell County? Where should the city place more sidewalks.

11. Where do you think bike lanes are needed?

12. Additional comments:

Appendix B

Additional summary of the City of Middlesboro Bicycle and Pedestrian Wish List:

1. Install approximately 500 linear feet section of pavement between Lothbury Avenue and N 19th Street. This section will close the only missing gap on the historical Middlesboro Canal Walk. (see map on page 13)
2. Work with Army Corps of Engineers to establish pedestrian pathway along existing flood control levee throughout the City of Middlesboro. (see map on page 14)

Appendix C

Walkability Audit Results

In October of 2024, the Cumberland Valley District Health Department and Cumberland Valley Area Development District completed a survey to identify each street's walkability throughout the city limits of Middlesboro.

BIKEABILITY AUDIT ANALYSIS

Due to no bike lanes or bike facilities in the city, bikeability audits were not conducted. In the future, when bike lanes and bike facilities are added, the City of Middlesboro will include the following questions when performing a bikeability audit. Bike lanes will be marked according to the U.S. Department of Transportation Manual on Uniform Traffic Control Devices (MUCTD).

- Do you have a place to bicycle safely?
 - a. On the road, sharing the road with Motor vehicles?
 - b. On an off-road path or trail, where motor vehicles were not allowed?
- How was the surface that you rode on?
- How were the intersections you road through?
- Did drivers behave well?
- Was it easy to use your bike?
- What did you do to make your ride safer?

WALKABILITY AUDIT ANALYSIS

Representatives from the City of Middlesboro, local citizens, one state official, and members from the Cumberland Valley Area Development District conducted a walkability audit of downtown Middlesboro and surrounding areas. Inventory was taken as to where sidewalks were broken or unlevel, absences of sidewalks, absences of crosswalks, and other issues for pedestrians.

Some of the questions proposed during the Walkability Audit of Middlesboro included:

- What is the location?
- Is there a presence of a suitable walking surface?
- Is there potential for conflict with motor vehicle traffic due to driveway crossing, speed and volume of traffic, large intersections, and low pedestrian viewing?
- Is there presence and visibility of crosswalks on roads intersecting the segment? Do traffic signals meet pedestrian needs with separate walk lights that provide sufficient crossing time?

- Is there cracking, buckling, overgrown vegetation, standing water, etc. on or near the walking path?
- What is the useful path width, accounting for barriers to passage along pathway?
- Is there space separating the path from adjacent roadway?
- How is access for mobility impaired?
- What is the proximity of construction zones, fences, buildings, noise pollution, quality of landscaping, and pedestrian oriented features?
- What is the amount of shade, accounting for different times of the day?

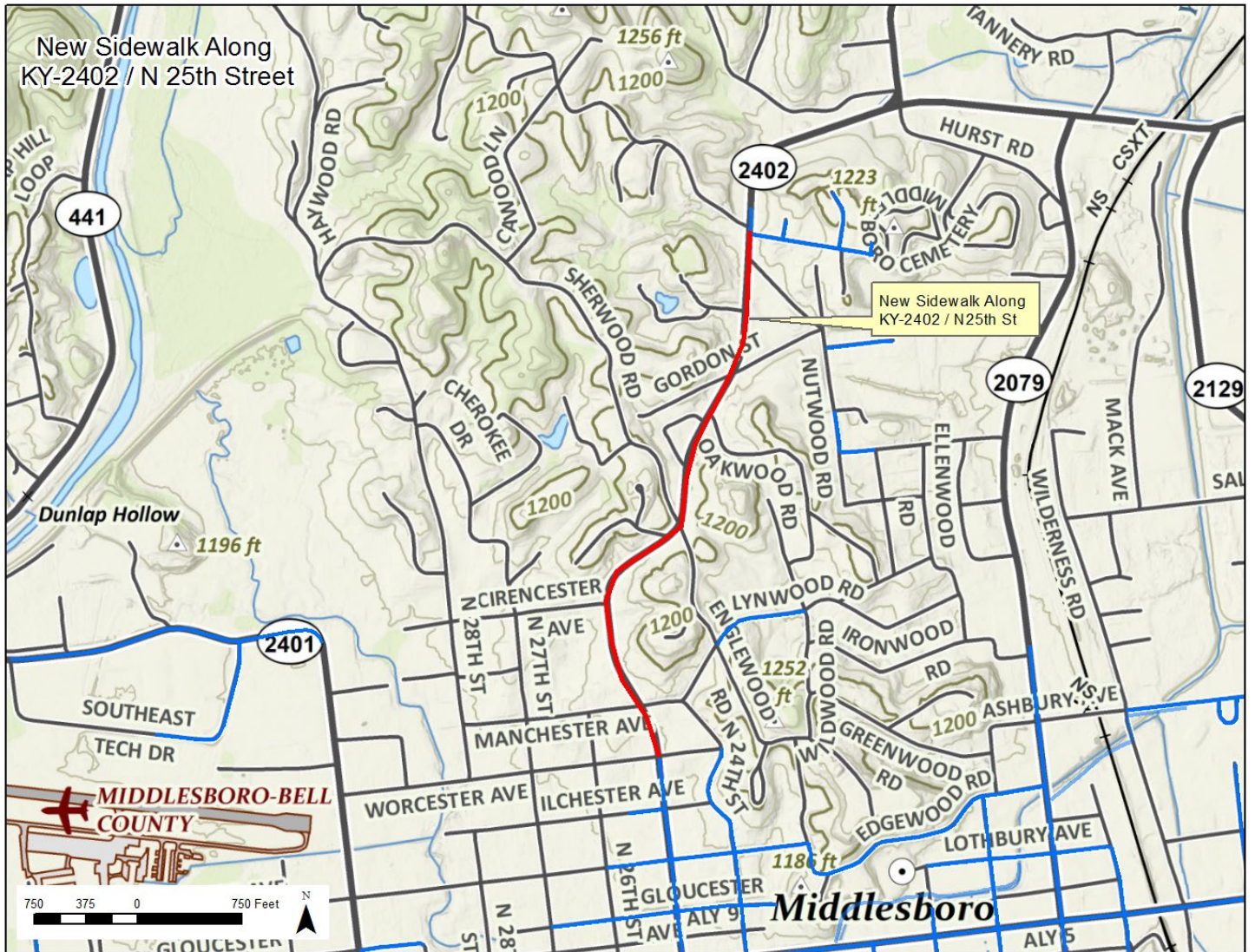
Appendix D

New Sidewalk/Sidewalk Repair Maps

Below are maps showing the locations of sidewalks in the Middlesboro City limits that have been identified as having trip hazards or in need of replacement. Blue lines represent existing sidewalk inventory. Red lines represent needed projects.







Appendix E

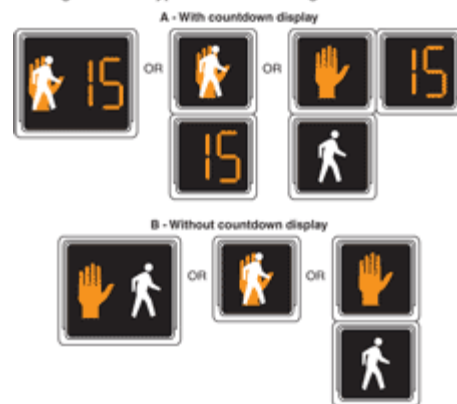
High Visible Pedestrian Crossing Needed

Pedestrian crossing signs have been recommended to be placed in high foot traffic areas. Speeding traffic is the main concern for residents with children. Traffic calming conditions should be in place to encourage the following of the speed limit.

Here are some examples of the equipment, signage, and crosswalk paintings that can be installed.



Figure 4E-1. Typical Pedestrian Signal Indications





The Middlesboro Bicycle/Pedestrian Plan was completed
in partnership of the following entities:

Cumberland Valley Area Development District
342 Old Whitley Rd
London, KY 40744
Phone: 606-864-7391
www.cvadd.org

City of
Middlesboro

Bell County Fiscal

Bell County Board of Education

Bell County Health Department

Bell County Extension

Bell County Public Library

Cabinet for Health and Family Services 275 E.
Main Street HS1EE
Frankfort, KY 40621
Phone: 502-564-9358

Bell County

