

CASE STUDIES OF BICYCLING & WALKING IN SMALL COMMUNITIES: *CORBIN, KENTUCKY*



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COVER IMAGES

Front Cover Top: Closed off roadway repurposed with seating

Front Cover Middle: Engineer Street pedestrian/bicycle bridge

Front Cover Bottom: Mural in Corbin, Kentucky

The back cover presents a photo collage of people walking and bicycling in Corbin, Kentucky, as observed by the case study researchers while on-site.

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EXECUTIVE SUMMARY

The purpose of this case study was to identify bicycle and pedestrian infrastructure and programs in Corbin, Kentucky that would be of interest to other peer communities. The Engineer Street bridge is a great example of using existing infrastructure to create connectivity for the bicycle and pedestrian network. Corbin has also had many recent initiatives that are reinvigorating the walkability and bikeability of the community. First, Gordon Hill is being reconstructed (removing stairs) so that it is American with Disabilities Act compliant. Second, E Monroe Street was closed off to automobile traffic and is now an area where residents can come and eat lunch at picnic tables (see top left photo on the cover page), thereby engaging the community at the pedestrian-level. Furthermore, the community was able to leverage support from regional entities (the Whitley County Health Department and the Cumberland Valley Area Development District) and the state to provide supporting programs and to develop plans and address infrastructure implementations and fixes that were identified as needs by the community.

INTRODUCTION

Walking and bicycling have become increasingly popular modes of transportation and the existence of dedicated infrastructure to support active modes offers benefits to a community and its residents. While examples of active transportation infrastructure found in larger communities are well documented, this infrastructure can look different in rural communities and documented examples are lacking. This research effort aims to address this gap. Case studies from fifteen communities with fewer than 10,000 residents were developed. The case studies feature existing rural bicycle and pedestrian infrastructure located across five states, to include: Arcadia, LaBelle, and Taylor Creek in Florida; Calvert City, Corbin, and Morehead in Kentucky; Pelican Rapids, Pipestone, and Walker in Minnesota; Ruidoso, Silver City, and Truth or Consequences in New Mexico; and Fair Haven, Morristown, and the Town of Hartford in Vermont. Communities were selected using a prioritization process developed through a cooperative effort between the state departments of transportation and the researchers. More details about the research project, Case Studies of Communities of Less Than 10,000 People with Bicycle & Pedestrian Infrastructure, as well as additional case studies can be found at:

https://westerntransportationinstitute.org/research_projects/case-studies-of-communities-of-less-than-10000-people-with-bicycle-pedestrian-infrastructure/

Case studies provide a detailed description of each community including a discussion of recent planning efforts related to bicycle and pedestrian infrastructure, supporting programs, and partnerships. Site visits, approximately one day per community, were conducted from June through December of 2021. During these visits, researchers collected spatial data and photographs to document existing infrastructure. Within this day visit, researchers also captured photos of people walking and bicycling in the communities, which can be found on the back cover of each case study. They also reached out to local advocates and community leadership. Lessons learned and best practices were documented from reviewing the planning documents and speaking with advocates and community leadership. The case studies aim to provide peer communities with the knowledge and encouragement to support additional implementation of active transportation infrastructure in rural communities across the US.

This case study focuses on Corbin, Kentucky.

BACKGROUND OF THE COMMUNITY

Corbin, Kentucky has approximately 7,325 residents (2019) and has experienced a 0.3% population increase since 2010. It is located in Whitley and Knox Counties, in southeastern Kentucky. The community's boundaries encompass 7.9 square miles.

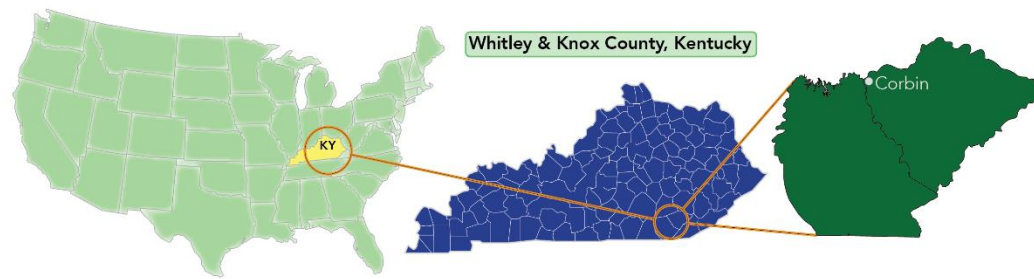


Figure 1: Location of Corbin, Kentucky of Whitley & Knox Counties in southeast Kentucky.

The following paragraphs provide demographic and socioeconomic data about the community, so that peer communities can better understand similarities and differences between their community and this case study community.

The average age of Corbin residents is 37.6 years old (2019). Approximately 15.3% (2019) of homes in Corbin are vacant which includes seasonal housing, vacant housing for rent/sale, and vacant housing held off the market.

Approximately 25.0% (2018) of Corbin residents are employed within the community; a statistic which may provide a level of understanding regarding residents' commute distance and potential interest in walking or biking to work. According to the 2019 American Community Survey, 3.0% of people in Corbin walk and 0.0% bicycle to work for their daily commute. Corbin has a 6.8% (2019) unemployment rate. Considering household income, both the average and extremes, Corbin's median household income is \$40,119 (2019), with 12.3% of households earning less than \$10,000 and 2.5% earning more than \$200,000. Approximately 22.8% (2019) of Corbin's population lives in poverty, as defined by the Office of Management and Budget's Statistical Policy Directive 14.

COUNTY TYPOLOGY

According to the rural classification methodology used in *Emerging Technology and Opportunities for Improved Mobility and Safety for Rural Areas*, Corbin is located within a county that was designated as Rural Towns County Type. A Rural Towns County Type is defined by having a city or town population below 20,000 people.

COMMUNITY HISTORY

Corbin, Kentucky is known for its small-town feel with a lot of locally owned businesses; it is also home to Sanders Café, where Colonel Sanders is said to have perfected his fried chicken recipe, and therefore the official site of the first Kentucky Fried Chicken (KFC). Corbin is part of Appalachia and much of its history centers around the railroad and coal. More recently, Corbin is becoming known for the high-quality medical facilities. Corbin is also in proximity to two natural resources: Cumberland Falls State Resort Park and Daniel Boone National Forest. Cumberland Falls State Resort Park is home to the only falls in the

western hemisphere with a moon bow. The Daniel Boone National Forest encompasses Laurel Lake which draws fishermen and scuba divers.

Corbin is also unique because it straddles two counties (Knox and Whitley); with a new law recently passed, they expect to be part of a third (Laurel) and increase the size of the community. Therefore, in the future, Corbin will likely have a larger population.

Grocery stores and post-secondary institutions are located in a cluster to the northeast and to the southwest of the downtown which is shown by the shaded box (Figure 2). The Corbin Public Library is located on the north end of the downtown. The post office is located on the opposite side of the railroad tracks from the downtown.

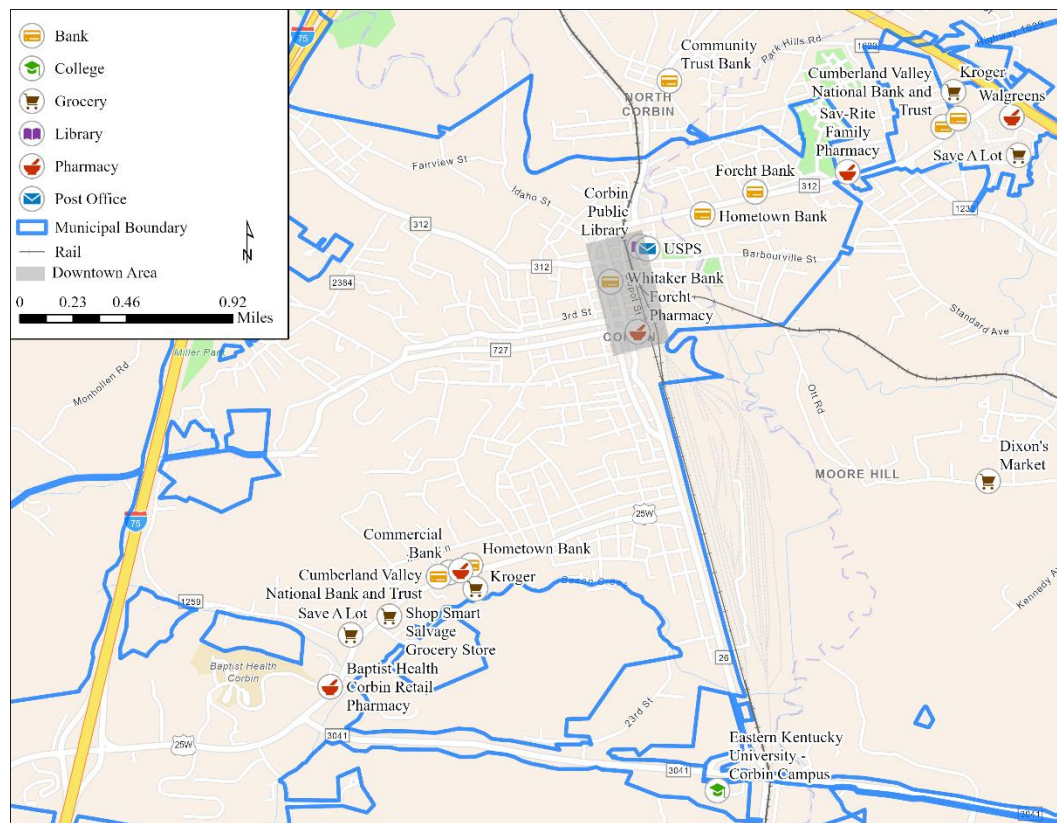


Figure 2: City map of Corbin, Kentucky showing boundaries and services.

HEALTH

The tie between walking and bicycling and health is represented in many ways in Corbin, including grants that were awarded for feasibility studies from the Whitley County Health Department. In addition, the Whitley County Health Department has assisted with facilitating a one mile “Walk with the Mayor.” Almost a decade ago, a city commissioner had coordinated a weight lost challenge in conjunction with the annual event NIBROC (Corbin spelled backwards).

TIMELINE

A timeline of events is provided in Table 1 to describe major milestones for bicycle and pedestrian infrastructure development and supporting programs in Corbin, Kentucky.

Table 1: Timeline of major milestone events for bicycle and pedestrian infrastructure.

Year	Event
2002	State of Kentucky adopted a Pedestrian and Bicycle Policy
2006	City of Corbin Completed a Comprehensive Plan
2008	City of Corbin revised its Comprehensive Plan
2013	The CORBIN Bikeway Master Plan was completed.
2015	City of Corbin reviewed its Comprehensive Plan again
2018	Downtown Complete Street Scoping & Wayfinding Study was completed.
2019	On August 10, 2019, from 12-3pm, the Corbin Rotary helped sponsor a Bicycle Rodeo.
2020	July: Bicycle and Pedestrian Master Plan was adopted by the City of Corbin
2021	Gordon Hill sidewalk is reconstructed.

EVOLUTION OF *PLANNING* FOR BICYCLE AND PEDESTRIAN INFRASTRUCTURE

Two plans were reviewed for Corbin, Kentucky: The 2013 CORBIN Bikeway Master Plan and the 2020 City of Corbin, Kentucky Bicycle and Pedestrian Master Plan.

CORBIN BIKEWAY MASTER PLAN

The 2013 CORBIN Bikeway Master Plan highlights the Engineer Street bridge, identifying it as a “prime example of a bike path node.” If this bridge was not present, the bicycle and pedestrian connectivity would be constricted by Lynn Camp Creek. It also suggests pursuing Safe Routes to Schools, Rails to Trails, and Land and Water Conservation Fund grants as potential options to build the active transportation network in the community.

CITY OF CORBIN, KENTUCKY BICYCLE AND PEDESTRIAN MASTER PLAN

The 2020 City of Corbin, Kentucky Bicycle and Pedestrian Master Plan “was developed to address health, safety, tourism, and economic issues” for Corbin as well as Whitley and Knox Counties. It identifies bicycle lanes on three roadways: Depot Street, 4th Street, and 5th Street. It identifies Walmart as the only community-option for purchasing a bicycle. The plan also quantifies 33.97 miles of sidewalk within the City of Corbin, although it indicates that the majority are found within the downtown core. They note that while crosswalks are present, they are inconsistent. The plan also highlights the data gap regarding counts of people walking and bicycling, although they identify Strava heat maps as providing some information about routes used by bicyclists and walkers. Both a bikeability and walkability audit was conducted as a part of the planning process. Table 2 highlights some of the questions that were asked during the audits.

Table 2: Example walkability and bikeability audit questions.

Bikeability Audit	Walkability Audit
Do you have a place to bicycle safely?	Did you have room to walk?
How was the surface that you rode on?	Was it easy to cross streets?
How were the intersections you rode through?	Did the drivers behave well?
Did the drivers behave well?	Was it easy to follow safety rules?
Was it easy for you to use your bike?	Is there a curb ramp for the handicap?
What did you do to make your ride safer?	Do the streets that you are surveying connect with the street adjacent with a sidewalk?
	Are pets contained and fenced in?

In July of 2021, Corbin officially adopted the bicycle and pedestrian master plan. The Cumberland Valley Area Development District led the development of this plan. One of the significant benefits noted as part of having the plan is that projects are “shovel ready” – if the Kentucky Transportation Cabinet is planning a project on the state roads that run through the community, the community reports that the plan enables them to leverage discretionary money that may be available.

EXISTING BICYCLE & PEDESTRIAN INFRASTRUCTURE

Table 3 summarizes bicycle and pedestrian infrastructure identified across all case study communities, noting which ones were observed while on-site in the Corbin, Kentucky.

Table 3: Bicycle and pedestrian infrastructure found across all case study communities, with those found in Corbin noted.

Bicycle and/or Pedestrian Infrastructure in Case Study Communities	Presence in Corbin
Bicycle Lane	X
Bike Rack	X
Shared Lane Markings	X
Sidepath	
Defined Bike Route (by signage)	
Multi-Use Pathway	X
Trail (soft surface)	X
Rectangular Rapid Flashing Beacon (RRFB) Crossing	
Mid-Block Crossing	X
Crosswalk	X
Sidewalks	X
Bridges that enable walking or biking	X
Underpasses that enable walking or biking	X
Parklet	X
Benches	X
Repair Station/Air Pump	
Speed Bump/Speed Table	
Speed Feedback Sign – Permanent	
Speed Feedback Sign – Portable	X
Signage	

Bicycle and/or Pedestrian Infrastructure in Case Study Communities	Presence in Corbin
<i>Bike/Ped Crossing Sign with light emitting diode (LED) lights</i>	
<i>Bicycle May Use Full Lane</i>	
<i>Share the Road</i>	
<i>State Law, Yield/Stop for Pedestrian in Crosswalk</i>	
<i>Steep Grade</i>	
<i>Drive Slow in Residential Areas/Please Slow Down</i>	
<i>Traffic Calming Area</i>	
<i>Weight Limitations</i>	
<i>Interpretative/ Wayfinding Information</i>	X
<i>Walking Routes</i>	
<i>Entertainment District</i>	

The interior core of Corbin is described as the most pedestrian-friendly part of the community. Flat topography, lending to an “easy stroll,” numerous sidewalks, and a general feeling of being safe, all contribute to this sentiment.

Recently, the community has put a lot of effort into revitalizing the downtown. A volleyball court along with a printed mural that is like a large sticker (Figure 3) was installed in the interior core. The installation of the volleyball court prompted an ice cream shop to be opened nearby.



Figure 3: Printed mural.

The construction of sidewalk up Gordon Hill (Figure 4), one of the roadways leading up a hill from the otherwise flat downtown area, was underway in the summer of 2021.

Rehabilitation of Gordon Hill was identified as a priority by residents. A retaining wall had previously fallen, which added to the expense of its reconstruction.



Figure 4: Construction of sidewalk along Gordon Hill.

In addition, Corbin was awarded \$290,000 for a Knox County Sidewalk Project along Master Street. There are frequent walkers and “rollers” along Master Street, including individuals in motorized wheelchairs and pushing strollers. The funding for this project was provided by the state.

As US25W splits upon entering the core of Corbin, Kentucky, just before a new crosswalk that provides access to a new splash pad for the community, a portable speed feedback sign was stationed (#1 in Figure 5 below). N Depot Street has a bike lane on the east side which parallels the historic railroad line in the community. Users of the bike lane include an individual in a motorized wheelchair (#2 in Figure 5). Downtown Corbin is on a grid network; recently, Corbin repurposed E. Monroe Street as a space with picnic tables (#3 in Figure 5). While not explicitly the repurposing of parking spaces into seating as described in the National Association of City and Transportation Officials (NACTO's) *Urban Street Design Guide*, the roadway was repurposed, and consequently, this project can be described as a parklet. Another nod to history, the old bridge on Engineer Street that crosses Lynn Camp Creek is now reserved for bicyclists and pedestrians only (#4 in Figure 5). A walkway that is part of the walking path along Lynn Camp Creek extends along Bird Blvd (#5 in Figure 5). You and Me Coffee, reportedly previously owned by a bicycle champion, sports a bike rack outside (#6 in Figure 5). This was one of two locations identified in the bicycle and pedestrian plan where bicycle parking was defined by a bike rack. Several murals (including the one that welcomes all to the community, shown on the bottom of the cover page) can be found in Corbin. One example can be found when entering a railroad

underpass (#7 in Figure 5). Murals can engage those using the slower modes of walking and bicycling. Corbin is making progress on addressing infrastructure needs to support walking and biking in the community, including the 2021 Gordon Hill sidewalk project (#8 in Figure 5).

BICYCLE & PEDESTRIAN INFRASTRUCTURE MAP

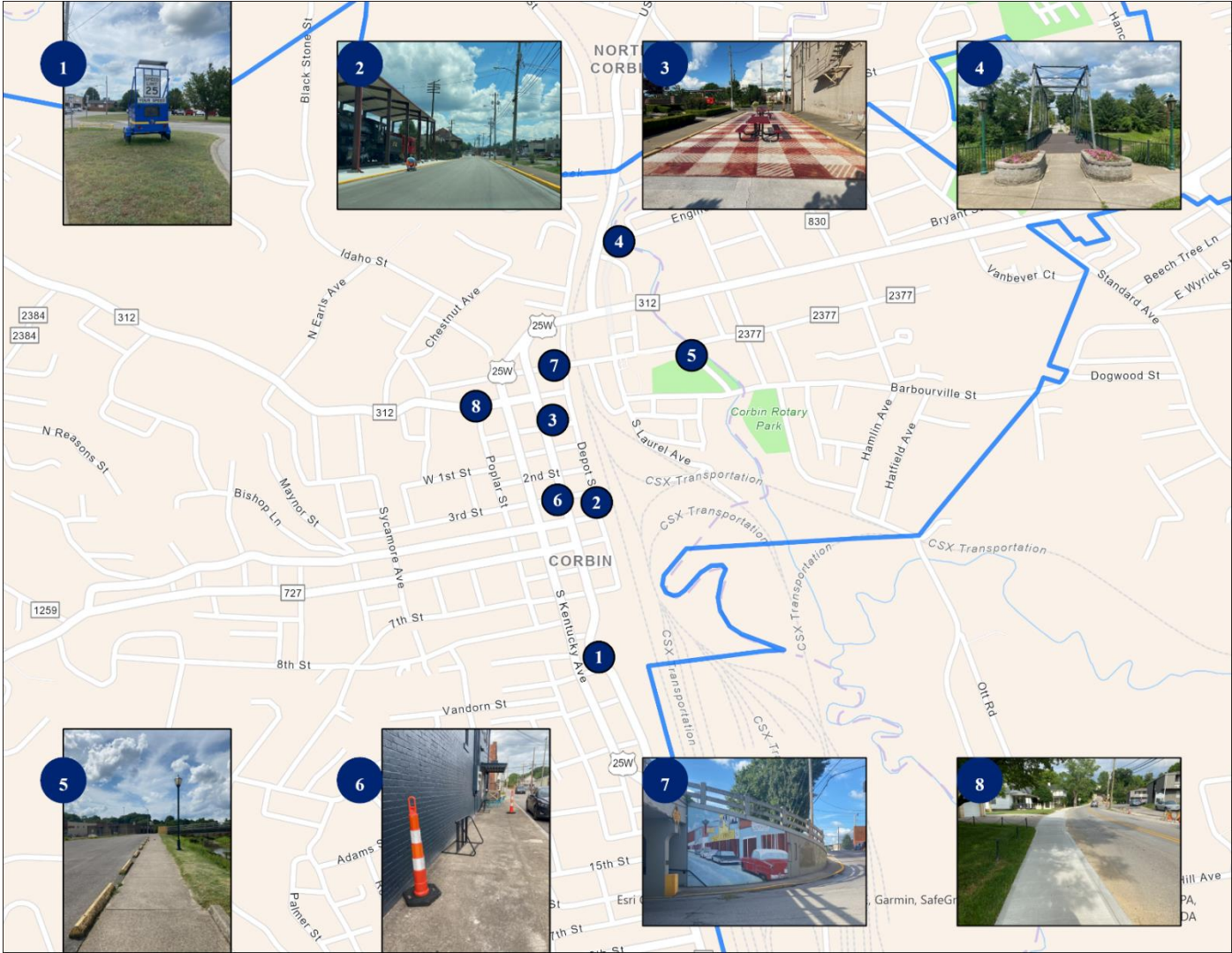


Figure 5: Corbin Bicycle & Pedestrian Infrastructure Map.

SUPPORTING PROGRAMS FOR BICYCLE AND PEDESTRIAN INFRASTRUCTURE

Several supporting programs were identified across multiple case studies and are shown in Table 4. Corbin had two similar programs that support walking and bicycling within the community that were observed while on-site or documented in reports: murals and statues.

Table 4: Bicycle and pedestrian supporting programs in case study communities noting those found in Corbin.

Bicycle and/or Pedestrian Supporting Programs in Case Study Communities	Presence in Corbin
Demonstration/Pilot Projects	
Art Walks/Historical Walk/Children's Walk/Health Walk	
Sculpture(s)/Statue(s)	X
Mural(s)	X
Little Free Library	

In addition to the above programs, several supporting programs exist in Corbin or the surrounding region. Two groups related to running and bicycling can be found at the region-level. A committee focused on walking and bicycling was formed to develop the bicycle and pedestrian plan. Recently, Corbin installed engravings in select sidewalks as a way to encourage residents to get out and walk and look for them. Corbin has held bicycle rodeos and has held events that encourage walking as described hereafter.

There are two groups related to running and biking in the region, although they are not necessarily specific to the community of Corbin. They have, however, assisted with conducting some outreach activities. The first is the Whitley County Spokespeople club, headquartered in nearby Williamsburg. The second are the Falls Roadrunners.

The bicycle and pedestrian plan indicated that to develop the document, a Bicycle and Pedestrian Advisory Committee had been formed. It consisted of City Council, Planning Commission, social service agencies, and any interested residents of the community. It does not appear as if the committee was sustained at the conclusion of the plan's development.

Corbin has recently installed sidewalk carvings in their downtown area which depict local landmarks to encourage people to get out and walk the downtown.

Bicycle rodeos (which teach bicycle safety skills), an effort led by the Whitley County Health Department, are offered about five times a year at various locations throughout the county, including in Corbin. The bicycle rodeos have been held in conjunction with the community's farmer's market. In the past, the Rotary Club has sponsored a bicycle rodeo. In addition, the Corbin Recreational Center has bicycle rentals for residents. The cost is \$1 daily, and a lock is provided with the bicycle.

The bicycle and pedestrian plan identifies that there is an informally organized citizen group that gathers for bicycle rides throughout the week from May through October.

In addition to the aforementioned “Walk with the Mayor” event, another popular event identified in the bicycle and pedestrian plan is “Step It Up.”

PARTNERSHIPS TO PLAN & IMPLEMENT BICYCLE & PEDESTRIAN INFRASTRUCTURE

When the community noticed that the pedestrian push-buttons at state-road intersections were not functioning properly, they contacted the Kentucky Transportation Cabinet (KYTC) Highway District Office. The Highway District Office repaired the push buttons. In addition, the community worked with the state to develop a crosswalk to provide access to a new splash pad (water recreation) in the community’s downtown. They also worked with the KYTC to time the traffic signals in the downtown at a slow, but consistent speed.

The community has been able to leverage a lot of regional assistance, as mentioned earlier, including that from the Cumberland Area Development District and from the Whitley County Health Department. Individuals with these agencies were identified as huge advocates and significant partners. One of the many ways in which these entities were identified as assisting the community is with research, the identification of grant opportunities, and implementation.

FUNDING FOR BICYCLE & PEDESTRIAN INFRASTRUCTURE

The City of Corbin specifically included in their infrastructure budget provisions for bicycle and pedestrians. A part of this funding is allocated to yearly sidewalk maintenance or replacement. The City currently uses a private company to assess the condition of sidewalks and address problem areas. Furthermore, the community has set aside money for matching funds.

Corbin is looking to pursue Transportation Alternatives Program (TAP) and Recreational Trails Program funding. They have also leveraged State Physical Activity and Nutrition (SPAN) program grants, a Land Water Conservation Fund grant, and a grant from the Community and Economic Development Initiative of Kentucky (CEDIK), through the University of Kentucky. The Whitley County Health Department provided \$10,000 to fund the planning grant.

LESSONS LEARNED

Corbin has existing infrastructure that form nodes throughout the community (Engineer Street bridge) and is continuing to build upon or update that which is present (Gordon Hill). In addition, they are in discussions with KYTC to redesign infrastructure installations (bicycle lanes on 4th and 5th Streets) that did not work as intended.

THE FUTURE OF BICYCLE & PEDESTRIAN INFRASTRUCTURE IN THE COMMUNITY

A grant has been funded that will assist with providing a bicycle path connection between the downtown and the middle school. A feasibility study was recently completed as a part of this effort. In addition, more bicycle racks are expected to be added in the downtown.

There have also been discussions regarding a desire to connect nearby London, Kentucky, which hosts some large bicycling events, and Corbin with a multi-use path. London is ten miles north of Corbin.

Even more ambitious is a desire to connect Cumberland Falls State Resort Park with Corbin. Presently, the roads between the community and Cumberland Falls, one of the primary attractions within the state park, are two-lane roadways with limited if any shoulders.

There is also a reported desire to reconsider the parallel parking in the downtown core (i.e. remove it), which would potentially allow for a widened sidewalk and the addition of curb extensions to reduce the crossing distance.

The community is also looking to pursue a half-mile multi-use pathway around Miller Park.

A program that has been identified in the bicycle and pedestrian plan, but which does not appear to have been implemented to date, is a Walking History Tour. The plan also suggested a “Walk it Off After Dinner” or a “Colonel Sanders Salute.”

Knox County is currently planning an art walk which will include Corbin’s statue of Colonel Sanders in the downtown area.

KEY POINTS

The following are key points identified from Corbin’s experience with developing its bicycle and pedestrian network:

1. **Bicycle & Pedestrian Plan:** Creating a bicycle and pedestrian plan with shovel-ready projects can enable a community to take advantage of end-of-year funding.
2. **Walkability Audit:** A walkability audit helped the community identify the need to fix non-functioning pedestrian push-buttons on the primary road through the community.
3. **Connecting Public Health & Active Transportation:** Corbin has leveraged public health funding to further development of infrastructure and programs to support walking and biking in the community.
4. **Community Events to Support Walking & Biking:** Corbin has implemented events that encourage bicycling and walking like the Walk with the Mayor and bicycle rodeos.

SUCCESSFUL STRATEGIES TO APPLY IN OTHER SMALL COMMUNITIES

The City of Corbin worked cooperatively with their state department of transportation (i.e. KYTC) which enabled them to fix concerns associated with pedestrian buttons not functioning properly. They also leveraged the expertise of their regional entity to develop a plan that consisted of shovel-ready projects.

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