



# Nonmotorized Transportation Plan



for the Village of Barboursville

June 2018



Prepared for:  
**KYOVA**  
Interstate  
Planning  
Commission

Prepared by:



STREET

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# 1. Introduction

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The [KYOVA Interstate Planning Commission \(KYOVA\)](#) is the metropolitan planning agency for the tri-state area and its mission “is to plan for an orderly, cost-effective, multi-modal transportation system for all citizens of the service area”. The service area includes Greenup and Boyd Counties in Kentucky, the urbanized areas in Lawrence County in Ohio and Wayne and Cabell Counties in West Virginia. In October 2017, the KYOVA MPO initiated a Non-Motorized Transportation Master Plan for the city of Milton, WV and Village of Barboursville, WV. These master plans are meant to review the existing conditions in these two cities to understand how to better promote and develop non-motorized transportation options for the people that live there. This specific master plan will focus on the Village of Barboursville, which lies within the western portion of Cabell County, WV near Huntington.

## Project Background

The ability for all people to travel where they wish, efficiently and safely, is an important aspect of any functioning city. As is the case in many cities in the US, much of the current transportation infrastructure is focused around the automobile. For decades, roadways have often been designed to move automobiles quickly without much thought being given to other modes of transportation. The “level of service” of a roadway is an often-used performance measure to determine its efficiency and has led to them being expanded over time with more and wider lanes for automobiles, as well as high speed-limits. These conditions, while beneficial for use on highways, are no longer considered appropriate for all roadways within cities (Geometric Design, 2016). This type of roadway design is certainly useful for automobiles, but for pedestrians, bicyclists or other non-motorized users, it can be quite dangerous. Providing the appropriate infrastructure for all users will not only increase roadway safety but provide multimodal options as well.

## Project Purpose

As cities change, so do their needs. Barboursville is no different and with that growth comes new challenges that require unique solutions. Providing additional transportation options for the people within the city could allow them to walk or use a bicycle instead of taking an automobile. This report will study the Village of Barboursville, WV and determine how best to provide these options in the future. Some of the questions that will be answered are:

- Where should sidewalks and bicycle lanes be built?
- What other types of non-motorized transportation infrastructure should be built?
- How can existing sidewalks and crossings be improved to meet Americans with Disabilities Act (ADA) requirements?
- What are the most important walking and bicycling facility improvements for the people in Barboursville and how can this plan assist with them?
- How much will it cost to construct these recommended improvements?

## 2. Plan Goals and Objectives

The ability to walk, ride a bicycle or drive your automobile throughout an area is critical to having a healthy transportation network. Without multiple mobility options, people may be required to rely on one mode over another, potentially limiting their choices for how they work, live and play. This plan seeks to develop additional non-motorized transportation options for the people within Barboursville, WV.

### Goal 1: Increasing Safety

One of the most important goals for any transportation network is the ability to move people efficiently and safely to their destinations. Without the appropriate infrastructure, certain users, such as pedestrians and bicyclists for example, may have to endure unsafe environments as they complete their trips. Increasing the safety for all users is important and can be achieved with the development of dedicated non-motorized transportation infrastructure.

### Goal 2: Better Connectivity

Another critical goal for implementing a non-motorized transportation study is improving the connectivity for each of the modes within the entire transportation network. Providing connected sidewalks, bicycle lanes and shared use paths allows people to walk and bicycle to their desired destinations. Without connected networks, it is difficult for people to walk and bicycle to many destinations.

An example of a potential intersection within Barboursville where better connectivity would be helpful can be seen in Figure 1. This is the intersection of Farmdale Road and US Route 60, which not only connects much of Barboursville with one another, but also has significant amounts of commercial properties nearby.

**Figure 1 Intersection of US Route 60 and Farmdale Road**



### Goal 3: Encouraging Walking and Biking

While the development of non-motorized transportation infrastructure is key, it is also crucial to partner with key stakeholders that will highlight the importance of walking and bicycling. For example, Walk to School Day is an annual event where children are encouraged to walk to their school instead of being driven or taking the bus. This type of event not only can highlight shortcomings in a transportation network but also can promote new pathways, sidewalks or bicycle lanes that may aid children on their way to school. Another important opportunity would be to partner with health organizations to highlight the importance of getting daily physical exercise as a part of improving a person's health. Finally, there are policy changes that can be implemented that can help promote walking and bicycling within a community. The reduction of speeds on certain corridors is one such example due to the important relationship between automobile speed and pedestrian/bicycle fatalities. Once the speed of an automobile reaches 40 MPH, there is an eighty-five percent chance that a person who is struck by it will result in a fatality (UNC Highway Safety Research Center, Westat, VHB, 2010). If the speed of the automobile were reduced to 20 MPH, the chance is greatly reduced to only five percent (UNC Highway Safety Research Center, Westat, VHB, 2010).

### Goal 4: A Sense of Place

Finally, the construction of non-motorized transportation infrastructure provides more than just the ability for people to walk on a sidewalk or ride their bicycle; it has the potential to develop and foster a "sense of place" within a city. How a person feels connected to where they live, what it means to them and how they interact with one another can often be described as a "sense of place". Barbourville's Farmers Market on Farmdale Road is a prime example of an area where there is potential to develop a stronger "sense of place". Sidewalks, bicycle lanes or shared use pathways could allow people to access this area in a unique manner.

**Figure 2 Barbourville Farmer's Market**



## 3. Existing Conditions

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The Village of Barboursville is a community located within Cabell County, West Virginia and lies near two main roadways, Interstate 64 and US Route 60, both of which provide access to regional opportunities, such as Huntington. The latter route runs through the “Business District” of Barboursville and provides connectivity to many of the businesses and homes within the village. For example, it provides connections to Huntington Mall and Farmdale Road, both of which are crucial points of connectivity. Another portion of Barboursville can be considered the “Village” or “Downtown” portion of Barboursville and lies south of US Route 60. This area is built differently in comparison to other areas in the city. For example, the streets are smaller and laid out in a “grid” pattern with many sidewalks.

### Field Review

The project team conducted a field review of Barboursville on February 19 and 20, 2018. A few key items that were noted are summarized below and summarily addressed in Section 6. Photographs were taken and are interspersed in the report and were incorporated in the existing conditions displays used at the public meeting on March 8, 2018. These display boards are included in Section 9: Appendix A – Public Meeting Materials.

#### Farmdale Road

- In general, there are no sidewalks on Farmdale Road, except for the bridge into the Village and an ADA compliant crossing (which does not connect to any sidewalks) at US Route 60 from the 7-11 to the Walgreens. There is no sidewalk to access the Kroger, so pedestrians must use the driveways to enter that grocery store.

#### Middle School

- In Barboursville, near the Middle school, there are existing sidewalks on Shaw and surrounding streets. Coffman is currently used by students for access because it connects back to the neighborhood beyond. It is extremely narrow, has grading issues on both sides, and no sidewalks.
- Shaw has relatively good sidewalks that appear ADA compliant. There are crossing/curb issues and a few drop-off issues to the sides. There has been grinding performed to make the sidewalks more compliant. Some of the crossing warnings were in poor shape.

#### Barboursville Park

- At the Barboursville Park, attention should be paid to the end of the bike trail at the Lake William gravel parking area by the tennis courts. This could pose a hazard for bikes, wheelchairs and walkers. The access to the park from the Village is not ADA compliant (sidewalks, slope, etc.).

## US Route 60

- US Route 60 appears to have a wide enough shoulder on the south side past Tanyard Station going towards the mall which could be modified to include a pedestrian/bike trail or sidewalk. People currently use the shoulder to walk on.
- The bridge that goes to the Lowes entry to the mall has narrow shoulders which people currently use to walk to the mall and Lowes. As it currently is striped for four lanes, there is limited opportunity for a separated pedestrian path. There may be an opportunity to reduce the number of lanes and create space for a separated path or sidewalk.

## Existing Land Use

### Major Employers

There are numerous grocery stores within Barboursville, primarily the Kroger on Farmdale Road and US Route 60, as well as the Huntington Mall which lies on the eastern portion of the village.

### Schools

There are numerous elementary schools around the Barboursville area, but there is only one that is within the city limits, the Village of Barboursville Elementary School. It is located near the “village” area of the city and can be accessed by multiple roadways or sidewalks that lead to the school. There is also a middle school called the Barboursville Middle School which lies somewhat south of the “village” area. It can also be accessed by multiple roadways or sidewalks. Students that attend high school do so at the Cabell Midland High school that lies outside of Barboursville to the east.

### Healthcare

There are few options for those seeking healthcare within or near the “village” area of Barboursville. Outside of the city limits, there are other offices for general practitioners, pediatricians and specialists. Those who require a visit to a hospital must travel to the Cabell Huntington Hospital or St. Mary’s Medical Center, which are both within Huntington to the east of the city.

### Parks

Barboursville is blessed to have a significant number of hiking and walking trails within the area, as well as access to parks and other recreational activities. Many of the trails lie within the surrounding areas on the mountains and the parks lie on the south side of the city. One such trail is [Kanawha Trace Hiking Trail](#), a nearly 32-mile trail that begins in Barboursville and ends in Frazier’s Bottom, WV. It is available for hikers, backpackers and mountain bikers. The trailhead in Barboursville begins where the Guyandotte and Mud rivers meet.

Figure 3 Barboursville, WV – Existing Conditions

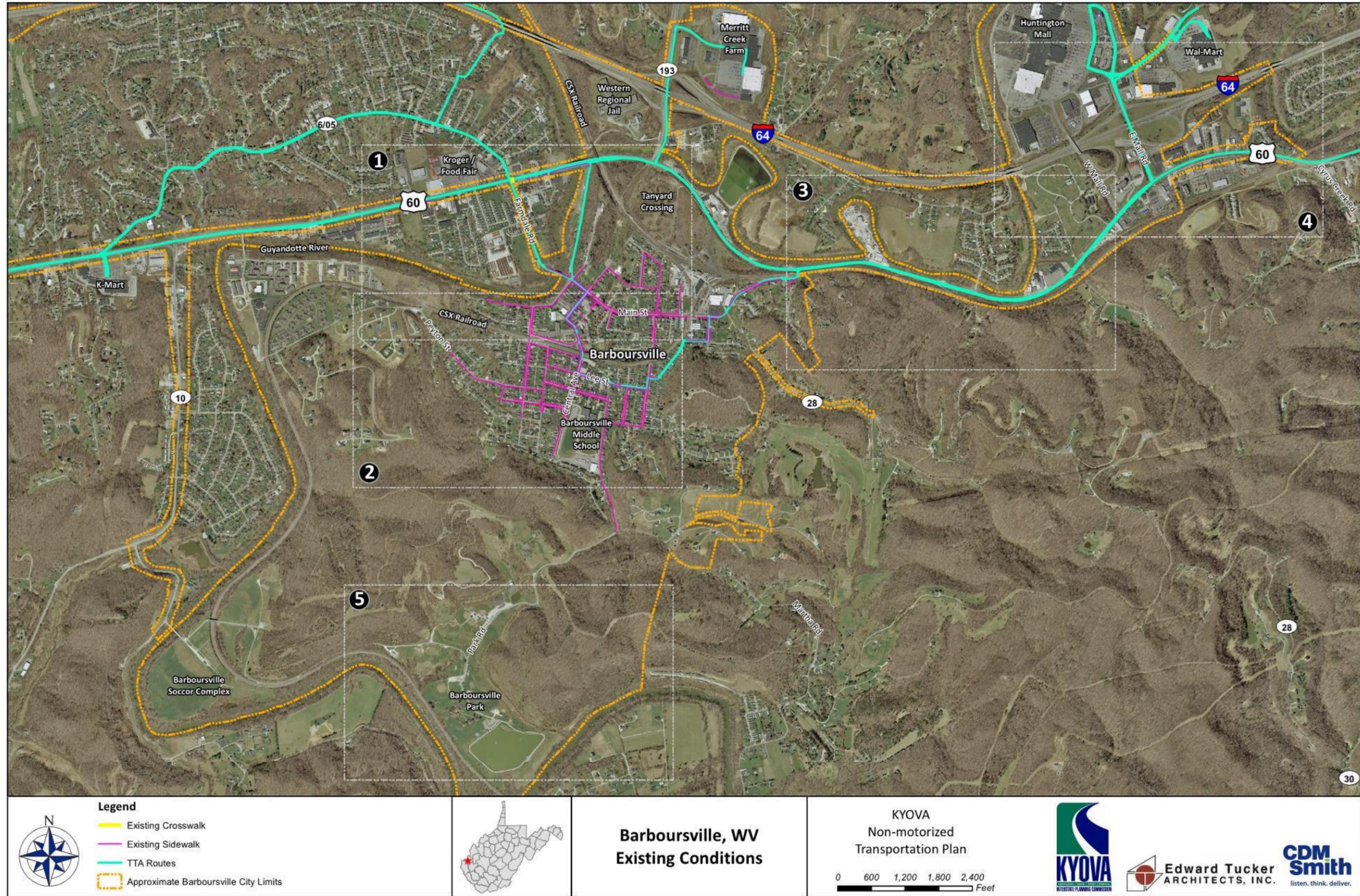


Figure 4 Barboursville, WV – Existing Conditions (Inset 1)

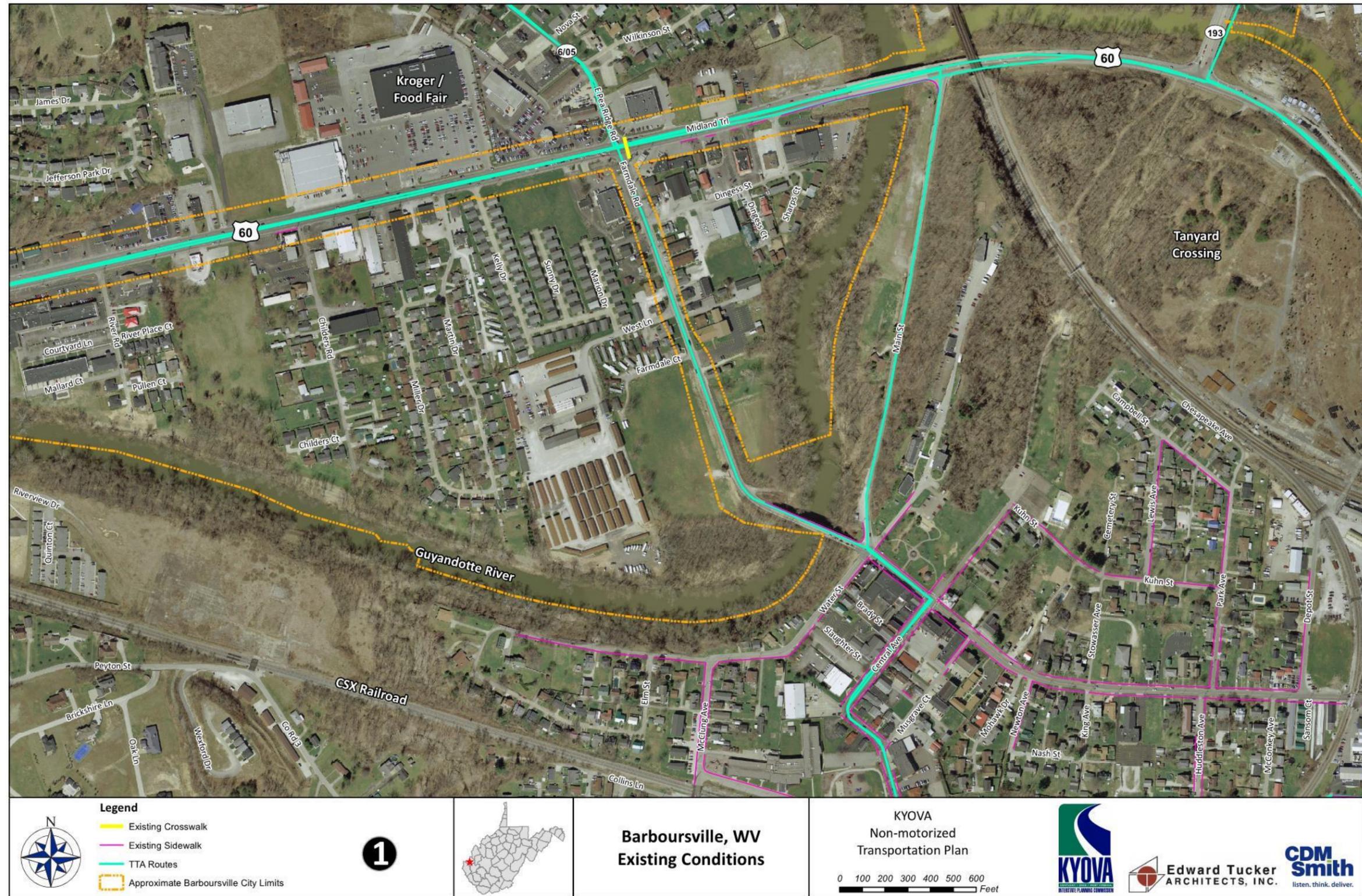
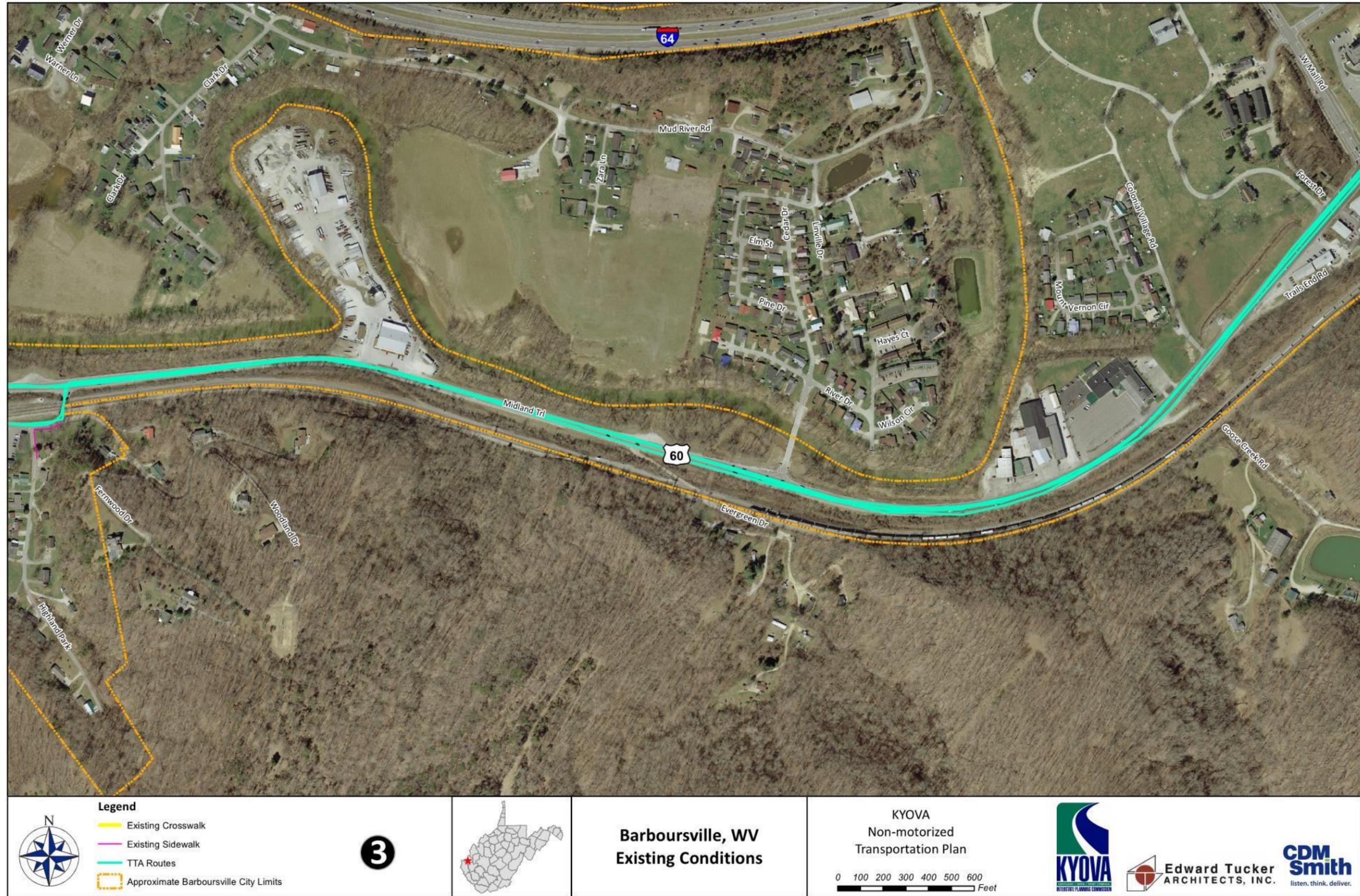


Figure 5 Barboursville, WV – Existing Conditions (Inset 2)



Figure 6 Barboursville, WV – Existing Conditions (Inset 3)



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Figure 7 Barboursville, WV – Existing Conditions (Inset 4)

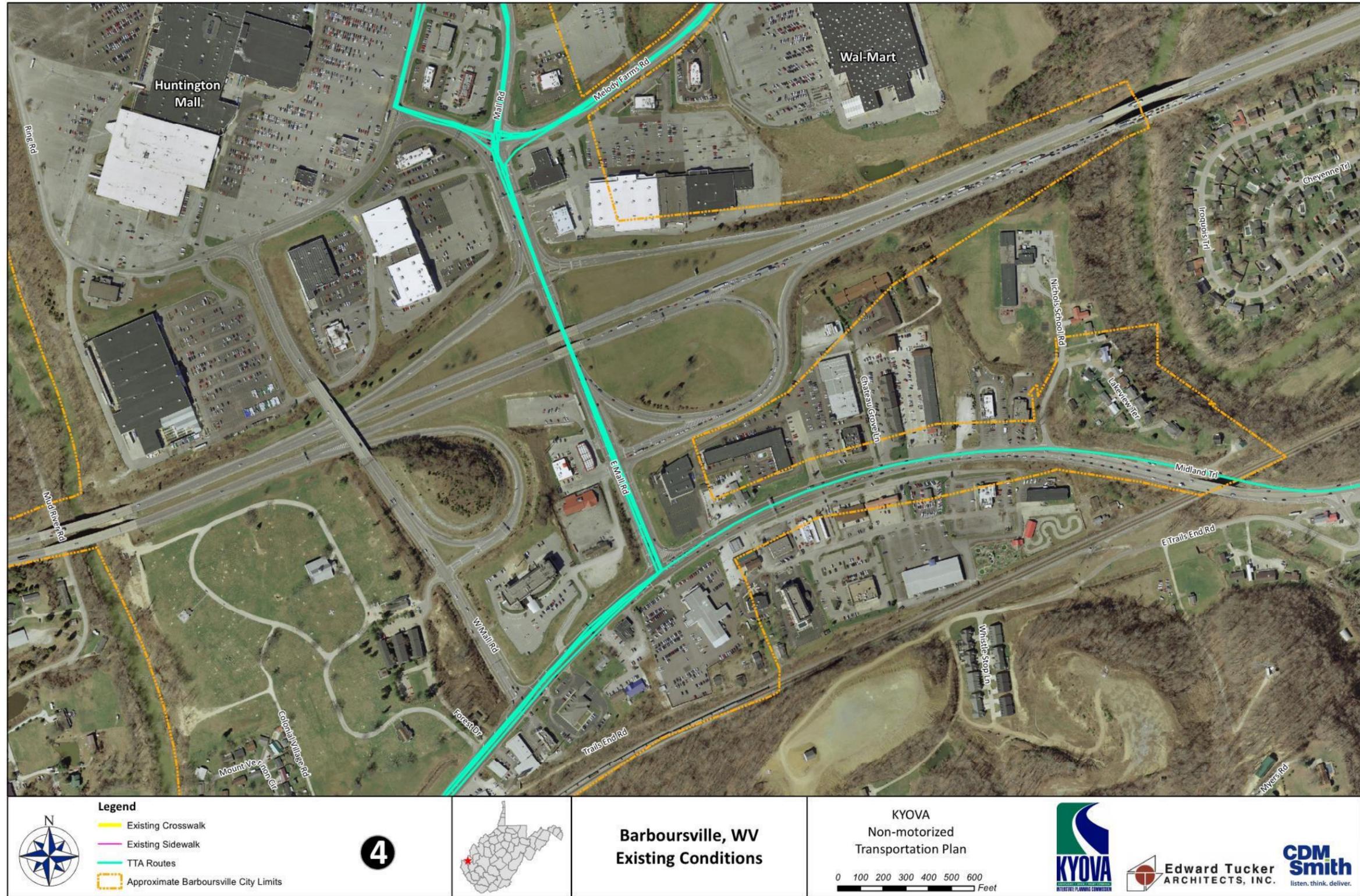


Figure 8 Barboursville, WV – Existing Conditions (Inset 5)



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## Socio-Economic Conditions

When attempting to understand a city and how it will change in the future, studying its past will provide insight on how it came to be. Growth in the amount of available housing, overall population, and increasing household income are all examples of indicators of how much a city can change over time.

### Historical Data & Growth Trends

Reviewing historical data is important when studying a city, as the trends the data provide influences a city's future. There are five main areas which were studied as part of this effort; housing, population, income, employment and education. The reasons that these areas were studied is because they have some of the largest impacts on how a city changes and thus are crucial for understanding it. For example, the amount of people that live within a city and how that has changed over time indicates past growth. How much education each person has attained indicates the types of jobs that may be available in the area. The amount of income each household has each year will impact how much is consumed. The change in the unemployment rate and the available housing within a city; all of these are indicators of a city's past and future and can be studied from these five areas.

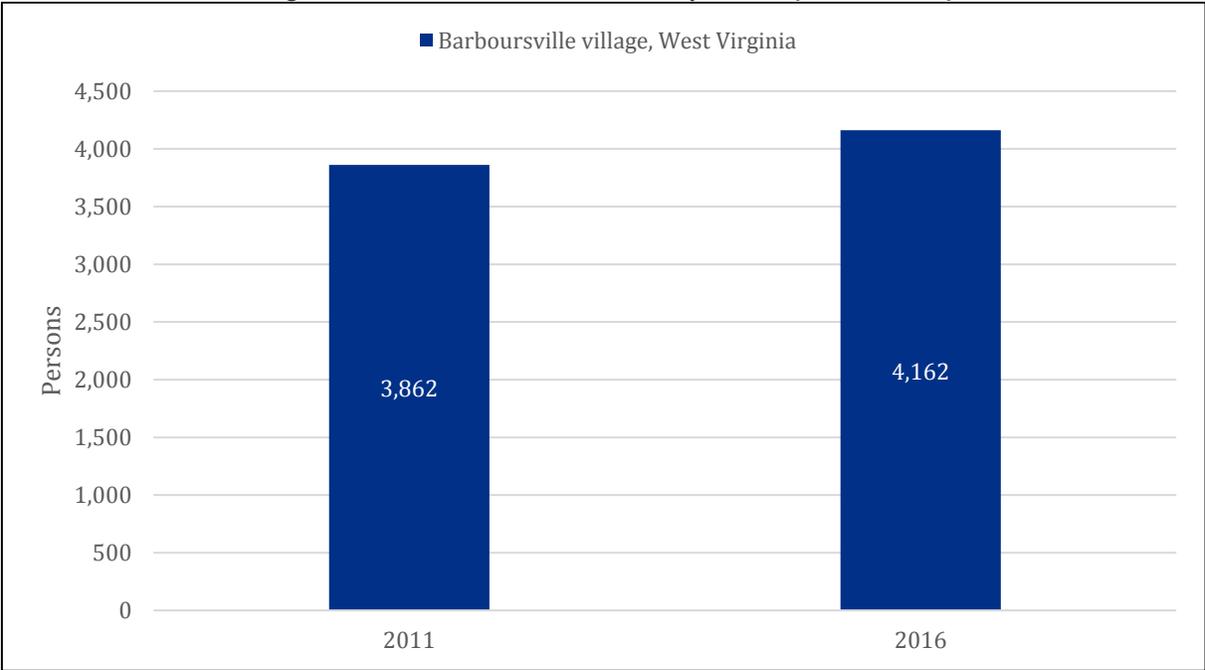
Data was collected from the US Census Bureau's 2016 and 2011 5-Year Estimates American Community Survey (ACS) Program. This data was used to review the socio-economic conditions of Barboursville.

### Population

While there are a multitude of factors that can influence a city, the people that live and work within the city is one of the most important. For example, if there are a significant number of people who are elderly but few children, that could be an indication of a lack of growth and would likely require a shift in the priorities within the city such as better access to healthcare services.

Figure 9 shows the population for Barboursville, WV and how it has changed from 2011 to 2016. Overall, the city has grown throughout this period and much more when compared at the county level. Table 1 shows the total population in both Barboursville and Cabell County and how much they grew from 2011 to 2016. Barboursville grew by 7.8%, which is significant, whereas Cabell County grew only by 0.8% during the same period.

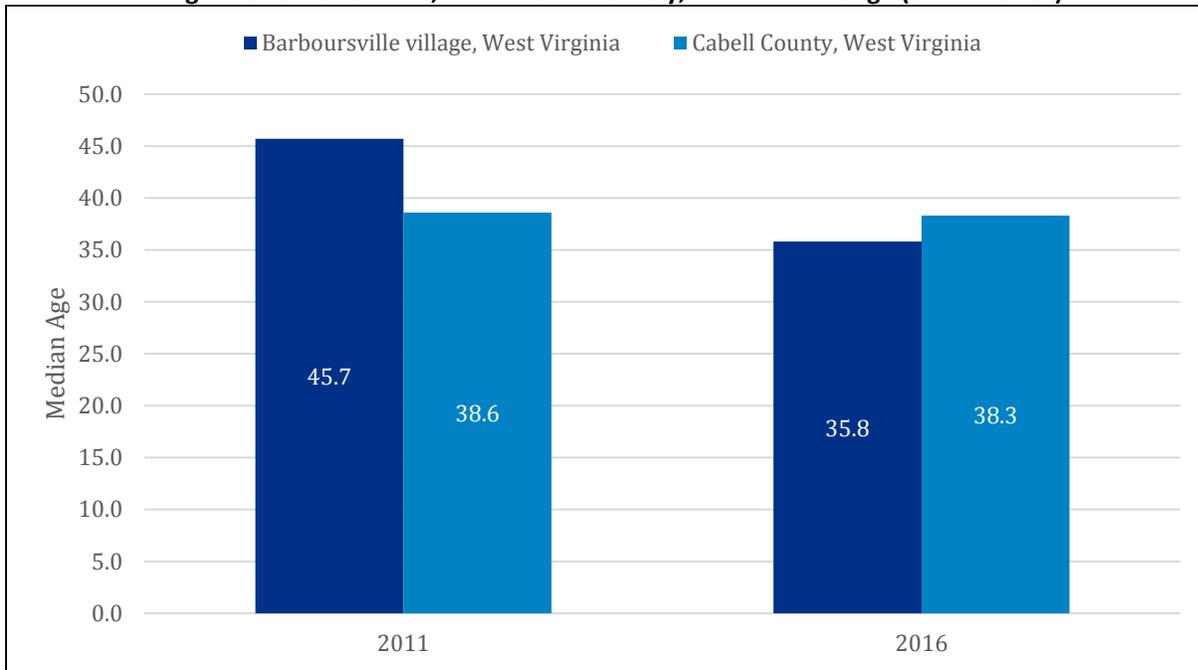
**Figure 9 Barboursville, WV - Total Population (2011 & 2016)**



**Table 1 Barboursville, WV & Cabell County, WV - Population Totals & Growth (2011 & 2016)**

Year	Geography	Population	% Change
2011	Village of Barboursville, West Virginia	3,862	N/A
2016	Village of Barboursville, West Virginia	4,162	7.8%
2011	Cabell County, West Virginia	95,870	N/A
2016	Cabell County, West Virginia	96,623	0.8%

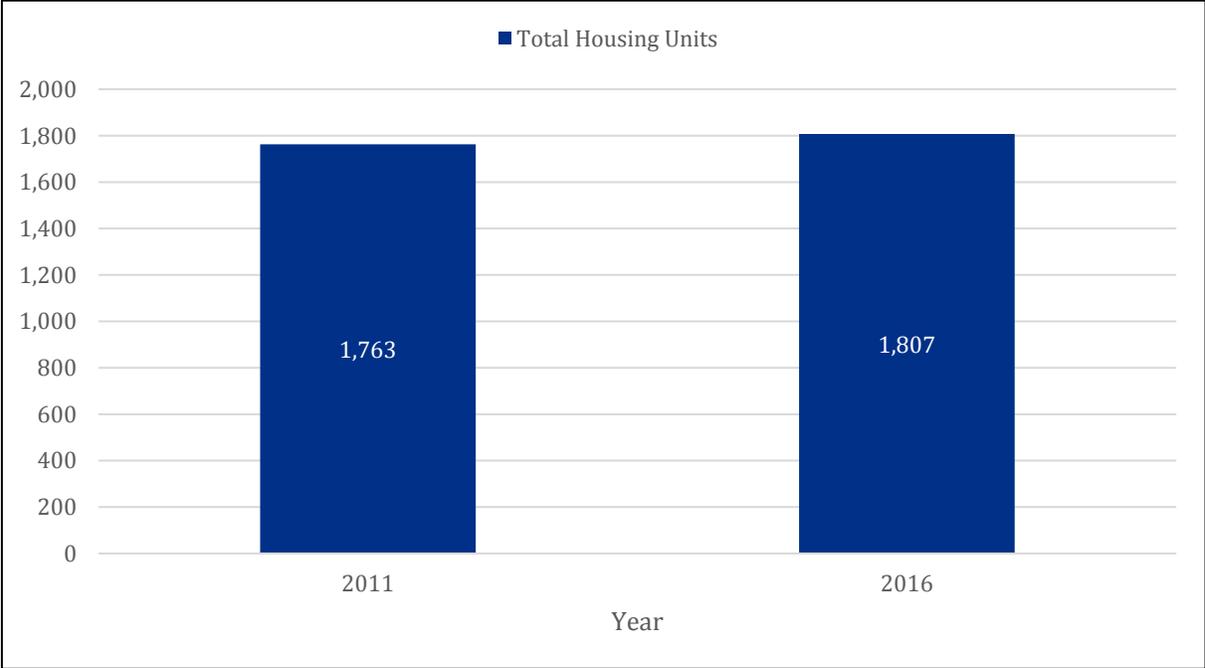
Figure 10 shows the median age for both Barboursville and Cabell County from 2011 to 2016. During this period, the median age decreases for both areas, meaning that the distributions in ages has changed slightly. This could either be due to children being born, people migrating to or from the city, or older people passing away. The shift was more pronounced in Barboursville, which may be partially due the small population size, but is an important inference in understanding how the city is changing. Also critical to note is the fact that Barboursville’s median age changed drastically and is now lower than Cabell County.

**Figure 10 Barboursville, WV & Cabell County, WV - Median Age (2011 & 2016)**

## Housing

The amount of housing units in a city is important because if this figure doesn't grow, it may mean that growth in population cannot occur which can hurt the overall growth of a city. Similarly, a reduction in housing units may mean that older units are being removed due to them being too old and thus unlivable. In Figure 11, the quantity of housing units within Barboursville, WV can be seen respectively. From 2011 to 2016, there was a moderate increase in the number of housing units that were available.

Figure 11 Barboursville, WV - Total Housing Units (2011 & 2016)



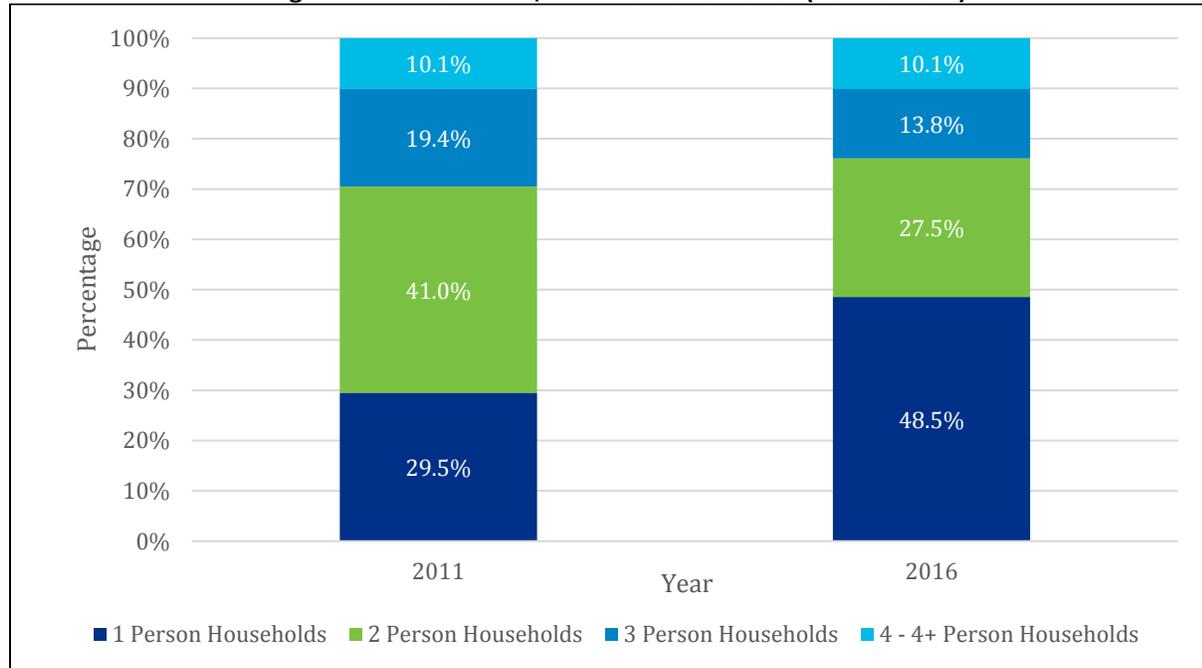
The amount of occupied housing units and how many are owned vs rented is significant as it can show changes in an area’s housing sector, which could provide inferences into any shifting dynamics within the city. In Figure 12, the distribution of occupied housing units, rented and owned, can be seen for Barboursville from 2011 to 2016. In 2016, there are more people which are renting in comparison with owner-occupied housing units, which is similar to national trends as well.

Figure 12 Barboursville, WV - Occupied Housing Units: Owned vs. Rented (2011 & 2016)



In Figure 13, the household sizes for Barboursville in 2011 and 2016 can be seen below. There is a significant increase in one-person households compared to all other categories. Households that consist of four persons or more doesn't change, but the number of two-person and three-person households decreases overall. One potential inference from this is that people are deciding to live by themselves and forgo living with roommates.

**Figure 13 Barboursville, WV - Household Sizes (2011 & 2016)**



## Income

Income for people and households is an important factor that can impact a city. It impacts not only the fiscal health of the households themselves, but the area as well. Determining any trends in these figures is important for understanding the city and how it may change over time. A reduction in income may also lead to reduced transportation options as people may purchase fewer vehicles. This can lead to a higher dependence on walking and bicycling.

In Figure 14, household incomes from the years 2011 and 2016 for Barboursville, WV can be seen below. This data was collected from the US Census Bureau as part of the 5-year ACS program. First, the number of households with incomes below \$49k increased and the households with incomes that range from \$50k – \$99k decreased. Finally, the number of households with incomes that range from \$100k - \$149k increased and those that range \$150k and more decreased. Overall, the household income brackets changed with more households in lower income brackets.

**Figure 14 Barboursville, WV - Household Income (2011 & 2016)**

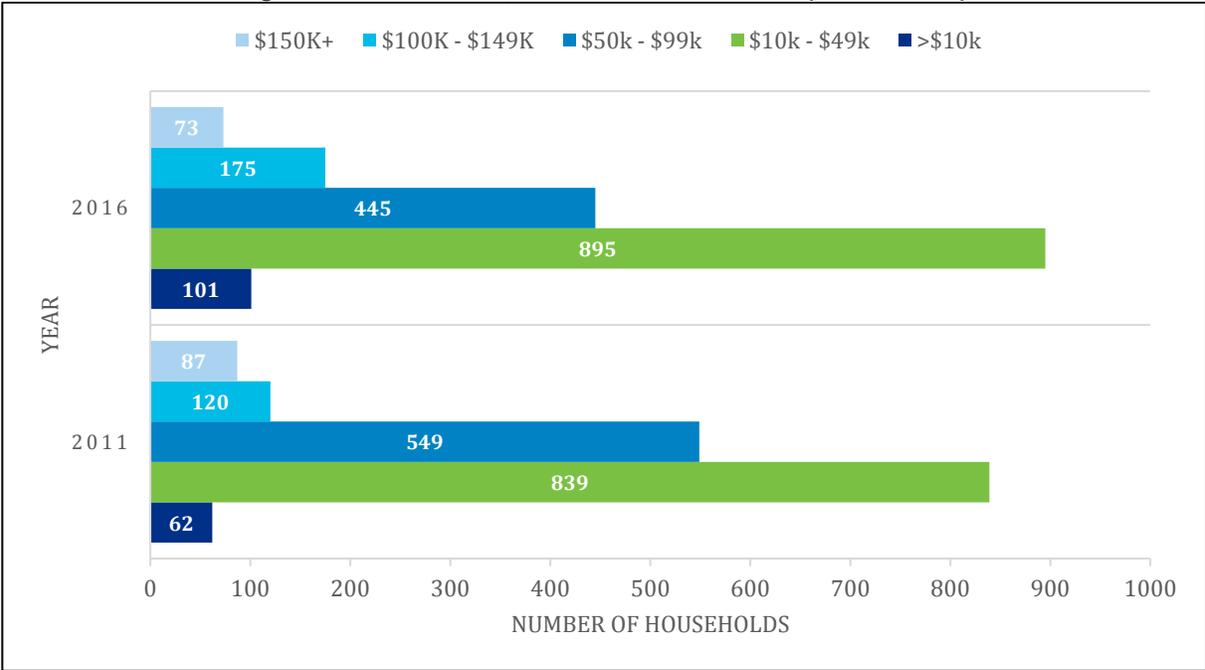
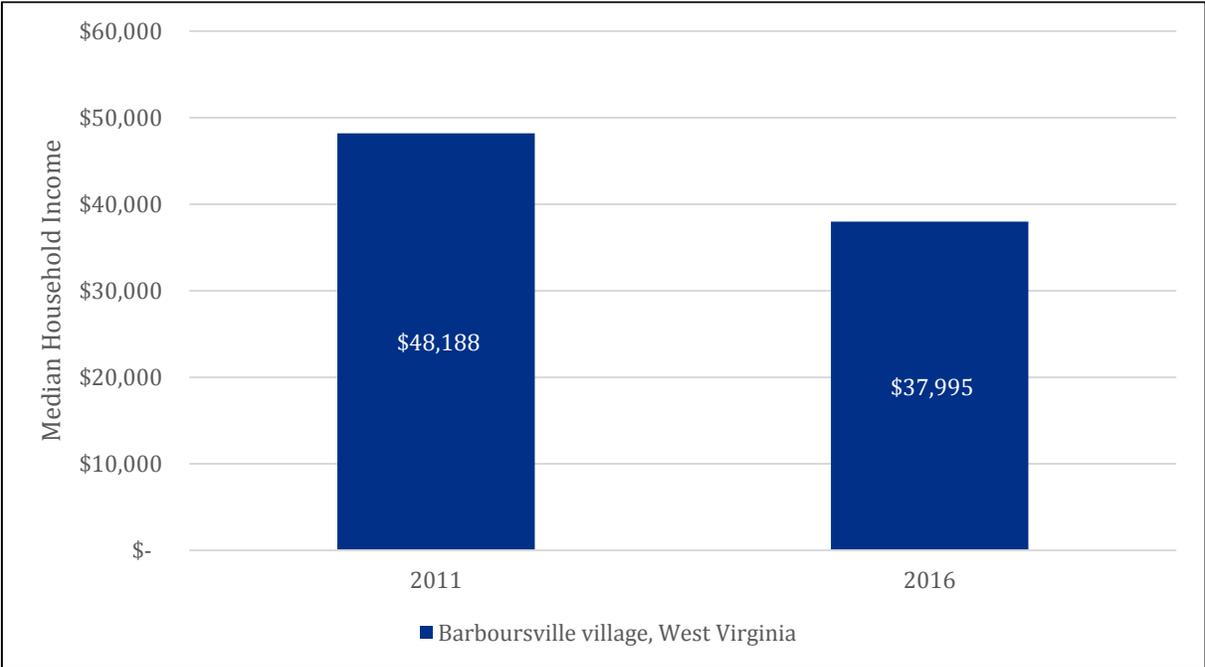


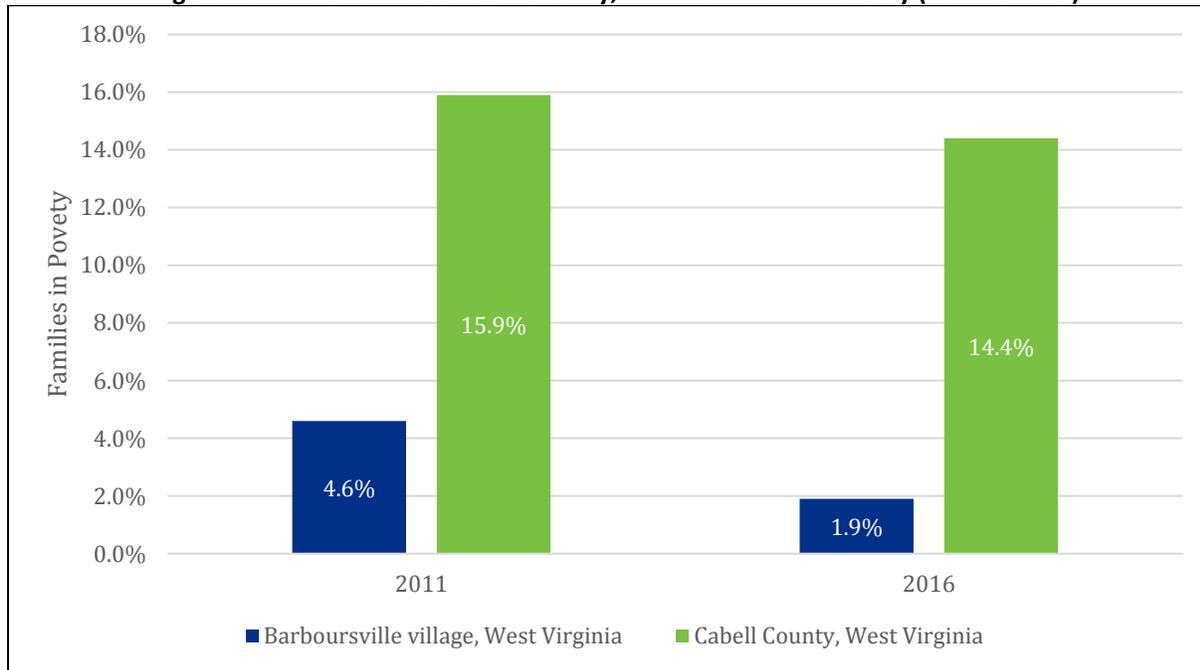
Figure 15 shows the median household income for Barboursville based on US Census Bureau data. The main inference from this figure is that the median household income for Barboursville dropped by nearly \$10,000 from 2011 to 2016. While significant, this likely can partially be attributed towards the increase in 1-person households which was seen in Figure 13.

**Figure 15 Barboursville, WV - Median Household Income (2011 & 2016)**



Another important income statistic is the level of poverty that exists within a city. Figure 16 shows the number of families that are under the poverty level within Barboursville, WV and Cabell County in 2011 and 2016. Overall, the number of families considered to be under the poverty level is decreasing at the county level and in Barboursville. The percentage of families under the poverty level is less than the county by a significant margin. In 2011, the poverty threshold for a family of four with two children was \$22,811 and in 2016, it was \$24,339. This gradual increase over time may lead families to fall under the poverty threshold.

**Figure 16 Barboursville & Cabell County, WV – Families in Poverty (2011 & 2016)**



## Employment

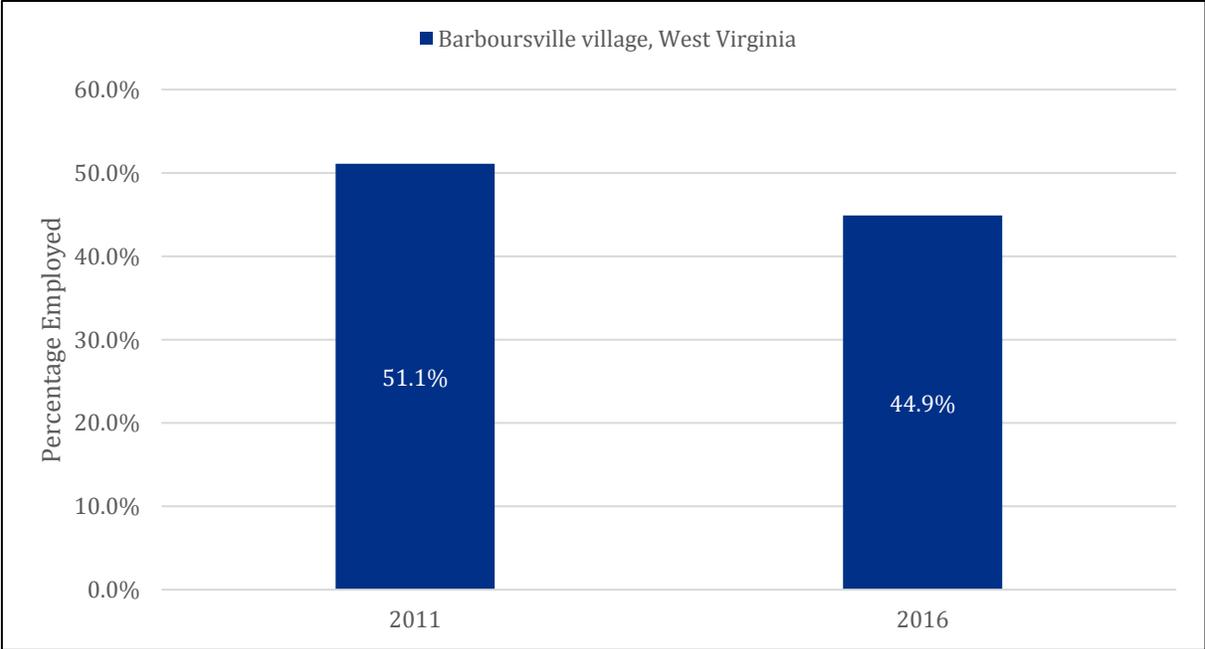
One of the driving forces behind a city's economic engine are the number of persons that are employed within a city. When there are more people employed, there are fewer people likely to require assistance through services and thus less of a burden on the city. Also, having a highly employed populace lends itself to having more income and opportunity. Without a strong workforce, long term issues could plague not only the city but the people of Barboursville as well.

In Figure 17, the labor force participation rate<sup>1</sup>, which is the percentage of people who are 16 years or older and are employed compared to the total population, is shown for Barboursville. An important trend to note is the decrease from 2011 to 2016, which means that a smaller portion of the populace in the city is working.

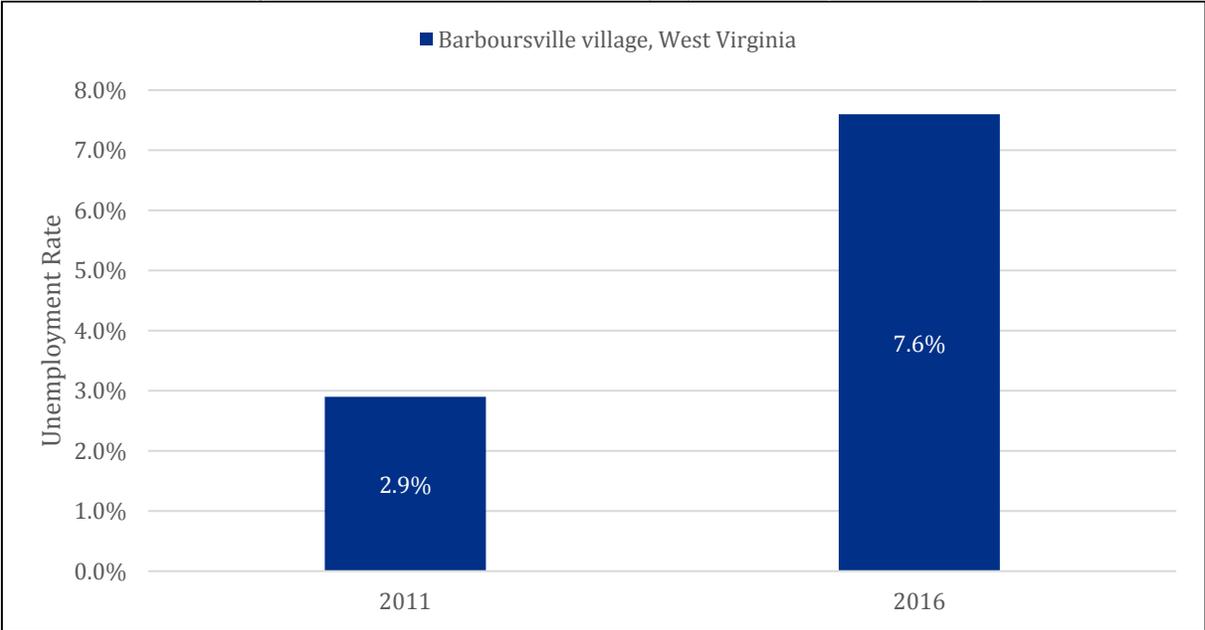
<sup>1</sup> The labor force participation rate is defined as "the proportion of the population that is in the labor force" according to the US Census Bureau: [https://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2016\\_ACSSubjectDefinitions.pdf](https://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2016_ACSSubjectDefinitions.pdf)

In Figure 18, the unemployment rate<sup>2</sup> for Barboursville in 2011 and 2016 is shown. Unlike the labor force participation rate, this statistic increased. Overall, this is logical since less persons participating within the economy would lead to more individuals being unemployed.

**Figure 17 Barboursville, WV – Labor Force Participation Rate (2011 & 2016)**



**Figure 18 Barboursville, WV - Unemployment Rate (2011 & 2016)**



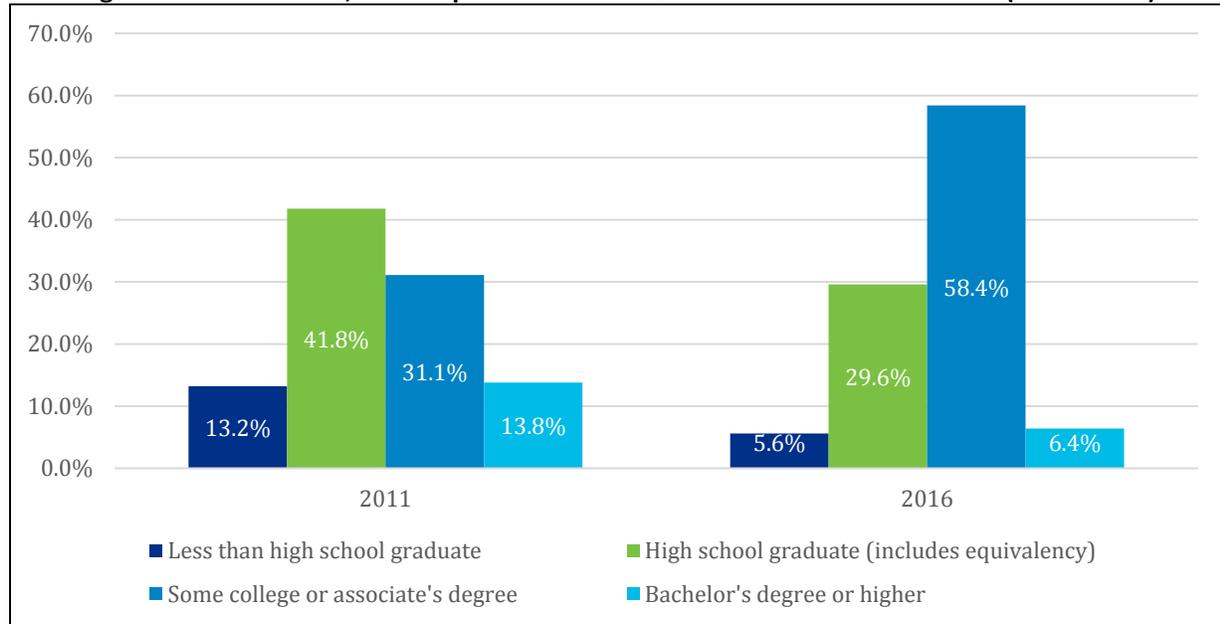
<sup>2</sup> The unemployment rate is defined as “the number of unemployed people as a percentage of the civilian labor force” according to the US Census Bureau: [https://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2016\\_ACSSubjectDefinitions.pdf](https://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2016_ACSSubjectDefinitions.pdf)

## Education

Educational attainment is an important indicator on the type of career that can ultimately be pursued. It can determine what types of industries are built and thrive. A population with a significant amount of people that has some college education could lead to higher paying jobs which ultimately benefits the city.

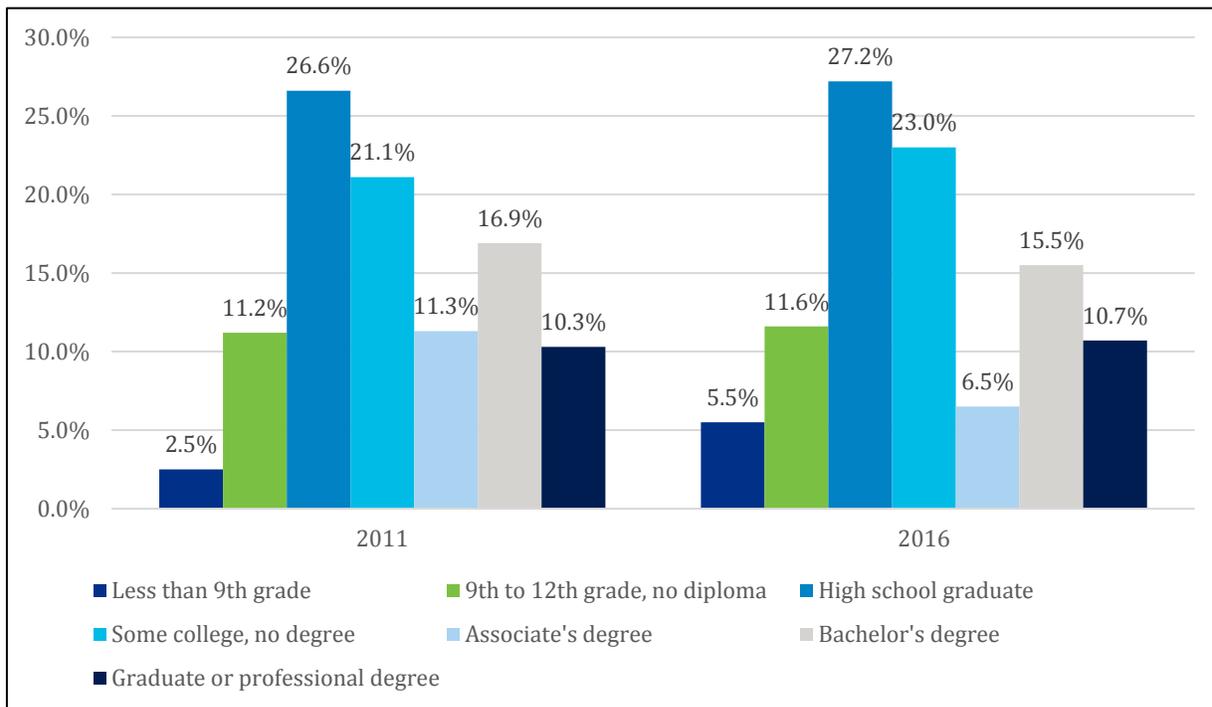
In Figure 19, educational attainment achieved by people who are ages 18 – 24 within Barboursville can be seen. The important trend from this figure is that overall, the amount of people who have completed some form of college or completed an associate’s degree has increased significantly and the amount that have less than a high school degree has dropped too.

**Figure 19 Barboursville, WV - Population 18 - 24 Years - Educational Attainment (2012 - 2016)**



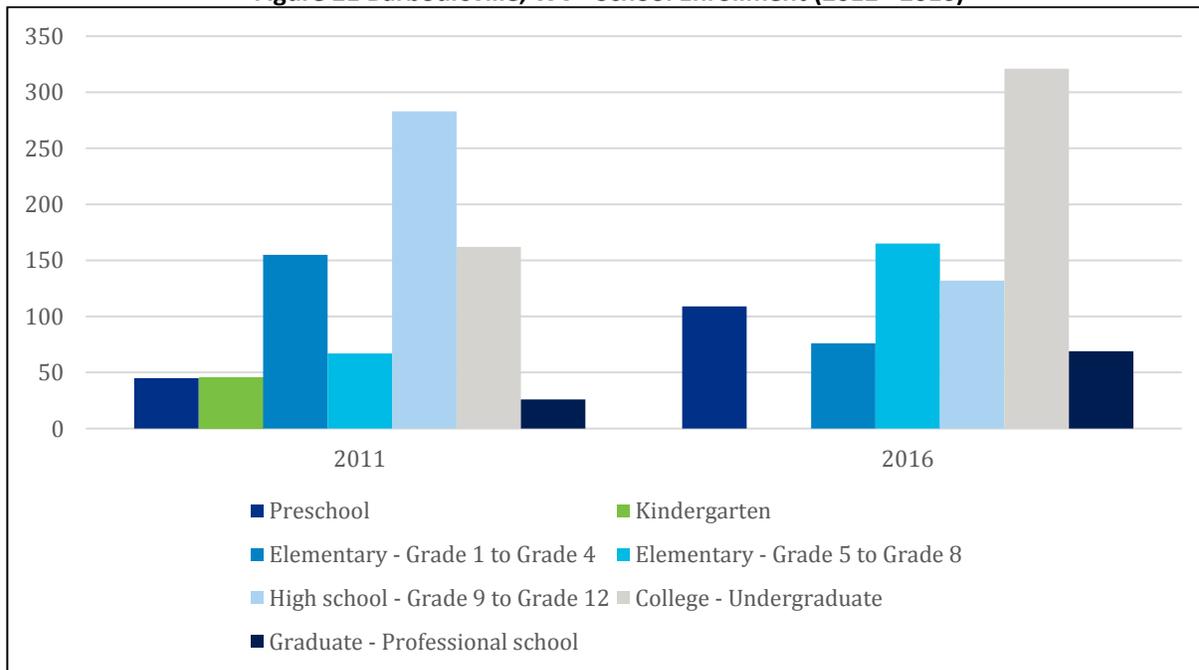
Like Figure 19, Figure 20 shows educational attainment but is for persons who are aged 25 years and older. While there are some changes, such as more persons with less than a 9<sup>th</sup> grade education and associate’s degree, most of the attainment levels are the same.

**Figure 20 Barbourville, WV - Population 25 Years and Older - Educational Attainment (2012 – 2016)**



In Figure 21, the number of people that are enrolled in some type of schooling can be seen. Barring kindergarten and the early elementary years, every level of schooling has more individuals enrolled. This is especially the case for those in college at the undergraduate level.

**Figure 21 Barbourville, WV - School Enrollment (2012 - 2016)**



## Transportation Conditions

It's critical to assess the type of infrastructure that is available to pedestrians and bicyclists within and near Barboursville. The availability of sidewalks, bicycle lanes and shared use paths will determine a person's transportation options and will impact many facets of their lives. A lack of sidewalks means that a person may need to walk or drive a wheelchair in the street, potentially endangering them. Bicycle lanes could create opportunities for exercise and health improvement as well as allow residents to travel to an appointment or run an errand without the use of their automobile.

### Sidewalk and Bicycle Facility Inventory

Within Barboursville, many sidewalks are available for people to use in the "village" area of the city and in proximity to the Elementary and Middle Schools.

On many of the smaller streets in Barboursville, there are sidewalks available, but it is not a complete network as some do not connect or are not always on both sides of the street. There are some connections between properties with sidewalks, meaning that people do not need to travel as great a distance on foot to reach where they're going. Overall, there is an adequate sidewalk network within the "village" area of Barboursville, but beyond that there is a lack of infrastructure for pedestrians to use.

There are no exclusive bicycle facilities within Barboursville for bicyclists to use. Of course, bicyclists can travel on a paved shoulder and may do so in some places, but there are no paved bicycle lanes or shared-use pathways within Barboursville beyond those that are in Barboursville Park.

There is also no sidewalk or bicycle connection from the Village Center and the commercial area on US Route 60 with Kroger and Food Fair supermarkets. These areas are separated by the Guyandotte River, with the bridge on Farmdale Road connecting them. There is a narrow sidewalk on one side of the bridge, but there are no existing sidewalks on Farmdale Rd. There are visible "goat paths" on the portions of Farmdale Rd with unpaved shoulders, indicating that people are using this road to walk or bicycle.

In addition, there is a lack of crosswalks and pedestrian signals within Barboursville for people to use to cross US Route 60. For example, on all of US Route 60 in the Village, there is only one painted crosswalk which is located at Farmdale Rd.

### Existing Transportation Network

Table 2 below is a summary of the transportation network within Barboursville, WV. It includes the number of lanes on each roadway and whether there are sidewalks or paved shoulders currently as well. Figure 3 through Figure 8 depict these existing conditions as well.

Table 2 Barboursville Existing Transportation Network

Existing Conditions					
Roadway	Segment/Intersection		Lane Configuration	Existing Sidewalks	Existing Paved Shoulders
	From	To			
US Route 60	City Limit	Davis Creek Rd	5 lanes	No	Yes
	Davis Creek Rd	Farmdale Rd.	5 lanes	No	Yes
	Farmdale Rd	Water St.	3 – 5 lanes	Partial	Yes
	Water St.	SR 193	3 lanes	No	Yes
	SR 193	Main St.	2 lanes	No	Yes
	Main St.	Cedar Dr.	2 lanes	No	Yes
	Cedar Dr.	W. Mall Rd	3 lanes	No	Yes
	W. Mall Rd	City Limit	3 lanes	No	Yes
SR 193 - Ben Bowen Blvd.	Merritt Creek Rd.	US Route 60	5 - 6 lanes	No	No
Farmdale Rd.	US Route 60	Main St.	2 lanes	Partial	Yes
Water St.	US Route 60	Farmdale Rd.	2 lanes	No	No
Central Ave.	Cemetery Rd.	Greenwood Way	2 lanes	Yes	Yes
Lee St.	Ralston Ave.	Union Ave.	2 lanes	Partial	No
West Mall Rd.	US Route 60	Mall Entrance	4 lanes	No	Yes
Shaw St.	Central Ave.	Yoak Ave.	2 lanes	Partial	No
McClung Ave.	Merritt St.	Wilson St.	2 lanes	Partial	No
Coffman Street	Union Ave.	Adams Rd.	2 lanes	No	No
Union Ave	Wilson St.	Merritt St.	2 lanes	Partial	No
College Ave.	Lee St.	Park Rd.	2 lanes	Partial	No
Park Road	College Ave.	End	2 lanes	No	No
Long Street	Allen Ave	Spencer Ave	2 lanes	Yes	No
Allen Ave.	Main St.	Long St.	2 lanes	Yes	No
Spencer Ave.	Long St.	Shipe St.	2 lanes	No	No
Shipe Street	Davis	Ralston	2 lanes	Yes	No
Ralston Ave	Shipe St.	Lee St.	2 lanes	Partial	No
Main St	Water St.	US Route 60	2 lanes	Partial	No
Deer Run Rd	Horse Ring	--	2 lanes	No	No

## Sidewalks, Curb Ramps and Crosswalks - ADA

The ability for all people to be able to use sidewalks and bicycle lanes is important, but they also need to be built in such a way that those with disabilities can also use them too. Throughout Barboursville, there are numerous sidewalks for pedestrians and many of them may still satisfy ADA requirements, but there are areas where changes will be needed. Issues with the current



sidewalks in Barboursville include the width of the sidewalks themselves; some are too narrow to meet ADA requirements of five feet. There may also be issues with the “running grade” of the sidewalks, which cannot be more than a 5% slope. Many of the sidewalks seem to be in a good enough condition that they do not need to be re-constructed, except for in certain areas. The Village has tried to grind

uneven sections to level the surface in many areas.

Another ADA issue involves the crossings in some of the areas. Many curb ramps do not provide proper directional guidance for blind pedestrians and can also direct wheelchair users into the middle of the intersection rather than the crosswalk. Curb ramps should be flush where they contact the roadway to enable wheelchair users to easily transition to the roadway and not get stuck in a “valley.” This also prevents water and debris from collecting and creating a tripping hazard for walkers. This picture at the intersection of Shaw St. and Union Ave. shows the debris which has collected at the base of the ramp.



## Summary of Previous Planning Efforts

There have been numerous efforts to strategically plan for various modes of transportation within the KYOVA MPO area. Recommendations from the Non-Motorized Transportation Plans will include the findings of these plans.

### KYOVA MPO Transportation Improvement Program (TIP) 2018-2021

Every two years, KYOVA releases a TIP which details the state of transportation projects that occur within its planning area. There are a few projects scheduled to take place within the next few years.

The bridge that connects to Huntington Mall will be upgraded, as well as some of the surrounding roadways.

### Tri-State Transit Authority (TTA) Transit Impact Study

In January 2017, TTA began a study to determine the effectiveness of its fixed-route service by reviewing the service area, ridership and other various performance measures. This allowed the TTA to determine areas and routes that could be improved, as well as other development opportunities. Overall, ridership on TTA's fixed-route bus service has increased since 2010, which is opposite the national trend for many other transit agencies<sup>3</sup>.

Barboursville is currently serviced by TTA route 7 with sixty-minute headways and connects the city to downtown Huntington and the Huntington Mall. As part of this study, overall ridership and demand was found to be in demand for Barboursville and headways were recommended to be increased to thirty minutes. Route 7 was recommended to be split into two routes, 7B and 7T. Each would leave the TTA center but 7B would travel to Huntington Mall, and 7B would stop in Barboursville while 7T would stop at the Target near I-64. When combined, these two routes would allow for thirty-minute headways as they would leave and arrive at different times.

### Planned and Future Conditions

There are significant changes coming for Barboursville in the future. One of the largest is the planned development called Tanyard Station, which is currently being built on US 60 in Barboursville and will provide new employment and shopping opportunities for the people in and near the city and region. The planned 200,000-square-foot retail development is on the 51-acre site of the former CSX railroad yard along the Mud River and Tanyard Branch Creek.

### Planned Non-Motorized Projects

Several planned projects currently active are displayed on the Proposed Recommendations and Planned Improvements map series in Figure 23 through Figure 29. These include:

- US Route 60 Widening - This project begins at the WV 193 Intersection and ends at the East Mall Rd. Intersection for a length of 1.86 miles and will add additional lanes to US Route 60. This project will incorporate complete streets principles. The recommendations from this Non-Motorized Plan will feed into this project.
- Farmdale Road Sidewalk – This project will add a sidewalk to the east side of Farmdale Road to connect the Village with US Route 60 near the Kroger and Food Fair.
- Pathway Projects – Shared use paths will be built adjacent to Park Rd and through the Barboursville Park. There will also be a small sidewalk project to bridge the gap from College Ave. to Park Rd.

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<sup>3</sup> TransitCenter: <http://transitcenter.org/2018/05/01/transitcenters-ntd-transit-ridership-analysis-2002-2017/>

- East Mall Rd. – This project will widen the existing East Mall Rd. to 4 lanes in each direction. The recommendations from this Non-Motorized Plan will address the pedestrian crossings at US Route 60.
- Main Street Railroad Underpass at US Route 60. There will be drainage and other improvements in conjunction with the US Route 60 widening project. The recommendations from this Non-Motorized Plan will address the pedestrian crossings at US Route 60.

## Overall Summary

Numerous factors will affect the Village of Barboursville's future and must be considered when attempting to develop non-motorized transportation infrastructure. First, the need for this infrastructure can be seen based on the changing population and income factors of the city. The city is growing and will continue to grow, but if housing costs continue to rise and household incomes remain unchanged, there will become a need for additional low-cost transportation options. Walking and bicycling could become a necessity as housing expenditures make vehicle ownership more difficult.

## 4. Public Involvement

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### Project Advisory Team

A project advisory team was formed to provide guidance and feedback in the development of this plan. In addition to the consultant project team, participants included the KYOVA Interstate Planning Commission staff, Village of Barboursville planning and economic development, City Clerk, Public Works and Mayor. Meetings were held to kick off the project and to review draft recommendations.

### KYOVA Interstate Planning Commission

Status reports were provided to the KYOVA Technical Advisory Committee and the Policy Board at their regular meetings in February and April of 2018. These reports allowed for coordination with other ongoing transportation efforts in the region.

### Public Meeting Description

A public meeting to gather input for the study was held in Barboursville on March 8, 2018. Notice of the meeting was placed on the City's Facebook page and website. In addition, invitations were sent to multiple stakeholder groups. These included:

- School board
- Middle School administration/parents
- Park board
- Senior center/representatives
- Cycling community
- Hiking/walking/running community
- Business community – Chamber of Commerce
- Steele Memorial United Methodist Church
- Other religious institutions
- Veterans Home
- Library

Attendees included Village staff, Mayor, Police Department, Tri-State Transit Authority, business community, hiking community and private citizens. The project staff took comments and suggestions from these attendees and developed a set of main points which can be found below. Public comments can be found in Appendix A – Public Meeting Materials.

## Main Points

### Inside City Limits

- Would like to be able to bike from the Village to groceries at Kroger / Food Fair
- Would like to be able to bike to Farmer's Market
- Sidewalks are needed to the new library from the middle and elementary school
- Concerned about safety of foot traffic from Depot St. or Park Ave because of increased traffic on these streets from the new development. Also concerned about potential crime rate increase
- Would like to be able to bike to the mall

### Park Trail System

- Need to dedicate maintenance dollars for trail system.
- There is no room for bicycles on College Ave, yet it is the access point for the park trail system.

### Mall Area

In Figure 22 Bridge Comments, comments from the public meeting can be seen regarding the bridge that connects US Route 60 to Huntington Mall.

Figure 22 Bridge Comments



### Outside City Limits

#### Pea Ridge Rd.

- Need sidewalk, shoulder or separated path.

- Walking and bicycling very dangerous here, but people do it regularly. With a trail, we could walk to church.
- The road is maintained by the state and is a state road
- East Pea Ridge has highest residential population in the Village area.
- Jefferson Park Road needs a sidewalk or pathway to access Kroger
- Peyton Street near Wingate Drive needs a sidewalk to get to downtown

## Summary Recommendations

Based on input from the public, there are several recommendations that can be made for non-motorized transportation infrastructure within Barboursville. One of the simplest is to increase the availability of sidewalks throughout the city. It was recommended that the project team review where there are currently none or where there are gaps within the network. Additional sidewalk access benefits everyone, especially children who are walking to school and the elderly.

## 5. Non-Motorized Infrastructure Best Practices

To make bicycling and walking viable transportation options, the basic needs of bicyclists and pedestrians must be taken into consideration. Environments that are more conducive to bicycling and walking are those that include mixed and dense land uses and appropriately scaled infrastructure. In addition to having safe, ADA-compliant facilities for individuals with disabilities, a high-quality pedestrian environment should provide direct paths, be continuous, have safe crossings, have visual interest, provide shade, and offer various amenities.



Pathways along an interconnected network of streets generally offer more direct travel to destinations than curvilinear and cul-de-sac streets. Street crossings should be well-designed, visible, and contain crosswalks and signal activation devices where appropriate. Additionally, street crossings that incorporate raised medians and innovative design features such as bulb-outs, which act as extensions of the pedestrian network into the roadway, make crossing streets safer for pedestrians. Streets that provide visible interest and features

such as street furniture and trees encourage more people to walk. Also, a sense of safety and security is achieved through street lighting, pedestrian signs, and other visibility-related design features.

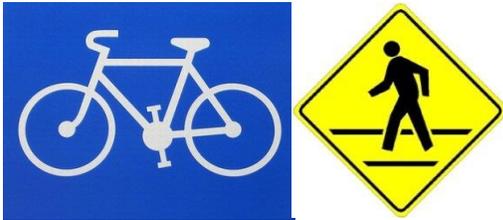
The needs for bicyclists are closely related to those of pedestrians. In general, bicyclists are made up of advanced, basic, and child users. As such, bicycle facilities should accommodate the needs of each level of users. Various bicycle facility options include shared lanes, paved shoulders, striped lanes, cycle tracks, shared-use paths, and signed routes. Shared lanes are usually wider outside lanes that provide additional room to accommodate bicyclists, while striped lanes are narrow lanes for the exclusive use of bicyclists and contain markings to indicate their designated use. Cycle tracks are bike lanes that are physically separated from the roadway. Shared-use paths are typically asphalt or concrete pathways that run adjacent to roadways and can be shared by both pedestrians and bicyclists. Signed routes are created in cases where no room exists to create additional space for bicyclists and are often on less congested streets with reduced traffic speeds. Basic and child bicyclists may feel more confident utilizing multi-use paths and striped lanes; while more advanced users may travel safely on shared lane facilities.



A bicycle transportation network should meet certain requirements to ensure that bicycling is safe, convenient, and efficient for both utilitarian travel and recreational purposes. Hazards include a lack of proper lighting, overhead and horizontal obstructions, vehicular traffic, drainage grates, and conflict with other users such as pedestrians. The selection of bikeway type should consider the intended travel purpose, interaction with vehicular traffic, and the available right-of-way. The bicycle network itself should be direct and provide adequate connections between popular destinations, as well as access to public transit routes.

Clear and consistent route signage not only assists bicyclists in way-finding, but also helps motorists be aware of the presence of bicyclists. Bicycle parking that is safe, secure, and convenient is critical at popular destinations.

Five critical components augment the success of a non-motorized transportation system: engineering, education, encouragement, enforcement, and evaluation. Proper engineering and design of roadways incorporating a multimodal environment are vital in promoting a successful pathway network. Educational programs that administer information about the correct and safe way of traveling by foot or bicycle and that make motorists aware of “sharing the road” with different types of transportation uses are imperative for transportation safety. This is further complemented by the enforcement of traffic laws that relate to the interaction between motorists and pedestrians and bicyclists. Evaluation helps analyze the effectiveness, extent, and cost of various efforts and programs, and provide guidance to what resources should be made available and the direction of policies in the future.



## Best Practices for Bicycle and Pedestrian Planning

Several best practices exist concerning the proper planning of bicycle and pedestrian facilities. Like the other modes of transportation, this “toolbox” of policies, strategies, and actions can assist in advancing bicycle and pedestrian transportation in the region.

### Integrating Land Use and Transportation

Land use and transportation planning should be integrated to make communities livable and accessible for walking and bicycling. Standards, policies, and guidelines should be developed to support a safe, walkable, and bicycle-friendly environment. Land uses and street configurations most conducive to bicycling and walking are concentrated in mixed-use, dense, compact developments with a variety of services and facilities.





Specific policies for land use and transportation considerations may include providing clearly defined, separate lanes for bicyclists to create a physical division between motorists and bicyclists. This helps to elevate the importance of bicycling as a legitimate form of transportation. Other examples include requiring public rights-of-way for the construction of pathways connecting cul-de-sacs between developments, encouraging schools to include pedestrian and bicycle accessibility issues in new school location decisions, and developing specific requirements for pedestrian and bicycle facilities in town centers,

transit corridors, and employment centers.

### Maintaining a Database of Bicycle and Pedestrian Facilities

To stay abreast of continuing bicycle and pedestrian needs, it is important for communities to maintain a database of pedestrian and bicycle facilities. This database should first involve creating an inventory of the existing system and contain information as to the conditions and features of the infrastructure. Besides facility conditions and other basic features, the database could also include the location of missing links in sidewalks and pathways, and the conditions of existing traffic operations and geometric conditions which impact a pedestrian or bicyclist's decision in using certain roadways. The database should be updated regularly to help in planning for future improvements to better accommodate bicyclists and pedestrians. This plan for the Village of Barboursville establishes the inventory of existing facilities.



### Preserving Future Bicycle and Pedestrian Corridors

To further assist bicycle and pedestrian efforts, it is prudent to plan for and preserve future bicycle and pedestrian corridors. Strategies include requiring future development to set aside trail and pathway easements, incorporating bikeway right-of-way designations in transportation and master plans, identifying recreational trail corridors in park and community plans, and establishing pathways along utility easements and railroad corridors.

### Incorporating Bicycle and Pedestrian Elements into Roadway Projects

Requiring that new roadways include bicycle and pedestrian elements would also improve non-automobile modes of transportation. The concept of the "complete street" is for the roadway to accommodate all road users, regardless of age, ability, or mode of transportation. This could be achieved through wider outer lanes, bike lanes, cycle tracks, wide paved shoulders, bicycle-friendly drainage infrastructure, sidewalks, dedicated bus lanes, comfortable and accessible transit stops,

safe and frequent crossing opportunities, medians, pedestrian signals, and/or curb extensions. Additionally, coordination with WVDOT to ensure such accommodations on new or improved major roadways, bridges, underpasses, at-grade rail crossings, and highway interchanges could better support regional non-motorized transportation. Too often, such enhancements are

considered a “luxury” and often are not included in the name of cost savings.



### Bikeway Treatments

Table 3 shows the four common treatments for installing bikeways; Paved shoulders, Shared Lane Markings, Bicycle Lanes and Shared Use Paths.

**Table 3 Four Common Types of Bikeway Treatments**

Type	Description	Example
<b>Paved Shoulders</b>	<ul style="list-style-type: none"> <li>Adequate in rural areas.</li> <li>Benefits to drivers: space for evasive maneuvers, space for disabled vehicles to slow down or stop safely, and increased sight distance for through vehicles and for vehicles entering the roadway.</li> <li>Benefits to bicyclists and pedestrians: reduce passing conflicts between motor vehicles and bicyclists and pedestrians, making storm water discharge farther from the travel lanes, reducing splash and spray to pedestrians and bicyclists, and allowing bicyclists to ride at their own pace.</li> </ul>	<p>(Austin, TX)</p>
<b>Shared Lane Marking</b>	<ul style="list-style-type: none"> <li>Known as “sharrow”, used to label a shared environment of automobiles and bicyclists.</li> <li>Encourages bicyclists to position themselves safely in lanes too narrow for vehicles to safely pass bicyclists in the same lane.</li> <li>Alerts drivers of the potential presence of bicyclists.</li> <li>Shown to increase the distance between bicyclists and parked cars to let bicyclists avoid getting “doored”.</li> <li>Serves to advertise bikeways to all road users without requiring additional right of way.</li> </ul>	<p>(Austin, TX)</p>

	<p><b>Considerations:</b></p> <ul style="list-style-type: none"> <li>▪ Appropriate only for low speed and low volume roadways.</li> </ul>	
<p><b>Bike Lane</b></p>	<ul style="list-style-type: none"> <li>▪ A portion of the roadway that has been designated by striping, signage, and pavement markings for the preferential or exclusive use of bicyclists.</li> <li>▪ Allows bicyclists to ride at their own pace with little interference from vehicular traffic.</li> <li>▪ Makes both bicyclists and drivers predict each other's movement more easily.</li> </ul> <p><b>Considerations:</b></p> <ul style="list-style-type: none"> <li>▪ A designated buffer space between bike lane and vehicular traffic or parked cars can be provided to further improve the safety of bicyclists.</li> <li>▪ Careful study must be implemented to consider the interaction of bicycle traffic and vehicular traffic when installing bike lanes.</li> </ul>	 <p>(Austin, TX)</p>
<p><b>Shared Use Path</b></p>	<ul style="list-style-type: none"> <li>▪ Best used where there are minimal driveways or cross streets.</li> <li>▪ Helps bicyclists of all skills ride in a more protective environment but requires wider right-of-way.</li> </ul> <p><b>Considerations:</b></p> <ul style="list-style-type: none"> <li>▪ Requires grade separation or exclusive signal operation at intersections with major roadways.</li> <li>▪ Usually installed along waterways, railroad lines, limited access highways, or within parks and open space areas.</li> </ul>	 <p>(Houston, TX)</p>

**Source: National Association of City Transportation Officials, Oregon Department of Transportation, Austin Cycling Association, Pedestrian and Bicycle Information Center, and Houston Chronicle.**

### Best Practice Considerations for Sidewalks, Driveways and Pedestrian Crossings

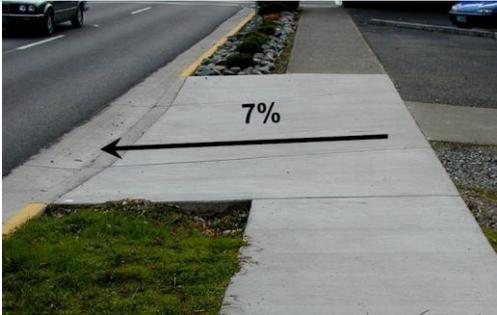
Table 4 below illustrates some recommended design considerations for sidewalks, driveways and pedestrian crossings for the Village of Barboursville. These considerations apply to Section 6: Non-Motorized Infrastructure Recommendations, which are discussed later in this report.

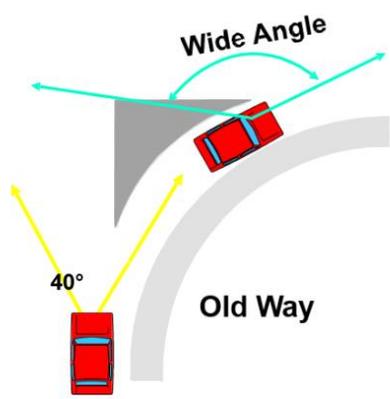
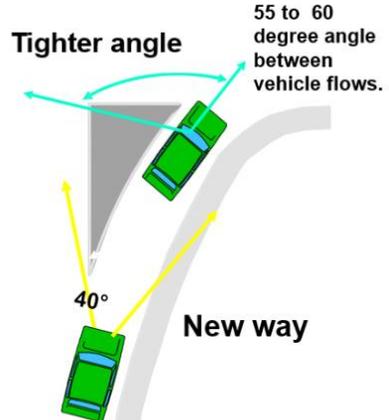
- Balances safety, traffic flow, and access to businesses and other development
- Reduces conflicts between vehicles, pedestrians and bicyclists
- Provides a safe and predictable place where paths cross

- Organizes driveways, creates sidewalks, and turning movements

**Table 4 Best Practices for Sidewalks, Driveways and Pedestrian Crossings**

Crosswalks and Sidewalk Ramps		
Examples	Not Optimal	Optimal
		
<b>Explanation</b>	<ul style="list-style-type: none"> <li>Sidewalk ramps with changes greater than ½" between surfaces and gaps between surfaces creates hazards and accessibility issues for users with limited mobility utilizing sidewalks to access transit.</li> </ul>	<ul style="list-style-type: none"> <li>Ramps designed to PROWAG and ADA standards minimize horizontal surface changes by providing less than ½" gap between surfaces. These standards facilitate crosswalk use-particularly for users with mobility limitations.</li> </ul>

Driveway and Sidewalk Use		
Examples	Not Optimal	Optimal
		
<b>Explanation</b>	<ul style="list-style-type: none"> <li>Steep cross slopes greater than 2% are a hazard for mobility impaired users who can become unable to negotiate both slopes due to the level of exertion required, or tip-over. Inclusion of the sidewalk surface as part of the driveway design increases driver recognition of entering a pedestrian zone.</li> </ul>	<ul style="list-style-type: none"> <li>The ADA standards and best practices require a maximum 2% cross slope. Separation of uses tells drivers they are leaving the roadway and entering a pedestrian zone.</li> </ul>

Turning Radii		
Examples	Not Optimal	Optimal
	 <p><b>Wide Angle</b></p> <p><b>40°</b></p> <p><b>Old Way</b></p> <p><b>High speed, head turner = low visibility of pedestrians</b></p>	 <p><b>Tighter angle</b></p> <p><b>55 to 60 degree angle between vehicle flows.</b></p> <p><b>40°</b></p> <p><b>New way</b></p> <p><b>Slow speed, good angle = good visibility of pedestrians</b></p>
<b>Explanation</b>	<ul style="list-style-type: none"> <li>Channelized Right-Turn Lane with 30-40° angle going into the turn lane decreases pedestrian visibility and pedestrian crossing distance. The head-turner dynamic creates an uncomfortable dynamic for pedestrians and bicyclists.</li> </ul>	<ul style="list-style-type: none"> <li>Specific intersection design elements affect how well the intersection functions for pedestrians. Pedestrians will benefit from narrower radii that shorten crossing distances, reduce conflicts with vehicles and improve the visibility of pedestrians by motorists.</li> </ul>

Medians and Mid-Block Crossings		
Examples	Not Optimal	Optimal
		
<b>Explanation</b>	<ul style="list-style-type: none"> <li>Crossing distances are increased when medians are not present. Without a designated pedestrian refuge and separate uses pedestrians are vulnerable to crashes</li> </ul>	<ul style="list-style-type: none"> <li>Medians and medians as part of mid-block crossings, reduce crossing distances and act as refuge for pedestrians.</li> </ul>

## 6. Non-Motorized Infrastructure Recommendations

This section provides recommended improvements for the Village of Barboursville to undertake to realize the goals in Section 2 of increasing safety, improving connectivity, encouraging walking and biking and creating a sense of place. These projects will need to be conducted with federal, state, regional and local partners. Where possible, planning cost information and project location is provided. Lastly, some potential funding sources for bicycle and pedestrian facility improvements are included.

The recommendations include pedestrian network and bicycle network improvements. To aid in understanding the context of these recommendations, figures include proposed shelters at bus stops and proposed roadway improvements. Bicycle network facility improvements include paved shoulders, bicycle lanes, and shared use paths and shared lane markings. These facility types are shown above in Table 3 and Table 4.

### Pedestrian and Bicycle Network Deficiencies

There are several issues that can plague a pedestrian or bicycle network, but typically it's a lack of connectivity between sidewalks, curb ramps and bicycle lanes that prevent people from utilizing these networks more often. In Section 3, the existing conditions of Barboursville were discussed, primarily the overall non-motorized transportation network in the city.

#### Sidewalk Gaps

One of the most common issues with a pedestrian network is the lack of connectivity in sidewalks throughout a city. People are much more likely to walk to their destination if they do not need to walk in the roadway or on a paved shoulder and are instead able to walk on a sidewalk. As was documented in Section 3, there are considerable gaps within the current pedestrian (sidewalk) network in Barboursville. The "village" area of Barboursville, which can be described as the area of the city in between the Guyandotte and Mud rivers, is where most of the sidewalks currently exist. While there is good connectivity in this area, there is no connection for pedestrians to utilize that allows them to travel safely to the commercial properties on US Route 60, namely the Kroger. There are few sidewalks along US Route 60 as well, thus leading to a discontinuous network and not amenable for pedestrian travel.

After reviewing the existing conditions, a series of proposed recommendations were developed, which are shown in Figure 23 through Figure 29. Within these figures are the areas where sidewalks are recommended, based on the existing sidewalk network and public input. As can be seen in Figure 24 and Figure 25, these proposed sidewalks would allow people living within the "village" area to not only walk to more destinations in that area, but also allow them to walk across the Farmdale Rd. Bridge to US Route 60. Further, the proposed sidewalk and shared use path on US Route 60, seen in Figure 26 and Figure 27, would connect the "village" and "business district" to the upcoming Tanyard Station area, as well as the Huntington Mall. Finally, Figure 28 and Figure 29 show US Route 60 and the proposed sidewalk on both sides of the roadway throughout the corridor. While there is less development overall in this area, there are residential areas and some commercial properties that could benefit from the additional connectivity of sidewalks.

## Curb Ramps

Another component of pedestrian networks are curb ramps at intersections and mid-block crossings that allow for pedestrians and other users to cross the roadway safely and efficiently. More information on curb ramps, how they're meant to be built, etc. can be found in Section 5: Non-Motorized Infrastructure Best Practices. During the review of the existing conditions, the location of curb ramps through Barboursville were recorded and their condition noted. The location of curb ramps that need to be either updated or installed can be found in Figure 30.

## Pedestrian Crossings

One final component of the pedestrian network is the location of signalized pedestrian crossings, which are displayed in Figure 23 and Table 5 below. Signalized pedestrian crossings allow for pedestrians, bicyclists and other users to cross a roadway in a safe manner, which is critical. There are a total of eight proposed signalized pedestrian crossings, most of which are meant for US Route 60. The reasoning for these proposed recommendations is mainly because there is only one pedestrian crossing, which is evident when looking at Figure 4. The inability for pedestrians and other users to cross US Route 60 safely has likely lead to unsafe situations for them and even some fatalities.

## Bicycle Lanes and Trails

One of the most basic components of a bicycle network is the bicycle lane. Figure 23 shows the overall proposed recommendations and planned improvements, with Figure 24 and Figure 25 showing greater detail. Due to the limited roadway space within Barboursville, many are not amendable to the installation of bicycle lanes without acquiring additional right of way or moving curbs and drainage structures. The main bikeway improvement would be to construct a designated route from US Route 60 to Barboursville park and sign the route so it's clear the space is meant for bicycles as well.

## Shared Use Pathways

One additional component of not only pedestrian networks, but bicycle networks as well, are shared use pathways. These types of facilities are typically meant for multiple types of users and would fit into both networks. One shared use pathway that is recommended is shown in Figure 26 and Figure 27 and is located on US Route 60 from the Huntington Mall and would end near the planned Tanyard Station development. The main reasoning for building a shared use pathway instead of a sidewalk or bicycle lane is to allow for any users to utilize this and be separated from motorized traffic, rather than build separate facilities. Bicyclists and pedestrians could travel from the Huntington Mall to the "village" area of Barboursville using the same pathway.

## Paved Shoulders

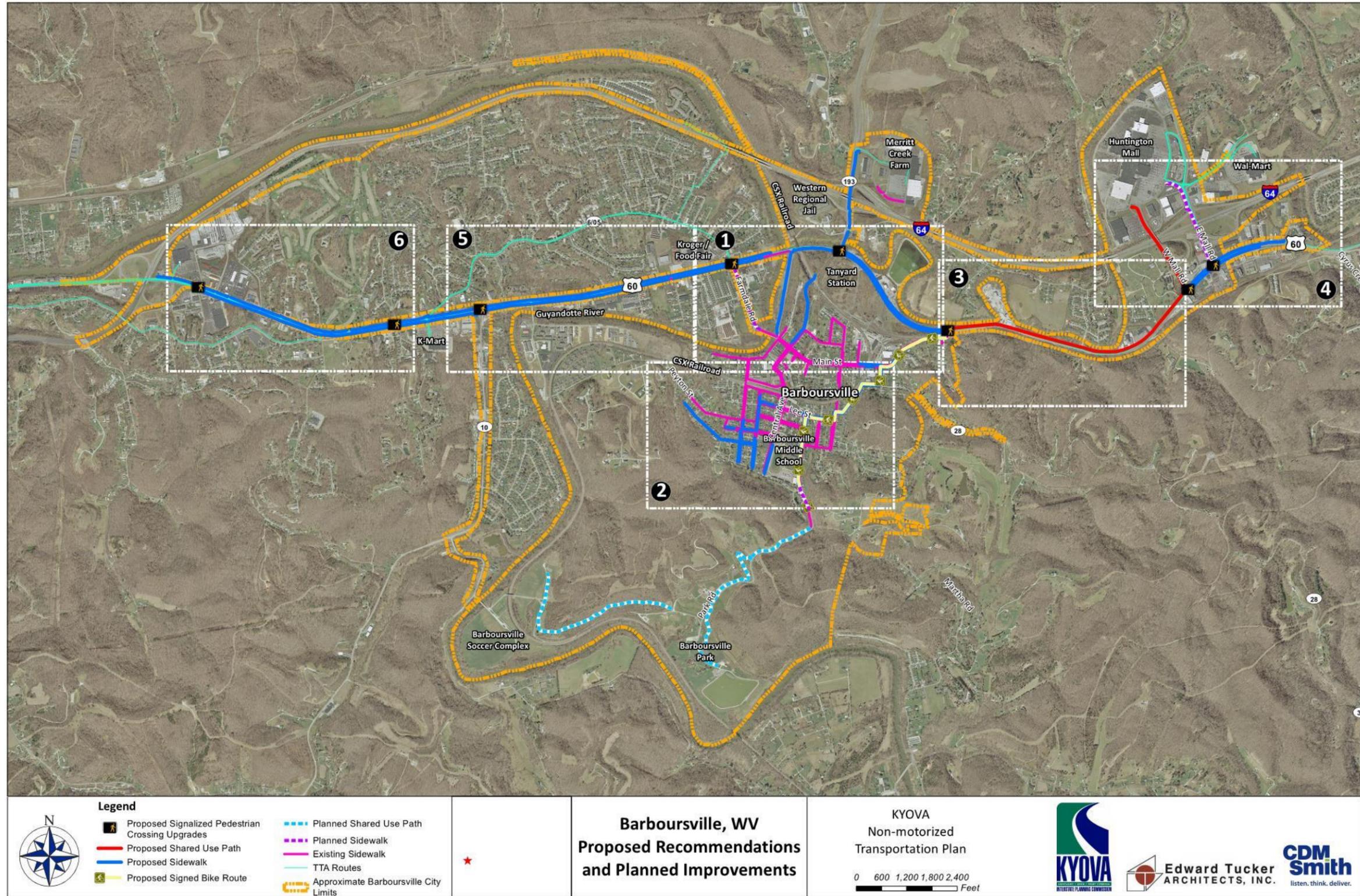
The final component of a pedestrian or bicycle network would be the development of paved shoulders on roadways throughout Barboursville. While paved shoulders aren't the most ideal solution for pedestrians or bicyclists, they should be considered when there are ROW or cost restrictions and automobile traffic is limited and travels slowly. Paved shoulders have the potential to reduce crashes and provide safety benefits for not only motorists, but pedestrians and bicyclists as well (FHWA, 2013). While not shown on the proposed recommendations and planned

improvements maps, it is recommended to build paved shoulders on roadways wherever possible, especially in areas where there are no sidewalks, bicycle lanes or shared use pathways.

**Table 5 Pedestrian Crossing Improvements**

<b>Crossings</b>					
<b>Intersecting Roadways</b>	<b>Signalized</b>	<b>Pedestrian Signals</b>	<b>Crosswalks</b>	<b>Ramps</b>	<b>Notes</b>
<b>US Route 60 Crossings</b>					
Irwin Road	Yes	No	No	No	Needs pedestrian accommodations, sidewalks, connects to medical land uses
Glen Carla/Pinecrest	Yes	No	No	No	Needs pedestrian accommodations, sidewalks
Davis Creek Rd (Rt. 10)	Yes	No	No	No	Needs pedestrian accommodations, sidewalks
Farmdale	Yes	No	No	No	Shorten crossing distances, install "pork chop" islands, tighten radii, install ramps and sidewalks
Ben Bowen (Rt. 193)	Yes	No	No	No	Shorten crossing distances, install "pork chop" islands, tighten radii, install ramps and sidewalks
Main Street	No	No	No	No	May be signalized eventually with Rt. 60 improvement project
West Mall Rd.	Yes	No	No	No	Intersection will be addressed with Rt. 60 improvement project
East Mall Rd.	Yes	No	No	No	Intersection will be addressed with Rt. 60 improvement project
<b>Other Crossings</b>					
Ben Bowen (Rt. 193) Crossing					
Mud River Road	No	No	No	No	Consider signage and designated left turn storage to allow non-motorized traffic to get across

Figure 23 Barboursville, WV – Proposed Recommendations and Planned Improvements



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Figure 24 Barboursville, WV – Proposed Recommendations and Planned Improvements (Inset 1)

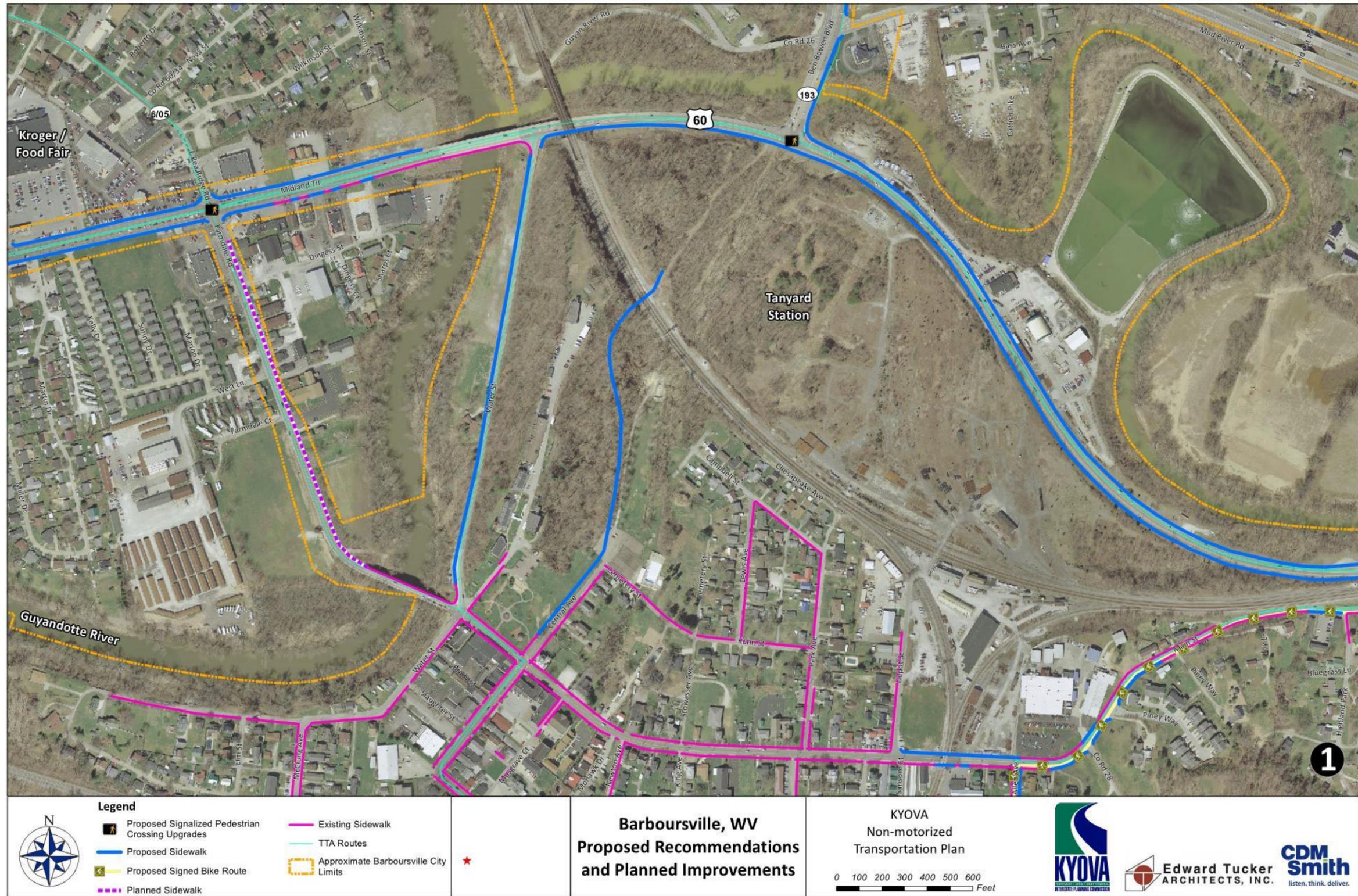


Figure 25 Barboursville, WV – Proposed Recommendations and Planned Improvements (Inset 2)

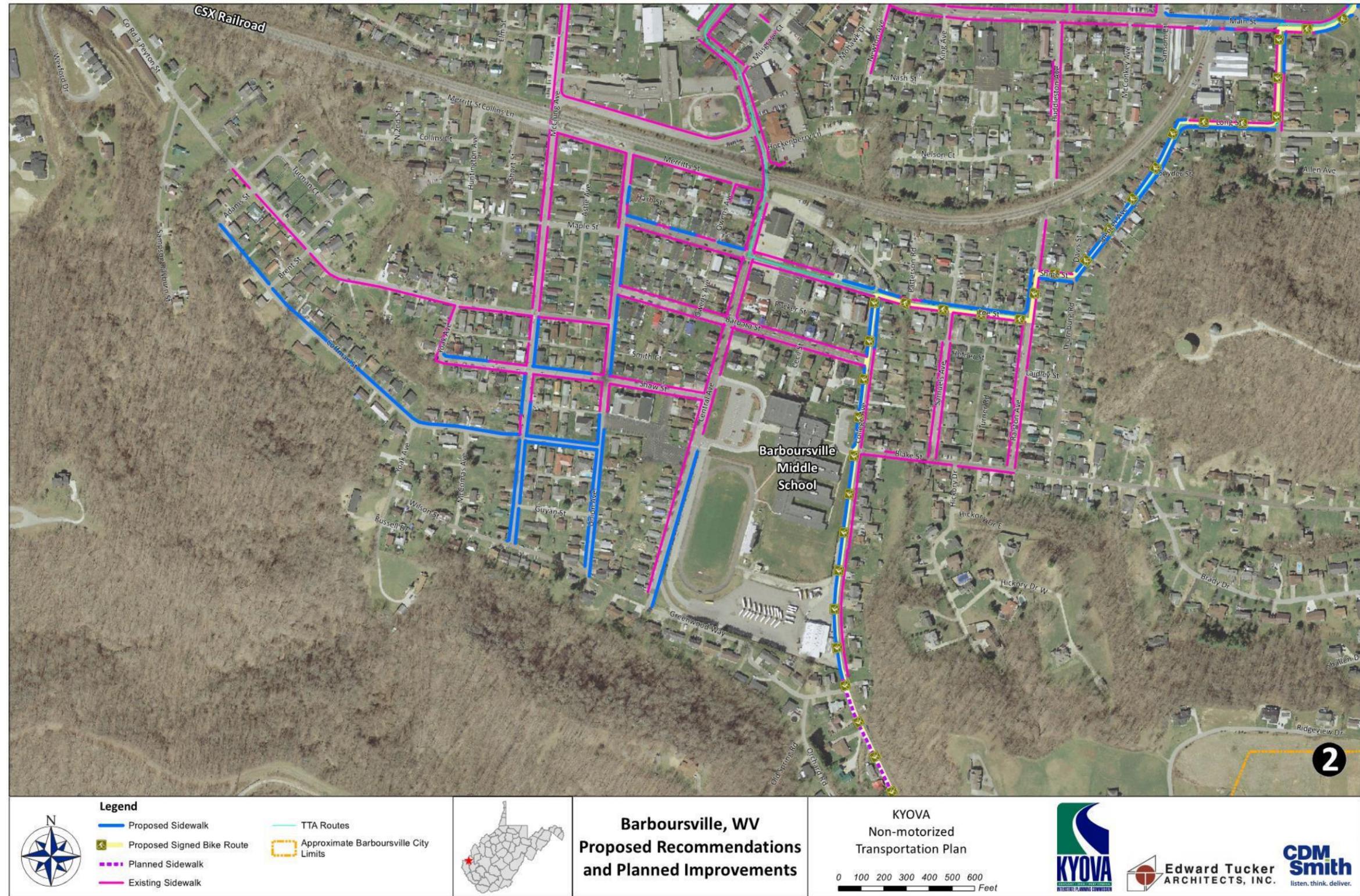
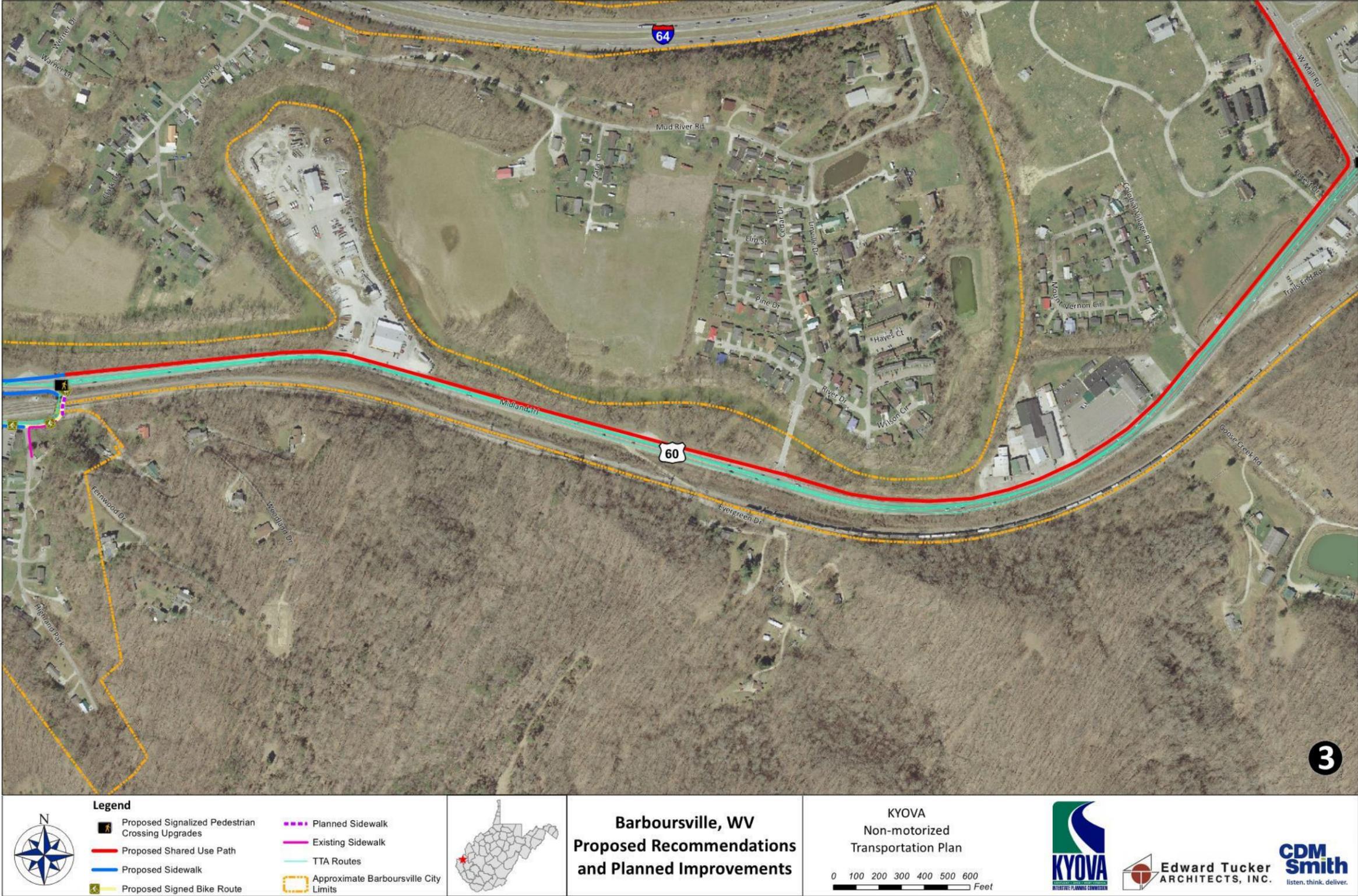


Figure 26 Barboursville, WV – Proposed Recommendations and Planned Improvements (Inset 3)



**Legend**

- Proposed Signaled Pedestrian Crossing Upgrades
- Proposed Shared Use Path
- Proposed Sidewalk
- Proposed Signed Bike Route
- Planned Sidewalk
- Existing Sidewalk
- TTA Routes
- Approximate Barboursville City Limits



**Barboursville, WV**  
**Proposed Recommendations**  
**and Planned Improvements**

KYOVA  
 Non-motorized  
 Transportation Plan

0 100 200 300 400 500 600  
 Feet

KYOVA  
REGIONAL PLANNING COMMISSION

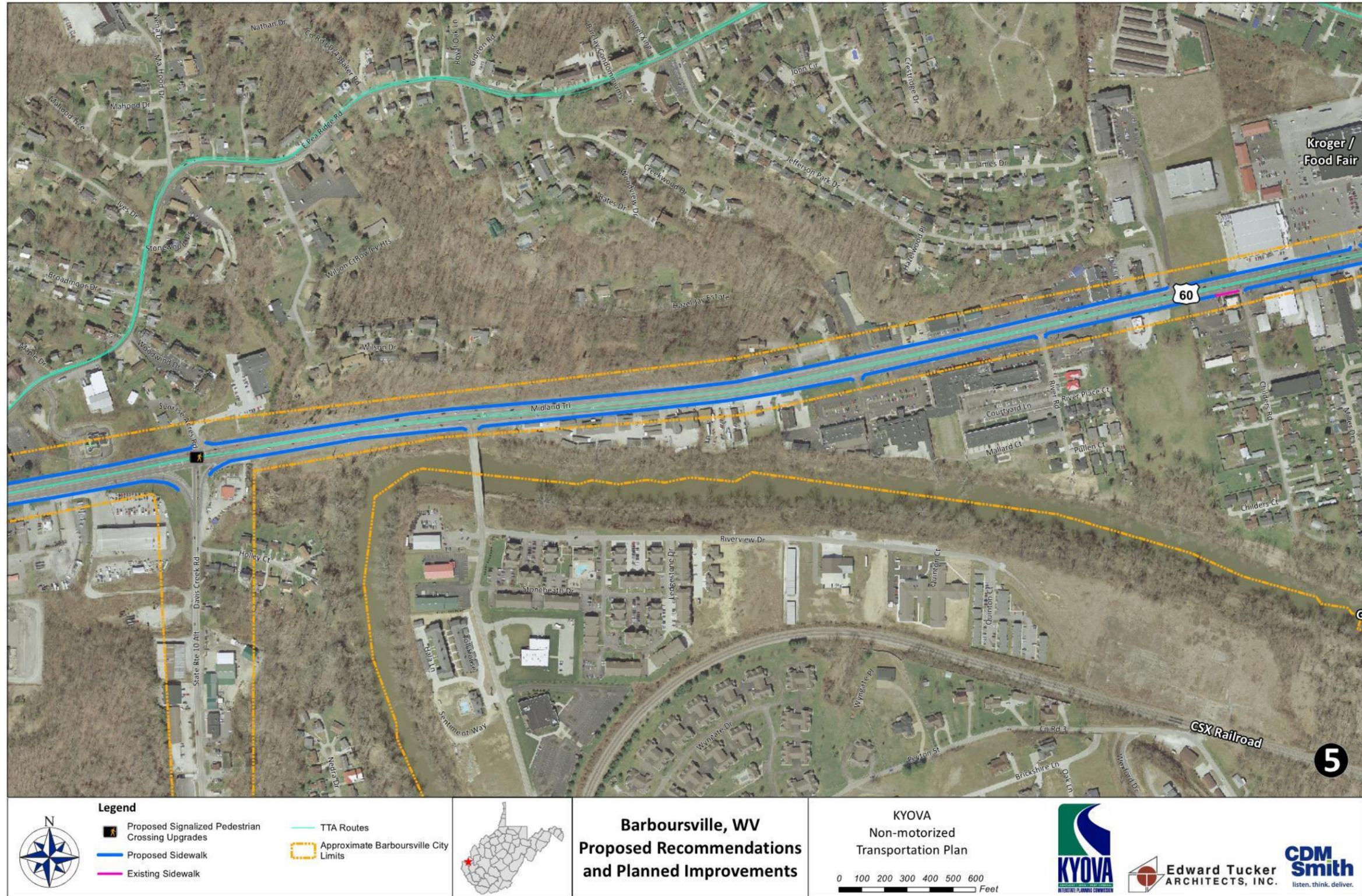
Edward Tucker  
 ARCHITECTS, INC.  
listen. think. deliver.

CDM  
 Smith  
listen. think. deliver.

MapDate: F:\GIS\GIS\Projects\GIS\Projects\Barboursville\Barboursville\_11117\_ProposedRecommendations\_10103.mxd 8/22/2018



Figure 28 Barbourville, WV – Proposed Recommendations and Planned Improvements (Inset 5)



KYOVA# F:\GIS\KYOVA\GIS\Map\_10\_31\Barbourville\Barbourville\_11117\_ProposedRecommendations\_Inset5.mxd 8/21/2018

Figure 29 Barbourville, WV – Proposed Recommendations and Planned Improvements (Inset 6)

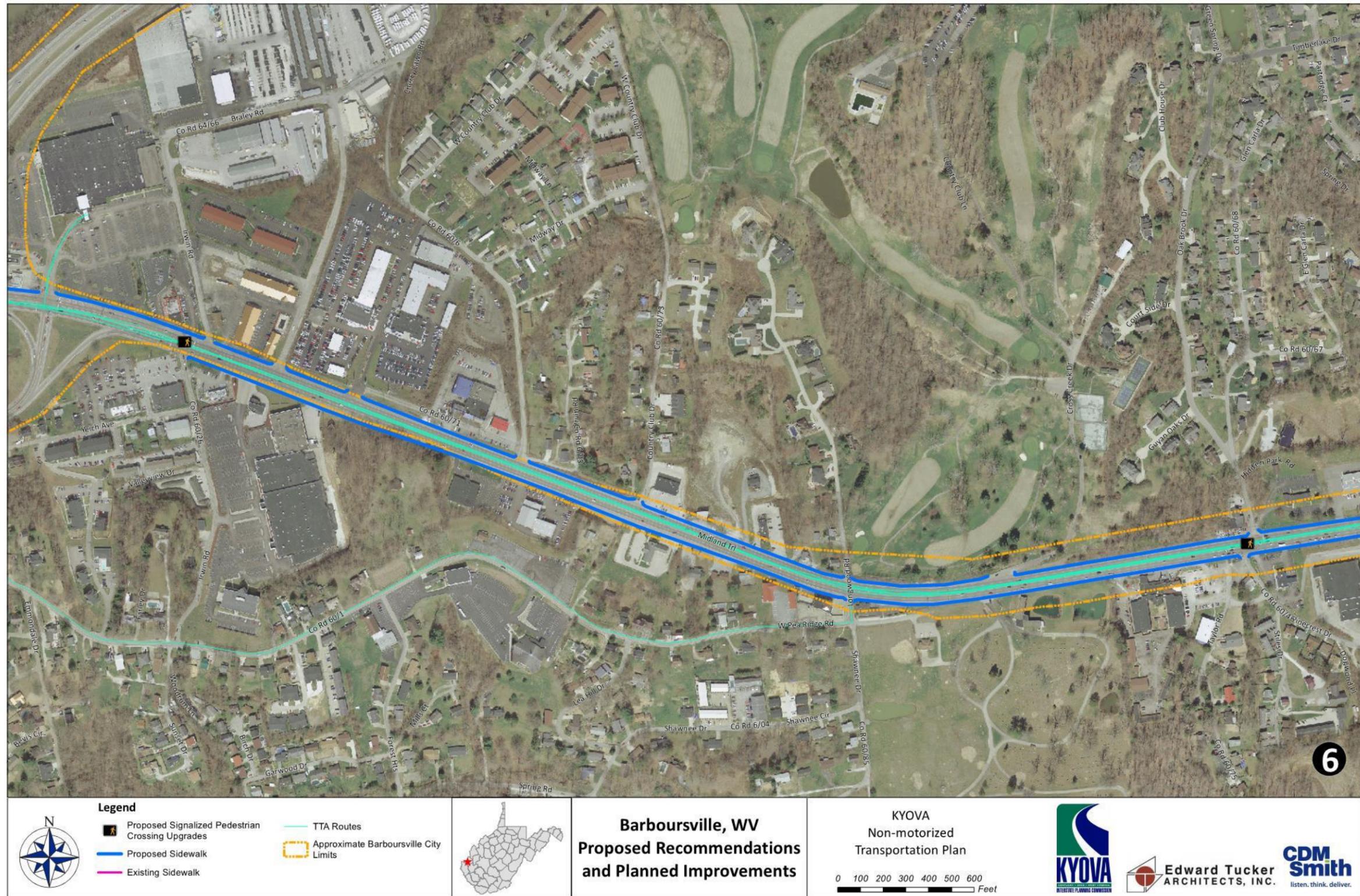


Figure 30 Curb Ramp Inventory



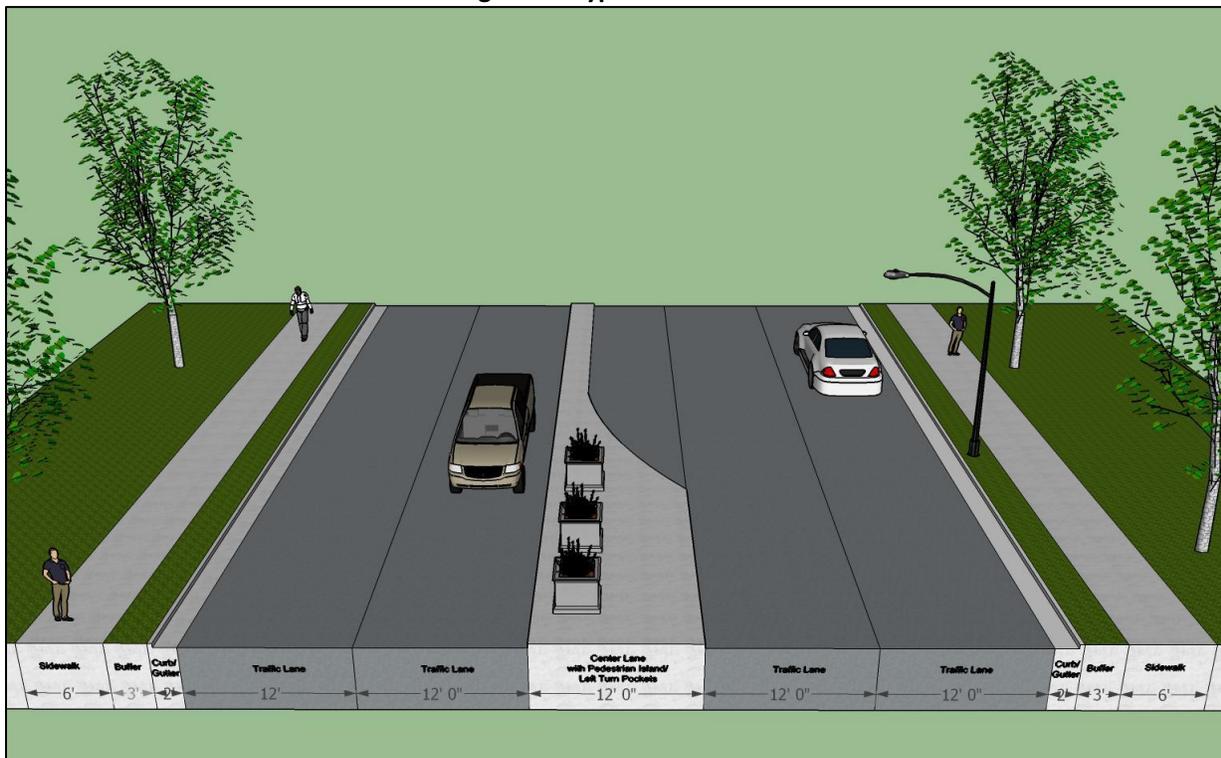
MapSource: F:\GIS\KYOVA\workspace\_10\_S\Barbourville\Barbourville\_11x17\_SidewalkRampImprovements.mxd 8/22/2018

## Proposed Typical Sections

Figure 31 through Figure 37 show the proposed typical sections that would be used throughout Barboursville.

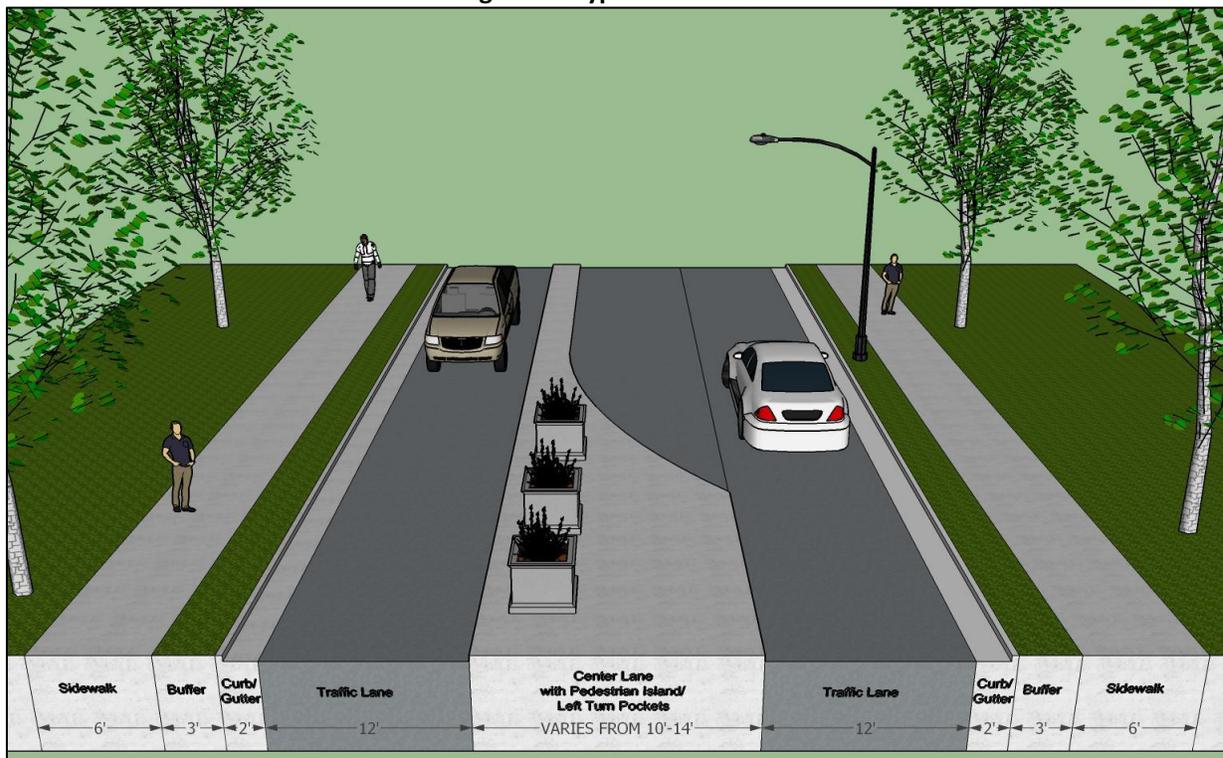
**Typical Section 1** is for US Route 60 from the western city limit to Farmdale Rd and for SR 193/Ben Bowen Road. This section would also apply to SR 193. It is recommended that pedestrian refuge islands and channelized left turns be utilized where possible to improve safety for all users. These are currently a 5-lane sections of roadway characterized by no sidewalks and open driveways. The current pavement width varies from 90' to 66' with ROW constrained as well. To retain five 12' lanes and include bike lanes would require 76', plus 16' of sidewalks. Therefore, there are no bike lanes shown in this typical section. It is recommended that additional effort be made to include a paved shoulder in this section but is not shown on the typical section.

**Figure 31 Typical Section 1**



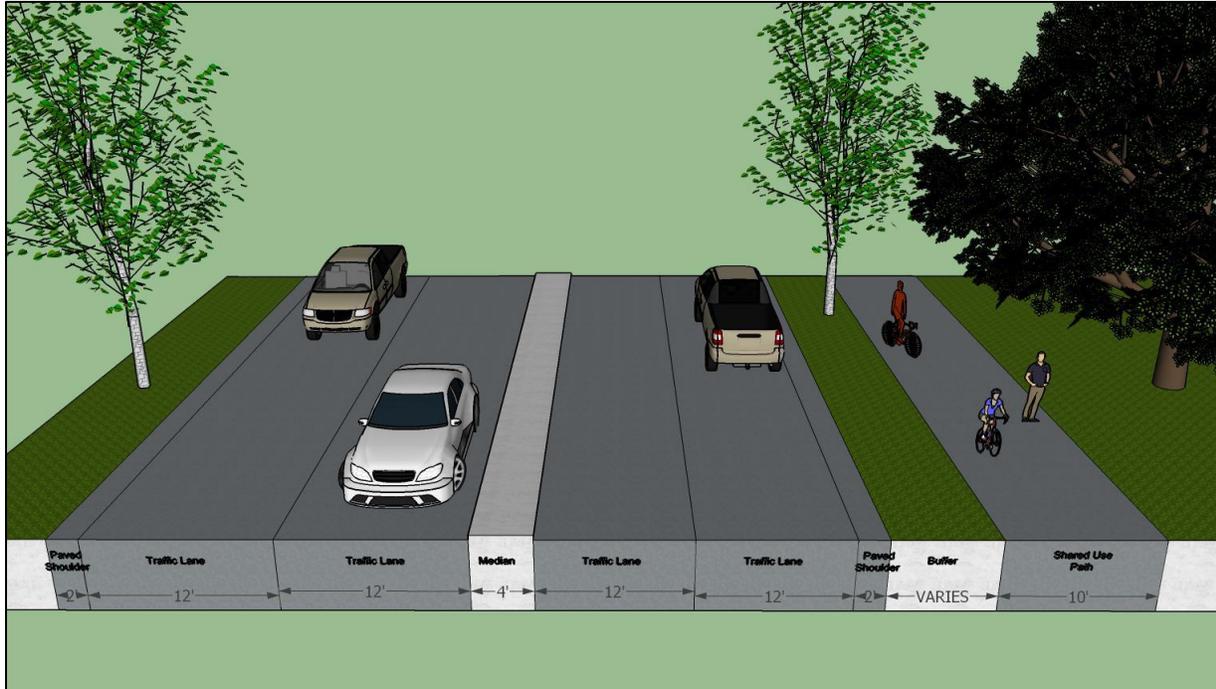
**Typical Section 2** is for US Route 60 from Farmdale Rd to SR 193 (Big Ben Bowen Hwy). The final design for this section transitions from a 5-lane section to a 3-lane section. Currently, this portion of roadway is characterized by few sidewalks and open driveways. The current pavement width varies from 66' to 57' with ROW constrained in places. It is recommended that sidewalks be built to connect the Village and Tanyard Station. Due to physical constraints of crossing the bridge at Water Street, a sidewalk is only recommended on the south side until that bridge is replaced in the future. To retain three 12' lanes and include bike lanes would require 46', plus 16' of sidewalks. Therefore, there are no bike lanes shown in this Typical Section. This typical section is also recommended for US Route 60 between the East Mall Rd. and the eastern city limit. It is recommended that additional effort be made to include a paved shoulder in this section but is not shown on the typical section.

**Figure 32 Typical Section 2**



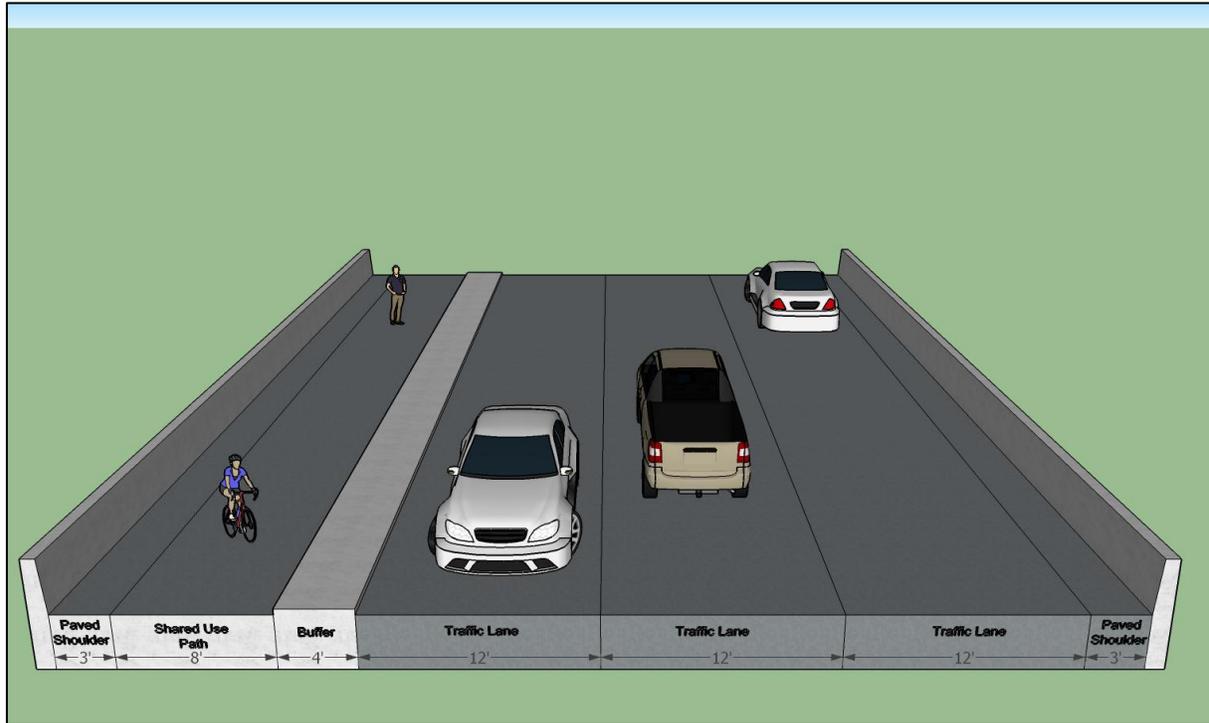
**Typical Section 3** in Figure 33 below represents the portion of US Route 60 between SR 193 and East Mall Rd. Though this section is programmed to be improved soon, from a non-motorized perspective, it is recommended that a shared use path be built on the north side of the roadway. This would provide a direct connection to the mall from the village. It is also recommended that whatever roadway configuration is chosen that a raised median be installed with occasional left turn pockets where needed. To maintain the safety of the shared use path, it is important to minimize turning movements and driveways across it. Physically separating the through lanes and restricting turns would contribute to the safety of the roadway and the shared use path.

**Figure 33 Typical Section 3**



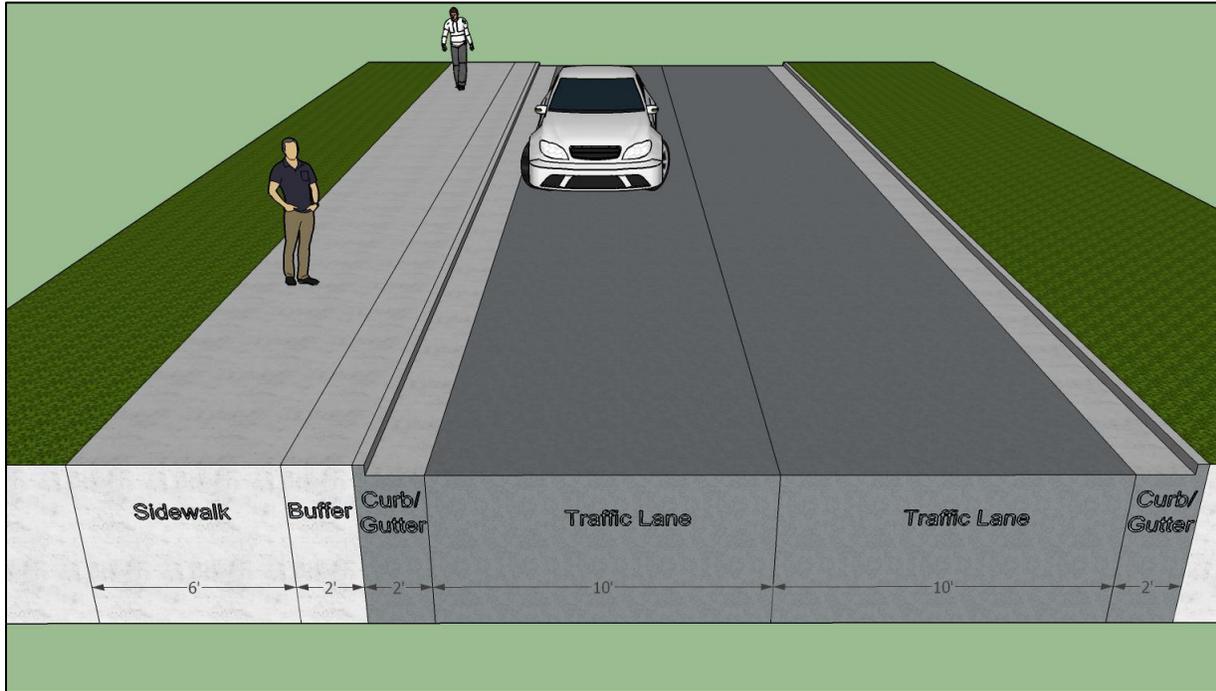
**Typical Section 4** below in Figure 34 is for the bridge portion of West Mall Road. The existing roadway is currently a four-lane bridge that connects US Route 60 to Huntington Mall and is not conducive for pedestrians or bicyclists. The proposed change of adding an 8' shared use pathway and 4' buffer into the roadway would provide these users a way to access the mall and not require them to use a vehicle.

**Figure 34 Typical Section 4**



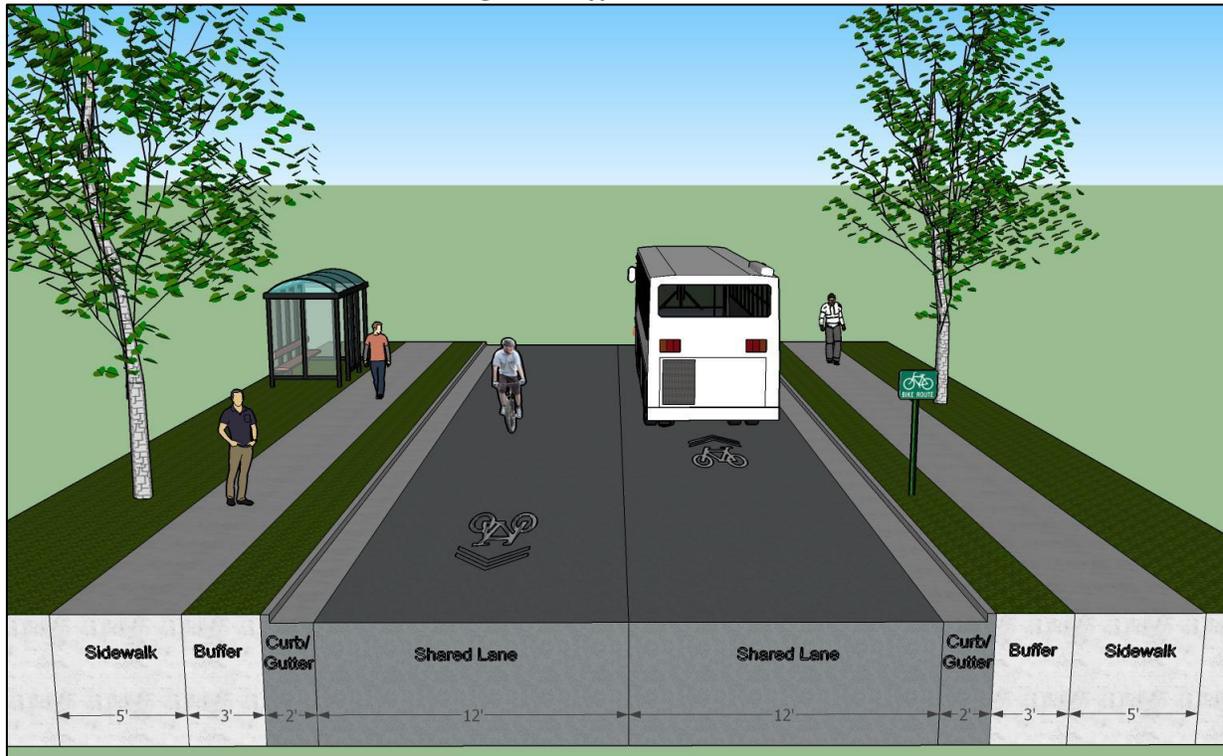
**Typical Section 5** represents recommendations for Farmdale Road and Water St. Both roadways have tightly constrained ROW, which prohibits adding sidewalks on both side of the road. Farmdale Road is programmed for improvements with a sidewalk on one side. This plan recommends that Water St. have a sidewalk added to one side as it is key connection between the Village and US Route 60 and the Tanyard Station development. Though curb and gutter are shown in this typical section, it is possible that a sidewalk, paved shoulder and open drainage would be selected.

**Figure 35 Typical Section 5**



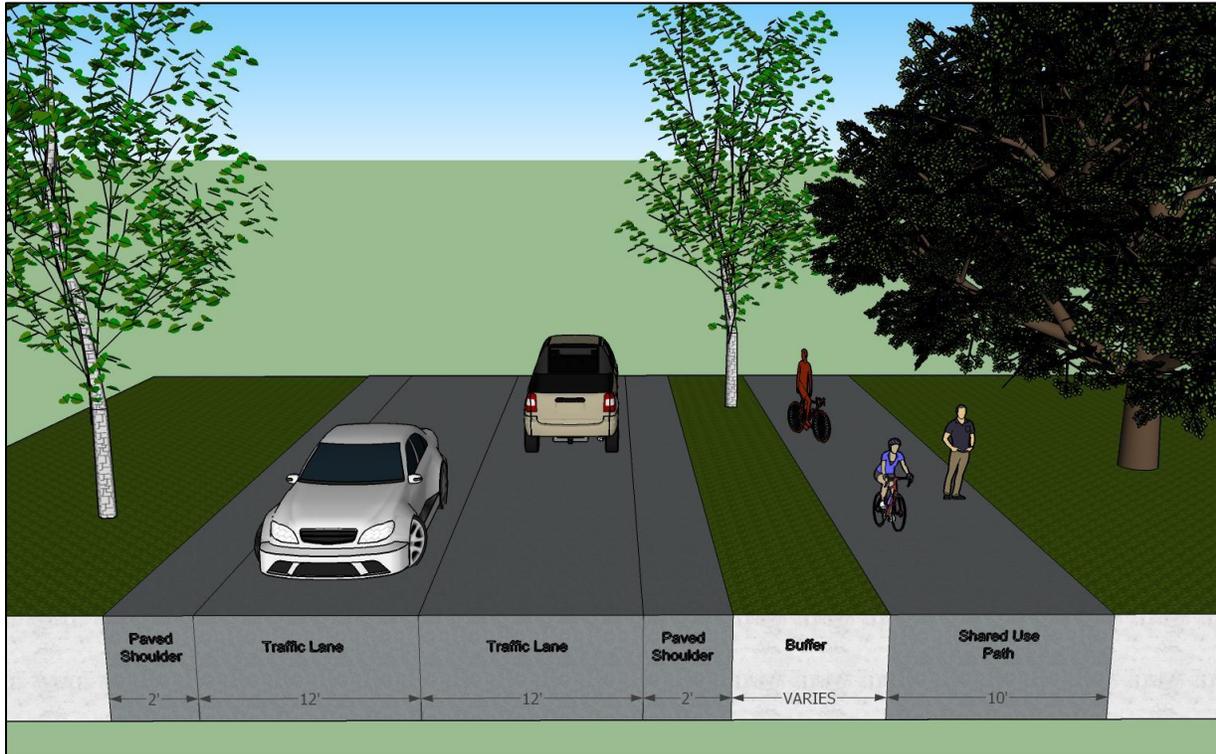
**Typical Section 6** is proposed for the portion of roadways where the signed bicycle route is proposed. These roadways may already have sidewalks installed, but where they are missing, it is suggested to install a 5' concrete sidewalk. Also, the signed bicycle route will not have a dedicated facility but will instead consist of shared lane markings to indicate that these roads are meant for bicyclists as well. Finally, much of the signed bicycle route overlays with proposed changes to TTA's routes and thus installing bus shelters in strategic locations would be important as well.

**Figure 36 Typical Section 6**



**Typical Section 7** below applies to the shared use path to be built connecting the Village from College Ave to the Horse Rink on Deer Run Road in Barboursville Park. A funding application has been sent and is proposed to be built in two phases. It is recommended that the path be a minimum of 10' wide to comply with AASHTO design standards and be physically separated from the roadway to enhance the experience and safety of the users.

**Figure 37 Typical Section 7**



## Proposed Projects

The proposed bicycle and pedestrian recommendations and planned improvements were bundled into a series of projects and are described below.

### Village Sidewalk Connectivity

This first project focuses on the development of sidewalks within the “village” area of Barboursville. As was mentioned in the previous Sidewalk Gaps section and shown in Figure 24 and Figure 25, providing greater connectivity for pedestrians would provide for additional transportation opportunities and increase safety for those users.

This project is also critical regarding the Safe Routes to Schools initiative in that it would give children more options for traveling to the Elementary and Middle Schools safely. Currently, there are sidewalks on portions of the roadways in the “village” area, but additional sidewalks could allow more children to walk or bicycle to school.

One of the most important improvements would be to ensure there is connectivity between the two areas of the “village” that are currently split by the CSX railroad tracks. Reconnecting these two areas of Barboursville and reducing barriers for travel for pedestrians and bicyclists is critical.

### US Route 60 West

This project focuses on the improvements that are meant for the “western” portion of US Route 60, which begins at the commercial properties near I-64 and ends at Davis Creek Rd. The main improvements that are recommended for this project are the installation of 5’ sidewalks along both portions of the US Route 60 and three signalized pedestrian crossings.

### US Route 60 Central

This critical project consists of a series of improvements on US Route 60 that begin from Davis Creek Rd. and end at the intersection of Big Ben Bowen Hwy (West Virginia Route 193). As mentioned before, this area has limited sidewalks and one pedestrian crossing, thus improvements for this infrastructure is crucial.

The improvements which are suggested for this project include signalized pedestrian crossings, high emphasis crosswalks, ADA curb ramps and the installation of sidewalks along the sides of the roadway. The reasoning for these improvements is that much of this infrastructure is currently missing and there are a considerable number of businesses that people need safe pedestrian access to. The main grocery stores for the village and the Pea Ridge community are in this section.

### US Route 60 East

The last portion of the projects along this roadway begins at Big Ben Bowen Hwy and ends just before US Route 60 crosses the CSX railroad tracks after East Mall Rd. This project includes the construction of sidewalks and a shared use pathway. The shared use pathway would be constructed on one side of US Route 60, beginning from Huntington Mall and ending at Main St.

This portion of US Route 60 improvements would be performed in conjunction with the programmed US Route 60 widening project. The costs for these improvements are not calculated as part of this plan, however the improvements are mapped and included in the facility analysis.

### Additional Considerations

- Typical Sections 1 – 3 show different recommended configurations for US Route 60 based upon existing roadway geometry and right of way availability.
- Continue sidewalks across open driveways, reduce the size and number of curb cuts, create cross-parcel access for all modes.
- Figure 38 illustrates how space can be defined in a corridor with open driveways, no sidewalks or bike facilities. These open driveways can lead to conflicts between modes.
- Figure 39 shows how driveway openings can be defined to minimize the crossing distances for pedestrians along sidewalks. By adding street trees and planted buffers between the sidewalk and parking lot and the roadway, the pedestrian area is clearly designated. This makes it easier for turning vehicles to see and yield to pedestrians. The bike lane between the sidewalk and street also provides a buffer between the sidewalk and the roadway.
- Figure 40 is another example of what a parking lot and driveway may look like when it's been closed from its open concept. There is potential for people to walk and bicycle safely and all users to understand where they would meet on the roadway.

**Figure 38 Roadway with open driveways**



**Figure 39 Defined Parking Lot Access**



**Figure 40 Defined Sidewalks, Bicycle Lanes, Parking Lot Access**



Source: [FHWA Small Town and Rural Multimodal Networks Guide](#)

## Provide Pedestrian Crossing Improvements on US Route 60

Figure 23 Barboursville, WV – Proposed Recommendations and Planned Improvements shows the location for recommended pedestrian crossing improvements. In some cases, crosswalk markings exist on one leg of an intersection, but it is important that all legs of an intersection are marked for crosswalks to reduce the distances pedestrians must go to cross using a crosswalk.

- Signalized intersections
  - Install pedestrian signals, pushbuttons and crosswalks on all intersection legs.
  - Assess lighting conditions and upgrade if needed.
  - Install pedestrian refuge islands or medians on 4 and 5 lane roadway sections.

## Citywide ADA Curb Ramp Replacements

Curb ramps allow pedestrians, bicyclists and other users to enter the roadway safely and cross to the other side. It is important that these pieces of infrastructure follow ADA guidelines, especially when they are located near doctor's office, schools or other land uses where people who are disabled, young or old may patron.

Throughout Barboursville, there are numerous curb ramps that need to be either upgraded to meet current guidelines, or simply installed where missing. These locations were identified after reviewing current ADA guidelines and conducting an analysis of the current curb ramps within Barboursville. While there may be many that need to be upgraded or built, that can occur iteratively. A map of local intersections needing curb ramp improvements is shown in Figure 30 Curb Ramp Inventory.

- Spot projects across the nonmotorized network
  - Bring existing curb ramps up to ADA specifications where possible.
  - Install additional ramps on pedestrian network.
  - Flag streets with rough crossing surfaces for priority resurfacing.
  - Repaint crosswalks as needed.

Assess lighting conditions and upgrade if needed.

## Signed Bicycle Route & Barboursville Park

Another recommend project is the development of a signed bicycle route that begins at the Huntington Mall and continues to the entrance of the Barboursville Park south of the city. This connectivity is important as it provides bicyclists access to both destinations. Barboursville Park is an important part of the city and provides numerous trails for people to walk, run, bicycle or ride horses. There is also a planned shared use pathway that is meant for pedestrians, bicyclists and equestrians. This shared use pathway would be parallel to Deer Run Rd. and begin near the baseball fields and end at the parking lot on the west side of the park.

## Non-Motorized Connection between Village and Tanyard Station

Stakeholders requested that this plan provide guidance on methods to provide a direct non-motorized connection between the Village and the Tanyard Station development. If sidewalks were provided it would be a  $\frac{3}{4}$  mile walk from the Village center to the entrance of Tanyard Station via Water Street and US Route 60. The distance would increase to one mile if a person were to use Farmdale Rd. Both would entail competing with motorized traffic due to street crossings. If a direct non-motorized connection was provided from the Village center over the railroad tracks into the back of Tanyard Station, a person would only have to walk  $\frac{1}{3}$  of a mile and not need to compete with motorized traffic entering the development from US Route 60.

### Feasibility

There are three sets of railroad tracks that would need to be crossed. A potential bridge would require a minimum 90' span to maintain the required 25' clearance from the required abutment to each of the outer tracks and 30' between the centerlines of the two outer tracks.

The minimum allowable vertical clearance from the lowest bridge member is 23'-0" to the tracks. From deck to low beam is approximately 2'-3". Therefore, the bridge deck would need to be a minimum of 25'-3" above the highest rail. A 5% grade is as steep as we can go without flat landing spots every 30" rise. A 5% grade will require a 505' approach to achieve the +25'-3" elevation distance. This distance will be shorter on the Tanyard side as it is a higher elevation.

### Potential Locations

Two potential locations for the bridge were explored. One is shown at the end of the unimproved road by the skate park in Figure 24 Barboursville, WV – Proposed Recommendations and Planned Improvements (Inset 1), and Figure 41 below. Another is at the end of Park Avenue. There is a CSX overhead support structure which would need to be considered in placing a bridge to avoid blocking the view of these signals. There is also a control box on one side of the tracks. The Park Ave. location would be about 1100' from the signals. The final site location would need to be carefully selected with CSX Railroad, Tanyard developers, Village staff and people from the neighborhood to ensure all viewpoints and concerns are taken into consideration.

**Figure 41 Potential Location for Pedestrian Bridge to Tanyard Station****Other Considerations**

Other considerations include lighting for the bridge users, fencing and railroad flaggers while work is being performed in the railroad ROW.

**Cost Estimates**

The estimate below provides entries for each of these. The estimate also assumes a prefabricated low-maintenance weathering steel structure, concrete deck, fence enclosed/caged, 10' wide, 90' in length delivered to the site (closest paved area for assembly).

**Table 6 Pedestrian Bridge Cost Estimate**

DESCRIPTION	UNIT	QUANTIT Y	UNIT PRICE	AMOUNT
TEMPORARY EROSION CONTROL	LS	1	\$10,000.00	\$10,000.00
SITE PREPARATION	LS	1	\$85,000.00	\$85,000.00
PREFABRICATED PEDESTRIAN BRIDGE DELIVERED TO SITE	LS	1	\$120,000.00	\$120,000.00
PEDESTRIAN BRIDGE ERECTION	LS	1	\$30,000.00	\$30,000.00
REINFORCED CONCRETE BRIDGE DECK	SY	900	\$100.00	\$90,000.00
LIGHTING FOR BRIDGE AND SIDEWALK (VANDAL RESISTANT AND DECORATIVE)	LS	1	\$150,000.00	\$150,000.00
EARTHWORK	LS	1	\$50,000.00	\$50,000.00
SIDEWALK (1,100 X 10)	SY	1250	\$125.00	\$156,250.00
BED COURSE MATERIAL (SIDEWALK BASE)	CY	250	\$175.00	\$43,750.00
PERMANENT SEEDING AND MULCHING	LS	1	\$5,000.00	\$5,000.00
PEDESTRIAN BRIDGE FOUNDATIONS	LS	1	\$150,000.00	\$150,000.00
RAILROAD PERMIT (ESTIMATED)	LS	1	\$20,000.00	\$20,000.00
RAILROAD COORDINATION (ESTIMATED)	LS	1	\$40,000.00	\$40,000.00
<b>DESIGN SERVICES</b>				
DESIGN ENGINEERING	LS	1	\$140,000.00	\$140,000.00
SURVEY AND MAPPING	LS	1	\$35,000.00	\$35,000.00
SUBSURFACE INVESTIGATION	LS	1	\$15,000.00	\$15,000.00
GEOTECHNICAL ENGINEERING	LS	1	\$20,000.00	\$30,000.00
<b>SUBTOTAL</b>				\$1,170,000.00
<b>CONTINGENCIES (20%)</b>				\$234,000.00
<b>ESTIMATED PROBABLE COST OF CONSTRUCTION</b>				\$1,404,000.00

### Examples

Figure 42 provides a schematic showing the bridge structure, supports and lighting detail. Sample photos of other bridges to provide reference are also included in the following figures.

Figure 42 Bridge Schematic

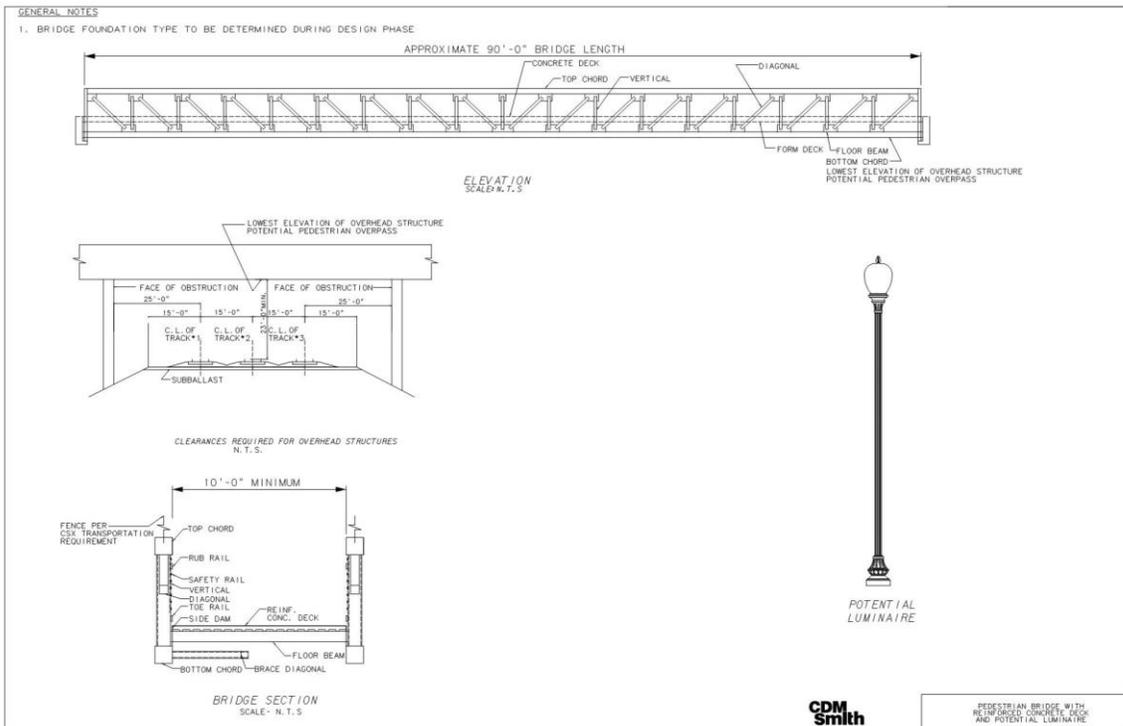
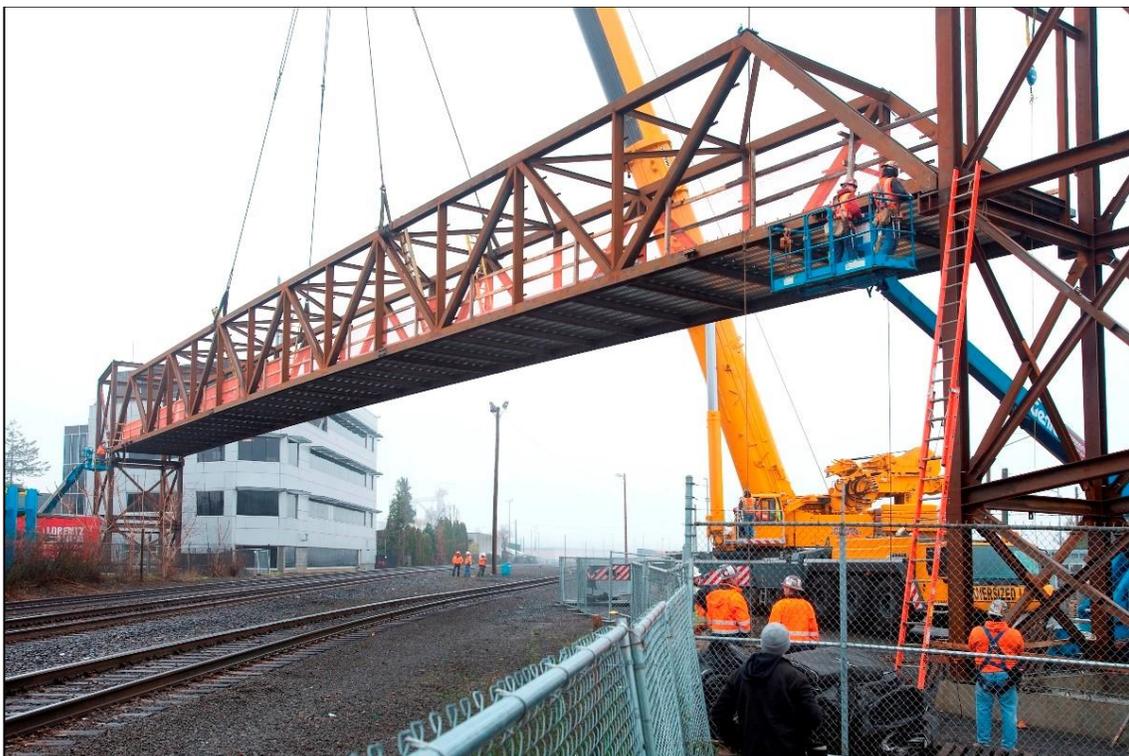


Figure 43 Bridge Example



**Figure 44 Webster Springs Bridge Example**



**Figure 45 Bridge Example**



## Project Costs and Prioritization

While the proposed projects that were mentioned in the previous section are important for providing direction on implementing improvements in an efficient method, a listing of these projects isn't enough; they must be prioritized in a specific manner. This can be done by either looking at the total cost or based on the priorities of the city.

### Prioritization List

Table 7 below provides a relative priority of the seven proposed projects described above. The projects are prioritized based on the greatest potential safety for the greatest number of people. This list is intended as an impetus for discussion among stakeholders. As non-motorized projects can be completed more economically and expediently with other roadway, sewer and other infrastructure projects, it is important to capitalize on these projects when the opportunity allows. Table 7 below shows planning level costs for designing and constructing the facilities recommended in this plan. These costs are based on many assumptions which include:

- No purchase of Right of Way
- A flat 20% contingency is added to account for unforeseen circumstances and inflation

Sources used to determine unit costs includes: the WVDOT, City of Rosenberg, TX, Greenville, SC, Florida Department of Transportation (FDOT) District 7 in the Tampa Bay, FDOT District 3 in the panhandle and San Antonio, TX.

**Table 7 Non-Motorized Transportation Facilities Construction Costs - Barboursville WV**

Projects	Description	Additional Sidewalk (Linear Feet)	Additional Bicycle Facilities (Linear Feet)	Additional Shared Use Pathways (Linear Feet)	Sidewalk Cost	Shared Lane Markings (Sharrows) Cost	Shared Use Pathways Cost	Facilities Cost	Total Cost	Priority
Project 1	Village Sidewalk Connectivity	34,230	0	0	\$ 1,361,420	\$ -	\$ -	\$ -	\$ 1,361,420	1
Project 2	US Route 60 West	28,400	0	0	\$ 1,129,545	\$ -	\$ -	\$ 88,800	\$ 1,218,345	7
Project 3	US Route 60 Central	29,710	0	0	\$ 1,181,648	\$ -	\$ -	\$ 52,800	\$ 1,234,448	3
Project 4	US Route 60 East	15,700	0	8,720	\$ 624,432	\$ -	\$ 1,040,455	\$ 79,200	\$ 1,744,086	2
Project 5	Citywide ADA Curb Ramp Improvements	0	0	0	\$ -	\$ -	\$ -	\$1,644,000	\$ 1,644,000	4
Project 6	Signed Bicycle Route	0	8,280	0	\$ -	\$ 46,291	\$ -	\$ -	\$ 46,291	5
Project 7	Non-Motorized Bridge Connection	1,100	0	0	\$ 1,404,000	\$ -	\$ -	\$ -	\$ 1,404,000	6
<b>Total</b>	<b>ALL PROJECTS</b>	<b>20.46 (Mi.)</b>	<b>1.57 (Mi.)</b>	<b>1.65 (Mi.)</b>	<b>\$ 4,297,045</b>	<b>\$ 46,291</b>	<b>\$ 1,040,455</b>	<b>\$1,864,800</b>	<b>\$ 8,652,591</b>	

## Overview of Funding for Bike-Ped Facilities/Infrastructure

Pedestrian and bicycle path funding falls into four categories: federal, state, local, and private. Each funding source has certain requirements that must be met by applicants. For example, some sources require a certain percentage match, and applicants score better if they exceed the minimum percentage match and have multiple sources of funding. The match required for federal funding can be matched by state, local, or private sources; however, the match for a federal grant cannot be from another federal source, and the same is true for state funding sources.

The Metropolitan Planning Organization for the Tri-State area of West Virginia, Kentucky and Ohio is called the KYOVA Interstate Planning Commission. Federal funding through KYOVA is authorized through their Transportation Improvement Program (TIP). The TIP is updated every four years and is mandated by the federal government that every MPO complete one. Currently, the Village of Barboursville does not have any bicycle and pedestrian improvements incorporated in the TIP.

[http://www.kyovaipc.org/KYOVA\\_2018\\_2021\\_TIP\\_Final\\_Draft\\_updated\\_7\\_31\\_17.pdf](http://www.kyovaipc.org/KYOVA_2018_2021_TIP_Final_Draft_updated_7_31_17.pdf)

Federal funding has sources within several agencies. The Federal Highway Administration, within the U.S. Department of Transportation, maintains a table of eligible pedestrian and bicycle projects under the surface transportation funding programs. Each program in the table has individual requirements that need to be adhered to and provides guidelines and dates to correctly apply.

[https://www.fhwa.dot.gov/environment/bicycle\\_pedestrian/funding/funding\\_opportunities.pdf](https://www.fhwa.dot.gov/environment/bicycle_pedestrian/funding/funding_opportunities.pdf)

The National Park Service is an agency within the U.S. Department of the Interior. The National Park Service (NPS) Rivers, Trails, and Conservation Assistance program supports community-led natural resource conservation and outdoor recreation [projects across the nation](#). Under this program, NPS partners with community groups, nonprofits, tribes, and state and local governments to design trails and parks, conserve and improve access to rivers, protect special places, and create recreation opportunities. NPS staff will help prepare program applications.

<https://www.nps.gov/orgs/rtca/index.htm>

The West Virginia Community Advancement and Development manages the federal grant program called the Community Development Block Grant (CDBG) program. These grants are made only to units of local government such as small cities, towns and rural counties for a wide range of community planning initiatives. These funds are intended for activities that benefit low- and moderate-income persons, prevent or eliminate slums or blight, and address community development needs. CDBG Public Facilities Program funds have been used for streetscape revitalization, trail construction, and plans relating to public facility improvements. Moving Ahead of Progress in the 21st Century (MAP-21) combined the three programs summarized below into one Transportation Alternatives Program (TAP). With the signing of the Fixing America's Surface Transportation (FAST) Act, TAP became a set-aside under the Surface Transportation Block Grant (STBG) program.

<http://wvcad.org/infrastructure/community-development-block-grant>

The West Virginia Department of Transportation Planning Division handles state funds for bicycle and pedestrian facilities and education. Under the Grants Administration Unit, the federal transportation grant programs are programmed and allocated. The major programs include:

### Safe Routes to School

The West Virginia Safe Routes to School (SRTS) Program is based on the federal program and is designed to make walking and bicycling to school safe and routine. Safe routes to Schools Program are still eligible for funding under the TAP/STBG Set-Aside funds as outlined above. Under this program, funds are available for eligible infrastructure projects, as well as for encouragement, education, enforcement and other non-infrastructure activities to increase safe biking and walking to school. Construction improvements must be located within a two-mile radius of the intended school or schools, and children in kindergarten through 8th grade are the primary target for this program. High school students, adults, neighborhood residents, children traveling by school bus, and motorists are considered secondary beneficiaries. Eligible applicants include individual schools, school districts, and local government agencies (counties, cities, and towns). [https://transportation.wv.gov/highways/programplanning/planning/grant\\_administration/Documents/SafeRoutesToSchool.pdf](https://transportation.wv.gov/highways/programplanning/planning/grant_administration/Documents/SafeRoutesToSchool.pdf)

### Recreational Trails Program

The Recreational Trails Program (RTP) is a federal grant program sponsored by the Federal Highway Administration that funds maintenance and restoration of existing trails, development or rehabilitation of trailside and trailhead facilities and linkages, acquisition of necessary easements, associated administrative costs, and new trails and educational programs. The funding for this program is now enveloped in the TA Set-Aside under STBG program. Projects will be eligible for funding if they provide public access to trails. All units of government and agencies incorporated as not-for-profit corporations are eligible to participate in the RTP.

[https://transportation.wv.gov/highways/programplanning/planning/grant\\_administration/recreationaltrails/Pages/default.aspx](https://transportation.wv.gov/highways/programplanning/planning/grant_administration/recreationaltrails/Pages/default.aspx)

### Transportation Enhancements

Transportation Enhancement (TE) funds are comprised from ten percent of the annual state transportation program funds. These funds are now formally called TAP and are eligible under the STBG program. Eligible projects to receive funding must meet two criteria. The first being the project must relate to surface transportation and the second being the TE project must be one of the 12 qualifying activities. The activities which relate to bicycle and pedestrian infrastructure and education includes: “provision of facilities for pedestrians and bicycles, provision of safety and educational activities for pedestrians and bicyclists,” and the “preservation of abandoned railway corridors (including the conversion and use thereof for pedestrian and bicycle trails).”

[https://transportation.wv.gov/highways/programplanning/planning/grant\\_administration/Documents/TransportationEnhancement.pdf](https://transportation.wv.gov/highways/programplanning/planning/grant_administration/Documents/TransportationEnhancement.pdf)

In addition to these funding sources, KYOVA also receives a sub-allocation of STBG and STBG Set-Aside funds for which an application process is held, and government entities are eligible to apply.

Because it is federal funding, KYOVA is required to follow all federal requirements for awarding and distributing funding.

Local and private funding sources exist to provide funding but also to provide match for federal or state funding. Many communities have large corporations that are willing to provide funding or sponsorship for bicycle and pedestrian improvements. Organizations like the Walmart Foundation, Bank of America Charitable Foundation and Bikes Belong Grant Program can provide funding.

[https://www.fhwa.dot.gov/environment/bicycle\\_pedestrian/funding/funding\\_opportunities.pdf](https://www.fhwa.dot.gov/environment/bicycle_pedestrian/funding/funding_opportunities.pdf)

## 7. Conclusion

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The ability for people to travel to their destinations quickly is important but providing them multiple options is key as well. Currently, the automobile is the main mode of transportation for people within the Village of Barboursville. Utilizing the proposed recommendations in this report, the city has an opportunity to change how they move throughout their city and the lives of everyone there.

Many of the recommendations are small changes that can be done over time, but which will have a positive impact. The installation of sidewalks through the “village” area of Barboursville to allow children to walk to school more easily is but one example. As the pedestrian and bicycle networks grow, they provide greater access and choices to people.

This plan also provides a roadmap to create a city where all people can walk or bicycle and engage in active lifestyles, thus improving their health. By implementing this plan, the City can achieve increased safety, improved connectivity, increased walking and biking and create a better sense of place.

## 8. Report References

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[KYOVA Interstate Planning Commission - Tri-State Transit Authority \(TTA\) Transit Impact Study](#)

[KYOVA Interstate Planning Commission - Transportation Improvement Program FY 2018 - 2021](#)

[FHWA - Incorporating On-Road Bicycle Networks into Resurfacing Projects](#)

[FHWA - Resurfacing Guide 2016](#)

[FHWA - Road Diet Guide 2014](#)

[FHWA - Small Town and Rural Multimodal Networks, Dec. 2016](#)

[FHWA - Separated Bike Lane Planning and Design Guide 2015](#)



## 9. Appendix A – Public Meeting Materials

Any materials that were used or displayed at the Barboursville public meeting are displayed in the figures here.

Figure 46 Public Meeting Sign-in Sheet



The Village of  
**Barboursville**  
EST. 1813  
Welcomes You

### A NON-MOTORIZED PLAN FOR WALKING AND BICYCLING FOR BARBOURSVILLE

NAME	ADDRESS	EMAIL or PHONE
Helen Gibbins	6128 Grady Rd. Huntington, 25705	GIBBINS @ FRONTIER.COM
Anaji + Brendan Bush	1405 Long St. Barboursville Oh 25504	ea-todd@yahoo.com
Lisa Hosier	155 Woodlawn Way Huntington 25705	lhosier@frontier.com
Brian Frazier (ITA)	1120 Virginia Ave #1100 Huntington 25704	bfrrazier@ta-wv.com
Paula S. Scay	638 Huddleston Ave B'ville, WV 26009	p.scay@barboursville.org
JON BLATT		jblatt@barboursville.org
Rocky Nash	2184 McComas Rd	304 638-6823
Danny Porte	JOB	
Mike Colby	S. P. D	mcolby@barboursville.org
Saleem Salameh	KYOVA	ssalameh@kyovaipec.org
Bethany Wild	KYOVA	bwild@kyovaipec.org



**KYOVA**  
INTERSTATE PLANNING COMMISSION



**CDM  
Smith**  
listen. think. deliver.



**Edward Tucker  
ARCHITECTS, INC.**

Figure 47 Public Meeting Notice 1



## **A NON-MOTORIZED PLAN FOR WALKING AND BICYCLING FOR BARBOURSVILLE**

*The first step is a review of existing conditions. This leads to proposing prioritized improvements for walking and bicycling.*

### Steps:

- Review current walking and bicycling conditions
- Review planned development and incorporate public comments and ideas
- Propose sidewalk and roadway improvements to create walking and bicycling network
- Identify needed improvements at crossings
- Prioritize projects to design and build the most needed improvements first

We need your input. Think BIG! What destinations would you like to be able to bike or walk to? What places need improvements or connections to make it easier to walk or bike? What is your vision for Barboursville?

Please share your big ideas for your community! No Limits!

Did you remember something else you want to share? Email Katharine at [kal@etarch.com](mailto:kal@etarch.com)



Figure 48 Public Meeting Notice 2

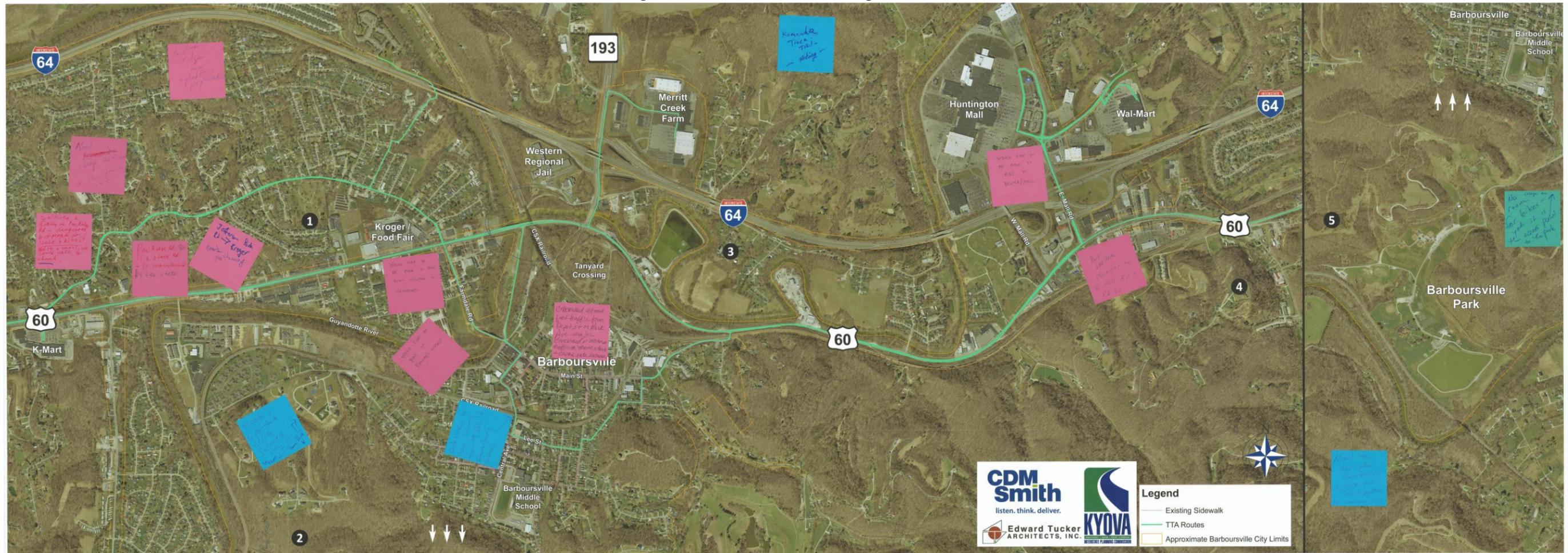
Please join us for a  
**PUBLIC MEETING**  
to provide input into the  
**Non-Motorized Transportation Plan**  
for the  
**Village of Barboursville**

Thursday, March 8, 2018  
11 am – 1 pm  
**Barboursville Community Center**  
721 Central Avenue, Barboursville

The purpose of this study is to review and recommend ways to improve bicycle and pedestrian safety and access in and around the Village of Barboursville.



Figure 49 Barboursville Public Meeting Comments



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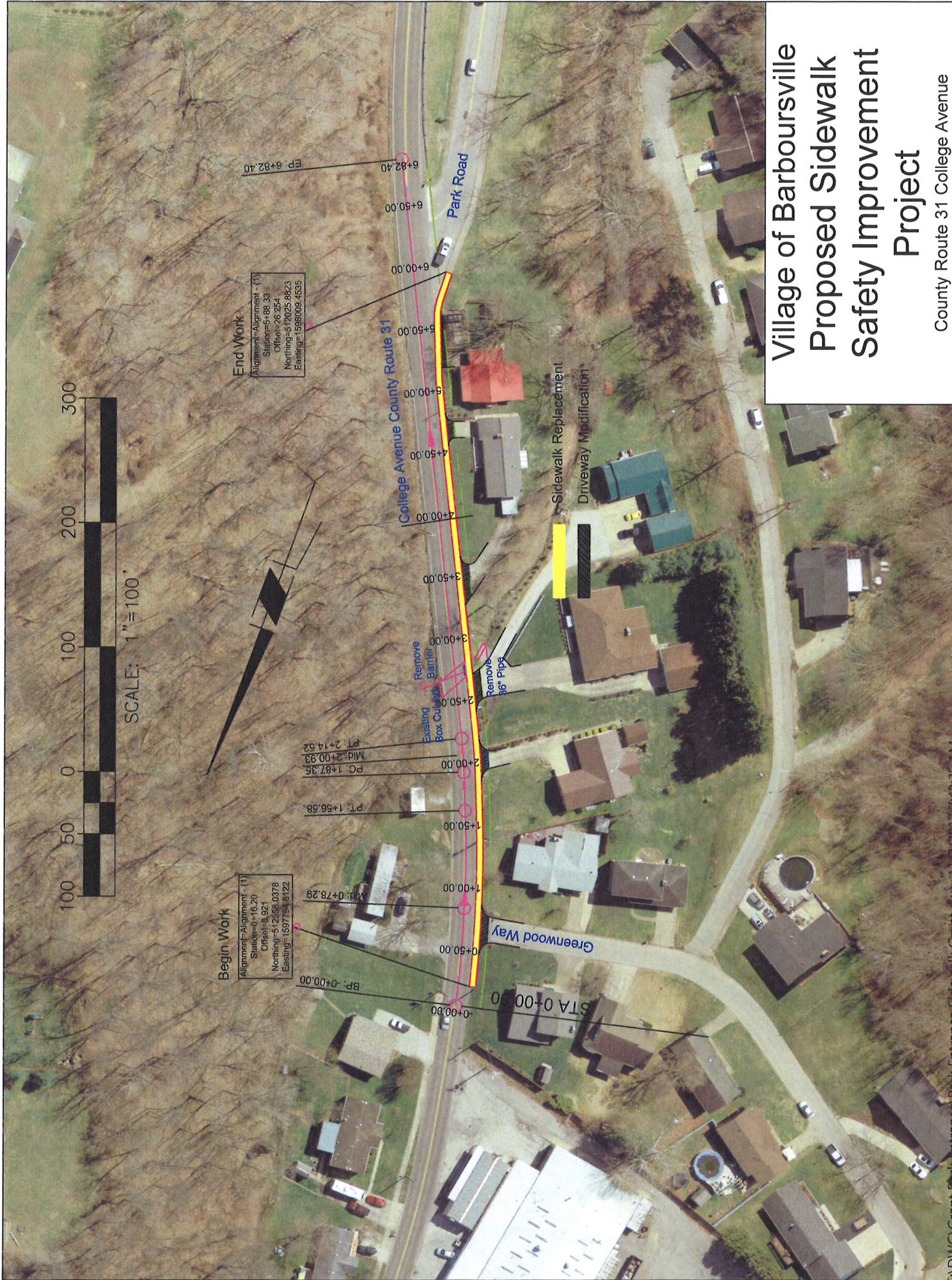
## 10. Appendix B – Planning Documents

- College Ave. Sidewalk Safety Improvement Project
- Shared Equestrian/Pedestrian Path Project – Barboursville Park - Plan View
- Shared Bicycle/Pedestrian Path Project – Barboursville Park – Plan View
- Veterans Sidewalk Extension – Plan View – Farmdale Rd.
- Tanyard Station Site Plan

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# Village of Barboursville Proposed Sidewalk Safety Improvement Project

County Route 31 College Avenue



**Begin Work**  
 Alignment=Alignment (1)  
 Station=0+16.20  
 Offset=14.921  
 Northing=-512558.0378  
 Easting=1597791.8122

**End Work**  
 Alignment=Alignment (1)  
 Station=6+86.33  
 Offset=26.254  
 Northing=-512025.8823  
 Easting=1598009.4535

PT. 2+14.52  
 Mid: 2+00.93  
 PC: 1+87.35  
 PT: 1+56.58



Begin Shared  
Equestrian/Pedestrian  
Path Project Barbourville  
Park Horse Ring

Deer Run Road

Horse Ring

Village of Barbourville  
Park Proposed Shared Path  
Equestrian/Pedestrian  
Station 0+00 to 4+00





Village of Barboursville  
Park Proposed Shared Path  
Equestrian/Pedestrian  
Station 36+00 to 42+00



Village of Barboursville  
Park Proposed Shared Path  
Equestrian/Pedestrian  
Station 28+00 to 36+00



Village of Barboursville  
Park Proposed Shared Path  
Equestrian/Pedestrian  
Station 21+50 to 28+00



Village of Barboursville  
Park Proposed Shared Path  
Equestrian/Pedestrian  
Station 15+00 to 21+50

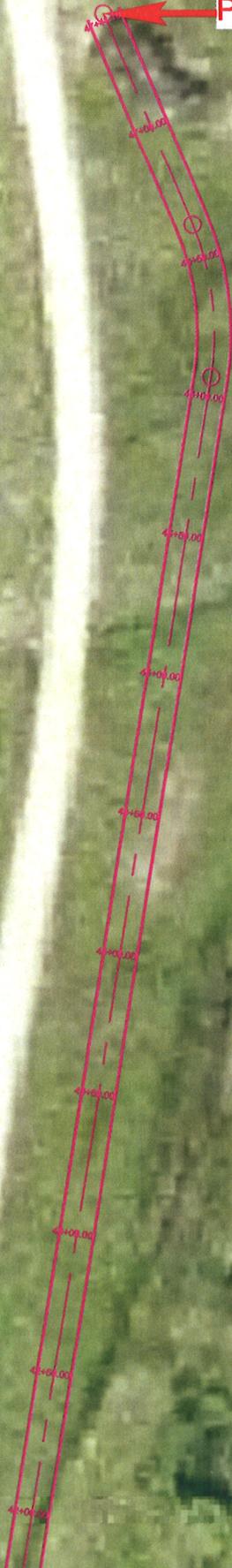


Village of Barboursville  
Park Proposed Shared Path  
Equestrian/Pedestrian  
Station 9+00 to 15+00



Village of Barbourville  
Park Proposed Shared Path  
Equestrian/Pedestrian  
Station 3+00 to 9+00

End Shared  
Equestrian/Pedestrian  
Path Project Barbourville  
Park Horse Ring



Village of Barbourville  
Park Proposed Shared Path  
Equestrian/Pedestrian  
Station 42+00 to 47+41.10



Village of Barboursville  
Park Proposed Shared Path  
Station 0+00 to 10+00



Village of Barboursville  
Park Proposed Shared Path  
Station 7+50 to 14+00



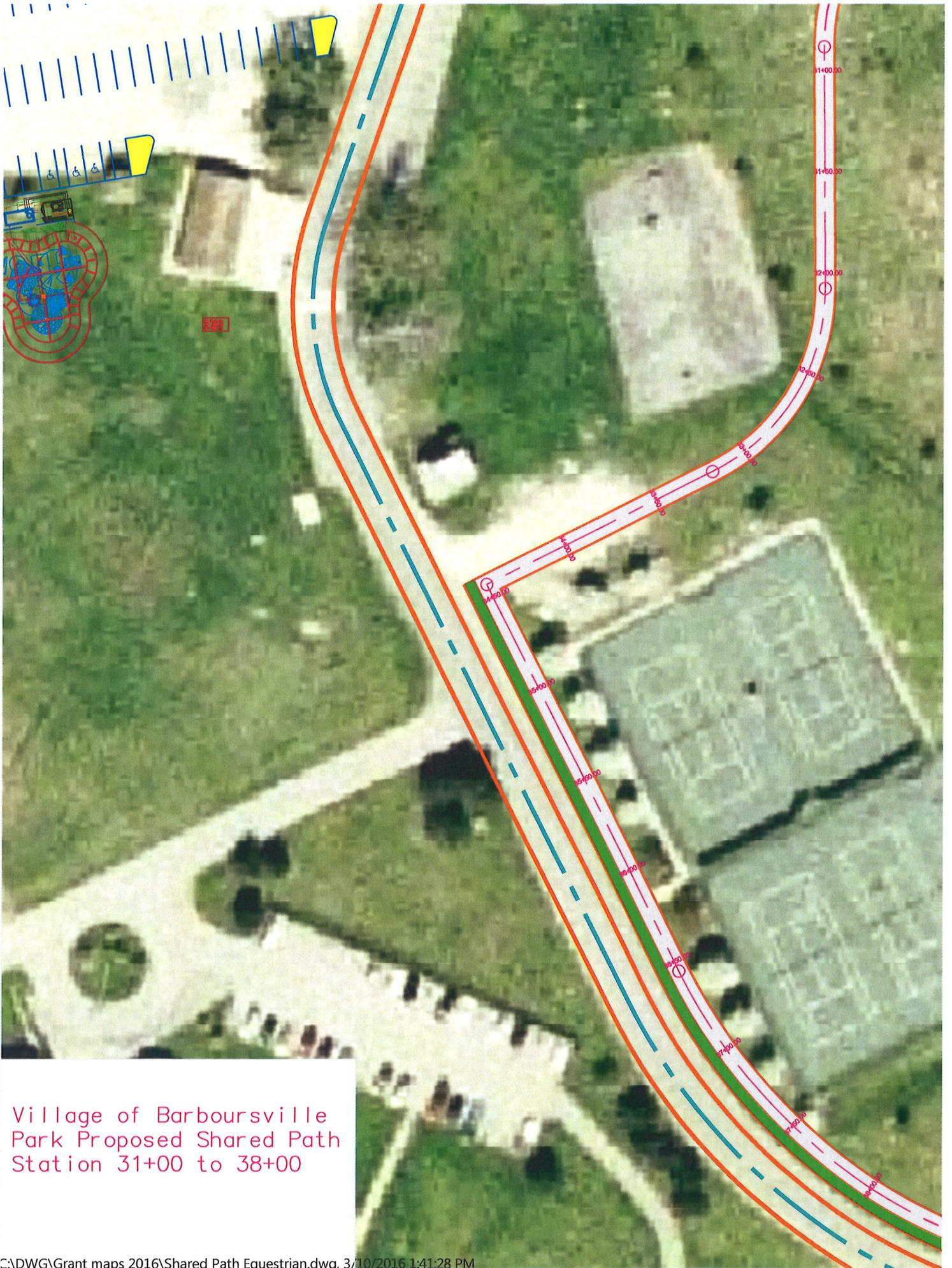
Village of Barboursville  
Park Proposed Shared Path  
Station 12+50 to 18+50



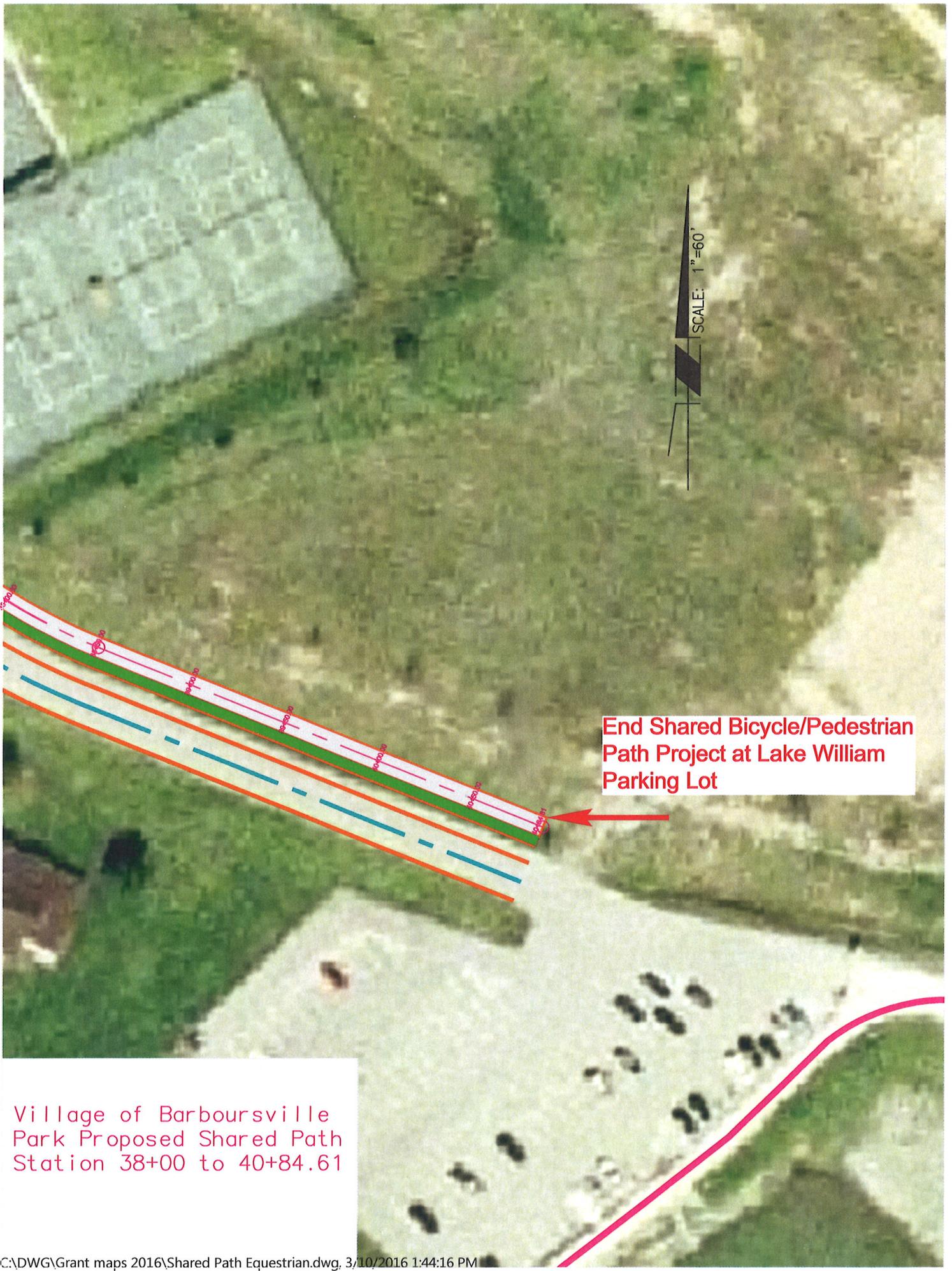
Village of Barboursville  
Park Proposed Shared Path  
Station 18+50 to 25+50



Village of Barboursville  
Park Proposed Shared Path  
Station 25+50 to 31+00

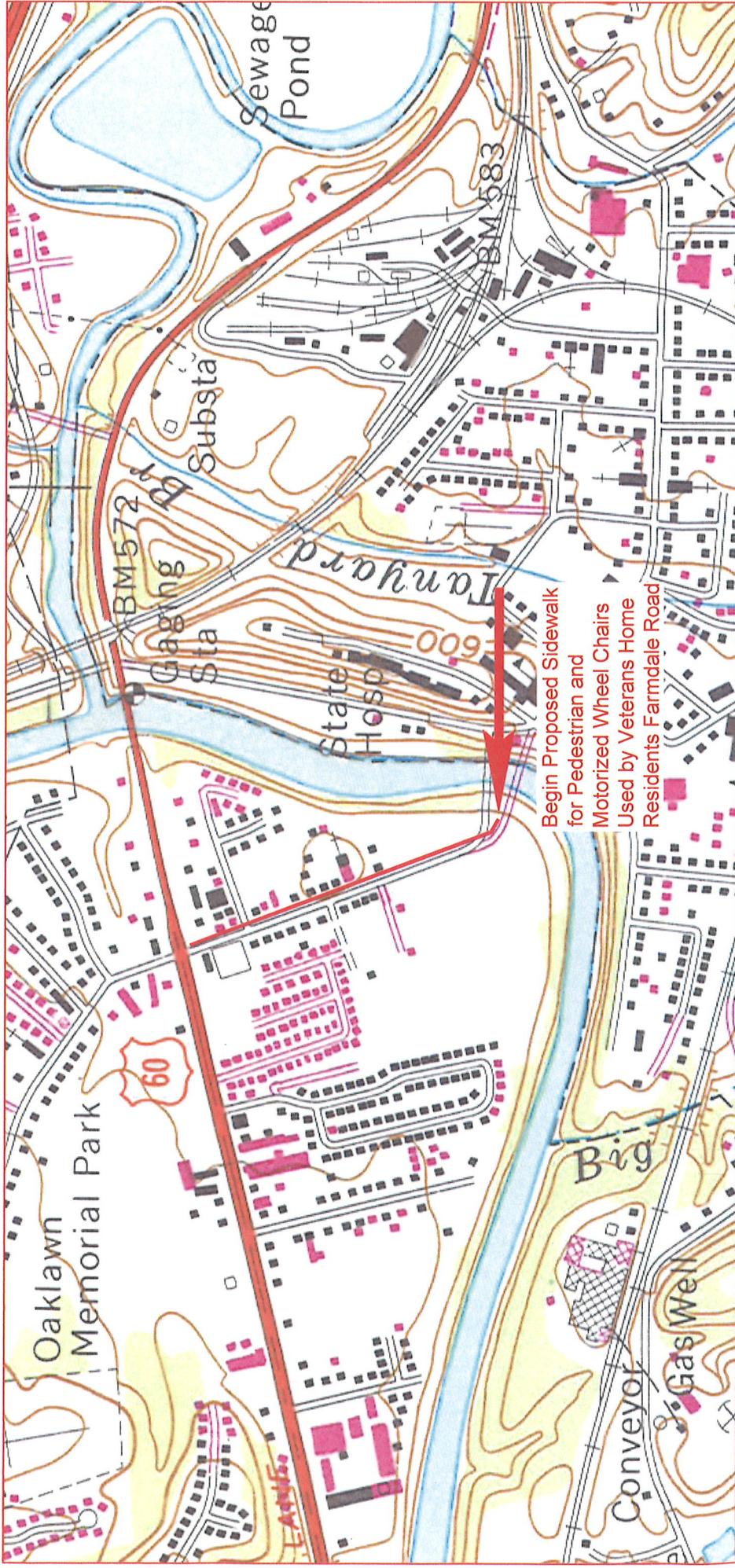


Village of Barboursville  
Park Proposed Shared Path  
Station 31+00 to 38+00



**End Shared Bicycle/Pedestrian Path Project at Lake William Parking Lot**

Village of Barboursville  
Park Proposed Shared Path  
Station 38+00 to 40+84.61



# BARBOURSVILLE, W. VA. — OHIO

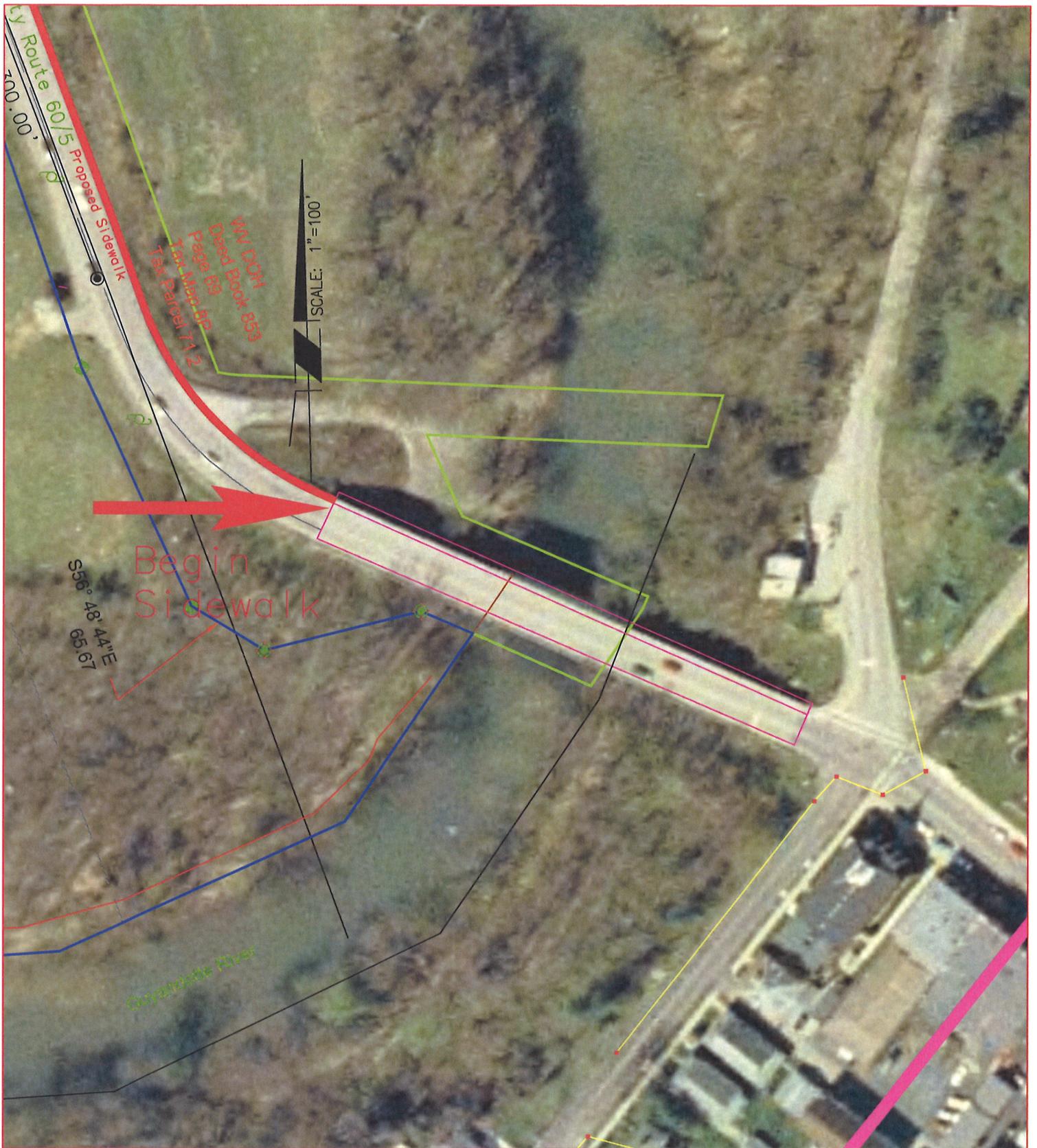
38082-D3-TF-024

1968

**PHOTOREVISED 1985**

DMA 4560 IV NE—SERIES V854

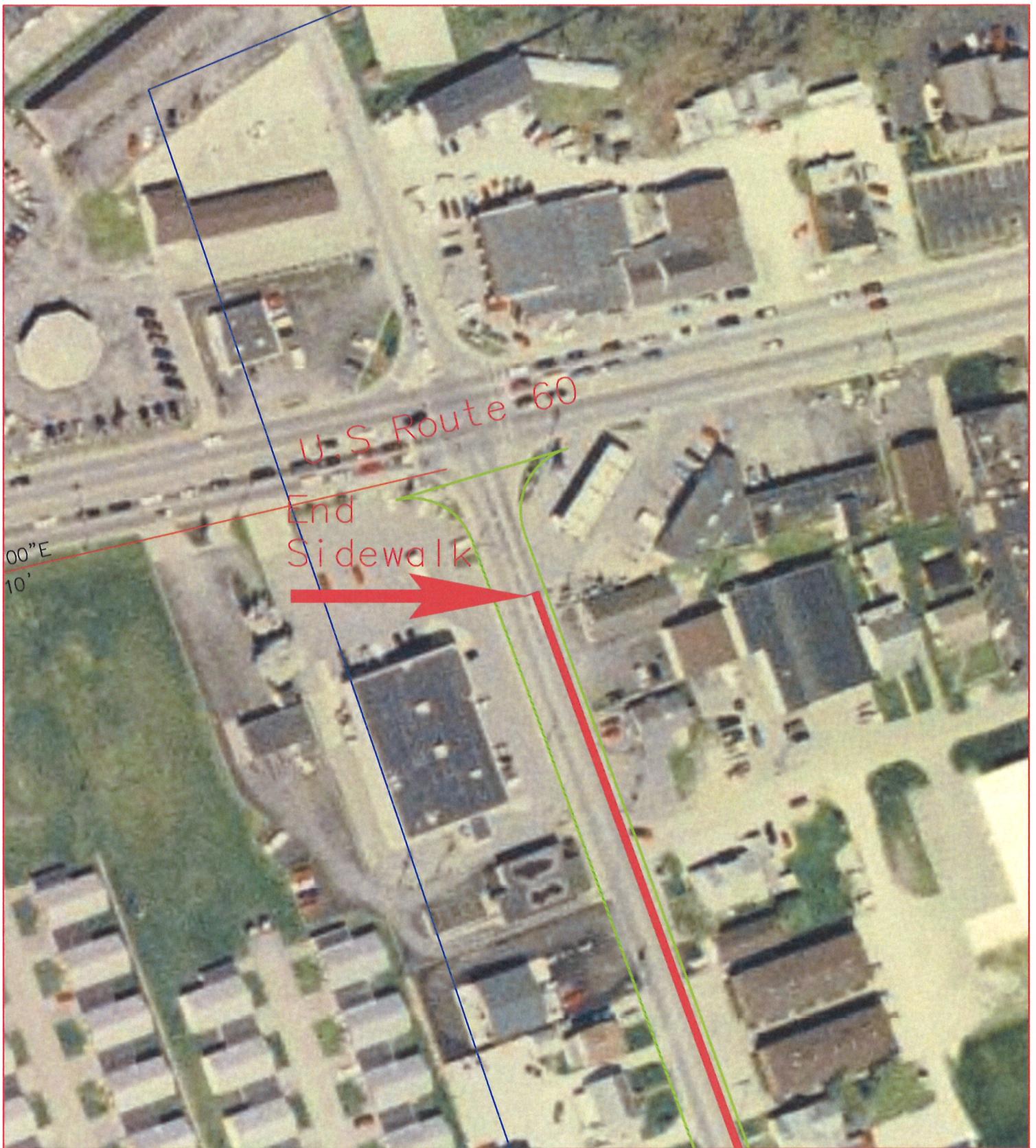
Proposed  
Motorized/  
Pedestrian  
Sidewalk  
Project



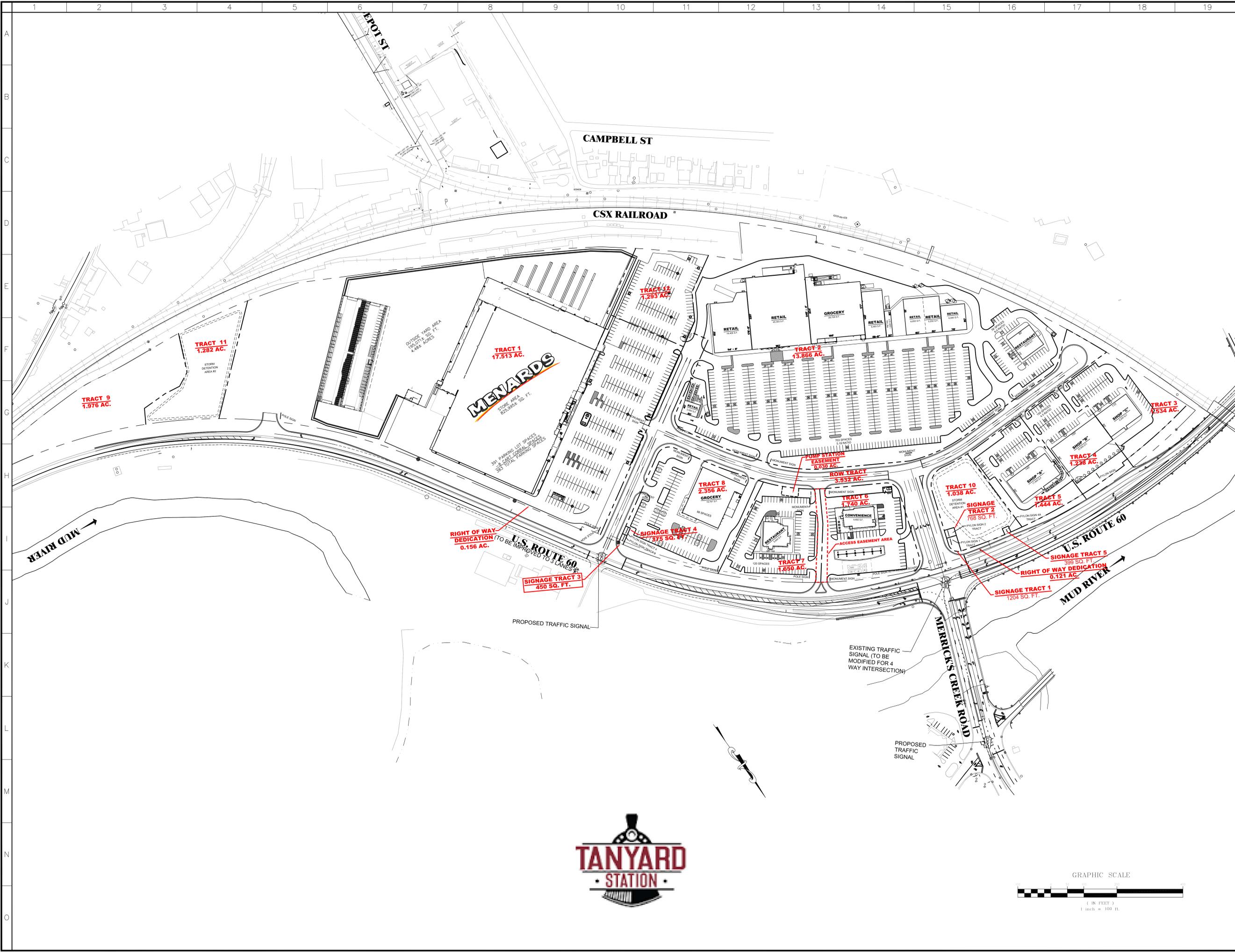
# Proposed Veterans Sidewalk Extension Project



## Proposed Veterans Sidewalk Extension Project



## Proposed Veterans Sidewalk Extension Project



Conceptual Site Plan - Overall  
**Tanyard Station**  
 US Hwy 60 & Big Ben Bowen Hwy  
 Barbourville, West Virginia  
 Tanyard Station, LLC

DATE	BY	REVISIONS
09/25/17	BA	180205036
	FILE	
	COMMENTS	

CSP-36

