Nonmotorized Transportation Plan

For the City of Milton, West Virginia

June 2018

Prepared for:

KYOVA Interstate Planning Commission

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1. Introduction

The Kentucky-Ohio-West Virginia Interstate Planning Commission (KYOVA MPO) 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, Lawrence County in Ohio and Wayne and Cabell Counties in West Virginia. In October 2017, the KYOVA MPO initiated a Nonmotorized 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 nonmotorized transportation options for the people that live there. This specific master plan will focus on the city of Milton, which lies within the western portion of Cabell County, WV.

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 nonmotorized 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.

Purpose

As cities change, so do their needs. Milton is growing and with that growth comes new challenges that require new solutions. Providing additional transportation options for the people within Milton can allow them to walk or use a bicycle instead of taking an automobile. This report will study the city of Milton, 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 nonmotorized 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 Milton 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 nonmotorized transportation options for the people within Milton.

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 nonmotorized transportation infrastructure.

Goal 2: Better Connectivity

Another critical goal for implementing a nonmotorized 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.

Goal 3: Encouraging Walking and Biking

While the development of nonmotorized 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 nonmotorized 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". Milton's downtown area near Dailey Drive is a prime example of an area where there is potential to develop a stronger "sense of place".

3. Existing Conditions

Milton is a small town with deep roots located within Cabell County, West Virginia. It lies between two main roadways, Interstate 64 and US Route 60, both of which provide access to regional opportunities for the people in Milton. The latter route runs through the downtown area of Milton with numerous businesses and homes located on it as well.

Field Review

The project team conducted a field review of Milton on February 19 and 20, 2018. A few key items that were noted are summarized below and summarily addressed in Section 5: Recommendations. 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 Appendix A - Public Meeting Materials**.**

US Route 60

- It was noted that an easier crossing for bicyclists or pedestrians on US Route 60 in the downtown area is needed. There are few crossings for people to utilize currently, leading to potentially unsafe situations.
- Morris Memorial connection – there is no current sidewalk or even paved shoulder along this portion of the road, and there is guardrail along a significant portion of it.

Pumpkin Park

- The existing bridge is a two-lane road crossing over Mud River to Main Street (US Route 60) and does not have a sidewalk nor bicycle lane. It may be possible to construct a pedestrian bridge which connects between the Marathon gas station and the bridge.

School Access

- On Pine Haven Drive, there is potential to add a sidewalk for better access to senior housing and the Middle School. Additional bicycle/pedestrian connections to surrounding residential neighborhoods should be studied.
- On Pike Street, we identified several intersection improvements and sidewalk upgrades needed around the elementary school and April Dawn Park.

ADA

- Sidewalks in general are not compliant with current ADA standards (cross slope, intersection transitions, etc.)
- Ramps/truncated domes are missing at most driveway intersections.
- There are many instances where the sidewalks are in relatively good condition, but the streets are very rough with potholes, cracked pavement, drainage issues, etc.

Existing Land Uses

Major Employers

There are employers of various sizes throughout Milton. The largest ones are the Piggly Wiggly grocery store, which is located within a shopping complex on US Route 60, as well as 84 Lumberyard. There are also numerous jobs within the education sector within Milton; the elementary and middle schools provide employment, as well as the Cabell County School Board which lies within Milton on S Main St. There is also a wholesale food distributor, H.T. Hackney Co., which is just south of the Milton city limits and employs around seventy people. While this site lies outside of the study limits, it provides many opportunities to those within Milton. In the future, there will be many construction jobs due to the Grand Patrician Resort, as well as service-sector opportunities once it is completed.

Schools

The city of Milton has public school options for children of all ages. There is a pre-kindergarten school that lies on W Main St. in the western part of Milton and can be accessed via automobile or by walking on the sidewalk. There is also Milton Elementary School and Milton Middle School which serve students from kindergarten through eighth grade. They are both located near W Main St. as well. The elementary school is near the center of the city and can be accessed by multiple streets with sidewalks, whereas the middle school has one main entrance which is mainly used by automobiles.

The Cabell Midland High School serves students in grade nine through twelve but is not located within the city limits of Milton. The high school does not have any pedestrian or bicycle connections and can only be accessed via automobile. There are no college or university options within Milton, so those students must travel to other cities or use online opportunities.

Healthcare

People must have access to good healthcare options, especially as they progress into the golden years in life. There are several doctor's offices and a dentist office that are located on the W Main St. in Milton. There is also a small health clinic, Valley Health, on E Main St. that can provide certain services for people. Greater connectivity to these offices with sidewalks, bicycle lanes or shared use paths would provide people with more transportation options. The main hospitals, Cabell Huntington Hospital and St. Mary's Medical Center, are both within Huntington to the west of the city.

Parks

Just as it's important for people to be able to live and work in their city, they also need spaces to play and enjoy. Access to parks, playgrounds and greenspaces are important in providing a good quality of life. Within Milton, there are many parks for people to visit and enjoy. One of the main parks is April Dawn Park, which has a playground for children and pavilions for parties and get-togethers. In the summer months, it also has a splash park available to give people a place to cool down from the heat. It is located near the center of Milton on Mason Street and is a short walk from Main St.

Another park is Jarrell Sargent Park, which is also located on Mason street just a few minutes away from April Dawn Park. While similar in size, it has different amenities; there is a basketball court and recreational fields for people to use.

Another park that is available to those in Milton is called Pumpkin Park, which is located south of the city across Mud River. This park contains baseball fields and the fairgrounds where the annual Pumpkin Festival takes place in October. This festival brings a substantial amount of people to the city and is an important event for the city of Milton. In addition, this park is used for many other events throughout the year.

In addition to these parks, there are also several campgrounds for people to use. While some of these sites are primarily for tents, some allow for recreational vehicles (RVs) as well.

Figure 1 Milton, WV – Existing Conditions

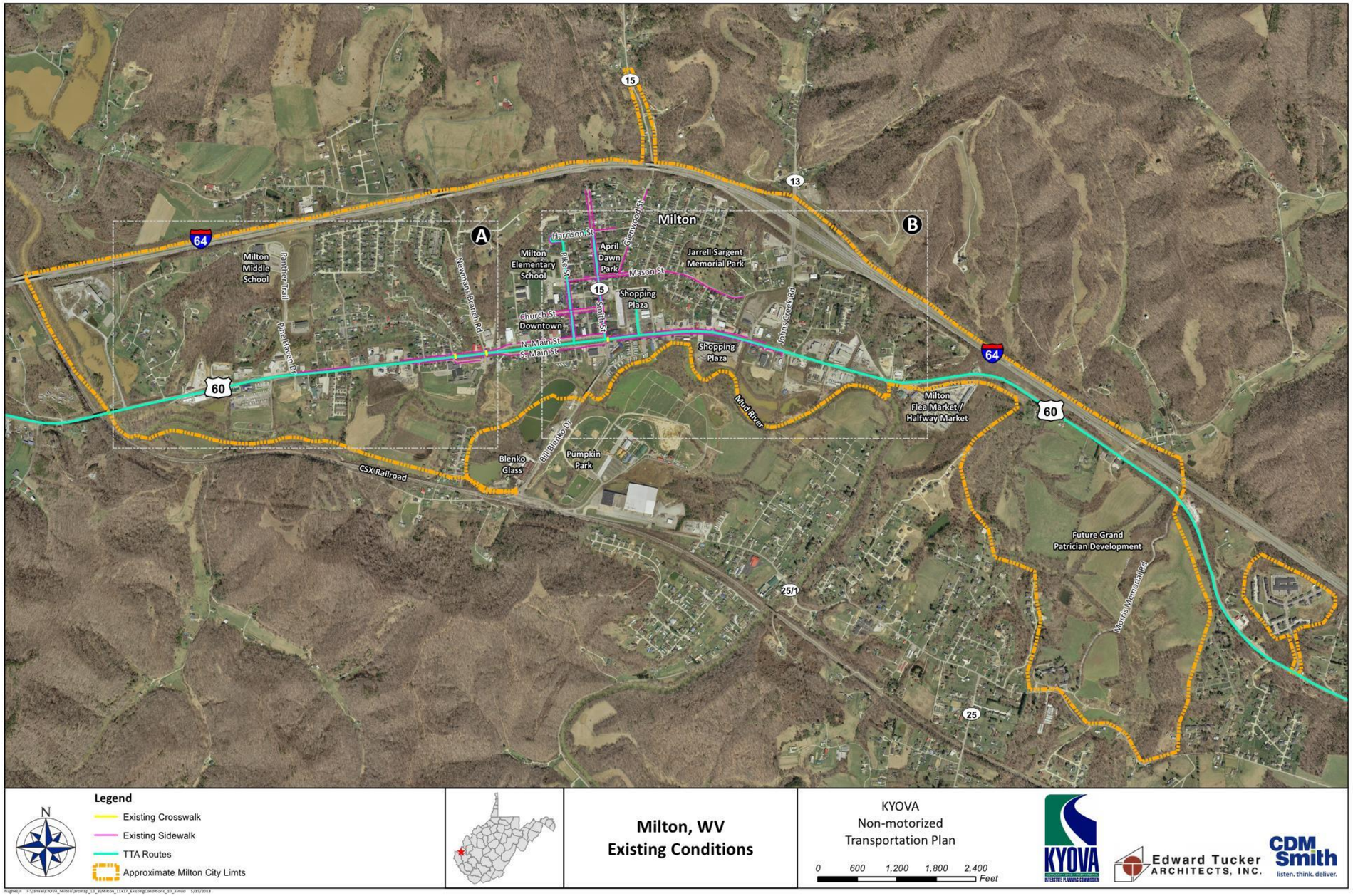

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Figure 2 Milton, WV – Existing Conditions – Inset A

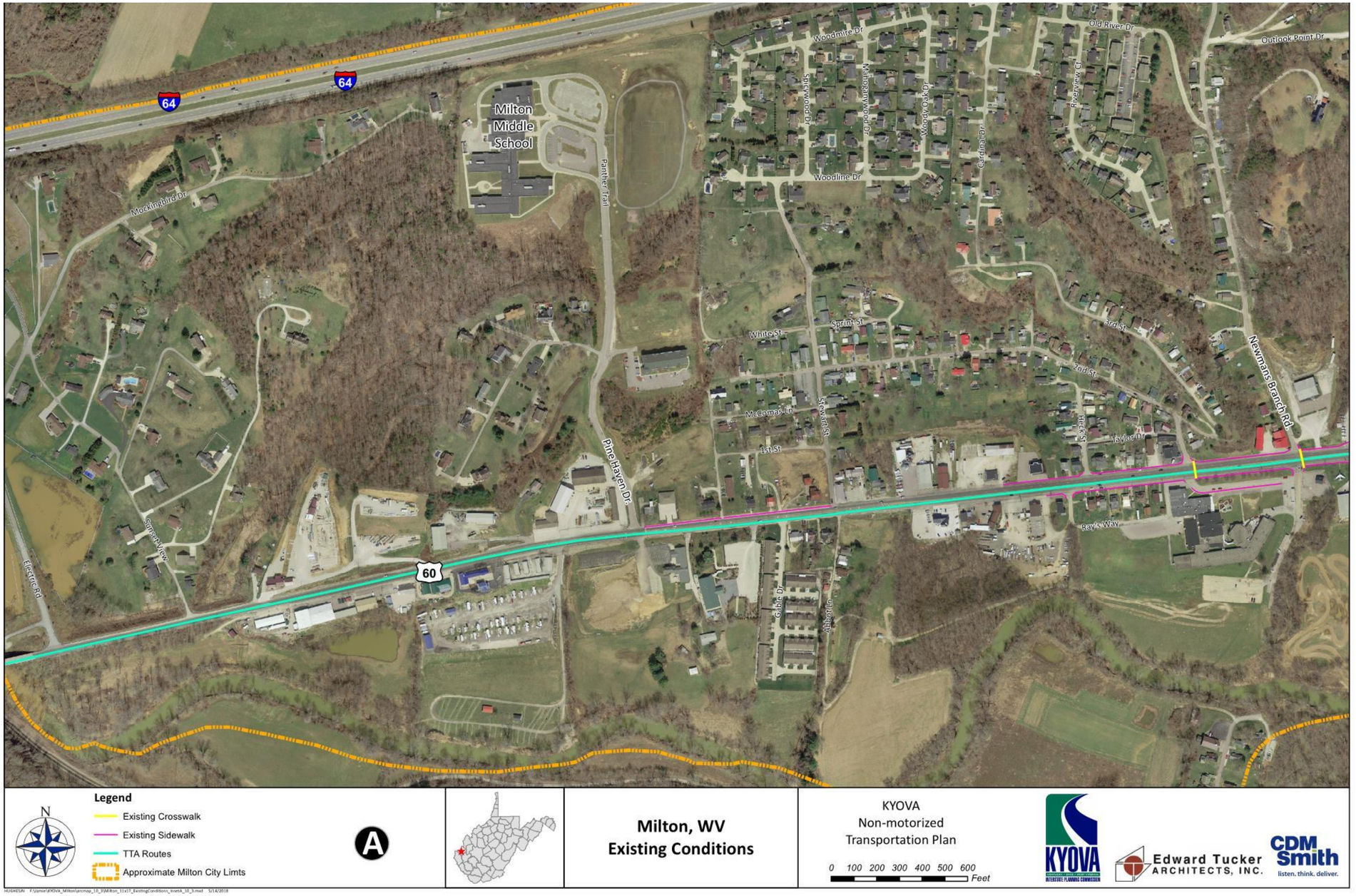
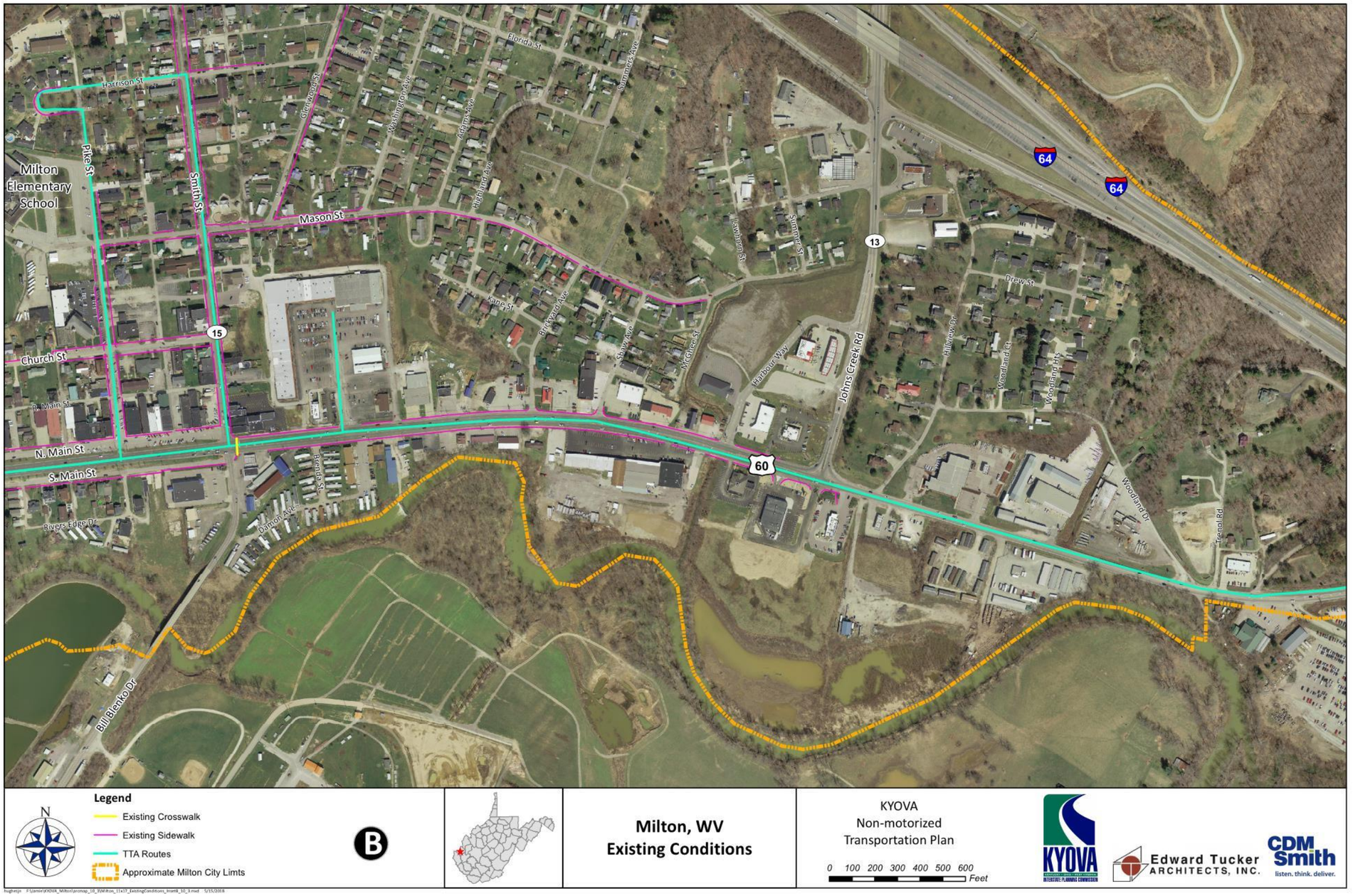


Figure 3 Milton, WV – Existing Conditions – Inset B



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 influence 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 are indicators of a city's past and future and can be studied from these five areas.

Data was collected from the past ten years, beginning in 2016, from the US Census Bureau's 2016 and 2011 5-Year Estimates American Community Survey Program. This data was used to review the socio-economic conditions of Milton, which will allow for a better understanding of the city, how it has grown and will potentially change over time.

Population Factors

While there is 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 4 shows the population for Milton and how it has changed from 2011 to 2016. Since 2011, there has been a substantial increase in the population within Milton. This is especially true when you compare it to Cabell County. Table 1 shows the percentage in population growth from 2011 to 2016 for both Milton and Cabell County. During this time, there has been significant population growth in Milton at 13.5%. An important trend is that the growth is much higher when compared to the county overall, which only grew at 0.8%.

Figure 4 Milton Population (2011 & 2016)

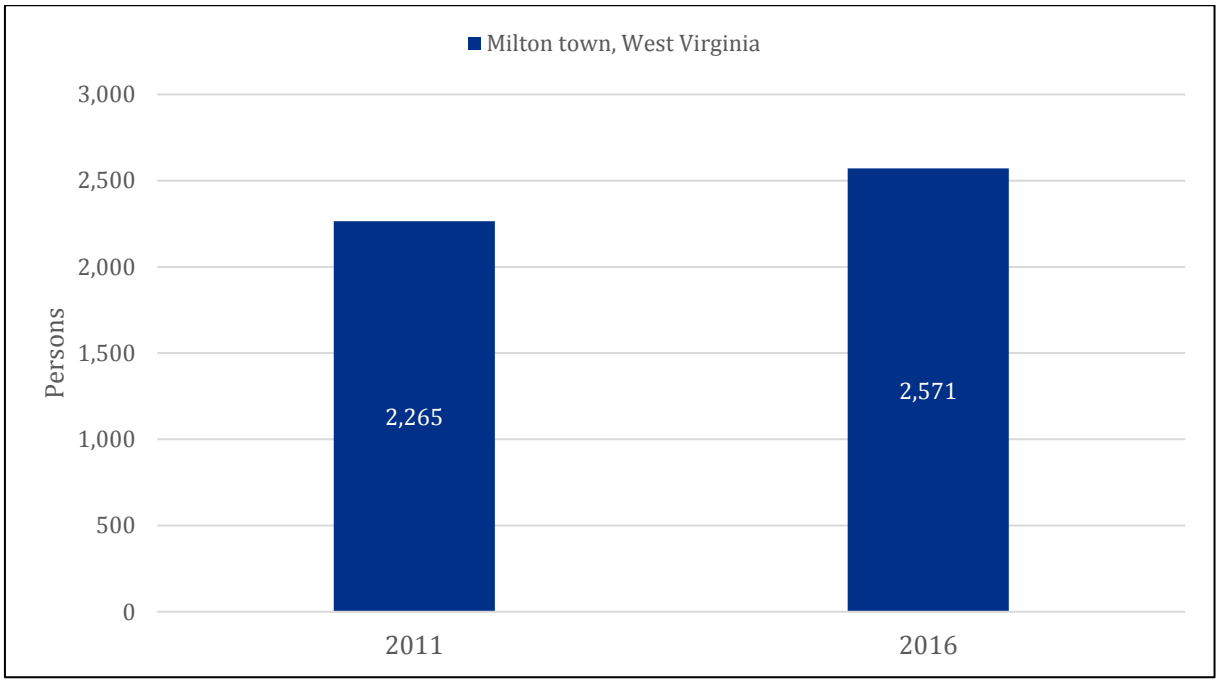
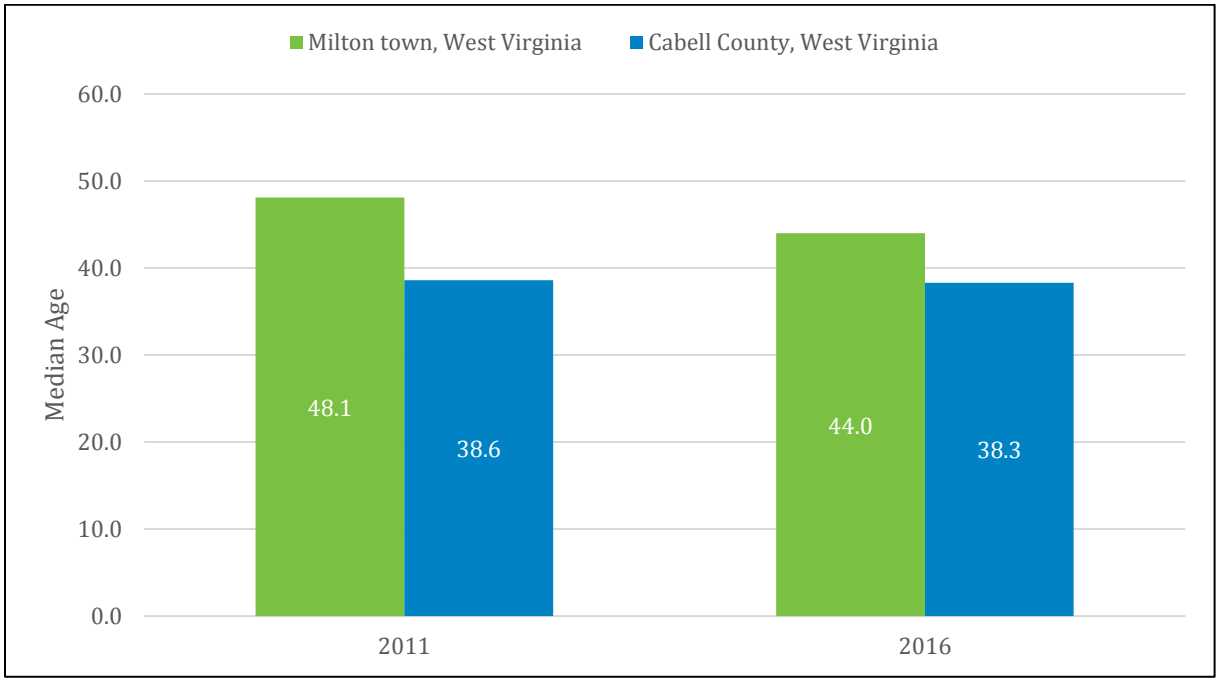


Table 1 - Milton & Cabell County, WV - Population Totals & Growth Percentage (2011 & 2016)

Year	Geography	Population	Growth Percentage
2011	Milton town, West Virginia	2,265	N/A
2016	Milton town, West Virginia	2,571	13.5%
2011	Cabell County, West Virginia	95,870	N/A
2016	Cabell County, West Virginia	96,623	0.8%

Figure 5 shows the median age for Milton 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 Milton, which is partially due the small population size, but is an important inference in understanding how the city is changing.

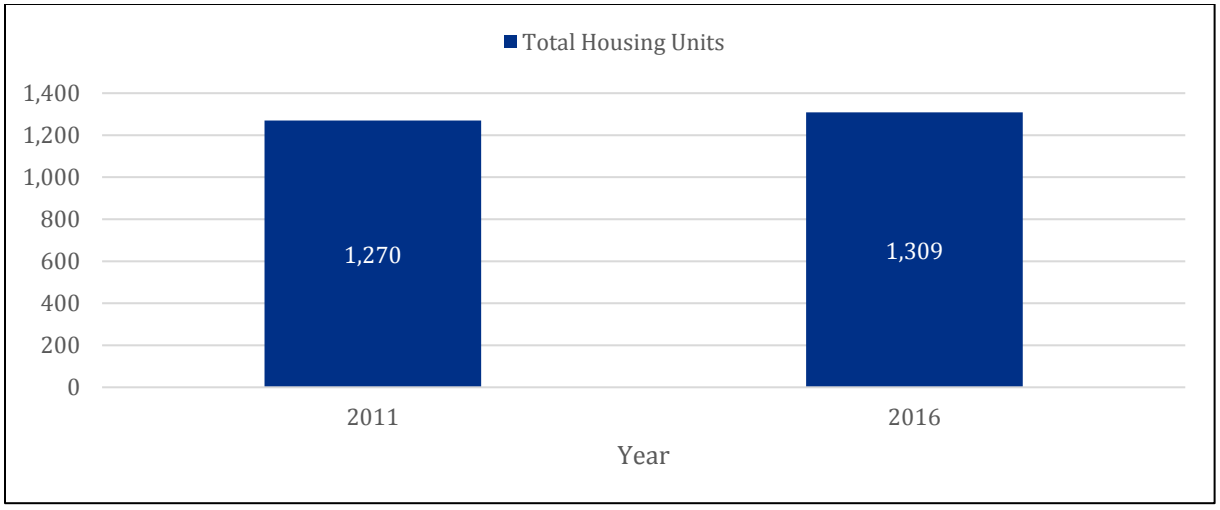
Figure 5 Milton, WV & Cabell County, WV - Median Age (2011 & 2016)



Housing Factors

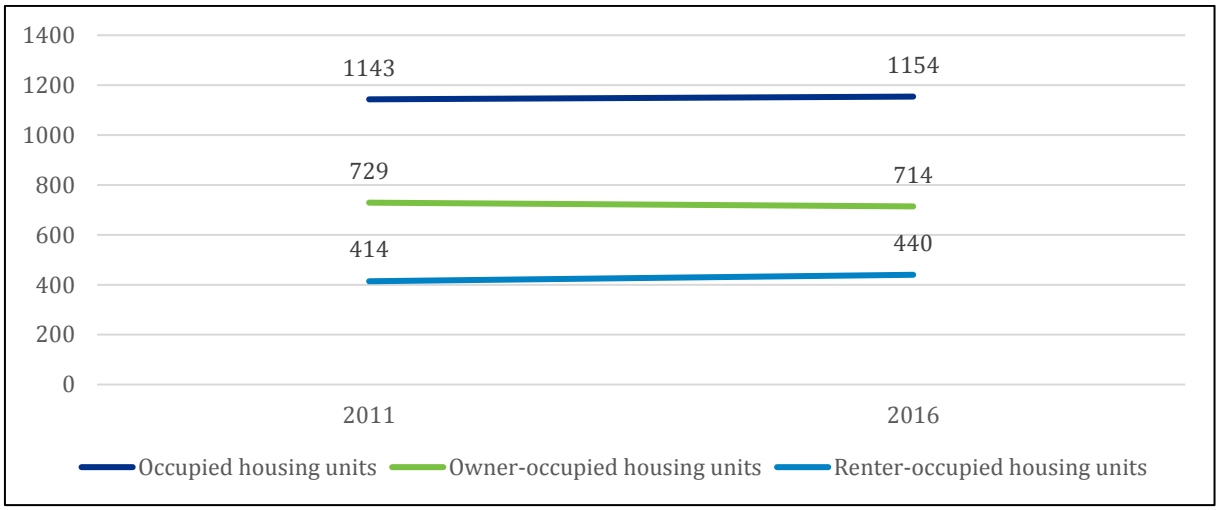
Where people live is an important indicator of the type of transportations options that will be available to them. Living near a downtown area may afford you the ability to walk or ride a bicycle to errands and appointments. Having an adequate number of housing units in a city is important as it impacts the people that live within the city and particularly those who want to live there in the future. For example, if more housing was built, the costs for renting or purchasing a home could decrease and thus allow for more people to live within the city. In Figure 6, the quantity of housing units within Milton, WV can be seen. From 2011 to 2016, there has been an increase in the amount of housing units.

Figure 6 Milton, WV – Housing Units (2011 & 2016)



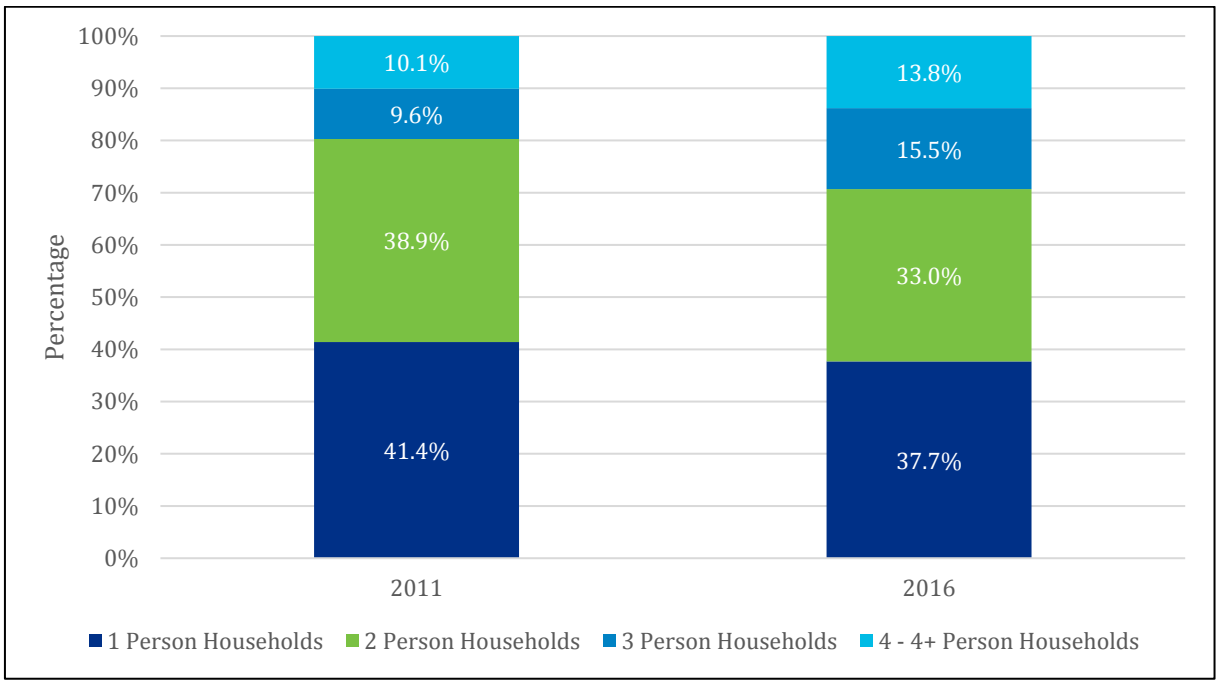
While understanding the amount of housing units is important, it does not show the whole picture of how housing changes. Occupied housing units, and how many are owned vs rented, is important as well and could indicate the strength of an area's housing sector. If the amount of rented housing units were to increase rapidly, that could indicate several different inferences. In Figure 7, there are not many significant changes; the number of units that are rented increases slightly and the number that are owned decreases.

Figure 7 Milton, WV - Occupied Housing Units (2011 & 2016)



In Figure 8, the distribution of household sizes for Milton can be seen. The most important trend to notice from this figure is that the number of 1 and 2-person households declines but for 3 and 4 or more-person households, it increases. Overall, households within Milton are growing which is opposite the trend happening across the United States where they are shrinking on average.

Figure 8 Milton, WV – Household Size (2011 & 2016)



Income Factors

The amount of income, or lack thereof, that is available to people is an important factor that can impact a city and its future. The rise and fall of household incomes greatly influences not only the fiscal health of the households themselves, but the city as well. For example, if household incomes were to rise, that could allow for people to expand their transportation options by purchasing an automobile. Conversely, if household incomes were falling, that could signal the opposite, potentially leading people to using other forms of transportation besides a private automobile. Instead, they might walk, use a bicycle or take public transportation to travel to work or school.

In Figure 9, household incomes from the years 2011 and 2016 for Milton can be seen below. For households with less than $10,000 a year in income, this figure fell from 2011 to 2016. There were less households with incomes higher than $100,000 in 2016 compared to 2011. Finally, the categories with the largest growth were the households with incomes that range from $10,000 - $99,999. Overall, the households' income in Milton seem to be growing, potentially allowing for more transportation opportunities. This point is further proven by Figure 10, which shows the median household income for Milton in 2011 and 2016. It grows significantly during this period and shows that there is income growth for those who live in Milton. It must also be noted that the median household income in 2016 at $40,000 is still lower than West Virginia's, which was $43,385.

Figure 9 Milton, WV - Household Income (2011 & 2016)

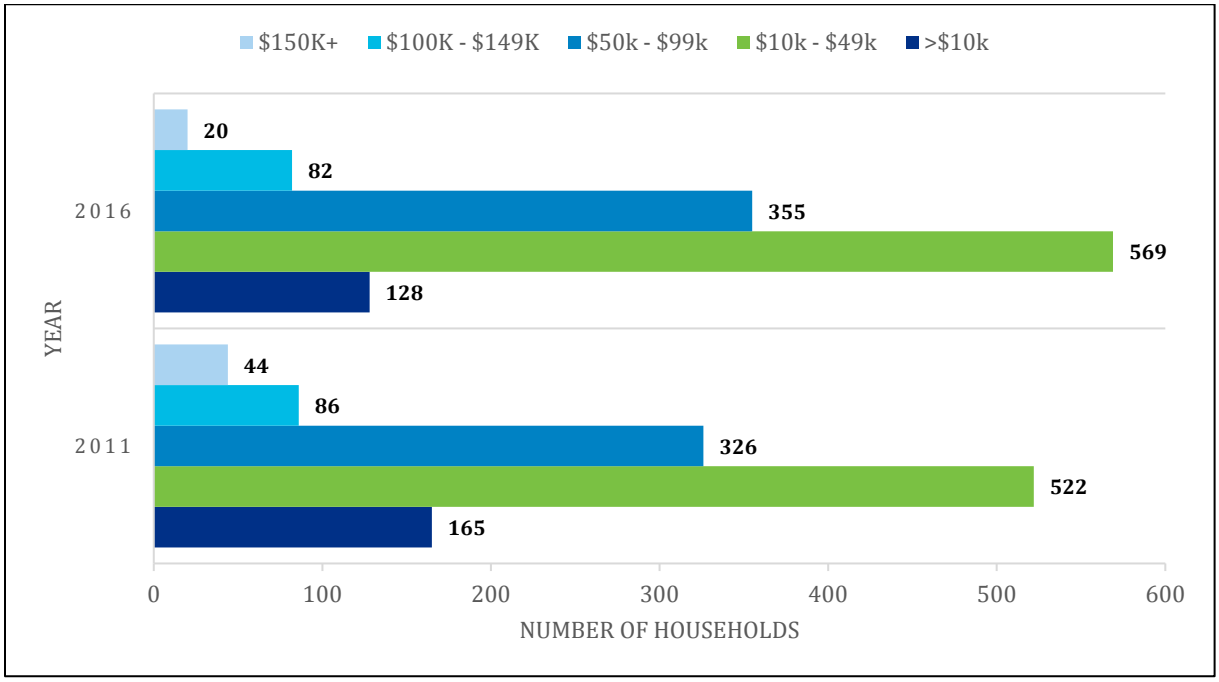
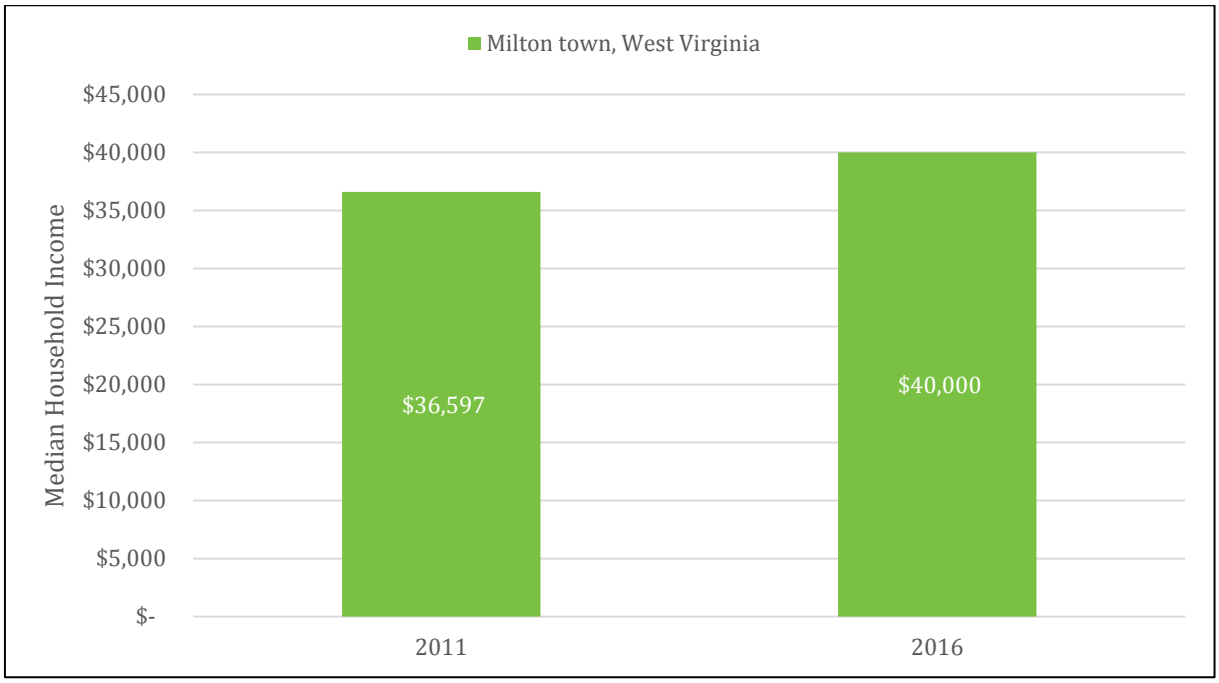


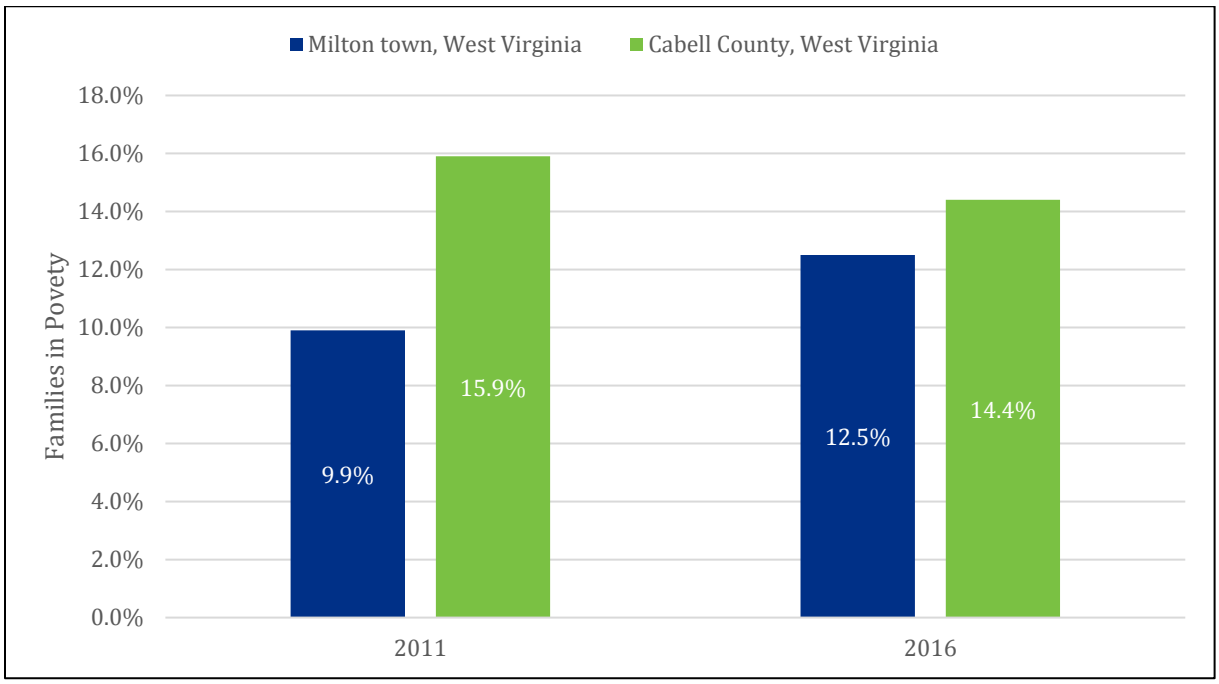
Figure 10 Milton, WV - Median Household Income (2011 & 2016)



Another important income statistic is the level of poverty that exists within a city. Figure 11 shows the number of families that are under the poverty level within Milton 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 but increasing in Milton, but the percentage of families under the poverty level is still less than the county.

There are multiple reasons why this percentage may have increased in Milton. Families could have grown larger and are now considered under the poverty level. Those who are on a fixed-income are now considered under the poverty level. If any rises in income were lower than the poverty level, then that could be a contributing factor. 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 11 Milton & Cabell County, WV – Families in Poverty (2011 & 2016)



Employment Factors

One of the driving forces behind a city's economic engine is the number of people that are employed within the city. When there are more people employed, it is likely that fewer people will require assistance from social services. Also, having a highly employed populace lends itself to having more income, and thus, opportunity. Without a strong workforce, there may be long-term issues which could harm not only the city but the people that live there as well.

In Figure 12, the labor force participation rate[1], which is the percentage of people who are 16 years or older and are employed compared to the total population, is shown for Milton. An important trend to note is the increase from 2011 to 2016, which means that a larger portion of the populace in Milton is working.

In Figure 13, the unemployment rate[2] for Milton in 2011 and 2016 is shown. Just as the labor force participation rate increased, so did this figure. While this may seem counterintuitive, people who are not seeking employment are not counted towards this statistic, meaning that this could have risen due in part to more people looking for a job in 2016 as compared to 2011.

[1] 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

[2] 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

Figure 12 Milton, WV – Labor Force Participation Rate (2011 & 2016)

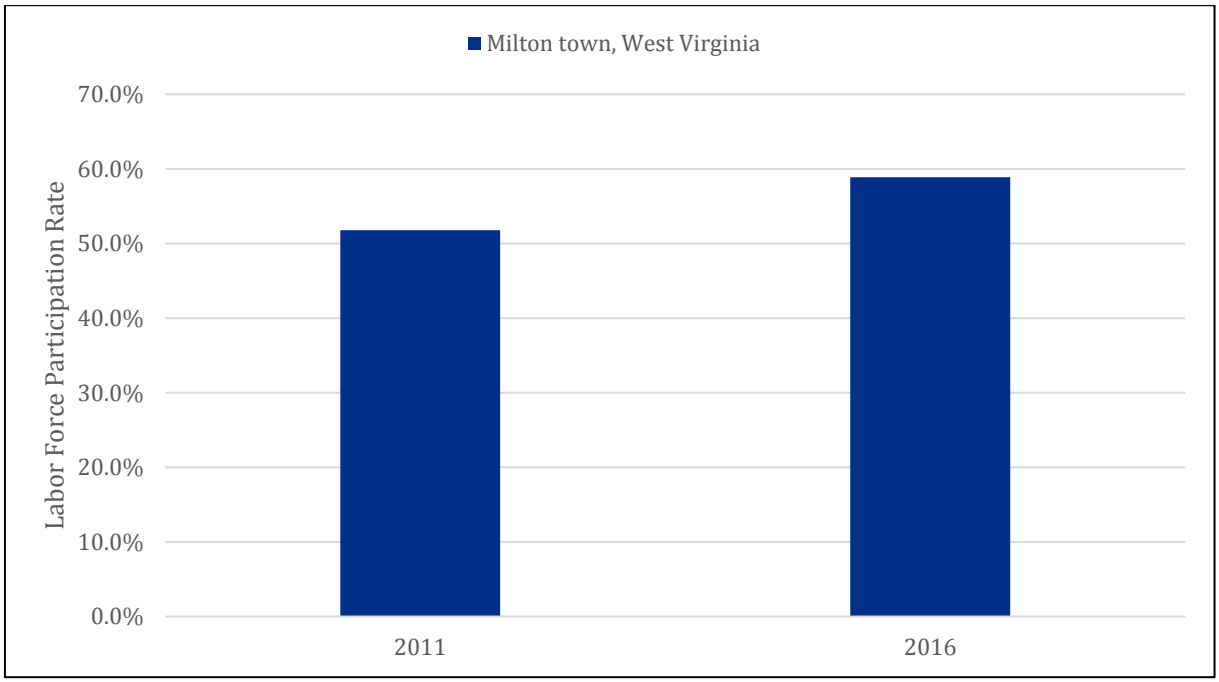
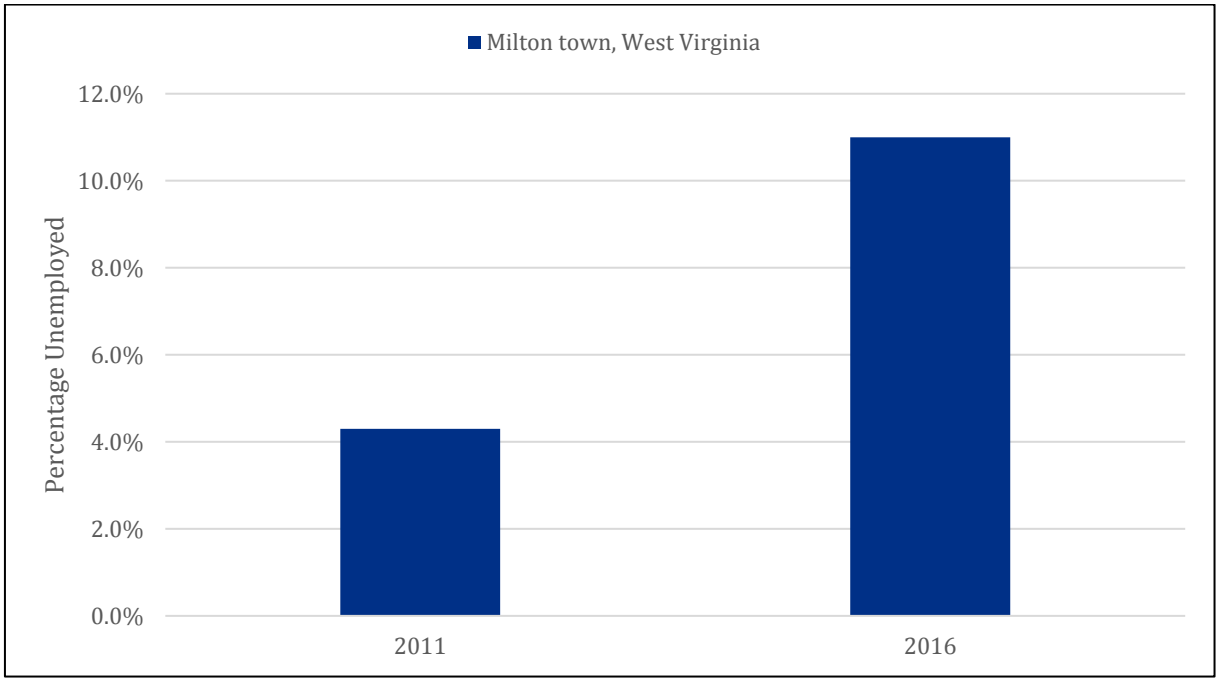


Figure 13 Milton, WV - Unemployment Rate (2011 & 2016)



Education Factors

Education is one of the most important factors that impacts and influences a person's life. From your profession, the home you live in, the places you visit, etc., it will play a hand in all these choices. Figure 14 shows the amount of education that has been achieved by persons in Milton who are 18 – 24 years old. There is a significantly higher percentage of people in 2016 that have at least a high school education and there are less for those with less than a high school education. While there are also smaller percentages for those with some college or a bachelor's degree, the growth in high school graduates is a positive sign overall.

Figure 14 Milton, WV – Population 18 – 24 Years – Educational Attainment (2011 & 2016)

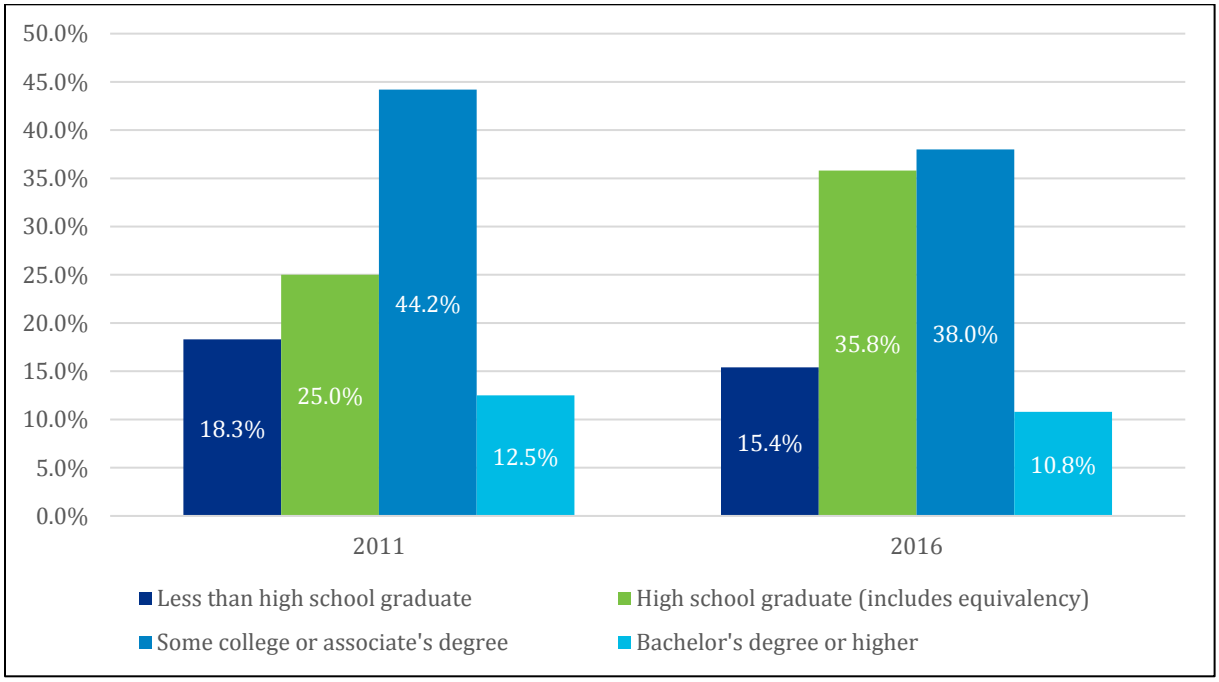


Figure 15 shows the amount of education that has been attained for those in Milton who are 25 years and older. The attainment patterns for this group are similar for what was seen in Figure 14; there is a higher percentage of those with at least a high school education and a decrease in those without one. Also, there is growth in those with an associate degree but a smaller percentage of people with a bachelor's degree.

Figure 15 Milton, WV - Population 25 Years and Older - Educational Attainment (2011 & 2016)

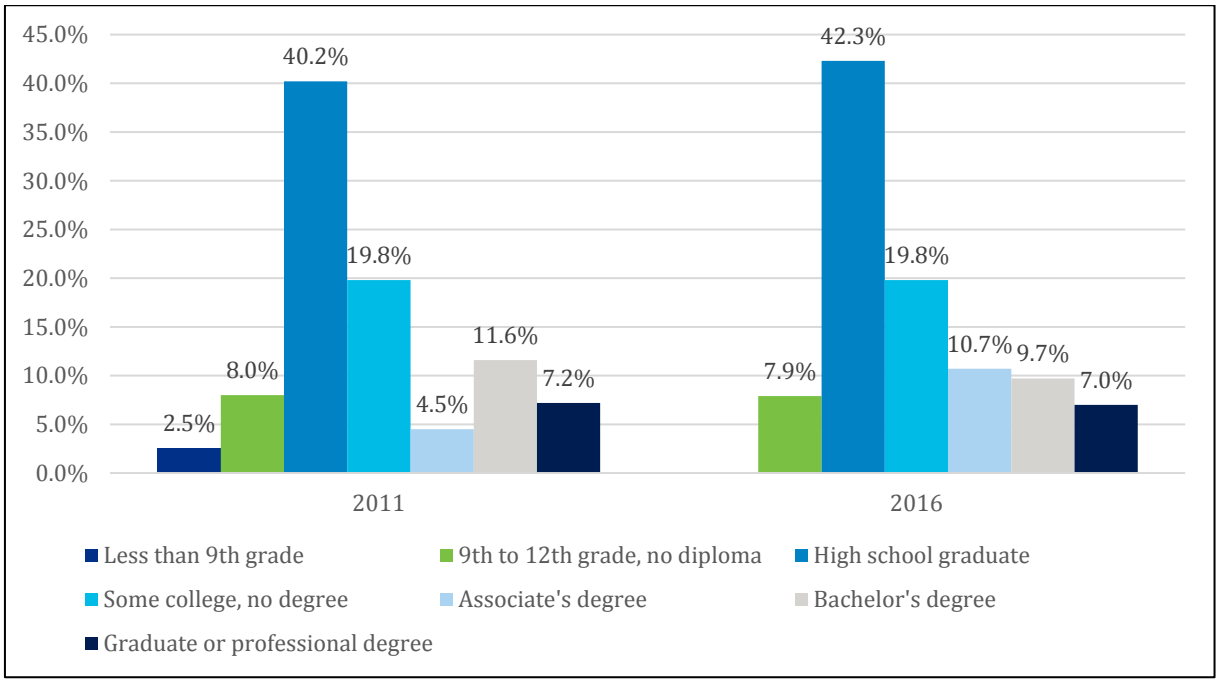
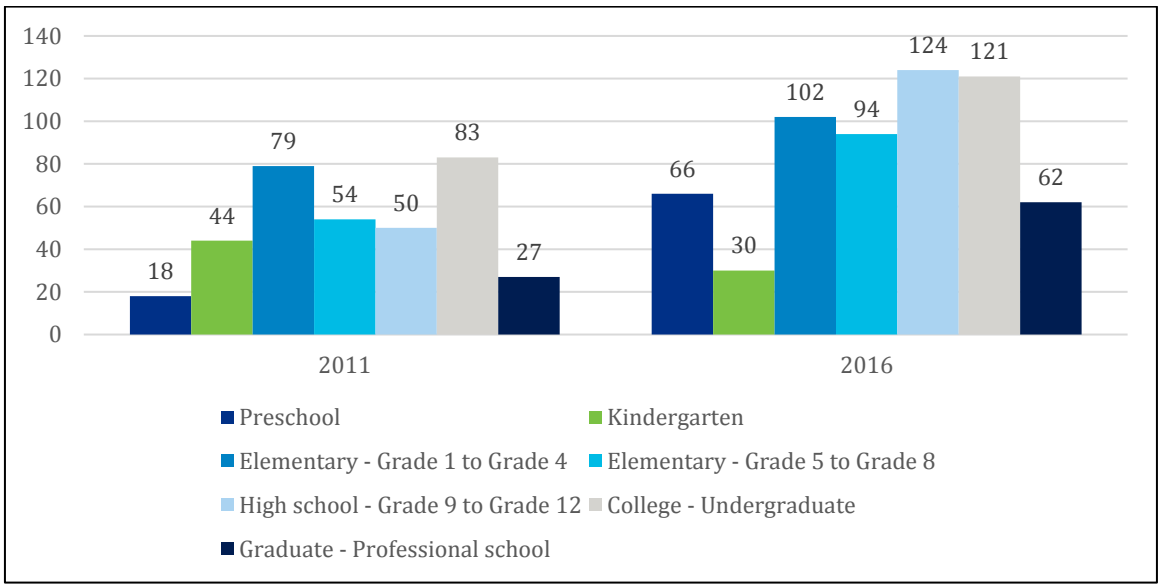


Figure 16 shows the amount of people that are enrolled in school in Milton. Overall, there are significantly more people that are enrolled in some form of schooling in 2016 compared to 2011. This is following the overall trend as well after reviewing Figure 14 and Figure 15; there are more people in Milton with greater amounts of education overall.

Figure 16 Milton, WV - School Enrollment (2011 & 2016)



Transportation Conditions

It's critical to assess the type of infrastructure that is available to pedestrians and bicyclists within and near Milton. 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 Milton, there are many sidewalks that are available for people to use. For example, N Main St. and S Main St. both have a sidewalk on one side, but the long distance to cross Route 60 which separates each street makes it a challenge for pedestrians to cross safely. On many of the smaller streets in Milton, 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 downtown area of Milton, but beyond that there is a lack of infrastructure for pedestrians to use.

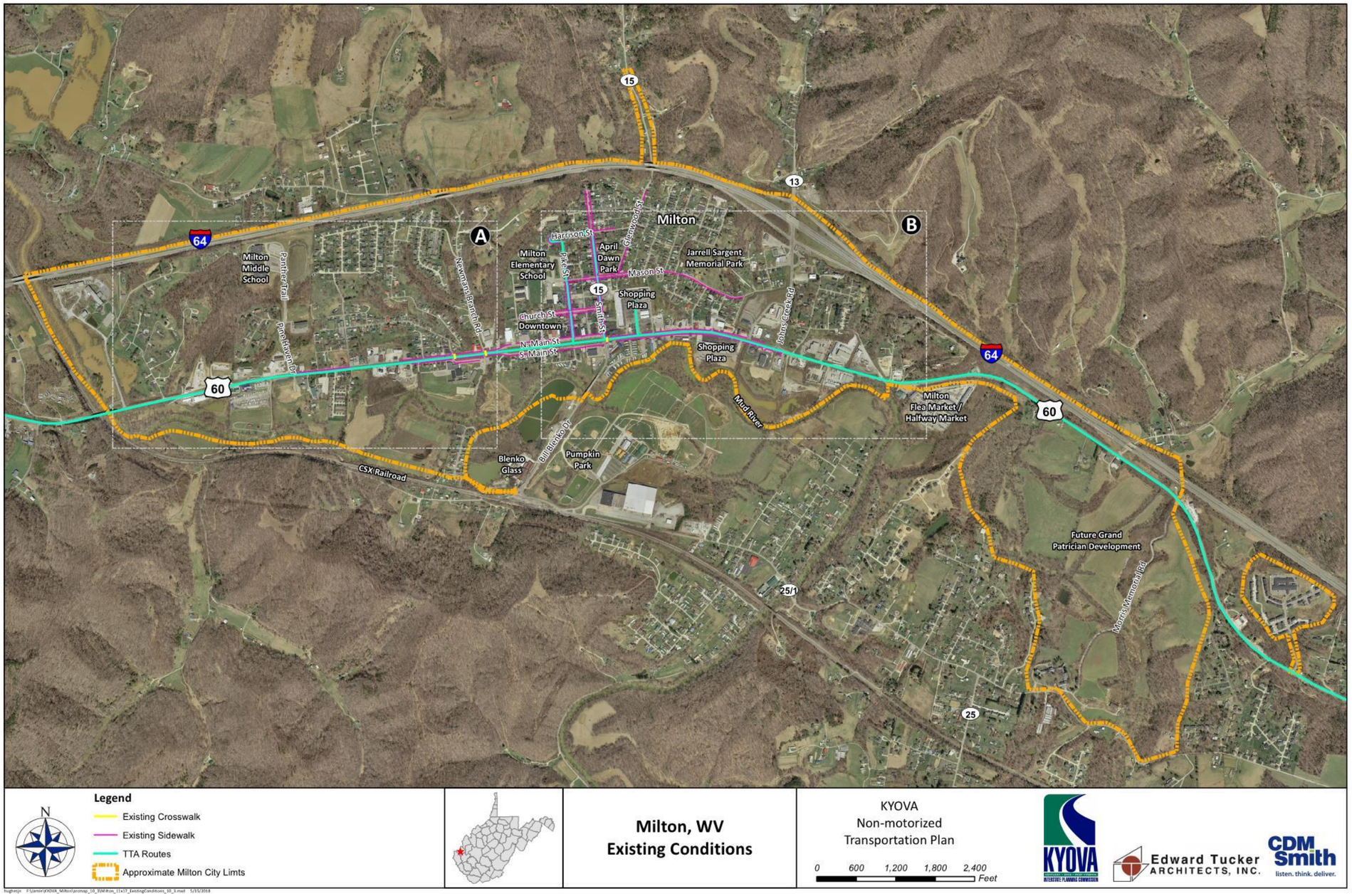
There are no exclusive bicycle facilities within Milton. Of course, bicyclists can travel on a paved shoulder and may do so in some places, but there are no paved bicycle lanes or shared-use pathways within Milton.

There is also no sidewalk or bicycle connection from the southern and northern portions of Milton, which is split by Mud River. The main bridge on Bill Blenko Dr. is a chokepoint for the city and is critical because it provides access to the fairgrounds and other areas. There are visible "goat paths" on this bridge, indicating that there are people using this bridge to walk or bicycle.

Figure 17 Bridge on Bill Blenko Dr. – Looking South

In addition, there is a severe lack of crosswalks within Milton for people to use. For example, on Route 60, there are only three painted crosswalks, which can be seen on Figure 18 below and the insets shown in Figures 2 and 3.

Figure 18 Milton, WV – Existing Conditions



Existing Transportation Network

Table 2 below shows the existing nonmotorized transportation network status. This is also showed graphically in Figure 1, Figure 2, and Figure 3.

Table 2 – Existing Transportation Network

Existing Conditions			
Roadway	**Lane Configuration**	**Sidewalks**	**Paved Shoulders**
US Route 60			
Electric Rd. to Pine Haven	2 & 3 lanes	None	Both Sides
Pine Haven Drive to Stewart St.	3 lanes	North Side Only	South Side
Stewart to Heck	4 lanes	None	Both Sides
Heck to 2nd St.	4 lanes	Both Sides	Both Sides
2nd to Main St.	4 lanes divided	Both Sides	None
Bill Blenko to Johns Creek Rd	5 lanes	Both Sides of Roadway	Both Sides; wider on North Side
Johns Creek Rd to Flea Market	3 lanes	None	Narrow
Flea Market to Morris Creek Rd.	2 lanes	None	None
North Main Street	1 lane	One Side (Adequate)	None
South Main Street	1 lane	One Side (Adequate)	None
Newman's Branch Road – SR 9	2 lanes	None	None
Bill Blenko Road	2 lanes	None	Narrow
Johns Creek Rd. / SR 13		None	
Pine Haven Drive/Panther Trail (add labels to map)		None	
Morris Memorial Rd		None	None
Harrison St		Discontinuous	
Glenwood St		East Side	None
Mason Street		Generally present on both sides	
Smith Street		Generally present on both sides	
Pike Street		2 sides south of Mason	
Brickyard Ave		Discontinuous	
Joy Lane	1 lane	Yes	
Church Street		Discontinuous	

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

Milton, there are numerous sidewalks for pedestrians and many of them may still satisfy ADA requirements, but there are areas where changes will be needed. The main issues for the current sidewalks in Milton seems to be 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 re-constructed, except for in certain areas.

Another ADA issue involves the crossings in some of the areas. Many curb ramps do not provide proper directional guidance to blind pedestrians and can also direct wheelchair users into the middle of the intersection rather than the crosswalk. Some sidewalks are missing at the end of crosswalks which makes it impossible for some pedestrians to navigate and forces them into the roadway.

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 Nonmotorized Transportation Plans will include the findings of these plans.

KYOVA MPO Transportation Improvement Program (TIP) 2018-2021

Every two years, the KYOVA MPO releases a TIP which details the state of transportation projects that occur within its planning area. Currently, there are no projects that are detailed to start in Milton, though there was a recently replaced bridge on County Road 13.

Tri-State Transit Authority (TTA) Transit Impact Study

In January 2017, the 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[3].

Milton is currently serviced by TTA route 9 with seventy-minute headways and connects to downtown Huntington and the Huntington Mall. As part of this study, service was found to be reliable overall, but with some crowding during certain times of the day. The recommended improvements to this route are focused on making changes to what locations it services and to have three trips during the morning/afternoon/evening peak times.

Planned and Future Conditions

There are numerous efforts which are being pursued within Milton that could potentially be useful for developing nonmotorized transportation infrastructure. Determining when other infrastructure is being built, such as roadway repairs or water line upgrades, can impact the ability to improve other types of infrastructure by lowering the overall cost of these improvements.

[3] Transit Center: http://transitcenter.org/2018/05/01/transitcenters-ntd-transit-ridership-analysis-2002-2017/

Utility Upgrades

In 2017, a preliminary engineering (PE) report for the Milton Municipal Utilities Commission was completed that detailed areas within Milton where utilities should be upgraded. As part of this PE report, there are portions of roadway that will be removed to install the new sewer lines and will thus require resurfacing afterwards. A recent FHWA publication, Incorporating On-Road Bicycle Networks into Resurfacing Projects, details how cost savings can be realized by building bicycle lanes into these types of projects.

Bus Shelter(s)

The City of Milton requested eight different sites within the city where a bus shelter would be useful for the people that live there. These locations are shown in Figure 19. Many of these locations are within the downtown area and are located on Route 60 (E Main St.) and would be serving as stops for places like the Milton Flea Market and the newly proposed development to the east. Depending on which stops are built, there may be an additional need for more nonmotorized infrastructure such as sidewalks or bicycle lanes. Sidewalks, curb ramps and marked crossings should be included as necessary with all requested shelter installations.

The Grand Patrician Resort

The Grand Patrician Resort is a planned development to the east of Milton on the outskirts of the city limits. Due to its size and what is being built there, it has the potential to change the city significantly. This site will have a hotel, single family homes, condominiums and apartments; this development could increase the population of the city by nearly double.

There are numerous other amenities available for guests and residents. Some of these include a nine-hole golf course, work-out facilities, soccer fields and conference center. There will also be a walking path throughout the development. Connecting this path system to City with additional pedestrian and bicycle connections could allow for those in Milton to access it by simply walking or taking their bicycle.

Figure 19 – Milton, WV – Future Conditions

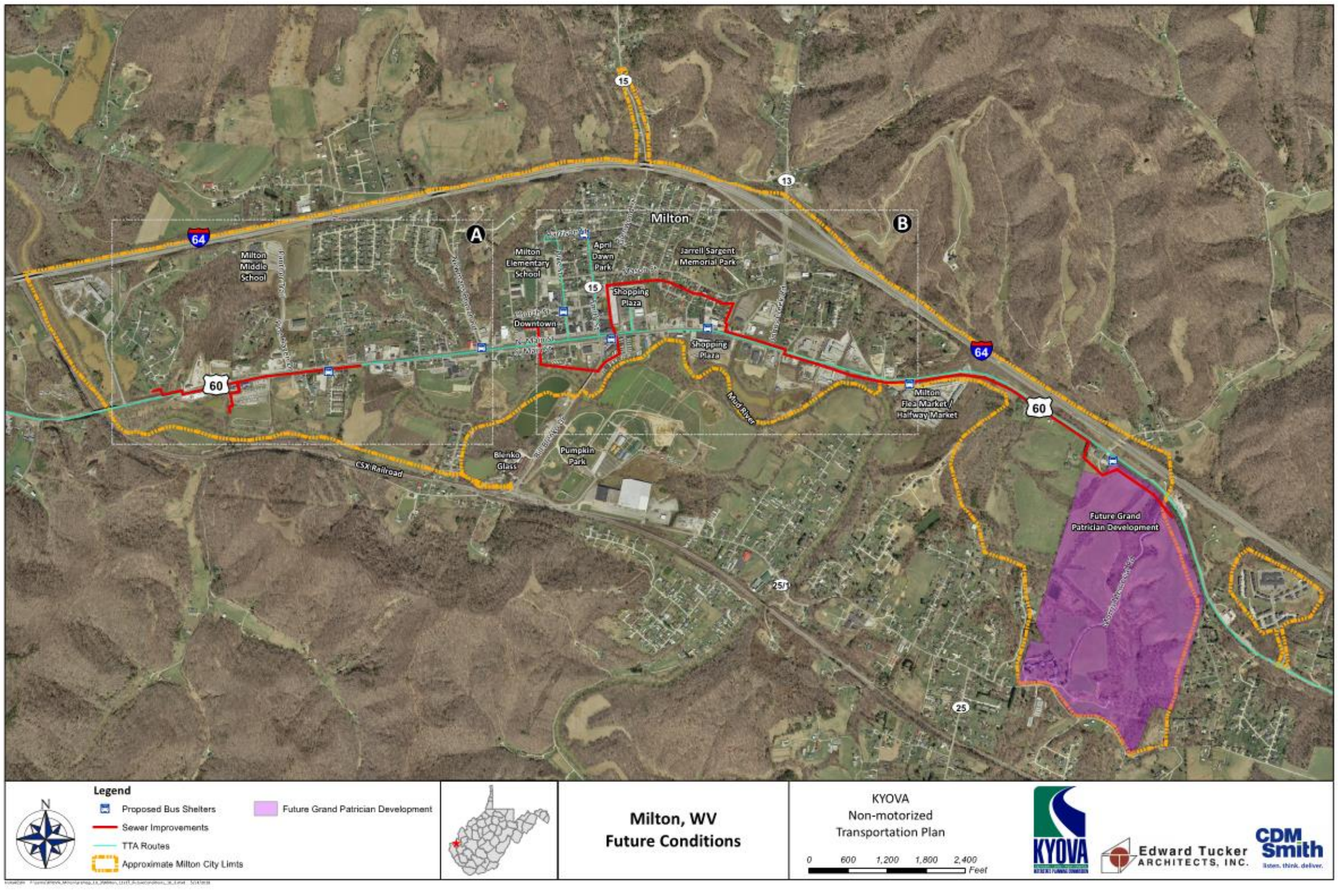


Figure 20 – Milton, WV – Future Conditions – Inset A

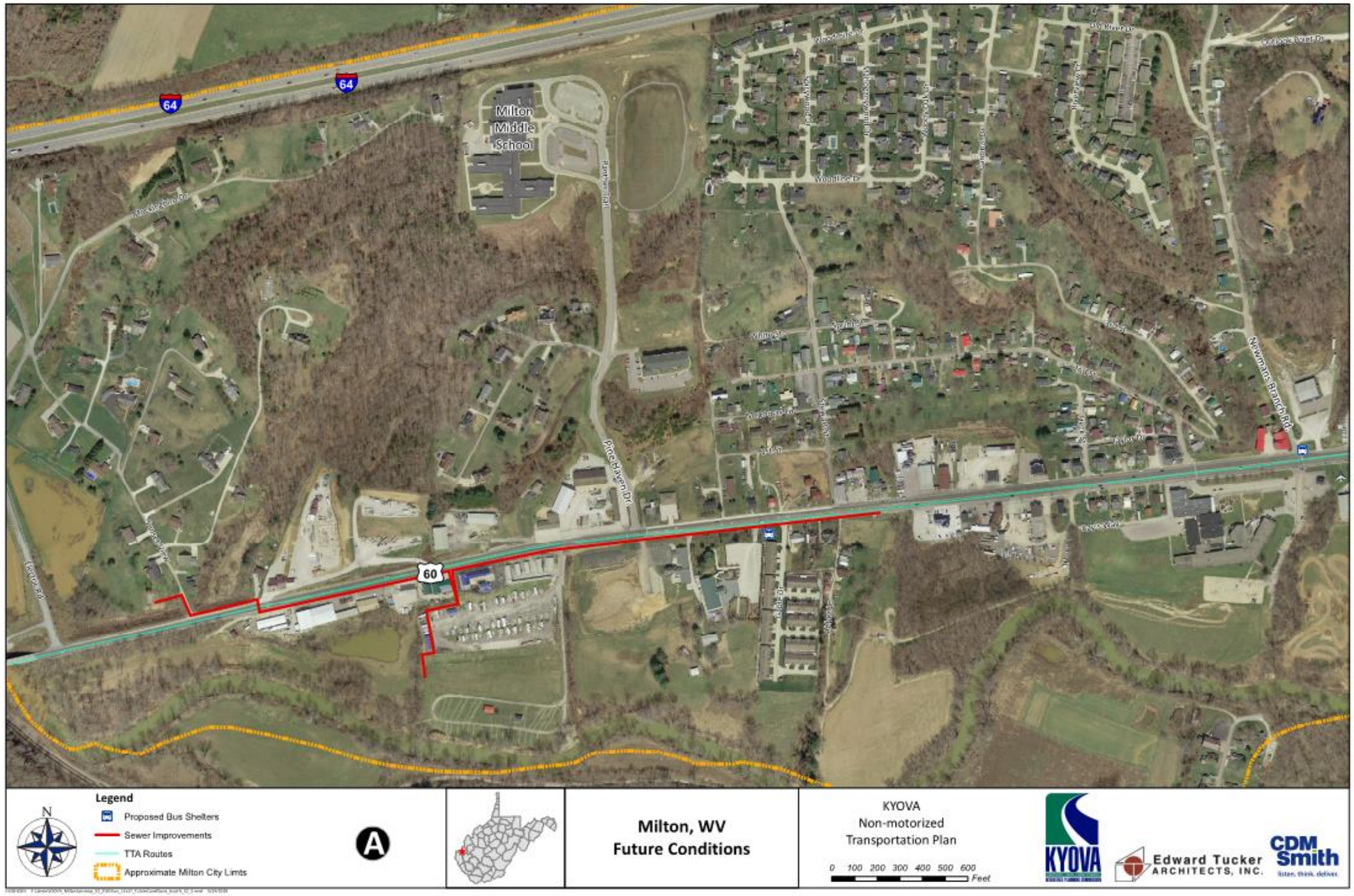
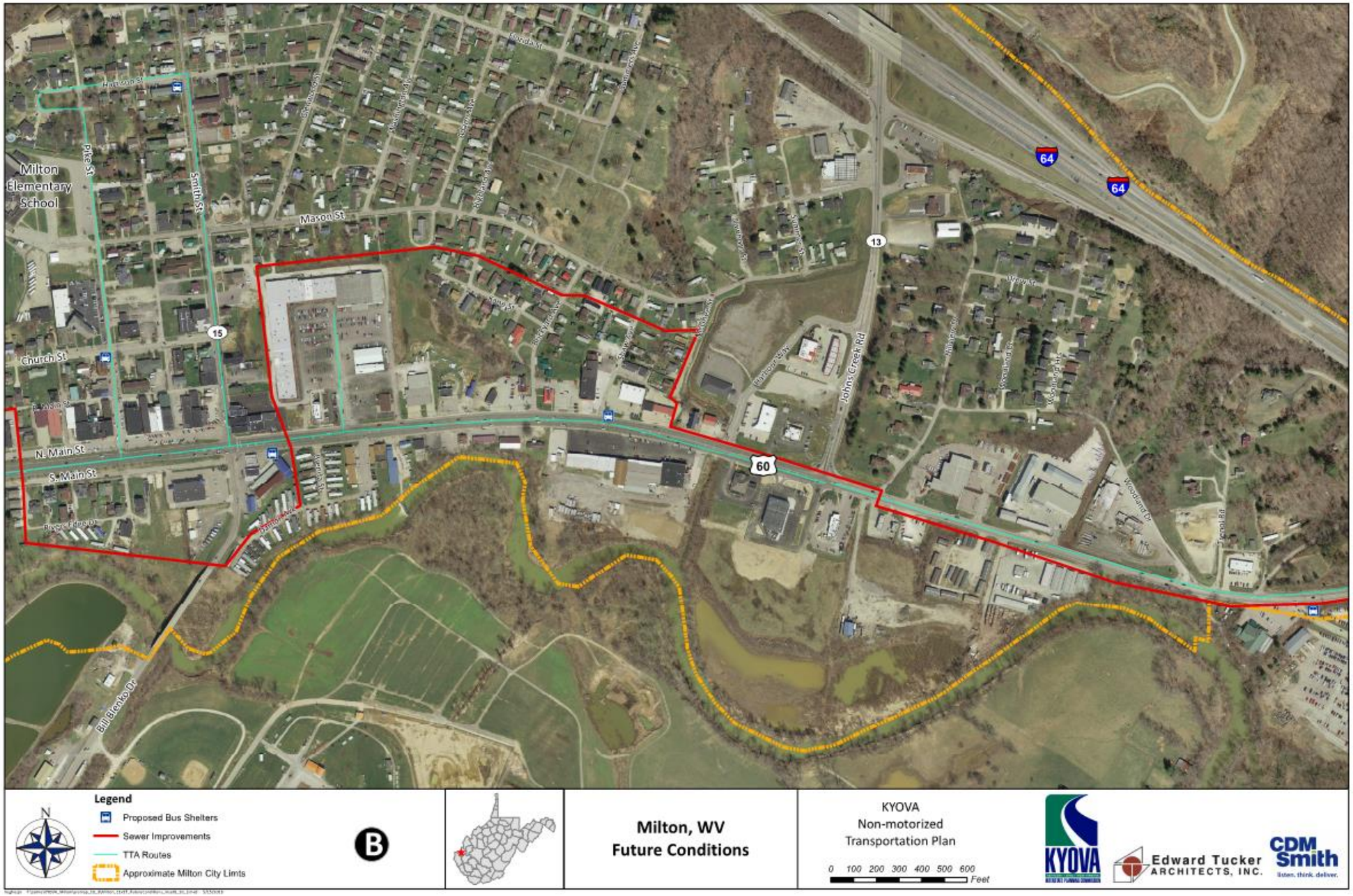


Figure 21 – Milton, WV – Future Conditions – Inset B



Overall Summary

The city of Milton is a small but rapidly growing area that may soon begin to require new or different transportation infrastructure. As the population continues to age, there will be a need for these individuals to access doctor's offices, pharmacies and parks in a safe manner and providing new sidewalks or pathways could be a critical component of that.

4. Public Involvement

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, City of Milton 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 Milton 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
- Park board
- Senior center/representatives
- Cycling community
- Walking/running community
- Business community – Chamber of Commerce
- Steele Memorial United Methodist Church
- Other religious institutions

The main feedback received is summarized below.

Inside City Limits

- Easier crossing of US Route 60 in downtown by foot or bike is needed
- Continuous sidewalks are needed along Route 60 in the City
- Sidewalk or pathway needed to connect downtown to Grand Patrician development

- Pedestrian connection to Pumpkin Park is needed

Outside City Limits

Some specific input received concerned the unincorporated area south of the current City boundary. Though technically not part of the city now, with the growth anticipated from the Grand Patrician Development which is in City limits, there could be desire for this are to become part of the City. At that point, improving nonmotorized connections with the downtown and Grand Patrician will likely become a priority.

- There was an Army Corps of Engineers (ACE) plan for a dike with a pedestrian/bicycle trail on it along the Mud River. The Robert C. Byrd Institute had a trail planner who is now at the ACE. This plan may possibly be found/referenced in the Marshal Historic Preservation Plan.
- The old covered bridge which was relocated to Pumpkin Park made a needed connection for walking and bicycling from James River Turnpike just south of Main street (across from Newman Branch Rd) to what is now Highlawn Rd. The piers may still be there. There may be an opportunity to reconnect this as a pedestrian bicycle bridge, depending on flooding conditions.
- There is a large walking population in the neighborhood which includes Dale Road, Courtney Ln., North Slope Dr. that is isolated from the city by CSX tracks south of James River Turnpike.
- There was a bicycle fatality several years ago on James River Tpk. and Georgia Ave. James River Tpk. is quite narrow with no shoulders and there are very poor sight lines.
- A popular road bicycling route includes a loop on Mud River Road and the James River Turnpike. Cyclists often park at the VFW on Bill Blenko Dr. to begin.

Summary Recommendations

Based on input from the public, there are several recommendations that can be made for nonmotorized transportation infrastructure within Milton. 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.

Bicycle and Pedestrian Requirements

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 nonmotorized 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 City of Milton 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 WVDOH to ensure such accommodations on new or improved major roadways, bridges, underpasses, at-grade rail crossings, and highway interchanges could better support regional nonmotorized 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*
Paved Shoulders	▪ Adequate in rural areas. ▪ 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. ▪ 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.	 *(Austin, TX)*
Shared Lane Marking	▪ Known as "sharrow", used to label a shared environment of automobiles and bicyclists. ▪ Encourages bicyclists to position themselves safely in lanes too narrow for vehicles to safely pass bicyclists in the same lane. ▪ Alerts drivers of the potential presence of bicyclists. ▪ Shown to increase the distance between bicyclists and parked cars to let bicyclists avoid getting "doored". ▪ Serves to advertise bikeways to all road users without requiring additional right of way.	 *(Austin, TX)*

	Considerations: ▪ Appropriate only for low speed and low volume roadways.	
Bike Lane	▪ A portion of the roadway that has been designated by striping, signage, and pavement markings for the preferential or exclusive use of bicyclists. ▪ Allows bicyclists to ride at their own pace with little interference from vehicular traffic. ▪ Makes both bicyclists and drivers predict each other's movement more easily. **Considerations:** ▪ A designated buffer space between bike lane and vehicular traffic or parked cars can be provided to further improve the safety of bicyclists. ▪ Careful study must be implemented to consider the interaction of bicycle traffic and vehicular traffic when installing bike lanes.	 *(Austin, TX)*
Shared Use Path	▪ Best used where there are minimal driveways or cross streets. ▪ Helps bicyclists of all skills ride in a more protective environment but requires wider right-of-way. **Considerations:** ▪ Requires grade separation or exclusive signal operation at intersections with major roadways. ▪ Usually installed along waterways, railroad lines, limited access highways, or within parks and open space areas.	 *(Houston, TX)*
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

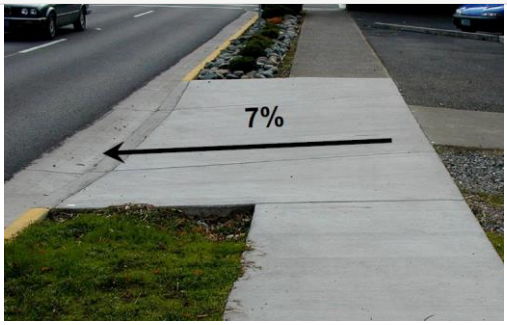
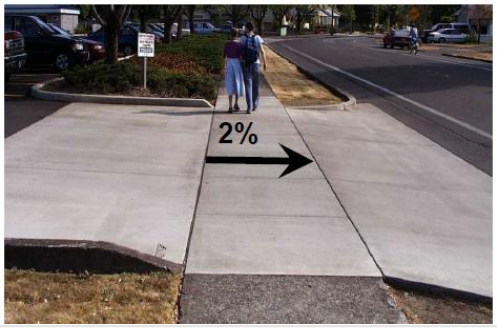
Table 4 below illustrates some recommended design considerations for sidewalks, driveways and pedestrian crossings for the City of Milton. These considerations apply to Section 5 - Recommendations later in this report.

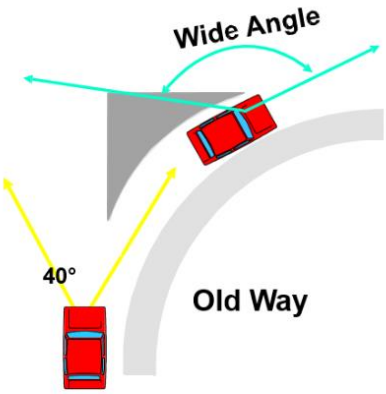
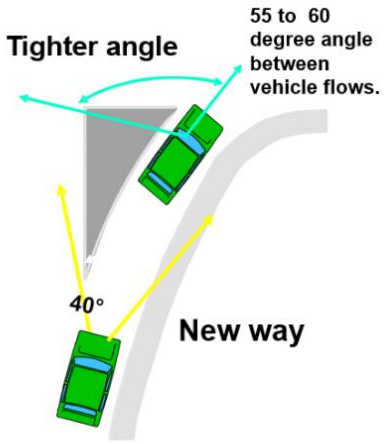
- Balance safety, traffic flow, and access to businesses and other development
- Reduces conflicts between vehicles, pedestrians and bicyclists
- Provides a safe and predictable place where paths cross

- 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
		
Explanation	▪ 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.	▪ 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.

Driveway and Sidewalk Use		
Examples	Not Optimal	Optimal
		
Explanation	▪ 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.	▪ 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.

Turning Radii		
Examples	Not Optimal	Optimal
	 High speed, head turner = low visibility of pedestrians	 Slow speed, good angle = good visibility of pedestrians
Explanation	▪ 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 and uncomfortable dynamic for pedestrians and bicyclists.	▪ 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.

Medians and Mid-Block Crossings		
Examples	Not Optimal	Optimal
		
Explanation	▪ Crossing distances are increased when medians are not present. Without a designated pedestrian refuge and separate uses pedestrians are vulnerable to crashes	▪ Medians and medians as part of mid-block crossings, reduce crossing distances and act as refuge for pedestrians.

5. Recommendations

This section provides recommended improvements for the City of Milton 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, 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 sewer improvements.

Bicycle network facility improvements include paved shoulders, bike lanes, buffered bike lanes and shared use paths. These facility types are shown above in Table 3. The improvements in this section do not include shared lane markings or "Sharrows," but this low-cost facility treatment could be as an interim measure while waiting for major improvements to be constructed on low speed roadways.

Pedestrian Network Deficiencies

Figure 22 displays the proposed sidewalks in blue and the existing sidewalks in purple. The recommended improvements are described below in a series of proposed projects and typical sections. These additional connections will provide those within Milton the ability to more easily walk to their destinations

Priority Pedestrian Crossing Locations

Figure 22 also shows the location of proposed pedestrian crossings on Route 60. They are divided into unsignalized midblock crossings and signalized intersections. Schematics of the two suggested crossing types are shown in Figure 23. Without these crossings, people must walk a significant distance to cross safely or walk across potentially dangerous roadways.

Figure 22 - Milton WV – Proposed Crosswalks

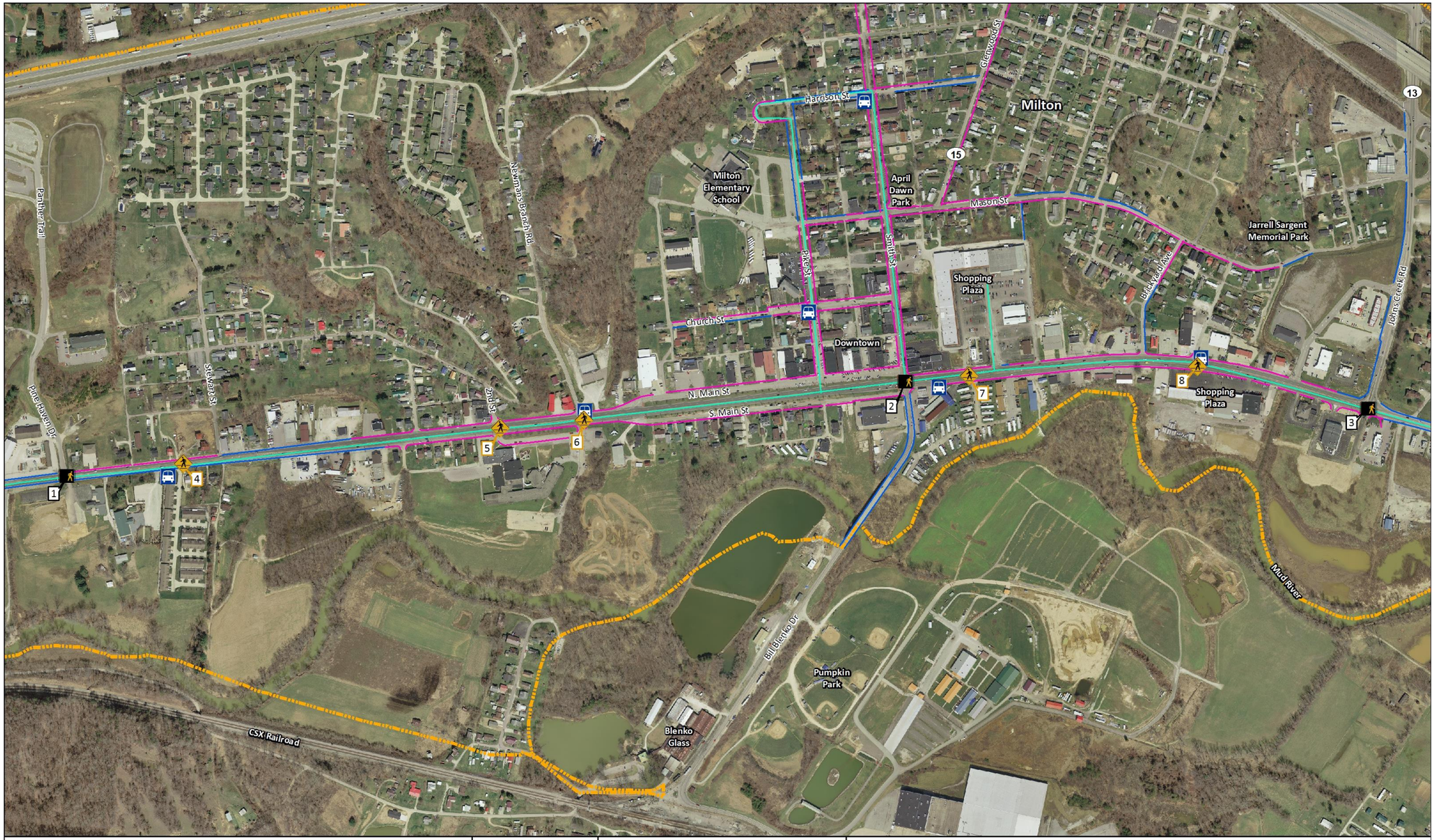
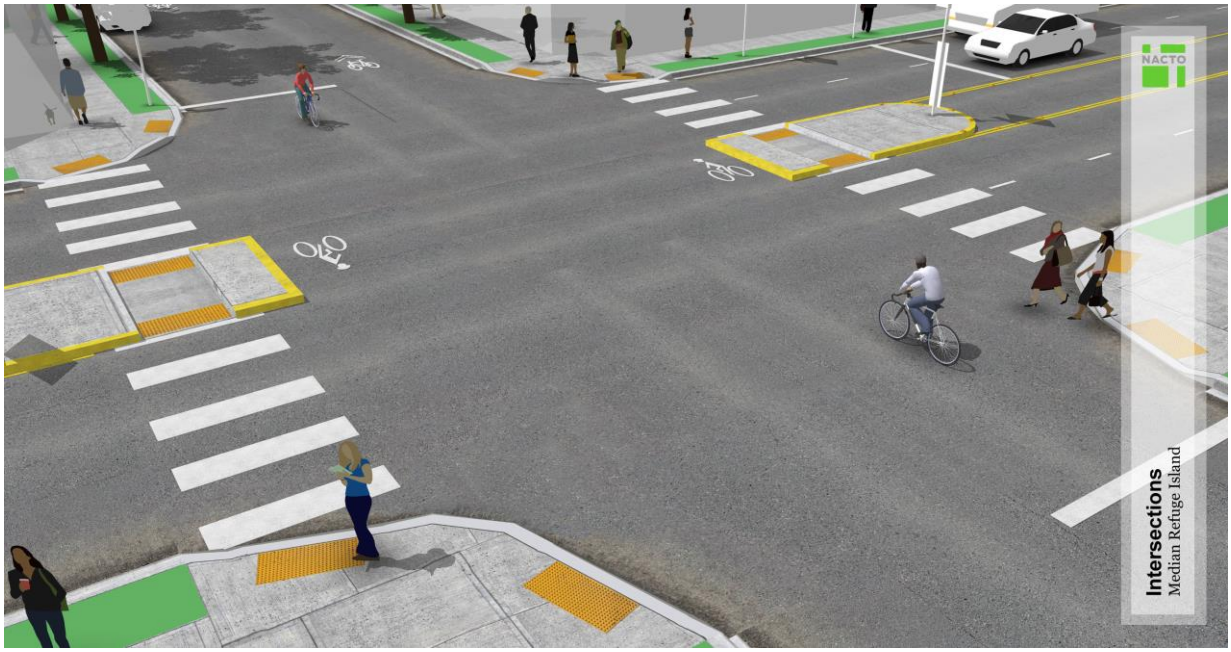


Figure 23 – Pedestrian Crossing Examples

Source: Florida Department of Transportation Median Handbook (2014)



Source: NACTO Urban Bikeway Design Guide

Bicycle Network Deficiencies

Figure 24 displays the proposed paved shoulders in red solid line and the existing paved shoulders suitable for bicycle travel in solid purple line. Proposed bike lanes are in the blue dotted line and shared use paths are also displayed in the solid yellow line.

Figure 24 – Milton, WV - Proposed Shoulder and Bicycle Improvements

Multimodal Transportation Options

The recommended pedestrian and bicycle network improvements are bundled into eight projects which are described below.

Provide Pedestrian and Bicycle Connection from Downtown Milton to Pumpkin Park

This project has two components. The first is providing sidewalk and paved shoulders or bike lanes along Bill Blenko Rd. which is illustrated in Typical Section 9. The second component is crossing the Mud River. Ideally, there would be sufficient right of way to widen the roadway during resurfacing to include 4' paved shoulders or 5' bike lanes and sidewalks on both sides. The current bridge is a chokepoint and would either need to be widened or replaced or have a pathway cantilevered off one or two sides.

- Install sidewalk or pathway on Bill Blenko Drive bridge to connect the City to Pumpkin Park.
  - Determine if sufficient ROW exists.
  - Options:
    - *Widen bridge*
    - *October 2016 inspection identified the 26.6' roadway width as substandard and stated, "Deck geometry appraisal: Basically, intolerable requiring high priority of corrective action [3]".*
    - *Cantilever pathway off existing bridge the bridge, functional class, and ADT. If it can be done in an economical and safe manner*

  - Install pedestrian/bicycle bridge in alternate location
    - *Figure 25* below shows a potential location east of the existing bridge if an alternate Mud River crossing. is chosen
    - There is a sewer project that goes along the east side of Bill Blenko Dr. leading up to the bridge. This would be an excellent opportunity to perform the earthwork that would be needed to bring a shared use path to a location to cross the river.
    - A prefabricated bicycle pedestrian bridge could be installed which would connect to the park

- Easements would need to be granted to the City to accomplish this. Potential landowners include: CSX Railroad, Pumpkin Park, the trailer park and Marathon Gasoline Station

- This project will become increasingly important over time as the Grand Patrician Development expands the City. More motorized and nonmotorized traffic will use this route to access the center of town from the James River Turnpike entrance to the Grand Patrician and nearby neighborhoods.

Figure 25 – Mud River Bridge and ROW

Intersection of US Route 60 and Johns Creek Road Improvements

- Tighten the turning radii of John's Creek Road to slow traffic speed and install crosswalks, pedestrian signals and sidewalks

- Proposed sewer project goes under the north side of this intersection where the recommended changes are to be made

- See the Turning Radii section in Table 4 for design detail and explanation

Connect to Grand Patrician Development to the City

- Install sidewalks and bike lanes or shared use path parallel to Route 60 as shown in Typical Section 2. Considerations include:
  - Use Route 60 ROW
  - Use proposed sewer line ROW and construct shared use path
  - Working with the developer, ensure that the planned hiking trail in the development connects to main pathway to the City.
  - Working with the developer, ensure that any future improvements to Morris Creek Road include paved shoulders and possibly a shared use path

Complete the nonmotorized network in Downtown Milton

- Provide bike lanes or improved paved shoulders
- Continue sidewalks across open driveways, reduce the size and number of curb cuts, create cross-parcel access for all modes
- Typical Sections 1-6 display different recommended configurations for Route 60 based upon existing roadway geometry and right of way available.
- The section between Smith Street and John's Creek Road should have a continuous sidewalk on both sides. The illustrations and captions below show a potential solution. Typical Sections 4 and 4A provide detail.

Figure 26 – Unconstrained Parking Lot Access

- Perform traffic analysis to determine if a road diet to reduce the number of through lanes is possible to reduce pedestrian crossing distances, vehicular speeds and create space for bike lanes.
- Figure 26 illustrates how space can be defined in a corridor with open driveways, no sidwalks or bike facilities. These open driveways can lead to conflicts between modes.

- Figure 28 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 sidwalk 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 betweeen the sidewalk and street also provides a buffer between the sidewalk and the roadway. Research conducted for the TRB Highway Capacity Manual 2010 indicates that this improves the pedestrian level of service and improves comfort for all roadway users.

Figure 28 – Defined Parking Lot Access

- Figure 27 is another example of what a parking lot and driveway may look like when it's been closed from it's 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 27 - Defined Sidewalks, Bicycle Lanes, Parking Lot Access

Source: FHWA Small Town and Rural Multimodal Networks Guide

Provide Pedestrian Crossing Improvements on Route 60

Figure 22 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.

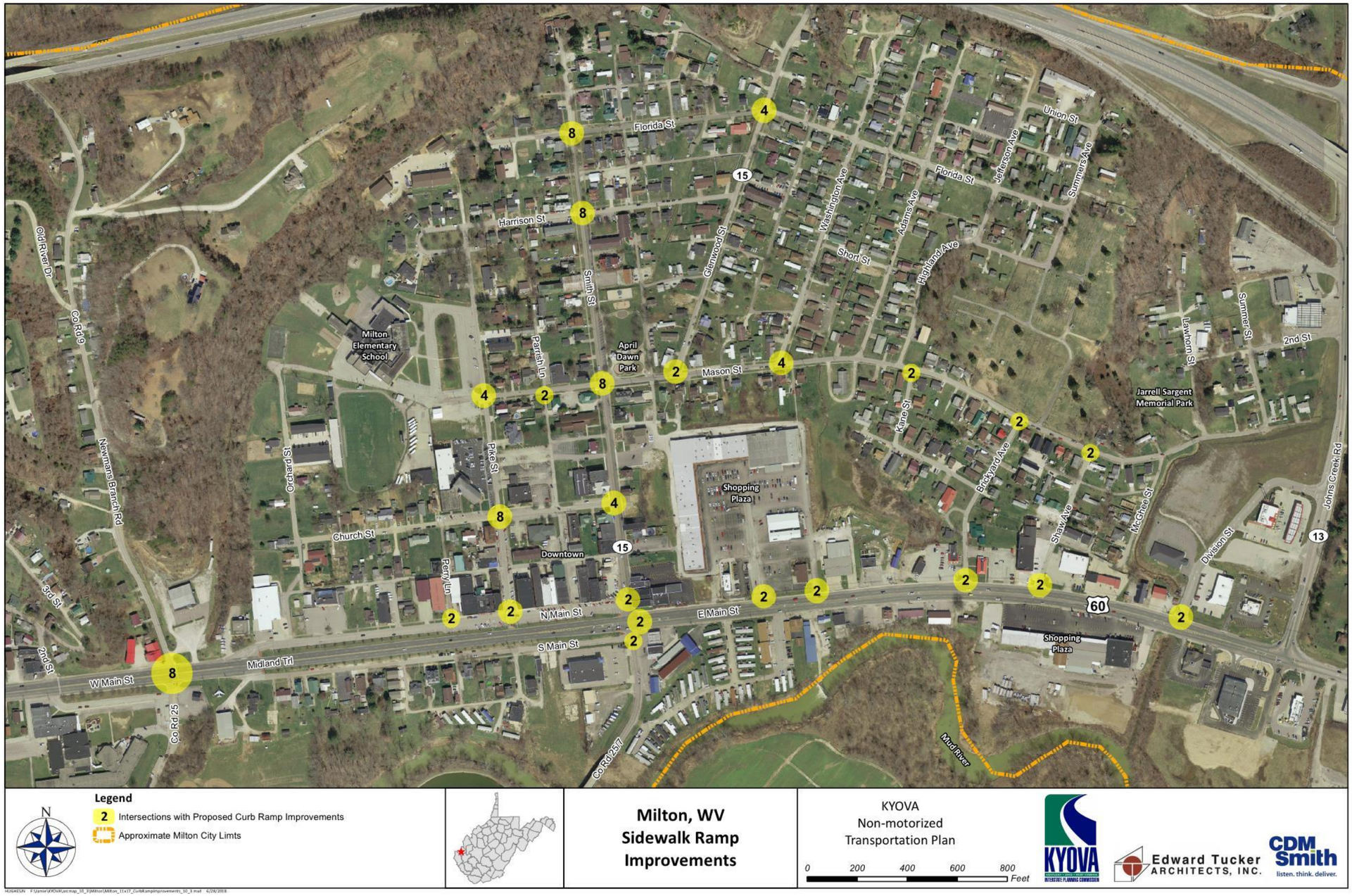
- Signalized intersections
  - Install pedestrian signals, pushbuttons and crosswalks on all intersection legs
  - Assess lighting conditions and upgrade if needed
  - Install pedestrian refuge islands or medians on 4 and 5 lane roadway sections
- Unsignalized intersection and midblock crossings
  - Install refuge islands or medians on all 3, 4 and 5 lane roadway sections

- Where indicated, upgrade crosswalk markings with high emphasis “zebra style” markings
- Provide advance signage and pavement markings to warn drivers of pedestrian crossings
- Assess lighting conditions and upgrade if needed
- If safety data or usage indicates, consider installing pedestrian actuated Rectangular Rapid Flashing Beacons to alert drivers of pedestrian crossings

Citywide ADA Curb Ramp and Crosswalk Improvements

- 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

Figure 29 – Milton, WV Sidewalk Ramp Improvements



Provide Nonmotorized Access to Elementary School

- Install sidewalks on Mason Street and Pike Street, where necessary, to aid children in walking to school, like Typical Section 7.
- A potential sidewalk connection could be completed on Orchard Street from Mason Street to US Route 60. Another potential sidewalk connection would be through the wooded area next to the Elementary school to Newman's Branch Road.

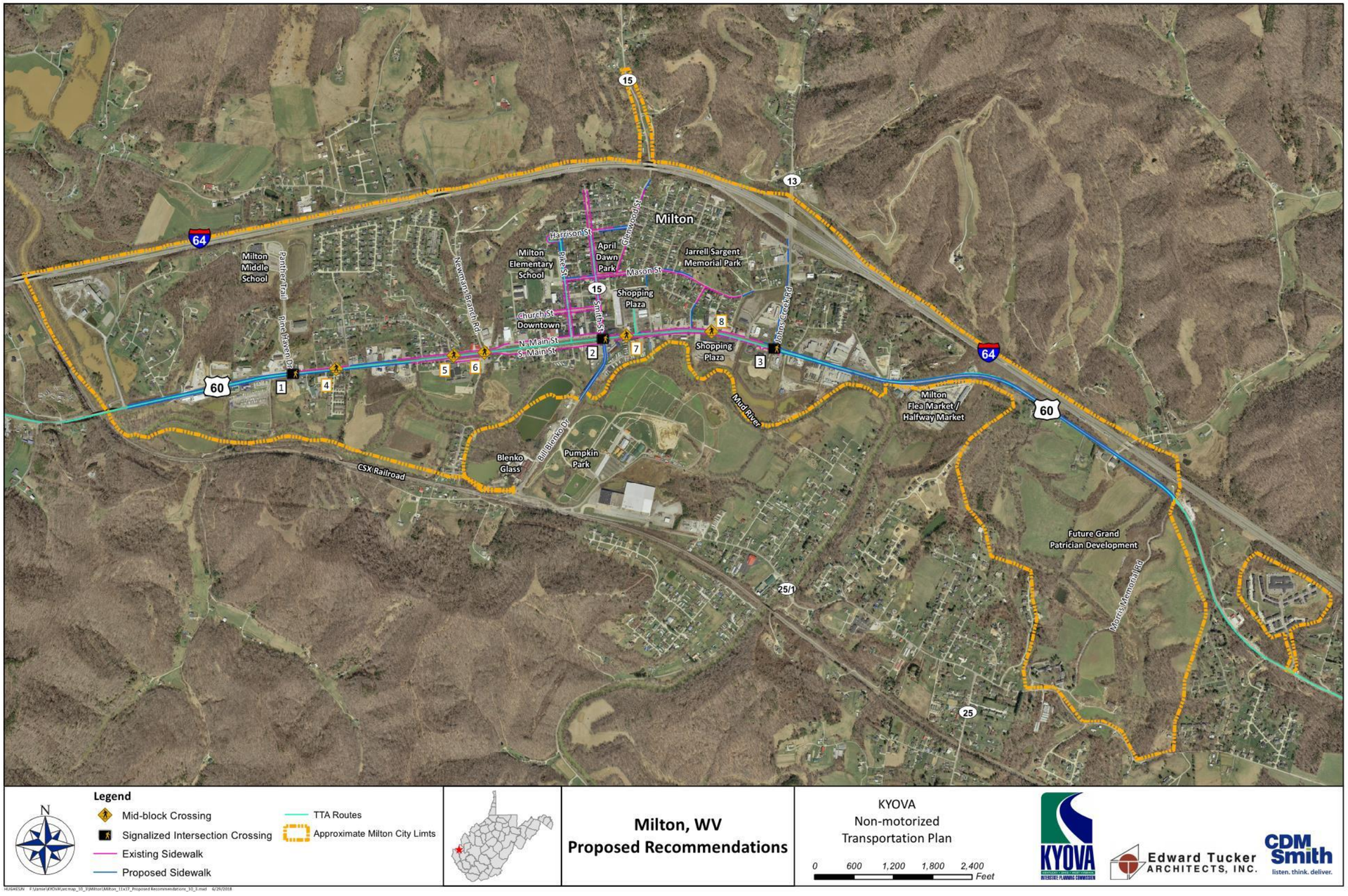
Provide Nonmotorized Access to the Middle School

- Install sidewalks and bike lanes or shared use path on Pine Haven Drive and Panther Trail as shown in Typical Section 8.
- Provide paved shared use pathway(s) to connect Woodmire Drive neighborhood off Stewart Street with middle school. There are currently paths worn in the grass reflecting actual pedestrian and bicycle travel to the school.
- Install crosswalks, pedestrian signals and sidewalks at the intersection of Pine Haven Drive and Route 60 (This would be wrapped into the Route 60 crossings project).
    - Assess lighting conditions and upgrade if needed.

Provide Nonmotorized access to the Piggly Wiggly Shopping Center

- Install sidewalks or shared use path to connect to shopping center on Dailey Lane and Joy Lane
- Work with property owner to create walkway through parking lot to connect to proposed city sidewalks

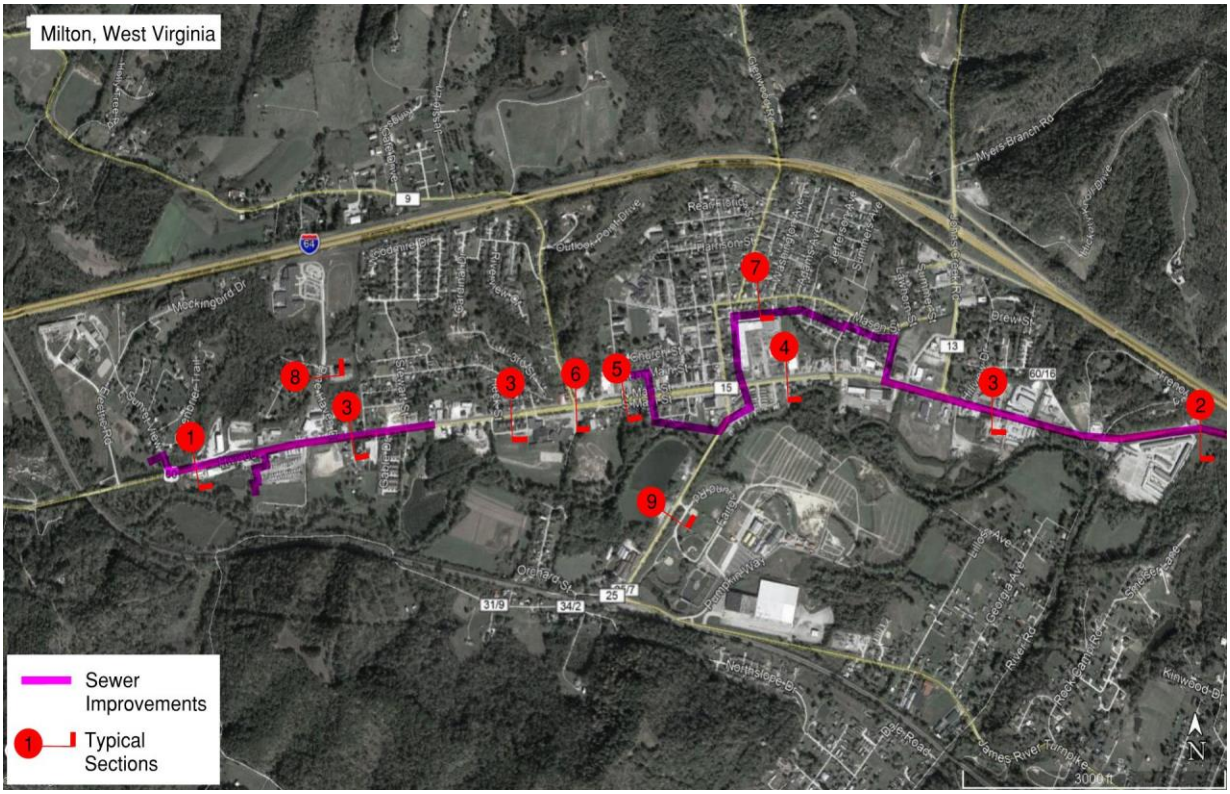
Figure 30 – Milton, WV – Proposed Recommendations



Proposed Typical Sections

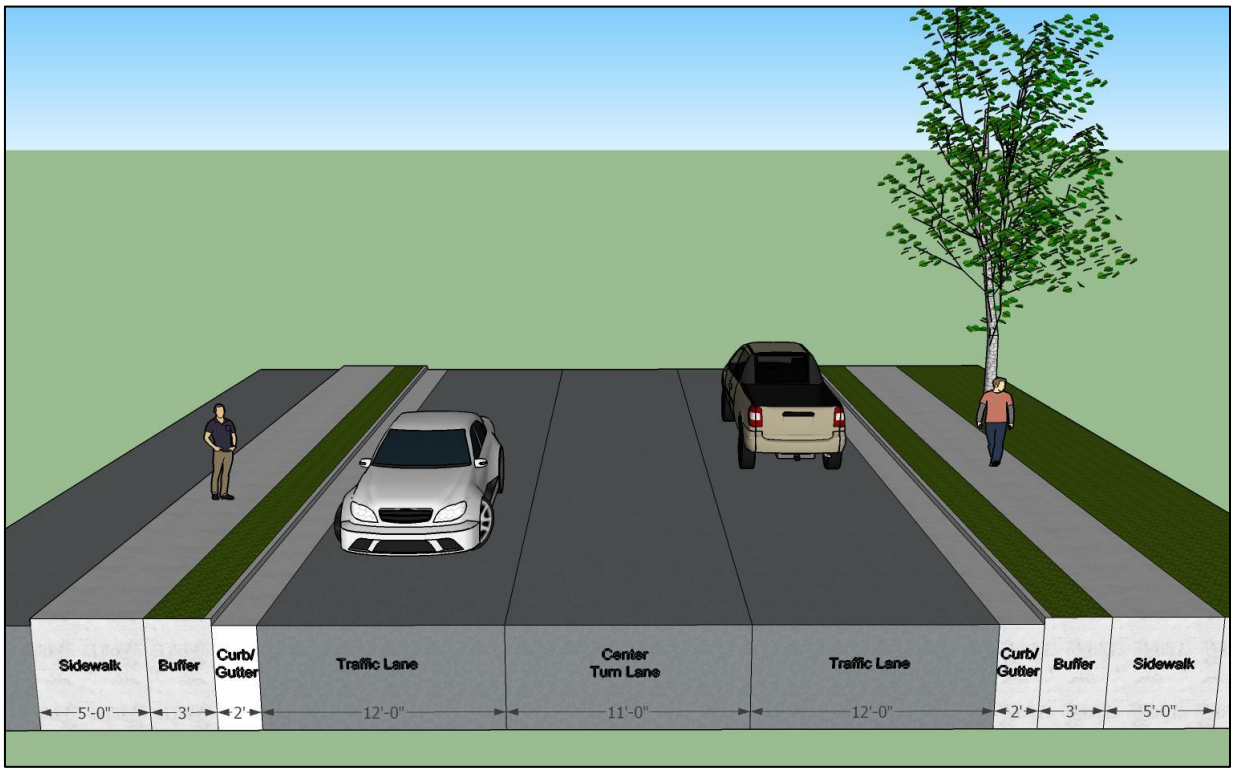
Figure 31 through Figure 44 shows the proposed typical sections for the various roadway segments in Milton. Typical sections are example cross sections of the roadways which show the widths of the various components. They are not meant to be inclusive of all circumstances along the roadway length they refer to. The do provide a reasonable approximation of what that stretch of roadway and sidewalk would look like. Figure 31 below provides a key showing the location of each typical section diagram below.

Figure 31 – Typical Section Layout & Potential Sewer Improvements



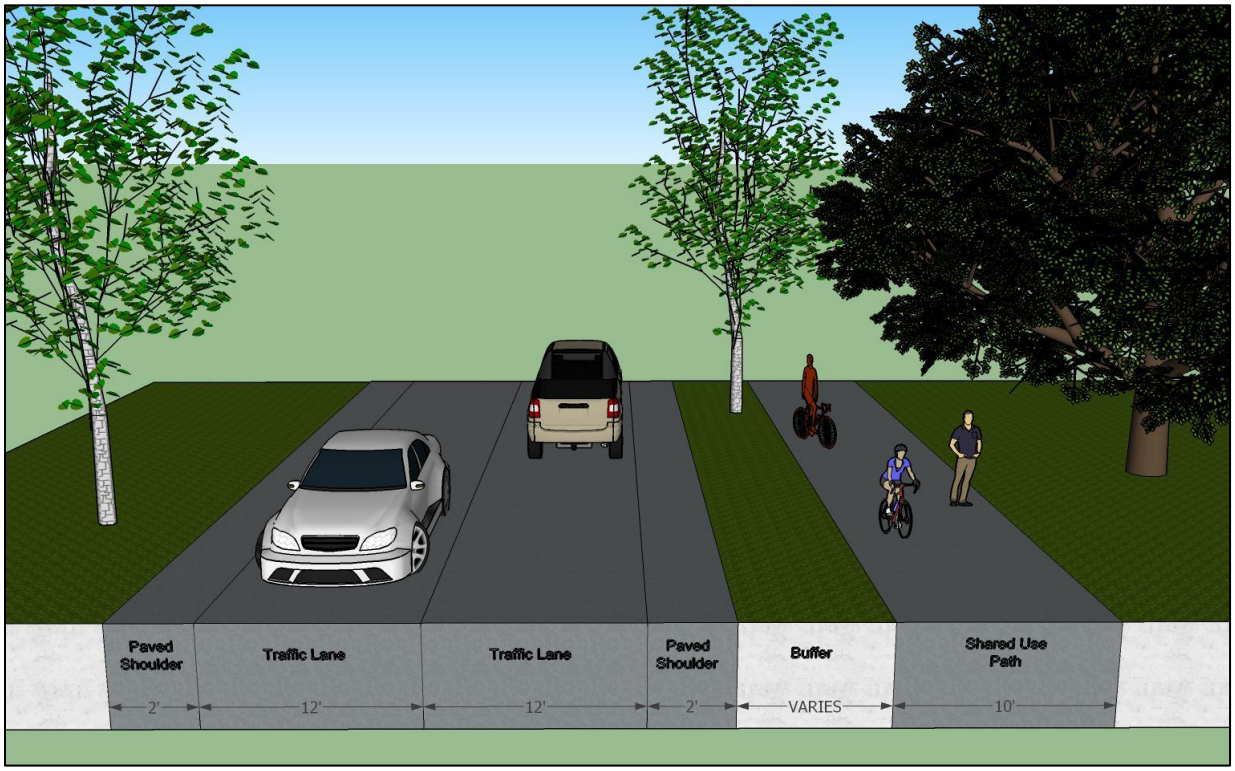
Typical Section 1 below is for Route 60 from Electric Rd. to Pine Haven Rd. The existing roadway is approx. 36-40', with some paved shoulders and no curbs or sidewalks. The recommended cross section is 39' with curbs, plus buffers, sidewalks above curb. There is a proposed sewer project on the south side which would be an ideal to add the sidewalks, buffers and curb and gutters economically.

Figure 32 – Typical Section 1



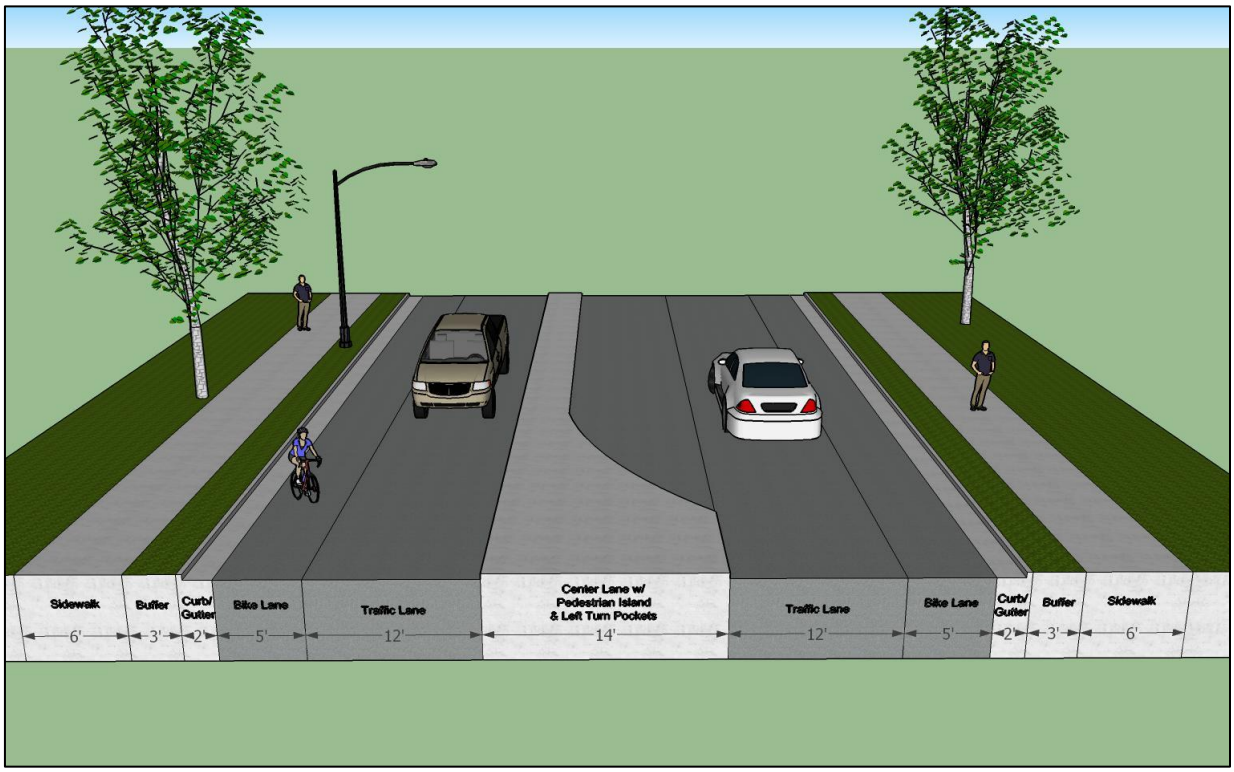
Typical Section 2 below is for Route 60 from Flea Market to Morris Creek Rd. The existing roadway is approx. 27' with no curbs. The recommendation is 28' of pavement with no curbs, plus a buffer and shared use path. It appears that ROW is tight and there is a slope that constrains the ability to widen the shoulders to 4'. Sewer work connecting the Grand Patrician development to the City is planned along this section. The shared use path could be constructed in conjunction with the sewer installation.

Figure 33 – Typical Section 2



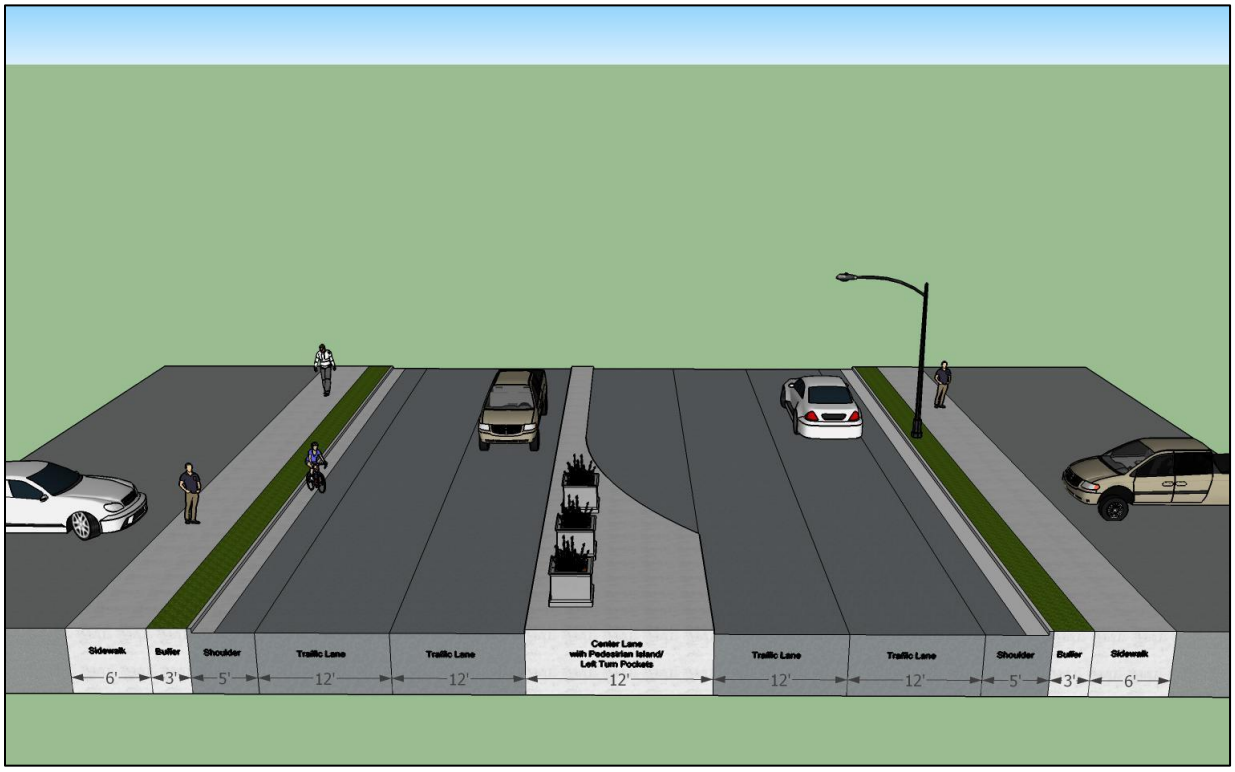
Typical Section 3 below is for Route 60 from Pine Haven Drive to 2nd St. The existing roadway is approximately 35', with no curbs with several different configurations. Typical Section 3 would also apply for Route 60 between Johns Creek Road and the Flea Market. This typical section calls for 52' of roadway, which includes 4'-0" curb/ gutter both sides, 24'-0" traffic lanes, 14'-0" center lane with pockets, 10' bike lane both sides. There would also be a buffer and sidewalk on each side behind the new curb.

Figure 34 – Typical Section 3



Typical Section 4 is for route 60 from Bill Blenko to Johns Creek Rd. This is currently a 5-lane section of roadway characterized by short stretches of sidewalk and open driveways. The ROW width varies, with some constrained to 77' including sidewalks. To retain five 12' lanes and include bike lanes would require 76', plus 16' of sidewalks. Therefore, there are no bike lanes shown in the 5-lane version of Typical Section 4. Instead there is a striped 3' shoulder area between the travel lanes and the curb and gutter which could accommodate skilled bicyclists. This design does not greatly contribute to a sense of place. Sewer work is planned for Brickyard to John's Creek, which provides an opportunity to complete portions of the improvements in an economical manner.

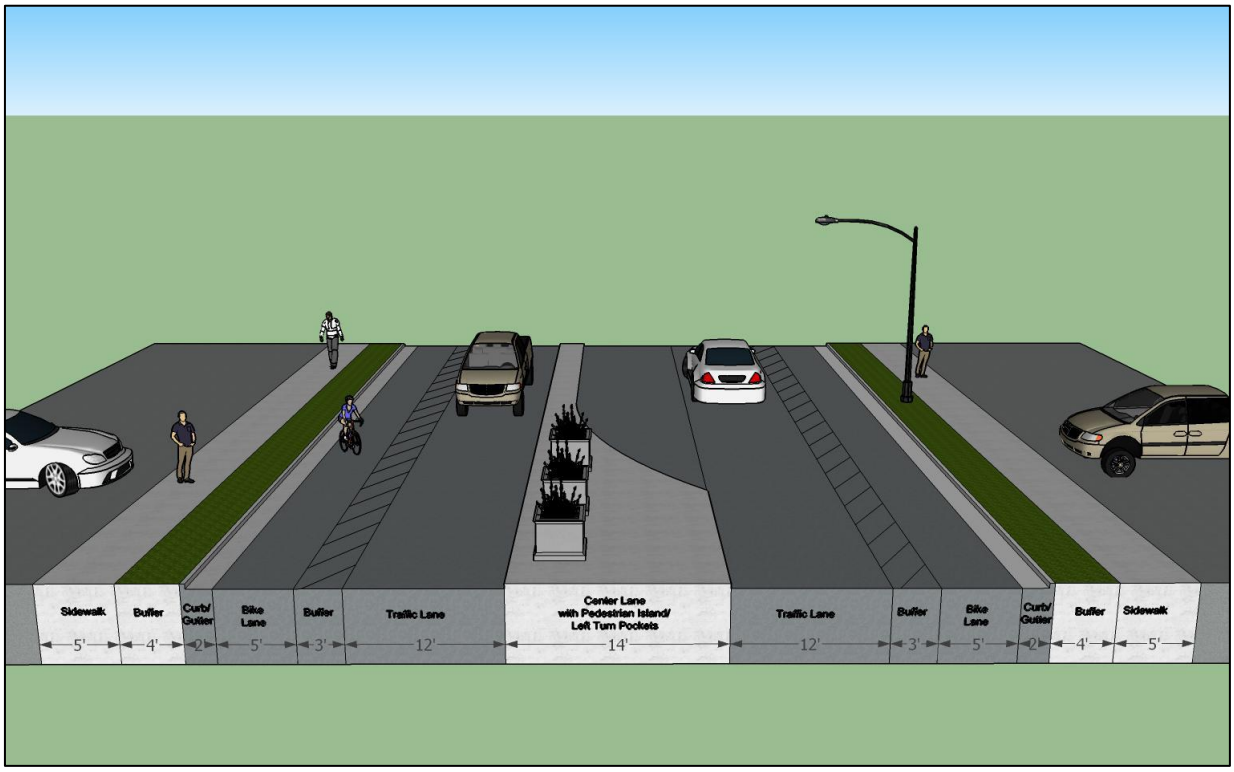
Figure 35 - Typical Section 4



Typical Section 4A is a 3-lane section with median islands with openings for left turns, buffered bike lanes, along with the same sidewalk recommendations.

This section is proposed to provide easier crossing of the roadway by pedestrians and to provide dedicated roadway space for bicyclists. According to the West Virginia Department of Highways Geo Counts website, Route 60, between Brickyard Ave and Smith Street, had 13,184 Average Annual Daily Traffic (AADT) in 2013. According to the FHWA Road Diet Informational Guide, "…roadways with ADT of 20,000 vehicles per day (VPD) or less may be good for a Road Diet and should be evaluated for feasibility…".

Figure 36 – Typical Section 4A (Road Diet)



Typical Section 5 encompass Route 60 and North and South Main Streets. The existing roadway on Route 60 is 48’ with no curbs, a narrow concrete traffic separator and wide green buffers between the Main Streets. The recommended Typical Sections divert the bike lanes from Route 60 to North and South Main Streets to get bicyclists from the outskirts into downtown. Signage will be needed to direct cyclists traveling eastbound on Route 60 to the downtown area from South Main Street.

Figure 37 - Typical Section 5 (Full)

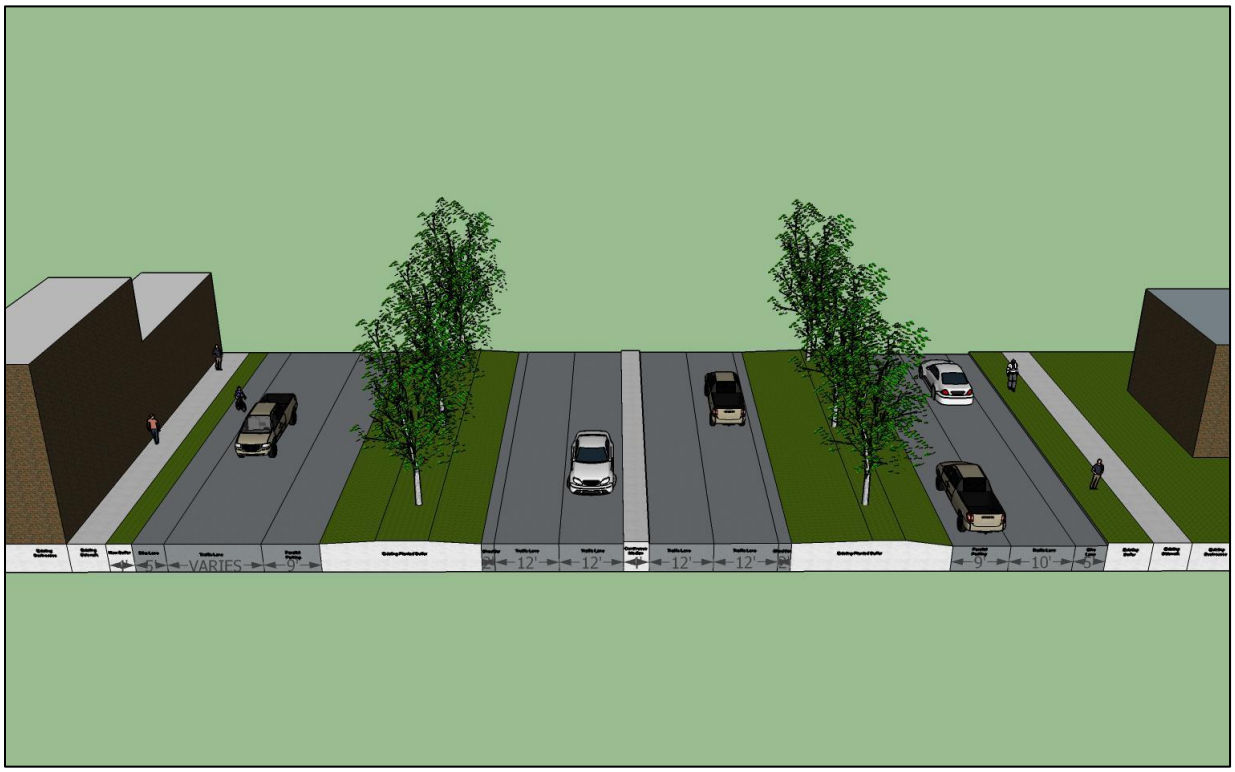


Figure 38 – Typical Section 5 (Main St.)

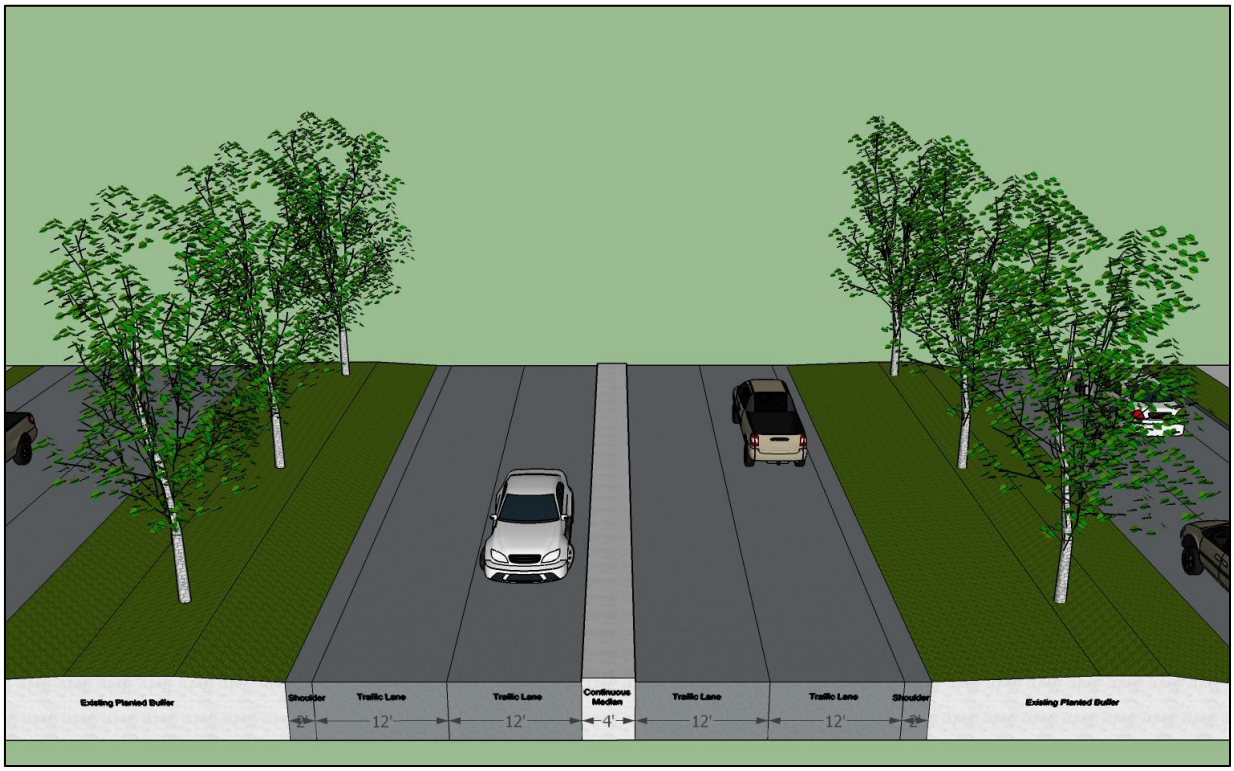


Figure 39 – Typical Section 5 (North Main St.)

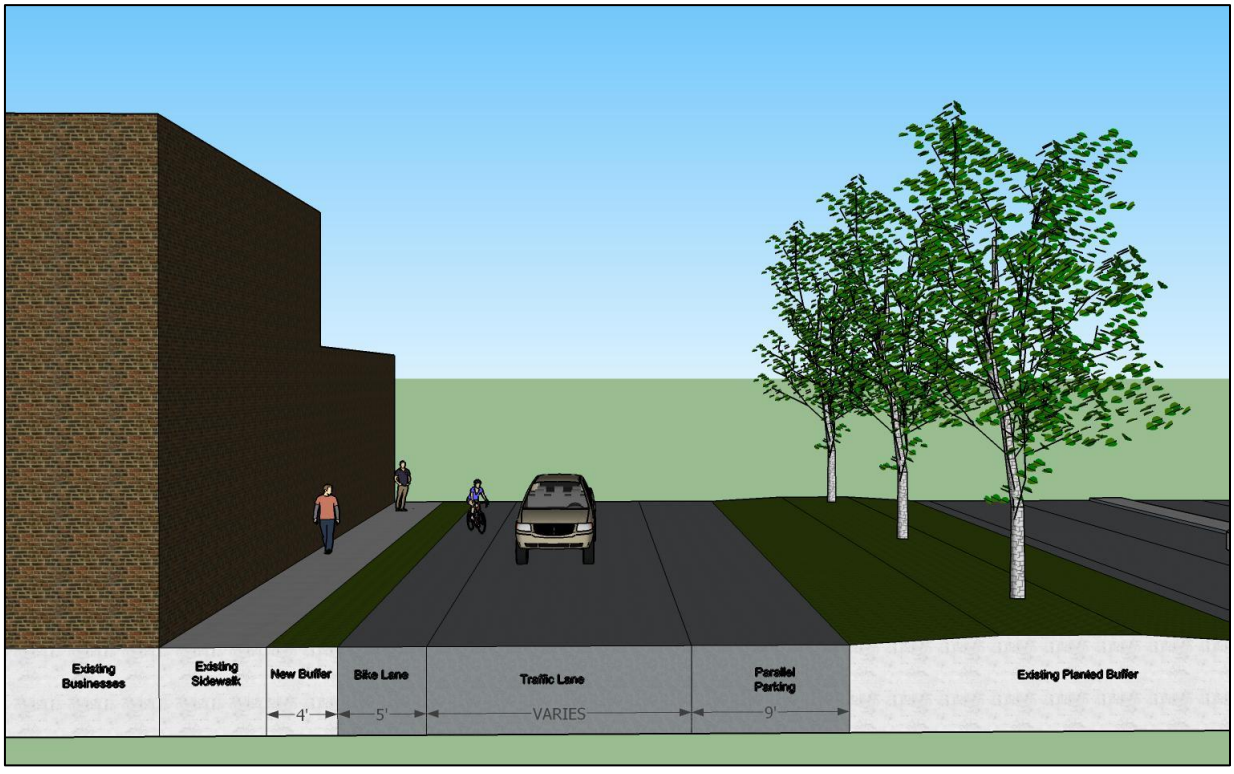
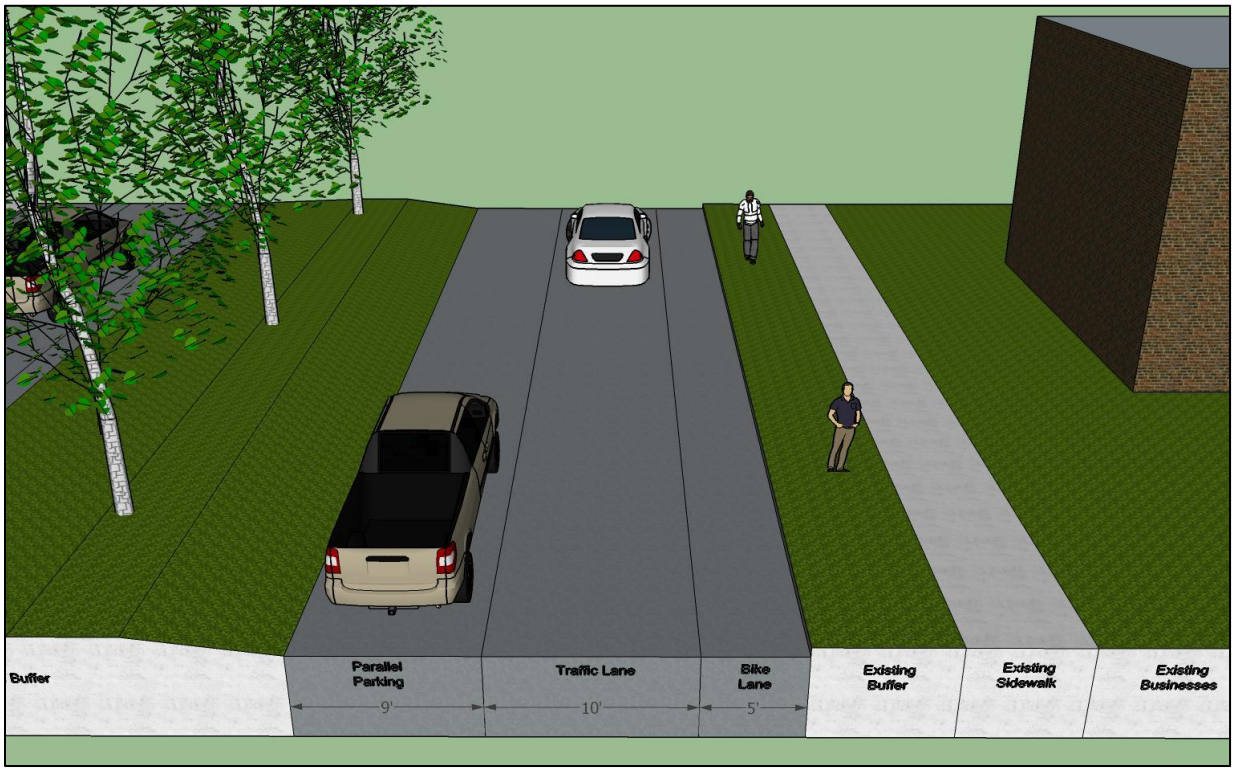


Figure 40 – Typical Section 5 (South Main St.)

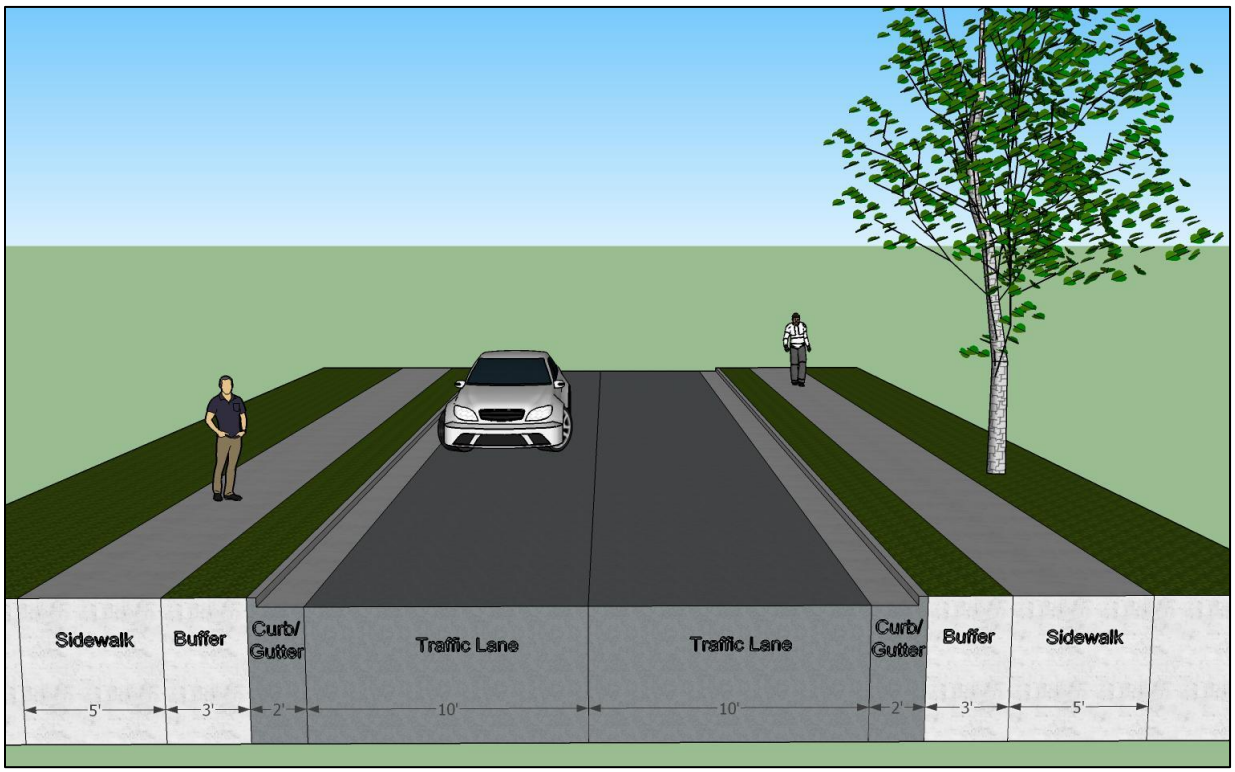


Typical Section 6 is for portions of Route 60 where the existing roadway varies from 46'-0" to 65', with curbs, and from 4 lanes to 3 (2 travel lanes and a left turn lane). Due to variation block by block, a consistent 3 lane cross section is recommended: one lane each way with an island and left turn pockets, bike lanes and sidewalks.

Figure 41 – Typical Section 6

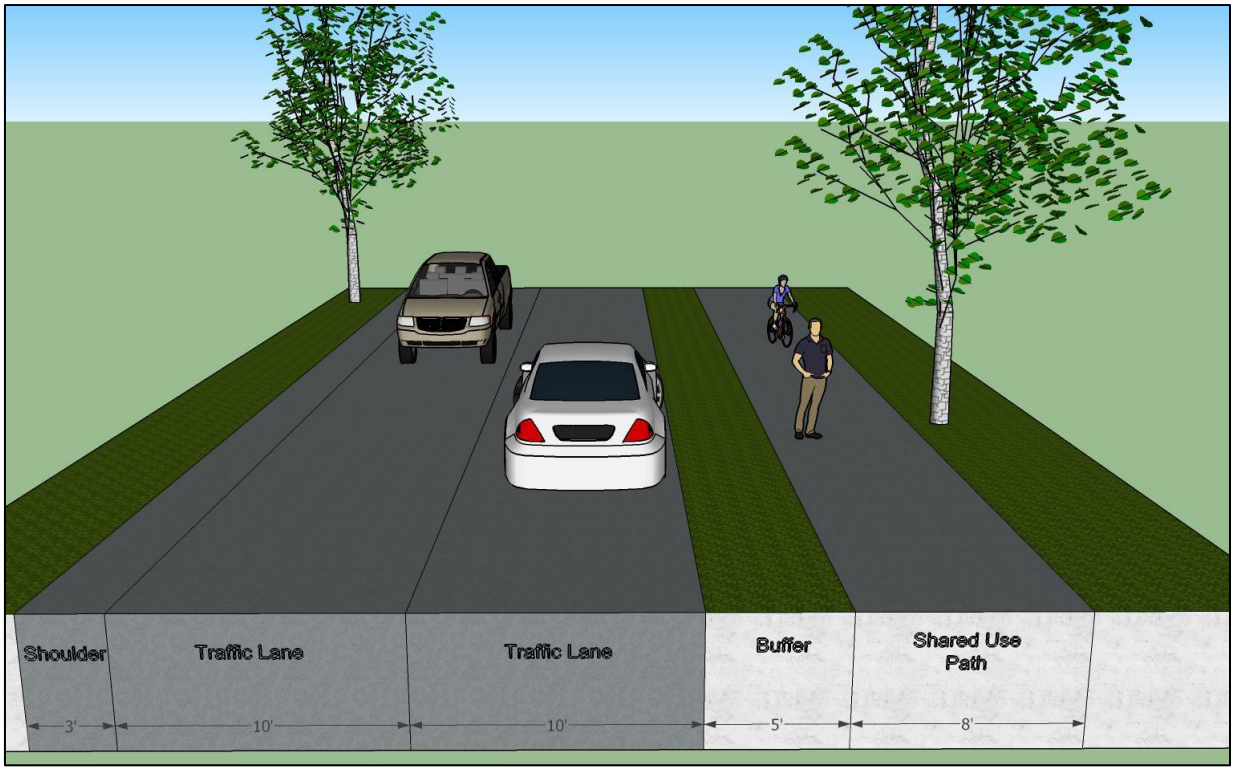
Typical Section 7 is for key local roadways. It includes sidewalks one side, a 3' grassy buffer strip, and two 10' lanes. A sidewalk is recommended on both sides of Mason, Harrison, Pike and Church Streets as they access the elementary school and key downtown establishments.

Figure 42 – Typical Section 7



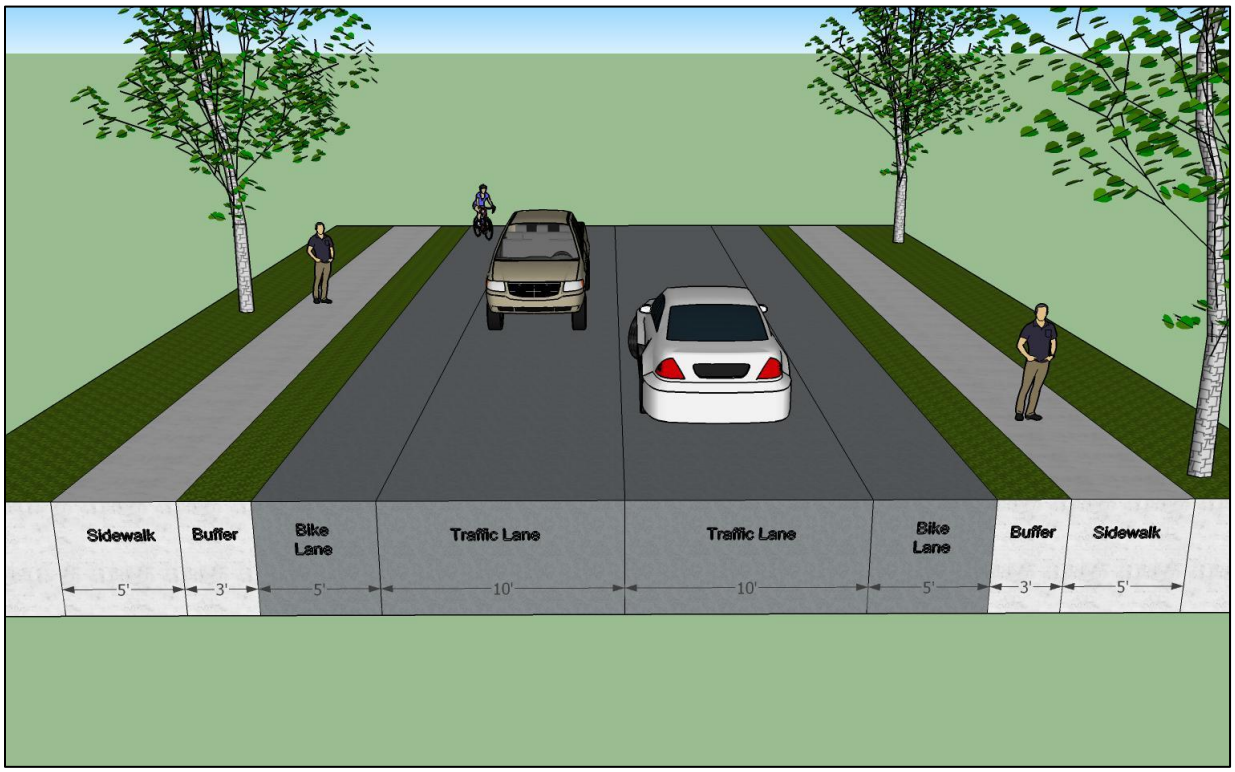
Typical Section 8 is intended for Pine Haven Drive/Panther Trail which accesses the middle school and for Morris Memorial Road. Currently, both roadways are narrow and do not have shoulders or sidewalks. This proposed section includes two 10' travel lanes, paved shoulders and a shared use path on one side. The shared use path provides a separated facility for children to walk and bicycle to the middle school. Morris Memorial Road is narrow, with poor sight distances due to many curves and undulating terrain. A separated pathway at a lower design speed would be easier to engineer to fit in this area. It also would provide a more inviting recreational destination for guests at the Grand Patrician than on road bike facilities.

Figure 43 – Typical Section 8



Typical Section 9 is intended for Bill Blenko Rd. The existing roadway is approximately 24', with no curbs and minimal shoulders. The recommended pavement width is 30', with 8'-0" on each side for sidewalks. This does not fit the cross section of the bridge currently. Different bridge options are discussed in the Connecting Downtown to Pumpkin Park section earlier in this chapter

Figure 44 – Typical Section 9



Prioritized Facility Recommendations

Table 5 below provides a relative priority of the nine 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 nonmotorized 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 5 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
- Much of the work will be performed in conjunction with other infrastructure projects
- A flat 20% contingency is added to account for unforeseen circumstances and inflation
- Bridge improvements are not included
- Design costs would be approximately 13% of the total construction costs

Sources used to determine unit costs includes: the WVDOH, 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 5 - Nonmotorized Transportation Facilities Construction Costs - Milton, WV

Project	Description	Additional Sidewalk (Linear Ft.)	Additional Bicycle Lanes (Linear Ft.)	Additional Shared Use Pathways (Linear Ft.)	Sidewalk Cost	Bicycle Lane Cost	Shared Used Pathways Cost	Facilities Cost	Total Cost	Priority
Project 1	Nonmotorized Access from Downtown Milton to Pumpkin Park	1,950	1,400	0	$ 77,557	$ 11,309	$ -	$ -	$ 88,866	4
Project 2	Improvements to Intersection of Route 60 and Johns Creek Road	1,500	300	0	$ 59,659	$ 4,309	$ -	$ 60,000	$ 123,968	8
Project 3	Nonmotorized Access to Grand Patrician Development from Downtown Milton	0	0	7,900	$ -	$ -	$ 942,614	$ -	$ 942,614	7
Project 4	Nonmotorized Network within Downtown Milton	21,060	17,650	9,200	$ 837,614	$ 129,118	$ 1,097,727	$ -	$2,064,459	1
Project 5	Additional Pedestrian Crossing Improvements Along Route 60	3,200	5,260	0	$ 127,273	$ 35,873	$ -	$ 259,200	$ 422,345	2
Project 6	Citywide ADA Curb Ramp and Crosswalk Improvements	0	0	0	$ 200,000	$ -	$ -	$ 657,600	$ 857,600	3
Project 7	Nonmotorized Access to Elementary School	4,650	0	0	$ 184,943	$ -	$ -	$ -	$ 184,943	5
Project 8	Nonmotorized Access to Middle School	0	0	3,500	$ -	$ -	$ 417,614	$ -	$ 417,614	6
Project 9	Nonmotorized Access to the Shopping Centers	210	0	0	$ 8,352	$ -	$ -	$ -	$ 8,352	9
Total	**ALL PROJECTS**	**6.17 (Mi.)**	**4.66 (Mi.)**	**3.90 (Mi.)**	**$ 1,495,398**	**$ 180,609**	**$ 2,457,955**	**$ 976,800**	**$5,110,761**	

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 city of Milton 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

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

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

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

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

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

6. Conclusion

The City of Milton has a great opportunity to improve its bicycle and pedestrian infrastructure with the implementation of this plan. The City is embarking on a major growth spurt with the Grand Patrician and other development activity coming on line. It is recommended that the City continue to work with the development community to jointly plan and fund infrastructure for nonmotorized modes in addition to motor vehicles.

Most of the improvements recommended in this plan are intended to be constructed in conjunction with other infrastructure projects in the City. The planned sewer system upgrades dovetail nicely with many of the proposed nonmotorized improvements. In many cases, pathways and sidewalks can be constructed in conjunction with the sewer projects, reducing the need to mobilize construction equipment and perform demolition or land clearing and grading.

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.

7. Report References

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

8. Appendix A - Public Meeting Materials

The materials which were used at the Milton public meeting on March 8th, 2018 are shown below.

Figure 45 – Public Meeting Board 1

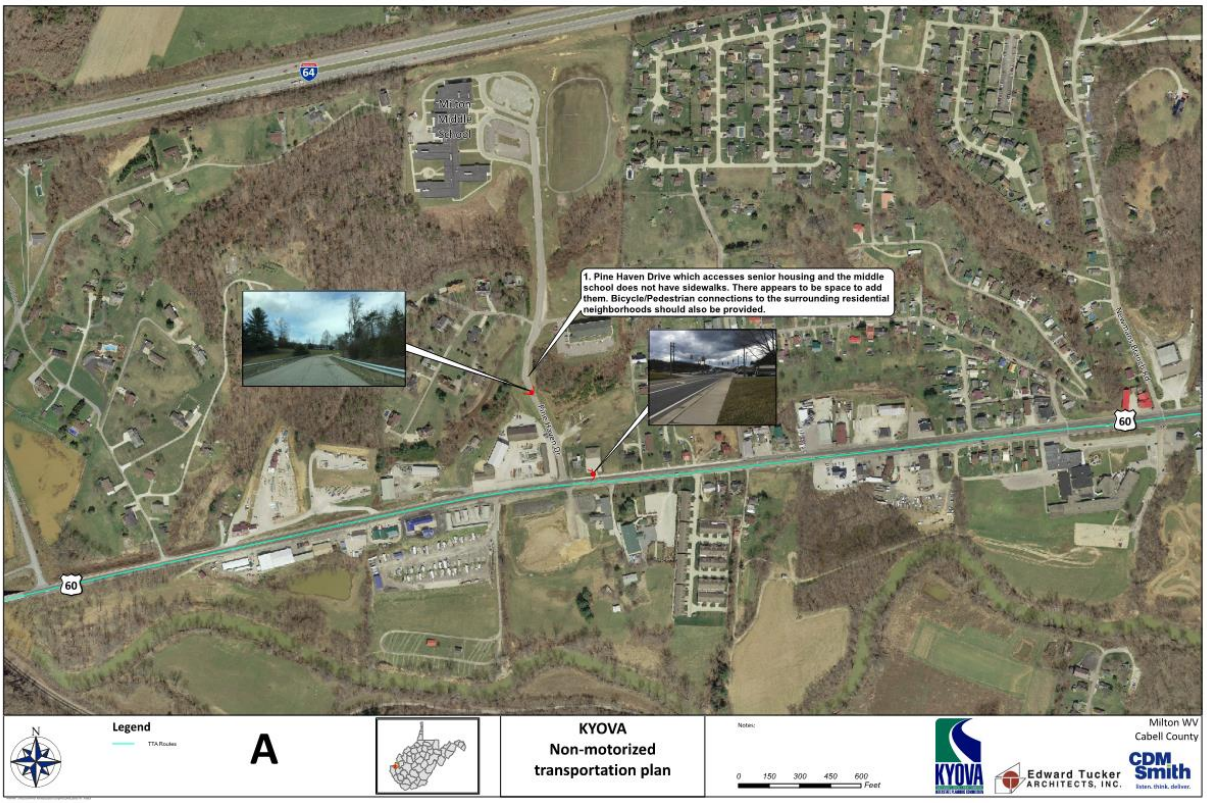


Figure 46 – Public Meeting Board 2

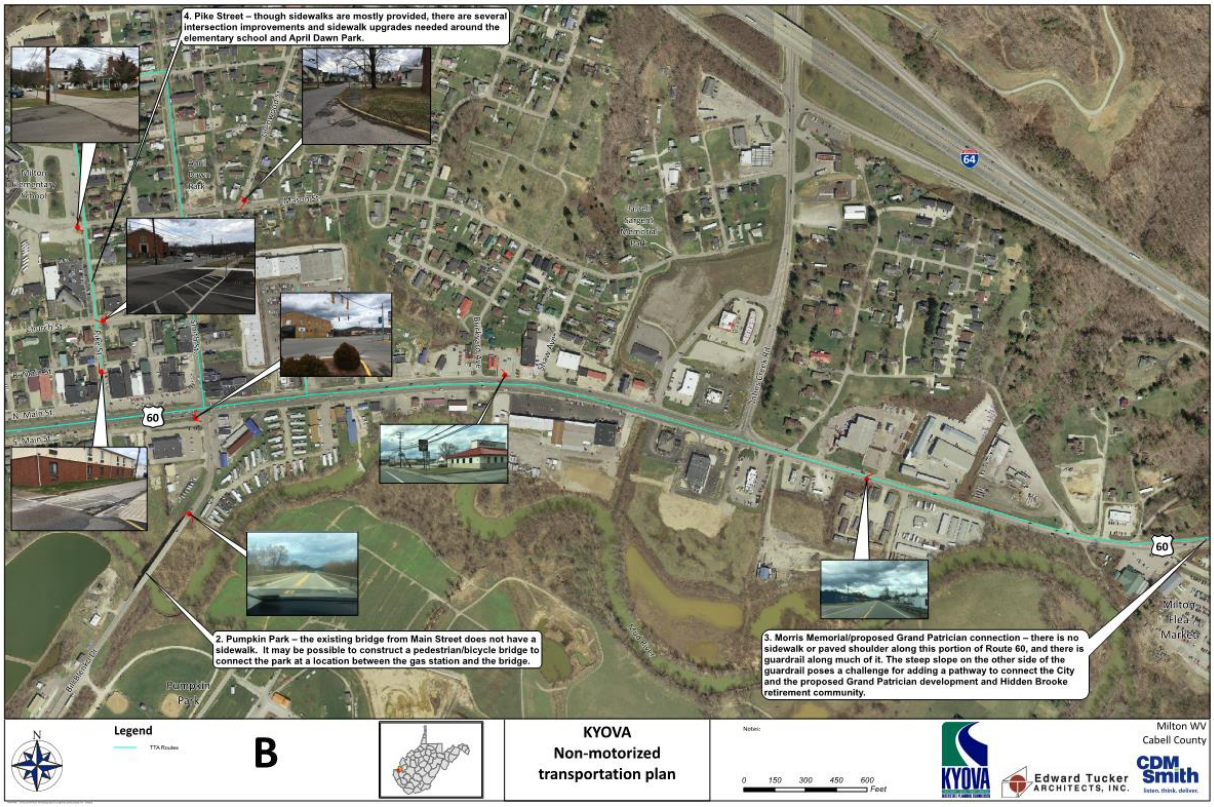


Figure 47 – Public Meeting Board 3

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