



North Main Street Corridor Study

PIKEVILLE

City of Pikeville, Tennessee September 2019

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Background

US 127 runs north and south connecting Pikeville north to Crossville and south to Chattanooga. Main Street is downtown Pikeville's main thoroughfare and was once designated as US 127 and State Route 30. In recent years, a bypass was constructed west of Pikeville's downtown to better accommodate through-truck traffic and improve motorist safety. After the bypass was completed, traffic counts on Main Street dropped from more than 10,000 AADT in 2002 to an average of 4,000 today, creating the potential for a more pedestrian-friendly

environment and re-invention of Pikeville's downtown.

Following the completion of the bypass, the City adopted a 2006 master plan to redevelop downtown. This master plan resulted in a downtown streetscapes project that transformed the southern portion of Main Street, which runs through the central business district north



to Gill Street. The streetscaping project, funded by grants from the Appalachian Regional Commission (ARC) and the US Department of Agriculture's Rural Development Program, included sidewalks, lighting, landscaping and stamped crosswalks and was completed in 2010.

In addition to the streetscape improvements, the City participated in the Tennessee Department of Economic and Community Development (TNECD) Tennessee Downtowns Program. An outdoor stage was created on Main Street, and the city received a TNECD Façade Improvement Grant to fund enhancements to 13 downtown buildings. This effort continued in 2017 with a Phase 2 grant. Having successfully completed revitalization efforts on South Main Street, the City has turned its attention to meeting needs in the North Main Street corridor—with an emphasis on improving pedestrian safety.

Study Purpose

Main Street - formerly US 127 and a state route - now serves many fewer vehicles through the downtown area, providing the opportunity to redesign the street to accommodate more uses. As noted, the City has focused significant investment in the South Main Street corridor but is now looking to address needs for North Main Street.

The Tennessee Department of Transportation (TDOT) and the City partnered through a Community Transportation Planning Grant to conduct a planning study with the following goals:

- Improving accessibility for pedestrians along North Main Street and increasing connectivity to businesses in the corridor;
- Reducing safety hazards and enhancing corridor aesthetics through better defined driveways/access points.
- Engaging business owners and other stakeholders for input and support for implementing N. Main Street improvements

Figure 1 on the next page provides an overview of the study area.



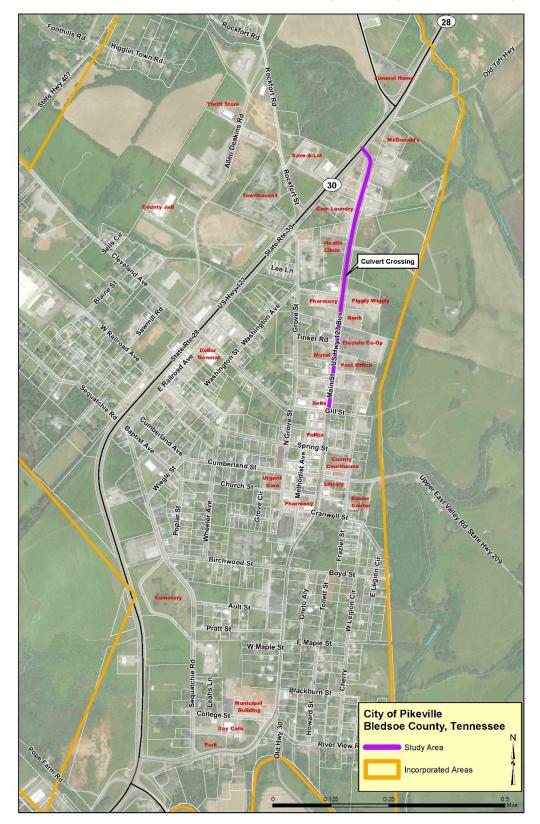


Figure 1: Project Location Map



Existing Conditions

North Main Street, from Gill Street north to the US 127 Bypass, is a three-lane roadway with one through lane in each direction and a center turn lane. In this stretch of roadway, N. Main Street is mostly bordered on each side by large open access parking areas. There are no sidewalks.

The lack of clearly defined driveways increases the likelihood of collisions between vehicles traveling along North Main Street and those that are turning in and out of the businesses along it. It also presents hazardous conditions for the residents, visitors and seasonal workers who walk along the narrow road shoulders in order to reach employment, health care and other services in downtown Pikeville.



North Main Street currently is a wide expanse of asphalt that does not provide a safe place for pedestrians and cyclists.



Uncontrolled access to North Main Street from adjoining parking areas.

Pedestrian and Vehicular Traffic

With the completion of the US 127 Bypass, traffic counts on Main Street dropped from more than 10,000 AADT in 2002 to an average of 4,000 in recent years. However, local stakeholders still report seeing a number of semi-trucks using Main Street, and express concern about the damage to pavement, the newly installed streetscaping on S. Main Street, and safety of pedestrians. Although some trucks may need to use

Main Street to drop off deliveries at hardware stores, grocery stores, etc., stakeholders want to discourage truck traffic coming from nearby industrial developments.

Pedestrian traffic is significant for a city of this size. Main Street is walkable, with community facilities and neighboring residential communities located on either side of the US 127 Bypass. The Bledsoe County Senior Center is located just east of Main Street at Church Street. In addition, there is a nearby multi-family complex and two mobile home communities within walking distance of the corridor.



Stakeholders expressed concerns about heavy trucks using South Main Street as a through route.



Stakeholder Engagement and Coordination

In coordination with the City, TDOT, and the Southeast Tennessee Rural Planning Organization (RPO), a study kickoff meeting was held with stakeholders, particularly property owners along the corridor, to discuss issues and opportunities.

Major discussion points included:

- pedestrian safety,
- pedestrian connections,
- the bypassing of Main Street and the effect on downtown businesses,
- semi-truck traffic on Main Street
- continuing streetscaping and/or beautification efforts from South Main Street,
- physical constraints, such as the ravine crossing,
- potential removal of center-turn lane,
- growth trends and future growth, and
- challenges with open access and parking at local businesses.

The project team heard at the meeting that although traffic has declined, Main Street is the focus for future development and growth to continue the revitalization and beautification efforts for downtown Pikeville.

However, the availability of city funding is a concern, and there is a desire to improve the appearance of N. Main Street without necessarily extending the same style of improvements used in the central business district. The S. Main Street improvements included some landscaping that has been challenging for the City to maintain.

Stakeholders emphasized the

importance of pedestrian connectivity along North Main Street (and Grove Street) due to the businesses, and services, in this stretch of Main Street. Pedestrian safety is also a major area of concern. Pedestrians (including persons with disabilities) are walking and riding in wheelchairs along the corridor, traveling either in the roadway itself or across the adjacent parking areas. There is a strong need for some type of separation between pedestrians and vehicles. Other areas of concern involve the use of heavy trucks on Main Street, the lack of clearly defined access to the roadway (open access)



Streetscaping along South Main Street.



Near the mid-point of the corridor, drop-offs on either side of the road leave pedestrians and cyclists with nowhere to travel.



North Main Street Corridor Study City of Pikeville, Tennessee





North Main Street narrows as it crosses a deep ravine, creating challenges for constructing pedestrian facilities.

from adjoining properties, and the steep drop-offs on either side of the road which leaves pedestrians and cyclists nowhere to travel when they reach the ravine near Piggly Wiggly.

During the field visit, the project team also discussed whether the center-turn lane might be removed, at least in the area where N. Main Street crosses the ravine, to provide adequate space to incorporate sidewalks. The general consensus was that the center turn lane could be eliminated since traffic volumes are low.

Summary: Key Challenges Identified Along North Main Street

- Pedestrian Connectivity
- Pedestrian Safety
- Open/Undefined Access from Adjoining Properties
- Semi-Trucks using North Main Street
- Constrained right-of-way at culvert crossing of ravine



Development of Options for N. Main Street Corridor Improvements

This is not the first time the City of Pikeville has looked at pedestrian needs for N. Main Street. An application was previously developed and submitted to TDOT for funding through the state's Multimodal Access grant program. The proposed project was to construct a 10-foot wide multi-use path on the west side of N. Main Street, providing a connection from the existing downtown sidewalk system that terminates at Gill Street. The project included construction of a pedestrian bridge at the deep ravine that bisects the N. Main Street corridor at about the midpoint. The bridge, an expensive element of the project, was proposed because the terrain in that location does not allow adequate space for a path adjacent to the roadway.

A Multimodal Access grant would have allowed the City to tackle this costly project with a minimum five percent local match, rather than funding it entirely with local sources. Unfortunately, the grant application was not successful due to the eligibility requirements. Main Street is no longer classified as a state route.

With this history in mind, TDOT encouraged the project team to develop a variety of options for pedestrian improvements, including designs that could make use of existing pavement at minimal cost.

Phase 1: Initial Corridor Improvement Concepts

The project team developed a series of improvement options based on a review of the previous grant application, issues identified by stakeholders, and input from TDOT and the City of Pikeville. After some discussion, the decision was made to provide improvement concepts in two stages:

- Initial concepts to help pin down the type of pedestrian facility that would best serve the City's needs, considering both the desired conditions and available funding. Knowing the benefits of various options, and the likely range of costs, would allow the City to make a more informed decision about which concept(s) to explore in further detail.
- **Revised concepts** for a narrowed set of options, including further evaluation of how they would impact the use of the corridor.

To help minimize costs, three of the four options were developed so that improvements would be limited to changes within the existing asphalt roadway, which is approximately 36 feet wide.

All costs presented are in 2018 dollars.



Two Travel Lanes, with 8-foot Asphalt Path Separated with Planters

Estimated Cost: \$422,000

This option would remove the center turn lane and make all improvements within the existing pavement width. Like the City's previous grant application, it provides a wide path on only one side of the street.

Specifically, this option provides an eight-foot asphalt path on the east side of N. Main Street, separated from traffic by a four-foot wide buffer. Tall concrete planter boxes would be placed in the buffer area to create a barrier from traffic and provide a greater level of pedestrian comfort. Lowmaintenance ground cover or native plants could be placed in the planter boxes.

In order to make space for the walking path and buffer area, the road would be reduced to two 11-foot travel lanes (one in each direction) and would have two-foot shoulders on each side. For safety purposes, bollards (posts) are proposed at each driveway crossing. See **Figure 2** for a view of the typical section. A photo simulation (**Figure 3**) was also developed to help visualize this particular option since it is a relatively innovative concept and not common in Tennessee.

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Figure 2: Two Travel Lanes, with 8-foot Asphalt Path Separated by Planters

Figure 3: Option 1 Photo Simulation

Benefits of Option 1 include:

- Meets City's original intent to construct a wide pedestrian path
- Provides a relatively inexpensive option that does not require right-of-way
- Provides significant buffer between pedestrians and passing traffic.
- Provides some low-maintenance aesthetic improvements

However, since Option 1 only provides a path on one side of the road, pedestrians and cyclists would have to cross the street to access many of the businesses and services along N. Main Street.





Two Travel Lanes, with 5-foot Asphalt Path and 2-foot Shoulders with Striped Buffer

Estimated Cost: \$54,000

At TDOT's suggestion, the team developed options that would use striping rather than a physical barrier to mark the separation between pedestrians and vehicle traffic. Like the first option, this concept would remove the center turn lane and make all improvements within the existing roadway pavement, leaving two II-foot travel lanes for vehicles. A five-foot path would be provided on each side of the street, separated from traffic by a two-foot shoulder. The separation between traffic and pedestrians would be indicated by stripes on the roadway, but no physical barrier. See **Figure 4** below for a view of the typical section.

Fred's Pharmacy Way Used Pedestrian Buffers Pharmacy Piggly Wiggly

Figure 4: Two Travel Lanes with 5-foot Pedestrian Path and 2-foot Shoulders with Striped Buffer

Benefits of Option 2 include:

- Provides pedestrian facilities on both sides of the street
- Very inexpensive option to construct

With this option, the lack of a physical barrier between pedestrians and passing vehicles will likely result in a reduced sense of safety. It will be important to maintain the striping in good condition so that drivers and pedestrians can each see clearly where they are supposed to be. However, if this is the only alternative that is affordable at the current time, it could be preferable to not providing any pedestrian facilities at all.

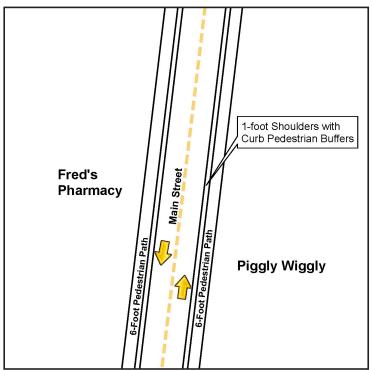


Two Travel Lanes with 6-foot Pedestrian Paths and 1-foot Striped Buffer with Curb

Estimated Cost: \$220,000

In this option, the buffer is reduced to one foot, leaving six feet available for the path, with a six-inch curb located in the buffer area. This option provides somewhat of a barrier between pedestrians and vehicles, although not as tall as the planters proposed in Option 1. See **Figure 5** below for a view of the typical section.

Figure 5: Two Travel Lanes with 6-foot Pedestrian Paths and 1-foot Striped Buffer with Curb



Benefits of Option 3 include:

- Provides a wider pedestrian path on both sides of the street
- Curb provides some physical buffer between vehicles and pedestrians



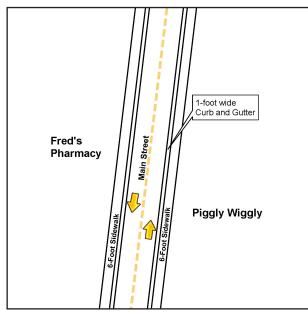
Two Travel Lanes with Curb, Gutter and 6-foot Sidewalks

Estimated Cost: \$655,000

This is the only one of the initial four options that would construct concrete sidewalks, curb and gutter. All of the improvements would still be made within the existing 36-foot wide paved area and the center turn lane would be removed.

A concrete sidewalk six feet wide, with one-foot curb and gutter, would be built on both sides of the street. See **Figure 6** below for a view of the typical section.

Figure 6: Two Travel Lanes with Curb, Gutter and 6-foot Sidewalks





Roadside drainage would be improved through the addition of sidewalks, curb and gutter as outlined in Option 4.

Benefits of Option 4 include:

- Provides pedestrian facilities on both sides of the street
- Improves street drainage due to curb and gutter
- Provides a neat appearance
- Improves safety because parking areas are defined by a curb

There is also some belief that if the route had curb and gutter, it would help create the perception that there is less room for large vehicles to maneuver, helping to discourage heavy trucks from choosing Main Street as a through route.



Comments on Initial Concepts

During the review of initial concepts, the City indicated its intentions to resurface N. Main Street and asked that cost estimates be updated to include that work. Each improvement option was revised and resubmitted for review.

After reviewing the initial concepts, the City expressed preference for a solution that provides pedestrian facilities on both sides of the street. TDOT's Multimodal Division also provided feedback that Options 2 and 3 (installing a striped buffer) would not be eligible to use federal transportation funds since the resulting roadway design would not be fully compliant with the requirements of the Americans with Disabilities Act (ADA). Since the City would like to have the option of applying to TDOT for a Transportation Alternatives Program (TAP) grant to help fund N. Main Street pedestrian improvements, this eliminates all of the initial options except Option 4.

Phase 2: Recommended Concepts

In refining the selected sidewalk concept, the project team considered impacts on business parking in the corridor, as well as opportunities to extend the character of the downtown streetscaping on S. Main Street without creating undue maintenance costs for the City. There was also discussion of the differing nature of the northern part of the corridor, where there is still vacant land that might be developed at higher intensity. In light of that, the City might wish to retain the center turn lane, at least between the ravine and the US 127 Bypass. The original reason for considering the elimination of the center turn lane was to try to minimize costs by keeping all improvements within the existing paved area, but none of those options was selected from the initial review.

As a result, the project team developed two variations of the final sidewalk concept. One would add five-foot sidewalks and 1-foot curb and gutter to both sides of N. Main Street while maintaining the existing three-lane roadway configuration. The second concept would have the same sidewalks but would reduce the street to two lanes between Gill Street and the ravine, using the additional space to provide on-street parking and bulb outs planted with grass. North of the ravine, the street would remain three lanes with sidewalks added. Having on-street parking and grass bulb outs along the southern portion of the corridor would create a transition from the more extensive downtown streetscaping, in a style that still enhances the street but is less costly to maintain.

On the southern end of the corridor, where a few of the businesses are located close to the street, building sidewalks will require re-designing the business parking area. While this is ultimately the decision of the private property owner and would not be developed in detail until the sidewalk project is engineered, the project team indicated potential ways that property owners could accommodate the parking changes. Both concepts were discussed by the Pikeville City Council at a final study presentation on September 9, 2019. Councilmembers approved both concepts for the City's consideration to move forward as recommendations from this study.



Final Recommended Concepts

1. Two-Way Left-Turn Lane for Entire Corridor

The two-way left-turn lane concept includes two 11-foot travel lanes and an 11-foot two-way left-turn lane, with five-foot sidewalks and one-foot curb and gutter on each side of the street. Angled parking is a potential solution to address changes in parking areas on the east side of North Main Street, from Gill Street to the

Coachman Inn motel. Approximately 30 feet from the ravine, the street narrows to two travel lanes, then widens to include the two-way left-turn lane approximately 30 feet from the center of the culvert crossing. Conceptual drawings for this option are provided in **Attachment A**. The total cost estimate for this concept is \$1,243,000 in 2018 dollars, which includes resurfacing of N. Main Street, drainage work and seeding and sodding. **Attachment B** provides more detailed information on the cost estimate.



2. On-Street Parking on Section Located South of the Ravine

This concept provides on-street parking, 5-foot sidewalks and 1-foot curb and gutter on each side of the street from Gill Street to the ravine. There would be two 11-foot travel lanes in this section. Angled parking, as with

the first concept, is a potential solution to address changes to business parking areas on the east side south of the Coachman Inn motel. Conceptual drawings for this option are located in **Attachment A.** The total cost estimate for this concept is \$1,272,000 in 2018 dollars. See **Attachment B** for a more detailed breakdown of the cost estimate.

By adding curb, both concepts will better define the driveway areas for ve-



hicles to enter and exit businesses along N. Main Street. This improvement should improve safety both for motorists and for pedestrians and bicyclists. The drawings in **Attachment A** suggest general locations for driveways, but the exact locations would be determined during project engineering. To further address pedestrian safety, crosswalks are suggested at Gill Street, south of Tinker Road, south of the ravine, and at the US 127 Bypass.



Next Steps

One of the City's primary reasons for selecting the sidewalk option was to maximize the opportunity to apply for grant funds for making the improvements. The materials developed through this Community Transportation Planning Grant study provide the basis for the City to prepare an application to TDOT for federal Transportation Alternatives Program (TAP) funding.

The TAP program – previously known as the Transportation Enhancement program – provides funding for projects that develop on-road and off-road pedestrian and bicycle facilities. Eligible projects include pedestrian and bicycle facilities such as new or reconstructed sidewalks, walkways or curb ramps, ADA-compliant greenways and off-road trails, bike lane striping, cycle tracks, bike parking, and bike and pedestrian bridges and underpasses. Other eligible activities include conversion of abandoned railway corridors to trails, scenic turnouts and overlooks, and historic preservation and rehabilitation of historic transportation facilities.

The cost estimates provided in **Attachment B** are based on the latest TDOT TAP grant template and reflect the maximum permitted federal match ratio of 80 percent of the project's construction cost. It should be noted that as of this study date, TDOT does not allow the use of federal TAP funds for any project activities other than construction. It should also be noted that if the City decides to submit an application, the cost estimates may need to be updated from 2018 dollars.

Attachment A: Conceptual Drawings

Two-Way Left-Turn Lane Concept









FIGURE 1



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TWLTL OPTION FIGURE 2

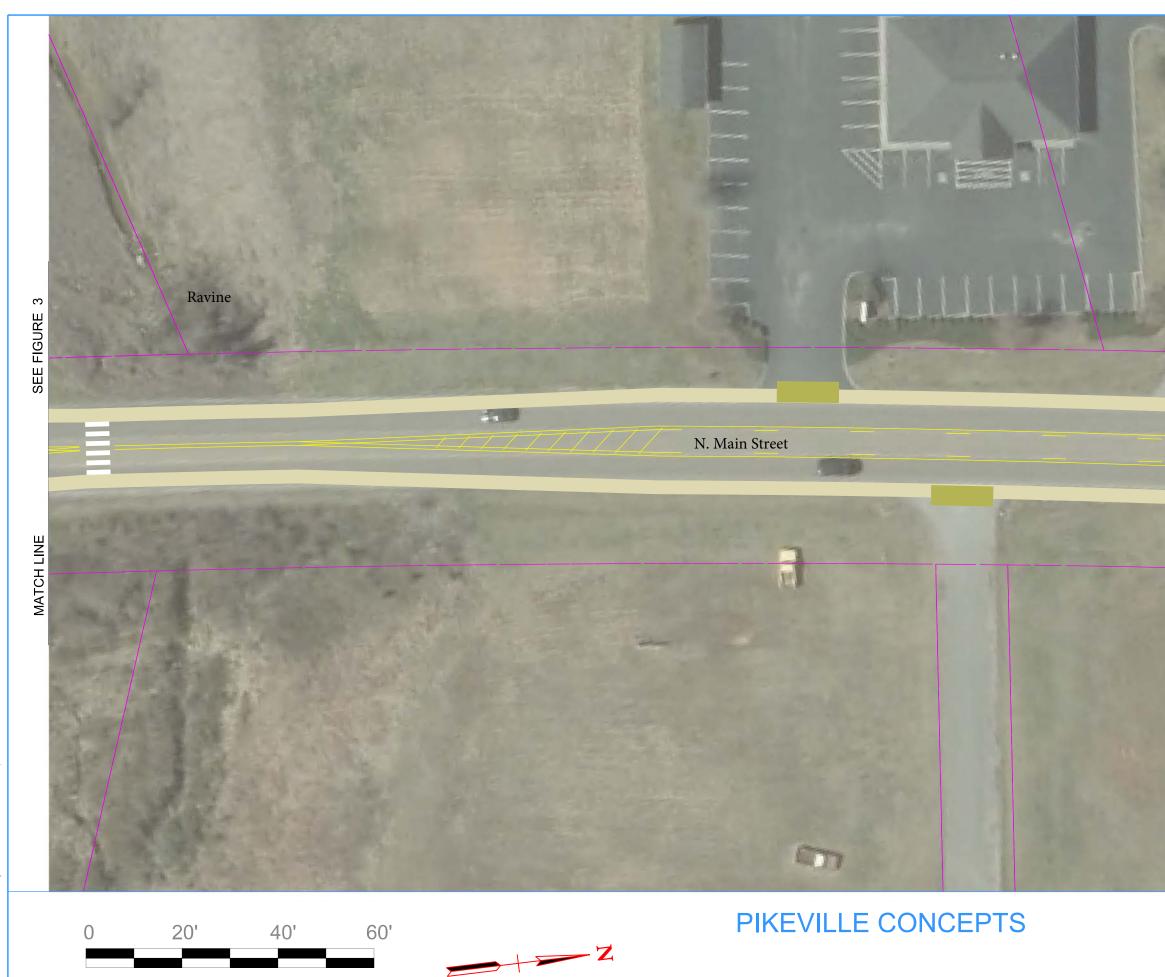
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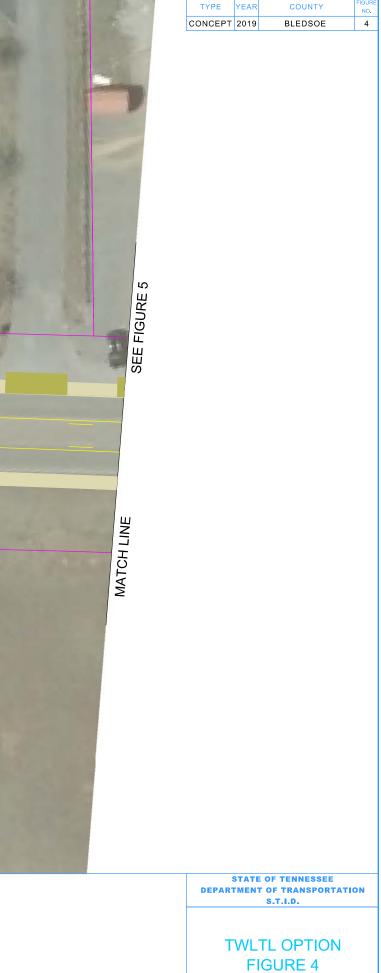








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PIKEVILLE CONCEPTS

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	TYPE	YEAR	COUNTY	FIGURE NO.
	CONCEPT	2019	BLEDSOE	5
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PIKEVILLE CONCEPTS

TWLTL OPTION FIGURE 6

STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION S.T.I.D.

TYPE YEAR

CONCEPT 2019

COUNTY

BLEDSOE

NO.

6

On-Street Parking Concept





FIGURE 1







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STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION S.T.I.D. PARKING OPTION FIGURE 2

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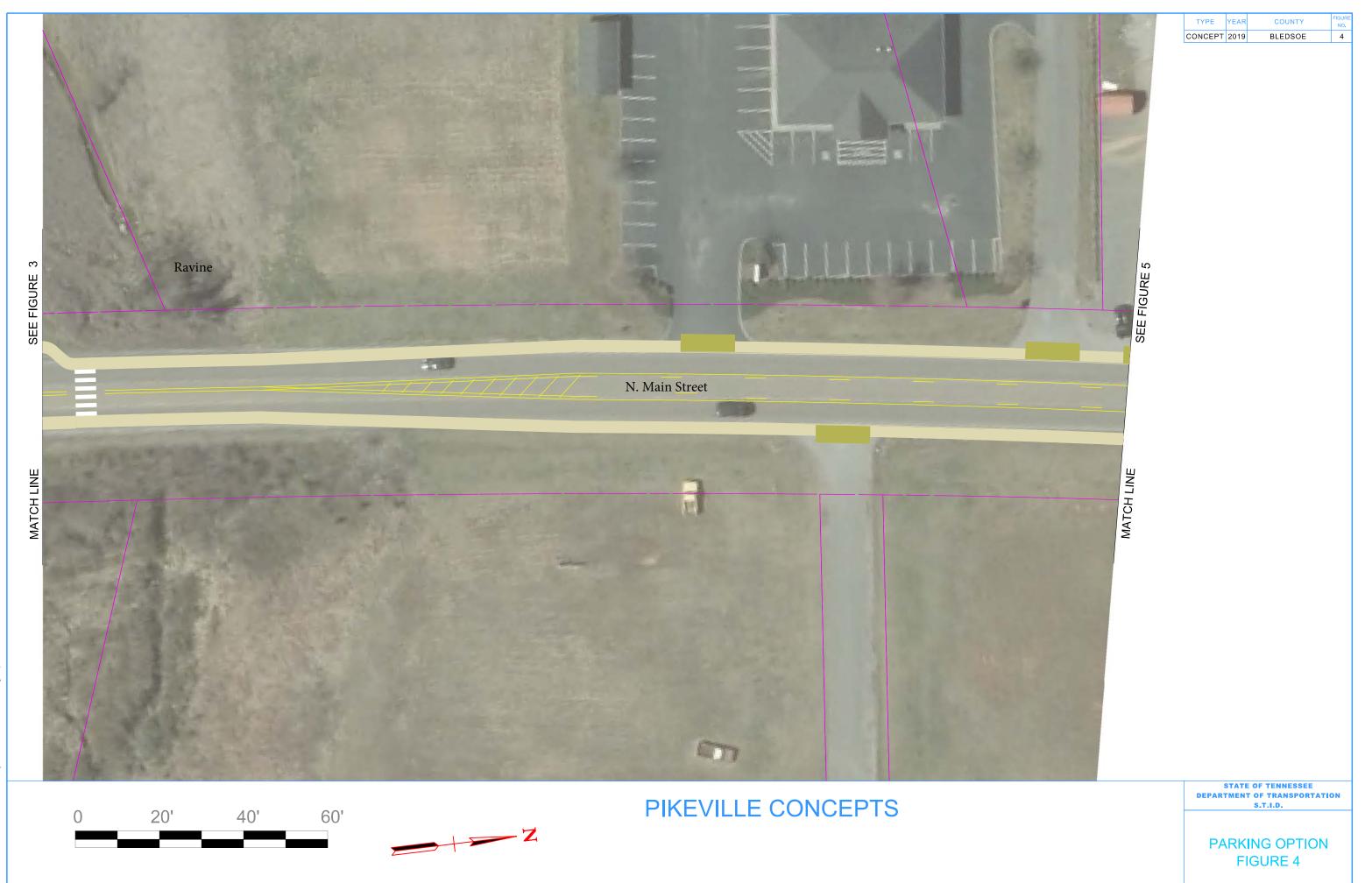
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CONCEPT	2019	BLEDSOE	5
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PARKING OPTION FIGURE 5





PIKEVILLE CONCEPTS

PARKING OPTION FIGURE 6

STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION S.T.I.D.

TYPE YEAR

CONCEPT 2019

COUNTY

BLEDSOE

NO.

6

Attachment B: Cost Estimates

COST ESTIMATE SUMMARY

Route:	Local R	oute 02404 (Main Stree	+)					
	Local Route 02404 (Main Street) Sells Street (LM 1.009) to SR 28 (US 127, Main Street) (LM 1.600)							
Description:	Two-Way Left-Turn Lane (TWLTL) Option							
Project Type of Work:	Bicycles	The Street of						
County:		e, Bledsoe	•		TN TDOT			
Length:	0.59	miles			Department of Transportation			
Date:	October							
DESCRIPTION		LOCAL	STATE	FEDERAL	TOTAL			
		20%	0%	80%				
Construction Items								
Pavement Removal		\$17,700	\$0	\$70,700	\$88,400			
Asphalt Paving		\$22,100	\$0	\$88,600	\$110,700			
Concrete Pavement		\$0	\$0	\$0	\$0			
Drainage		\$23,900	\$0	\$95,800	\$119,700			
Appurtenances Structures		\$65,000	\$0	\$259,800	\$324,800			
Fencing		\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0			
Signalization		\$0 \$0	\$0	\$0 \$0	\$0			
Railroad Crossing		\$0 \$0	\$0	\$0	\$0			
Earthwork		\$0	\$0	\$0	\$0			
Clearing and Grubbing		\$0	\$0	\$0	\$0			
Seeding & Sodding		\$1,400	\$0	\$5,400	\$6,800			
Rip-Rap or Slope Protection		\$0	\$0	\$0	\$0			
Guardrail		\$0	\$0	\$0	\$0			
Signing		\$100	\$0	\$600	\$700			
Pavement Markings		\$1,500	\$0	\$5,900	\$7,400			
Maintenance of Traffic		\$6,200	\$0	\$24,900	\$31,100			
Mobilization (5%)		\$6,900	\$0	\$27,600	\$34,500			
Other Items	= 10%	\$14,500	\$0	\$57,900	\$72,400			
Const. Contingency	= 30%	\$47,800	\$0	\$191,200	\$239,000			
Construction Estimate		\$207,100	\$0	\$828,400	\$1,035,500			
Interchanges & Unique Inter	sections							
Roundabouts		\$0	\$0	\$0	\$0			
Interchanges		\$0	\$0	\$0	\$0			
Right-of-Way & Utilties		LOCAL 0%	STATE 0%	FEDERAL 0%	TOTAL			
Right-of-Way		\$0	\$0	\$0	\$0			
Utilities		\$0	\$0	\$0	\$0			
Preliminary & Construction Engineering and Inspection								
Prelim. Eng.	10%	\$103,600	\$0	\$82,900	\$103,600			
Const. Eng. & Inspec.	10%	\$103,600	\$0	\$82,900	\$103,600			
Total Project Cost (2018)	\$414,300	\$0	\$994,200				

COST ESTIMATE SUMMARY

Route:	Local Ro	oute 02404 (Main Stree	et)				
	Sells Street (LM 1.009) to SR 28 (US 127, Main Street) (LM 1.600)						
Description:	On-Street Parallel Parking Option						
Project Type of Work:	Bicycles	and the second of					
County:	Pikeville	, Bledsoe	-		TN TDOT Department of		
Length:	0.59	Transportation					
Date:	October	8, 2019					
DESCRIPTION		LOCAL	STATE	FEDERAL	TOTAL		
		20%	0%	80%			
Construction Items					-		
Pavement Removal		\$17,700	\$0	\$70,700	\$88,400		
Asphalt Paving		\$22,100	\$0	\$88,600	\$110,700		
Concrete Pavement		\$0	\$0	\$0	\$0		
Drainage		\$23,900	\$0	\$95,800	\$119,700		
Appurtenances Structures		\$68,000	\$0 \$0	\$272,200	\$340,200		
Fencing		\$0 ¢0	\$0 \$0	\$0 \$0	\$0 \$0		
Signalization		\$0 \$0	\$0 \$0	\$0 \$0	\$0		
Railroad Crossing		\$0 \$0	\$0	\$0 \$0	\$0		
Earthwork		\$0	\$0	\$0	\$0		
Clearing and Grubbing		\$0	\$0	\$0	\$0		
Seeding & Sodding		\$1,400	\$0	\$5,400	\$6,800		
Rip-Rap or Slope Protection		\$0	\$0	\$0	\$0		
Guardrail		\$0	\$0	\$0	\$0		
Signing		\$100	\$0	\$600	\$700		
Pavement Markings		\$1,600	\$0	\$6,200	\$7,800		
Maintenance of Traffic		\$6,300	\$0	\$25,400	\$31,700		
Mobilization (5%)		\$7,100	\$0	\$28,200	\$35,300		
Other Items :	= 10%	\$14,800	\$0	\$59,300	\$74,100		
Const. Contingency	= 30%	\$48,900	\$0	\$195,700	\$244,600		
Construction Estimate		\$212,000	\$0	\$848,000	\$1,060,000		
Interchanges & Unique Inters	sections						
Roundabouts		\$0	\$0	\$0	\$0		
Interchanges		\$0	\$0	\$0	\$0		
Right-of-Way & Utilties		LOCAL 0%	STATE 0%	FEDERAL 0%	TOTAL		
Right-of-Way		\$0	\$0	\$0	\$0		
Utilities		\$0	\$0	\$0	\$0		
Preliminary & Construction I	Engineerin	g and Inspection			*		
Prelim. Eng.	10%	\$106,000	\$0	\$0	\$106,000		
Const. Eng. & Inspec.	10%	\$106,000	\$0	\$0	\$106,000		
Total Project Cost (\$424,000	\$0	\$848,000			



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