



HENDERSON PEDESTRIAN & BICYCLE PLAN

CITY OF HENDERSON
Robert King, Mayor
Jim Garland, City Recorder

TENNESSEE DEPARTMENT OF
TRANSPORTATION (TDOT)
Calvin Abram, TDOT Region 4
Jennifer Marshall, TDOT Region 4

CITY OF HENDERSON, TN
2019

RESOLUTION NO: 2019-05

**RESOLUTION ADOPTING THE
HENDERSON PEDESTRIAN / BICYCLE PLAN
PREPARED FOR
THE CITY OF HENDERSON, TENNESSEE**

WHEREAS, the Board of Mayor and Aldermen of the City of Henderson, Tennessee have committed to supporting and improving the area's transportation system for mobility and accessibility of present and future generations of the City of Henderson citizens; and,

WHEREAS, the City of Henderson was awarded a TDOT Community Transportation Planning Grant by the State of Tennessee Department of Transportation to aid with the creation of planning documents that support pedestrian travel accessibility and bicycle utilization to achieve community visions as related to those needs in order to promote economic and community growth; and,

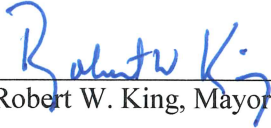
WHEREAS, the TDOT Consultant (Neel-Schaffer, Inc.) has completed the Henderson Pedestrian / Bicycle Plan per contract guidelines and deliverables providing recommendations for safety, capacity, and connectivity within the study area; and,

WHEREAS, the City of Henderson hereby acknowledges receipt of the Henderson Pedestrian / Bicycle Plan for use in sustaining guidance and compatibility with the planning of future development of the pedestrian transportation network within the study area;

NOW, THEREFORE BE IT RESOLVED by the Henderson Board of Mayor and Aldermen of the City of Henderson, meeting this 13th day of June 2019, that the City of Henderson does hereby adopt the Henderson Pedestrian / Bicycle Plan as a guiding document to be considered in future planning decisions.

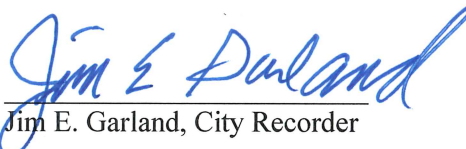
READ, ADOPTED, AND APPROVED IN OPEN PUBLIC MEETING THIS 13th Day of JUNE, 2019.

Signed:



Robert W. King, Mayor

Attest:



Jim E. Garland, City Recorder



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EXECUTIVE SUMMARY

In 2019, The City of Henderson undertook a City-wide Pedestrian and Bicycle Plan utilizing the 2017-2018 Community Transportation Planning Grant (CTPG) program funds. Community Transportation Planning Grants are awarded by the Tennessee Department of Transportation (TDOT) Long Range Planning Division. The plan's purpose was to inventory and assess the current bicycle and pedestrian facilities along State Routes and connecting local roadways throughout the City and to identify deficiencies and opportunities for improvement to better accommodate alternative travel modes within the City. The ultimate vision for this planning process was to create a prioritized, implementable and fiscally responsible plan which supports safe and inviting opportunities for walking and cycling in Henderson.

An inventory of the existing facilities, including a planning level assessment of Americans with Disabilities Act (ADA) compliance issues as well as other condition factors, was compiled.

The existing pedestrian network is concentrated along Main Street and the dense grid network of roadways near the central business district. The existing pedestrian network consists of approximately 34,800 linear feet (6.6 miles) of sidewalk and 75 ramps. There are 12 pedestrian signals within the network.

The bicycle infrastructure in the study area consists of one TDOT state route. The route is signed. Cyclists use the shoulder of existing roadway. There are no bicycle amenities such as bike racks within the study area.

A review of existing regulations including development codes and ordinances and a review of existing plans was undertaken to identify where regulations are not harmonized with the goals of promoting alternative travel means and recommend potential revisions. Data concerning traffic volumes, pedestrian and cyclist safety, pedestrian and cyclist origins and destinations, and locations of vulnerable populations in the community was documented and used to inform the analysis and recommendations process.

An analysis of the existing bicycle and pedestrian network to identify gaps and possible extensions of the network was completed. A preliminary environmental review was conducted to identify concerns and possible barriers to project completion within the project area.

As part of the public involvement process, stakeholders and residents were invited to public meetings where they participated in visioning and prioritization exercises and residents were encouraged to take an online survey. Engagement with the community revealed the following as the most important improvements to the pedestrian and bicycle network: build new sidewalk connections, improve existing sidewalks, construct new or improved crosswalks, and include street lighting and signage that enhance pedestrian safety. Through the process, eight possible pedestrian/bicycle improvement projects and seven policies and procedures updates were identified.

The result of the analysis of the existing conditions and the community engagement is a prioritized and fiscally responsible implementation plan that includes short term, mid-term and long term pedestrian and bicycle improvement projects and policies and procedures which will be supportive of a more pedestrian and bike friendly Henderson.



The policies and procedures recommended included the following:

1. Provide a dedicated funding source annually for sidewalk rehabilitation.
2. Create sidewalk prioritization matrix to determine allocation of funds.
3. Revise existing sidewalk policies to require sidewalk development in new development or redevelopment.
4. Revise existing sidewalk policies to reference ADA standards.
5. Place bicycle amenities such as bike racks at community destinations including public facilities downtown, Freed-Hardeman University, Chester County Schools, the library, the Chester County Dixie Youth Ball Park and along Main Street.
6. Provide regular street sweeping along shoulders where bicyclists may ride.
7. Create a public education campaign to promote bicycle and pedestrian safety.

The eight improvement projects identified and prioritized for the plan are identified the figure below:

1. **School to Ball Park Sidewalk Extension. Mid-term Improvement.** Extend the existing sidewalk at the Henderson Elementary School to past the Chester County Public Library to the Chester County Dixie Youth Ball Fields Park. Planning Level Cost Estimates: \$ 316,000.
2. **Crosswalk Safety Study/ Crosswalk Improvements. Short term Improvement.** Study Safety improvements to crosswalks across Main Street downtown and near Freed-Hardeman University, Traffic Engineering Study/ Walkability Audit, with the goals of increasing pedestrian safety and maintaining smooth traffic flow and improve the visibility of existing crosswalk



- areas downtown using signage, pavement striping and flashing lights where appropriate. Planning Level Cost Estimates: \$ Possibility to coordinate with TDOT for safety study; \$25,000 for flasher; \$4,000 per crosswalk.
3. **Sidewalk Improvements near Railroad Bridge. Long term Improvement.** Improve existing sidewalk and add new sidewalk where needed along Main Street on both sides from the Bridge across the Norfolk Southern railroad to the intersection with US 45. Planning Level Cost Estimate: \$104,000.
4. **Mifflin Avenue (North) Sidewalks. Short term Improvement.** Construct new sidewalks along Mifflin Avenue on one side of the street from the intersection with Main Street northward to TN SR 200 to connect the residential neighborhood to Freed-Hardeman University and the downtown business district. Planning Level Cost Estimate: \$ 610,000.
5. **Mifflin Avenue (South) Sidewalks. Long term Improvement.** Construct new sidewalks along Mifflin Avenue on one side of the street from the intersection with Main Street southward adjacent to



the university to connect to the future track and field athletic complex. Planning Level Cost Estimates: \$145,000.

6. **School Campus Pedestrian Connections. Short term Improvement.** Construct a pedestrian crosswalk, turn lane and associated drainage improvements to provide a safe connection for Elementary, Middle and High school students across Stewart Avenue and construct a sidewalk connection along Old Jack's Creek Road from the school property to the existing sidewalk at East Mill Street. Planning Level Cost Estimates: \$ 210,000 for crosswalk, turn lane, drainage; \$378,000 for Old Jacks Creek Rd Sidewalk.
7. **Church Ave to Gene Record Memorial Park Shared-use. Long term Improvement.** Construct a shared use path for bicyclists and pedestrians along Church Avenue to connect downtown Henderson (Main Street) to the Gene Record Memorial Park near US 45 north of the city. Planning Level Cost Estimates: \$940,000.
8. **Mifflin Ave Residential Connections. Mid-term Improvement.** Fill in the gaps in the sidewalk network within the neighborhoods that feed into North Mifflin Avenue. Planning Level Cost Estimates: approximately \$ 140 per linear foot.



1. INTRODUCTION

1.1 PROJECT STUDY AREA

The City of Henderson is located at the intersection of US Hwy 45 and State Route 100 in Southwestern Tennessee. Within the region, it is proximate to Jackson, Memphis and Nashville. It is 16 miles south of Jackson, approximately 80 miles east of Memphis and approximately 130 miles southeast of Nashville.

The City is approximately 12 square miles in area (Figure 1.1). Henderson began as a railroad community on the Mobile & Ohio Railroad¹. As a result, the downtown is laid out in a dense, compact grid pattern with commercial and institutional development along the Main Street and dense residential population immediately adjacent. The City is home to Freed-Hardeman University, which has an enrollment of approximately 1,900 students. Over 1,600 students reside on campus or in university owned housing.

Although the physical layout of the City and the dense population would support active transportation, the City has an aging and disconnected network of existing sidewalk infrastructure and little bicycle infrastructure.



FIGURE 1.1 STUDY AREA

¹ <http://hendersontn.org/>



1.3 GRANT APPLICATION BACKGROUND

The City of Henderson undertook this City-wide Pedestrian and Bicycle Plan utilizing the 2017-2018 Community Transportation Planning Grant (CTPG) program funds. Community Transportation Planning Grants are awarded by the Tennessee Department of Transportation (TDOT) Long Range Planning Division. The purpose of the grant program is to:

- Assist rural municipalities with planning efforts that define the transportation cohesiveness between multimodal transportation systems and local land use objectives that achieve the statewide transportation goals
- Aid rural municipalities with the creation of planning documents that support improvements in traffic flow, safety, and overall efficiency of the transportation system
- Provide rural city governments with planning resources to achieve community visions as related to transportation and land use needs that promote future economic growth²

The City of Henderson applied to TDOT to obtain CTPG funding to create a Pedestrian and Bicycle plan. The plan’s purpose is to:

- 1) Inventory and assess the current bicycle and pedestrian facilities along State Routes and connecting local roadways throughout the City and
- 2) Identify deficiencies and opportunities for improvement to better accommodate alternative travel modes within the City.

As part of the process, an inventory of the existing facilities including a planning level assessment of Americans with Disabilities Act (ADA) compliance issues as well as other condition factors was compiled. A review of existing regulations including development codes and ordinances and a review of existing plans was undertaken to identify where regulations are not harmonized with the goals of promoting alternative travel means and recommend potential revisions. An analysis of the pedestrian network to identify gaps in the existing pedestrian and bicycle network and possible connections was completed. An implementation plan including costs, project prioritization, and timeframes was drafted with community input. The benefits to the community will take the form of visible, near-term improvements as well as longer- term improvements. Immediate benefits will come from minor construction projects for spot improvements.

1.4 VISION

The vision for this process is to create a prioritized, implementable and fiscally responsible plan which supports safe and inviting opportunities for walking and cycling in Henderson.

² <https://www.tn.gov/tdot/long-range-planning-home/longrange-oct/longrange-planning-grant.html>



1.5 GOALS

Goals were developed and refined with input from the City, stakeholders and the public through a series of public input meetings and a survey.

Goal 1: Support and improve the economic health of the community.

Goal 2: Preserve and improve efficiency of existing infrastructure while creating new connections in a fiscally responsible manner.

Goal 3: Ensure the transportation system is accessible to persons of all ages, socioeconomic classes and physical abilities.

Goal 4: Promote sustainability, health and livability.

Goal 5: Improve the safety of pedestrians while maintaining traffic flow.

Goal 6: Support seamless transitions between modes of transportation.

1.6 STUDY TEAM

The study team was comprised of individuals representing TDOT and the City of Henderson. Neel-Schaffer, Inc. assisted with the process. Representatives of the organizations include:

Robert King, Mayor, City of Henderson

Jim Garland, City Recorder, City of Henderson

Brent Beshires, Building and Zoning, City of Henderson

Shelton Merrell, RPO Coordinator, SWTDD

Calvin Abram, TDOT

Jennifer Marshall, TDOT

Greg Judy, Neel-Schaffer, Inc.

Maria Scheitz, Neel-Schaffer, Inc.

Jeff Moore, Neel-Schaffer, Inc.



2. DATA COLLECTION AND INVENTORY

2.1 PLANS/ POLICIES

Plans and policies at the Federal, state and local level provided guidance and constraints for this pedestrian and bicycle plan.

FUTURE PLANNING CONSIDERATIONS

Planned construction efforts and overarching plans for the City provided opportunities for the Plan to build upon and provided direction for efforts to connect existing infrastructure. Future planning considerations are mapped in Figure 2.1.

MULTIMODAL ACCESS GRANT APPLICATION

The City of Henderson has applied for and won one of sixteen TDOT Multimodal Access Grants in 2019. The grant will fund the construction of approximately 925 linear feet of enhancements that will run from Sanford Street, parallel to Main Street, across the intersection of Main Street and State Route 5 (US 45 Highway). The eastern termini will connect to an existing sidewalk system on West Main Street (State Route 365). In addition to the new 5 foot wide sidewalk, designed to meet Public Rights-of-Way Accessibility Guidelines (PROWAG) design standards, the intersection will receive upgrades. The intersection is currently signalized but has no pedestrian signals. The intersection will be upgraded to include ADA compliant pedestrian crossing lights and push buttons, median improvements for pedestrian refuge, ADA ramps and crosswalk striping.

IMPROVE ACT PROJECT

The City has been listed to receive IMPROVE Act funding (\$1,620,000) for improvements including sidewalk improvements along West Main from SR-5 to Church Street. Although this funding has not been awarded, TDOT designated the improvement project in the “project development process”.

DEVELOPMENT AREAS

A large tract of over 50 acres of undeveloped land exists north of Main Street. There are no proposed developments at this time, but it is anticipated that the tract could provide a site for future development.

Freed-Hardeman University has plans to build a track and field athletic complex to the south of the campus area along Mifflin Avenue.

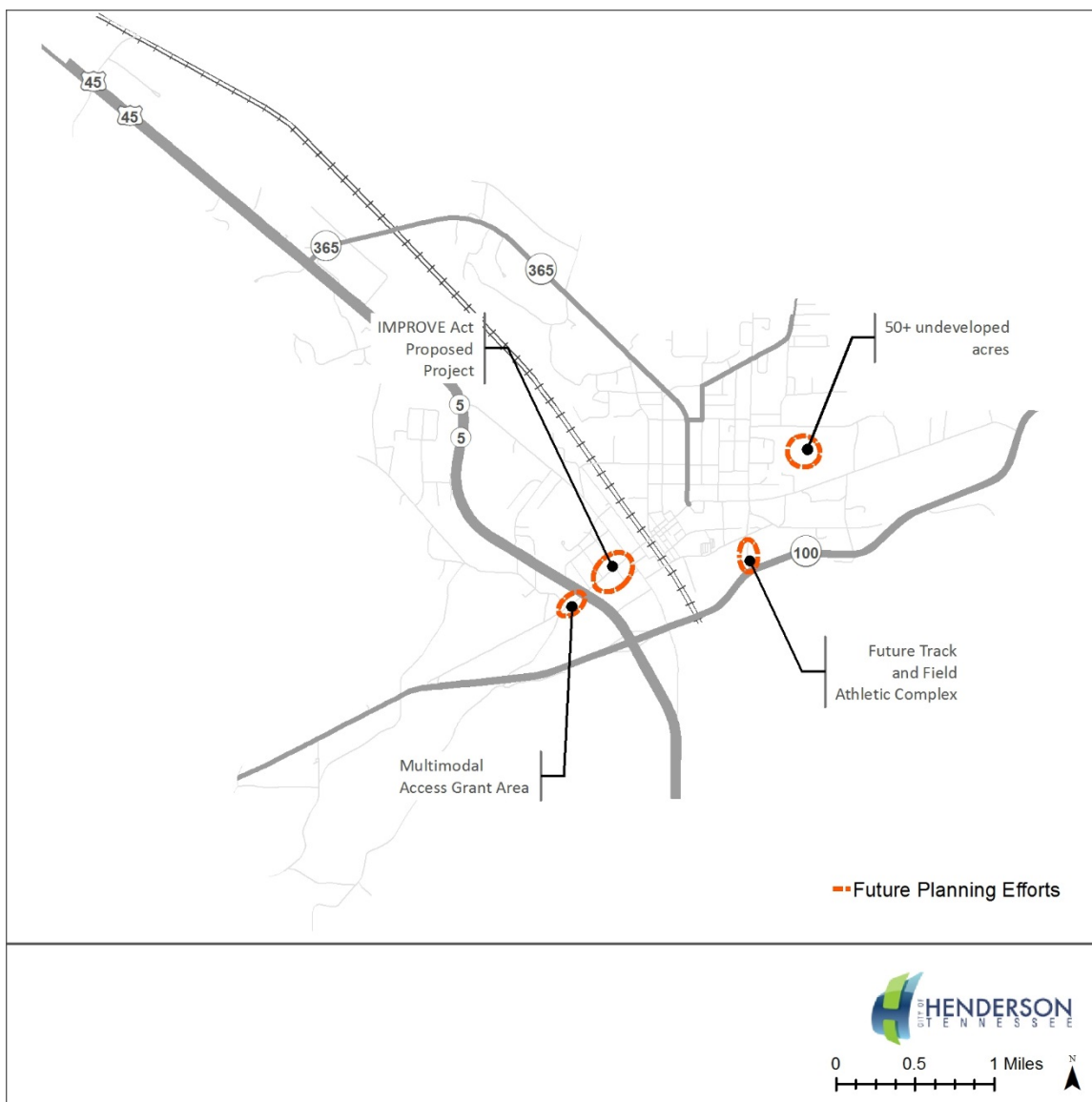


FIGURE 2.1 FUTURE PLANNING EFFORTS

TENNESSEE STATE BICYCLE ROUTE PLAN

The Tennessee state bicycle route plan includes the existing signed bicycle route along SR 5 (US 45) and provides bicycle level of service (BLOS) estimates for state routes within the City. BLOS estimates are discussed in Section 3.1.

POLICIES

Three main policies guided the creation of a pedestrian and bicycle network in Henderson. The TDOT Roadway Design Guidelines/ TDOT Multimodal Scoping Manual provides requirements for bicycle and pedestrian improvements on state projects. The City of Henderson Development plan provides high level policy direction for future growth. The City of Henderson Municipal/ Regional Subdivision regulations give specific regulation for construction projects.



TDOT ROADWAY DESIGN GUIDELINES/ TDOT MULTIMODAL PROJECT SCOPING MANUAL
 TDOT has policies requiring consideration of the incorporation of pedestrian and bicycling facilities on all new or reconstructed state-maintained roadways in existing and planned urban and suburban areas.

CITY OF HENDERSON DEVELOPMENT PLAN FOR THE CITY AND ITS URBAN GROWTH BOUNDARY AREA

The transportation element of the Plan outlines objectives and policies to “achieve an adequate and efficient future transportation system.” The plan prescribes four policies for the pedestrian and bicycle network

1. Sidewalks should be extended throughout the City and should be maintained good repair.
2. A future crosswalk should be installed at the intersection of U.S. Route 45 and West Main Street (SR 365) in coordination with the Tennessee Department of Transportation, in addition to sidewalks being installed along the northern and southern right-of-ways of said West Main Street.³
3. Sidewalks shall be required in new City residential developments.
4. A City-wide hiking and biking system should be developed, which links the University, high density residential and recreational areas

CITY OF HENDERSON MUNICIPAL/ REGIONAL SUBDIVISION REGULATIONS

The regulations require sidewalks in limited circumstances. The language states:

“Sidewalks shall be required on one side within the right-of-way of all new arterial and collector status streets and can be required along any street if so desired by the Planning Commission. Sidewalks shall also be required for all developments and redevelopments located within the (CBD) Central Business District. In areas with existing sidewalks, all future development or redevelopment shall require sidewalks.”

The regulations also provide construction parameters for sidewalks. There are no provisions for bicycle infrastructure in the regulations reviewed.

2.2 TRAFFIC VOLUMES

The average annual daily traffic (AADT) was compiled for roadway network within the study area. AADT is based on vehicle counts at each of the count stations shown in Figure 2.2. The number approximates the volume of traffic along a defined segment of a given roadway. In Henderson, the highest AADT volumes within the network exist along SR-100, US-45/SR-5, SR-365/ White Avenue and Main Street.

³ This improvement is included in the Multimodal Grant Project which has been currently funded.

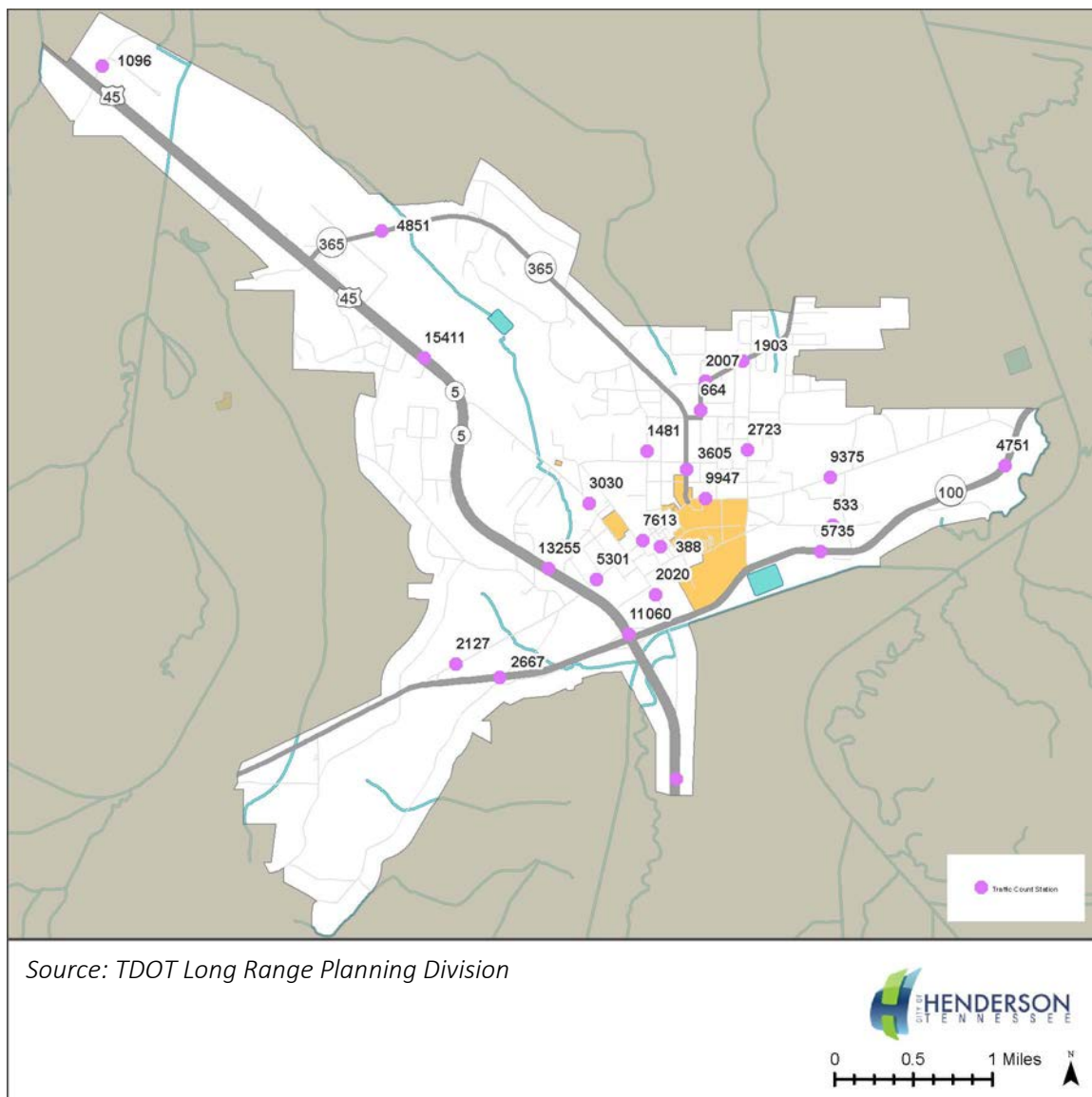


FIGURE 2.2 AADT COUNTS

2.3 COLLISIONS

Collision data can help identify safety issues in the study area. However, vehicular collisions with pedestrian and bicycle are typically under-reported. Research indicates pedestrian collisions may be underreported to police by as much as 55% and bicycle collisions underreporting is thought to be even higher.⁴

From January 2015 through December 2018, only three collisions with pedestrians occurred in the study area (Table 2.1, Figure 2.3 and Figure 2.4). No collisions with bicycles were reported. National research indicates these numbers are likely higher. No pedestrians were killed as a result of the collisions but two

⁴ University of North Carolina Highway Research Center. http://www.pedbikeinfo.org/factsfigures/facts_safety.cfm



persons were injured. Although these collisions may be a result of underlying safety issues, such as dark lighting conditions, the low number of reported collisions does not support a defensible analysis of the data. National data indicates pedestrian safety can be improved through discouragement of mid-block crossings and implementation of lighting improvements. In 2017, pedestrians and bicyclists accounted for 18.2% of all traffic fatalities nationally. Of these fatalities 75% of pedestrian fatalities and 45% of bicycle fatalities occur in dark conditions. Crossing at non-intersections is also predictor in pedestrian and bicycle fatalities. A majority of pedestrian fatalities, 73%, occur at non-intersections and 58% of bicycle fatalities occur at non-intersections.

TABLE 2.1 PEDESTRIAN COLLISION DETAIL

| Date | Time | Killed | Injured | Weather | Lighting |
|------------|-------|--------|---------|---------|------------------|
| 1/15/2015 | 17:49 | 0 | 1 | Clear | Dark-Not Lighted |
| 8/25/2017 | 0 | 0 | 1 | Clear | Daylight |
| 11/23/2018 | 17:30 | 0 | 0 | Cloudy | Dark-Lighted |



FIGURE 2.3 PEDESTRIAN COLLISION LOCATIONS

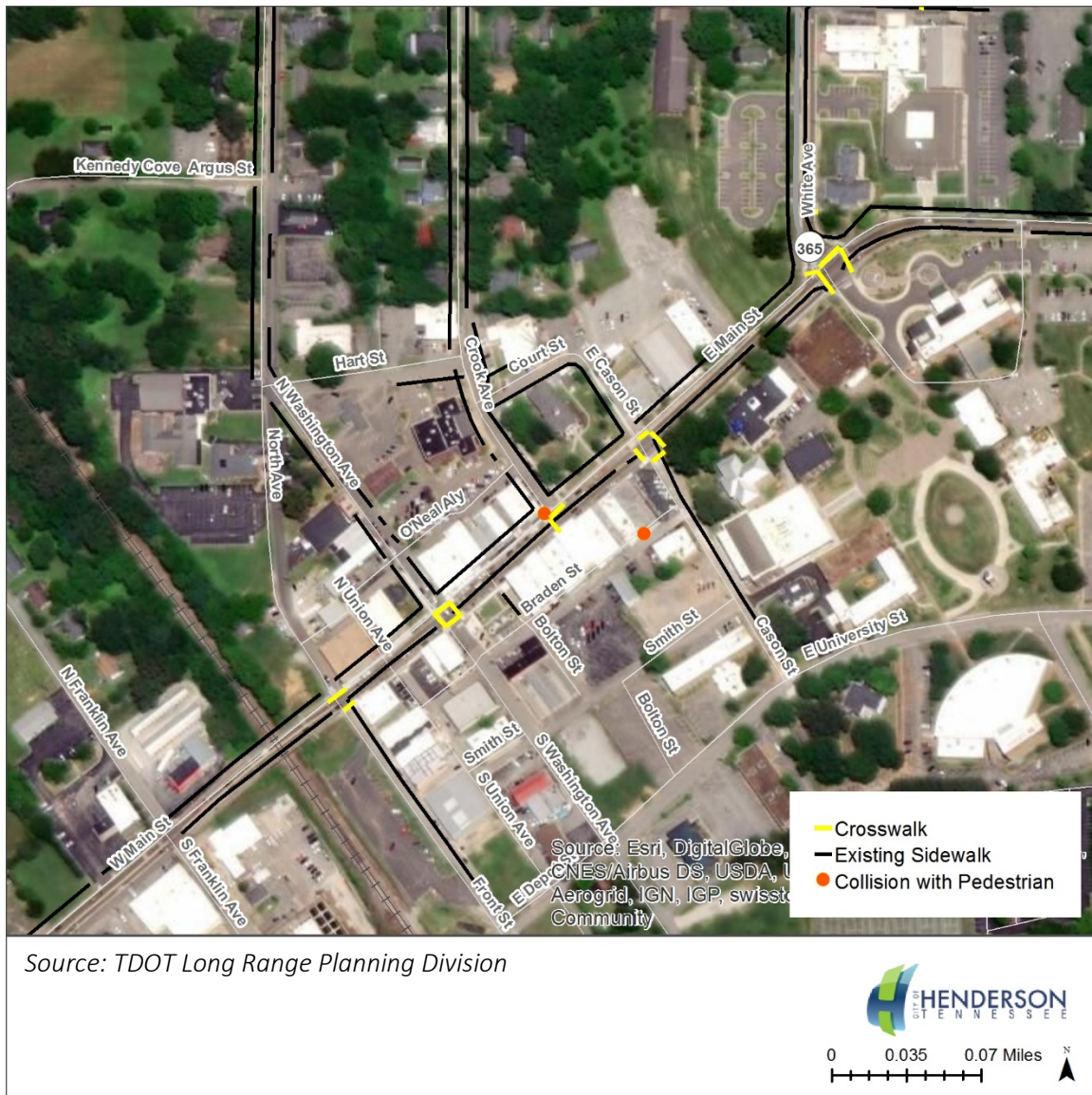


FIGURE 2.4 PEDESTRIAN COLLISION LOCATIONS DOWNTOWN

2.4 LAND USE

The Future Land Use map was developed and adopted in 2010 to guide future development decisions in the region (Figure 2.5). The map supports dense residential development north of Main Street in three main clusters with commercial and industrial land uses along the arterial roadways, SR 5 (US 45) and SR-100.

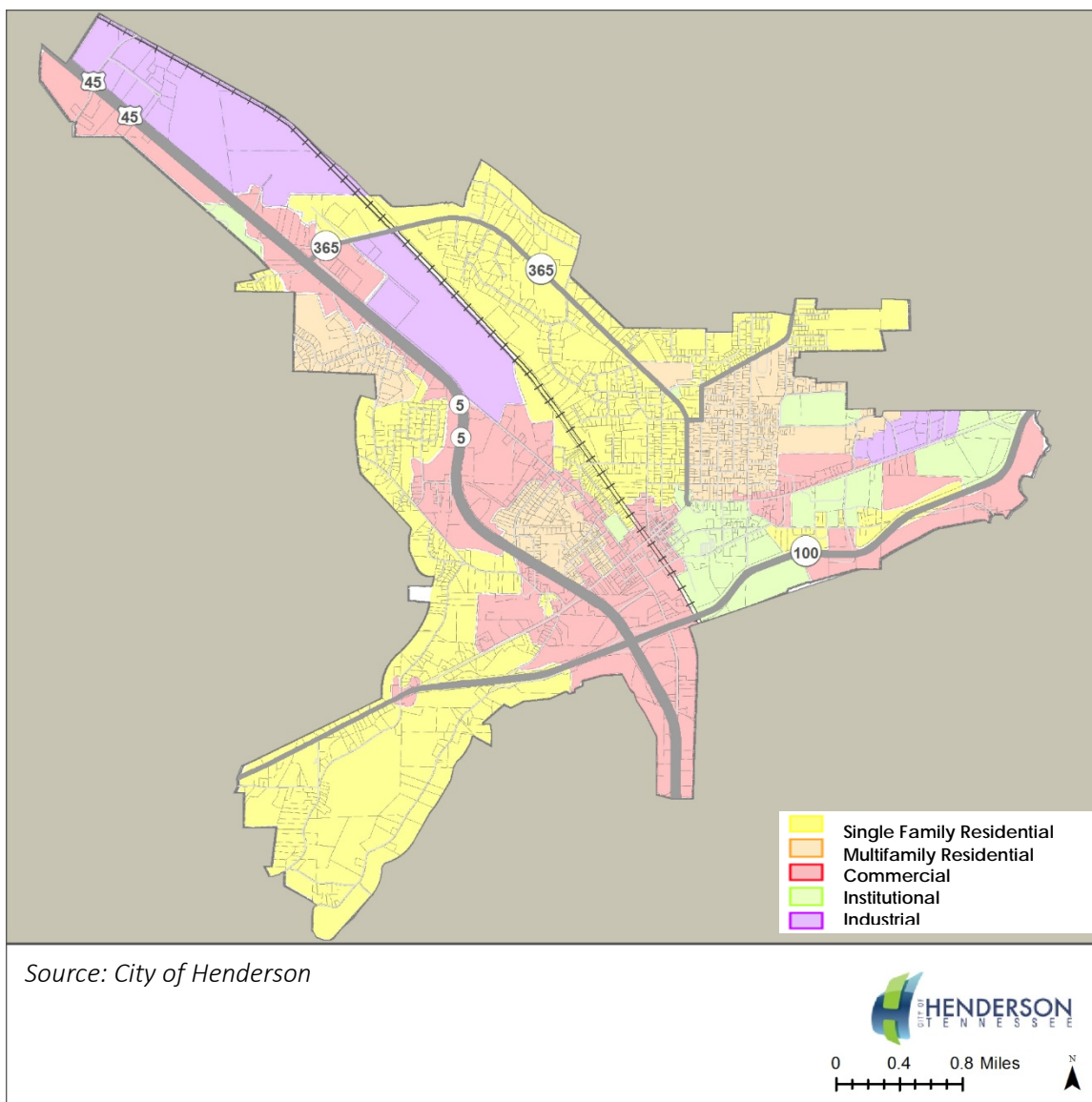


FIGURE 2.5 FUTURE LAND USE PLAN (2010)

2.5 ORIGINS/ DESTINATIONS

Primary origins and destinations for bicycle and pedestrian traffic were identified as part of the planning process. A successful bicycle and pedestrian network will connect residents from dense residential areas to major destinations. Parks, public buildings, multifamily housing and employment destinations were identified. A map of population density identifies probable pedestrian and bicycle origins.

EMPLOYMENT CENTERS AND RESIDENTIAL DENSITY

An analysis of employment data and residential density illustrated in Figure 2.6 reveals a primary cluster of employment locations in the CBD on or adjacent to Main Street with a secondary cluster along SR 5 (US 45) and White Avenue (SR-365). Employment is concentrated along SR 5 (US 45) and Main Street. The economic health of the community can be enhanced by multimodal access to these job centers.



The density gradient depicting persons per acre shows dense residential habitation on the campus of Freed-Hardeman University where students live in dormitory housing on campus. Population is most dense in the eastern portion of the City north of Main Street.

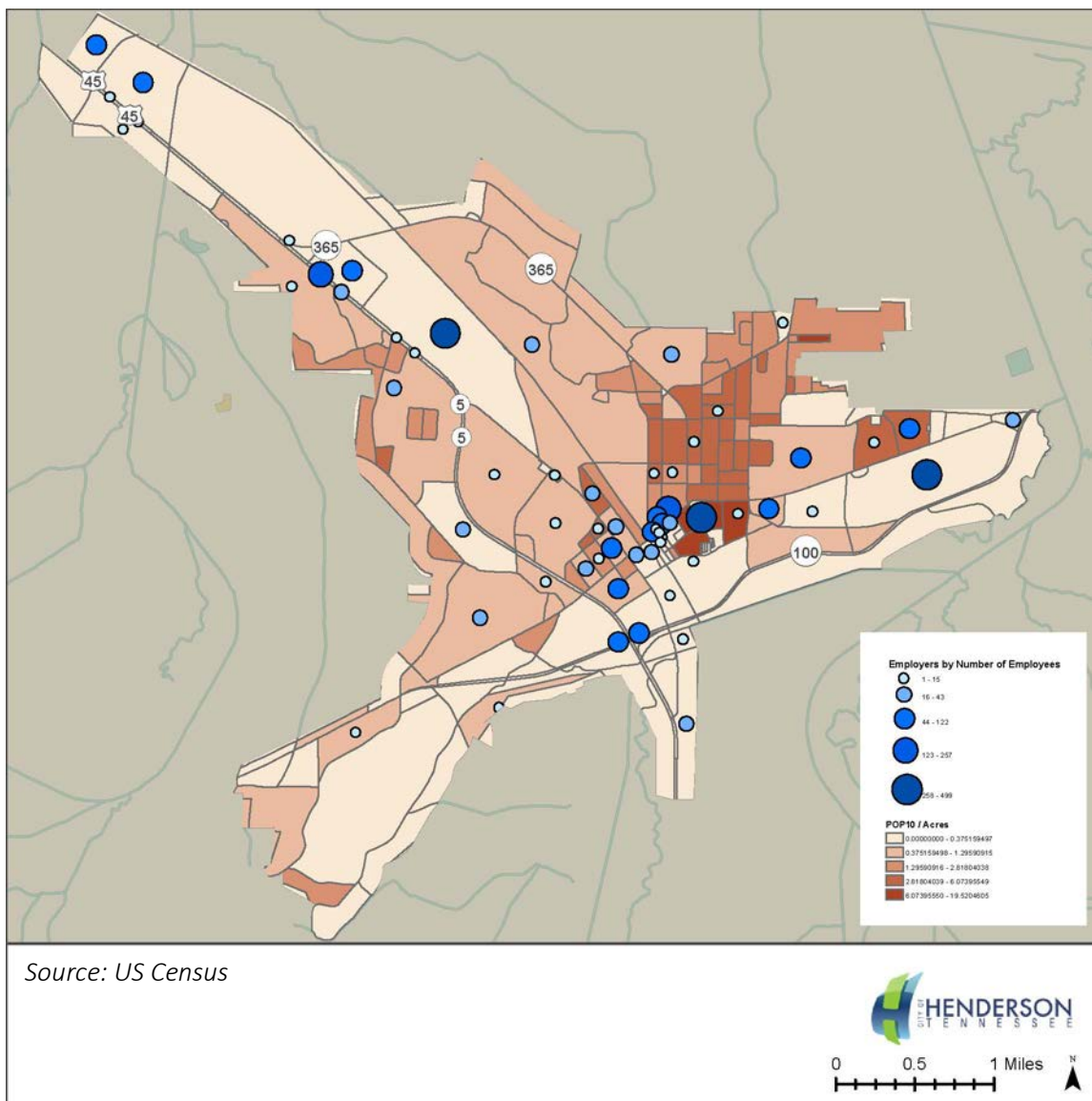


FIGURE 2.6 POPULATION DENSITY AND EMPLOYMENT

PUBLIC FACILITIES, PARKS, MULTIFAMILY HOUSING

Henderson is the county seat of Chester County. Main Street in Henderson hosts a cluster of public facilities including the Chester County Courthouse (Figure 2.7) and the Chester County Elementary, Middle, Junior High and High School.

There is one primary park in the study area, Gene Record Memorial Park. The park is located along Church Street northwest of the CBD. The Chester County Dixie Youth Ballpark which is adjacent to the cluster of Chester County Schools and the Chester County Library on East Main Street is shown as a public facility.



Three large multifamily housing complexes exist in the City. The two multifamily housing complexes in the eastern portion of the City corresponds to pockets of population density depicted in Figure 2.5. It is important to identify a third multifamily complex housing low income persons near the intersection of Main Street and SR 5 (US 45). Planned improvements at the intersection will provide a safer connection for residents of the low-income multifamily complex who may not have access to a vehicle to the cluster of employment, public facilities, and commercial services in the CBD.

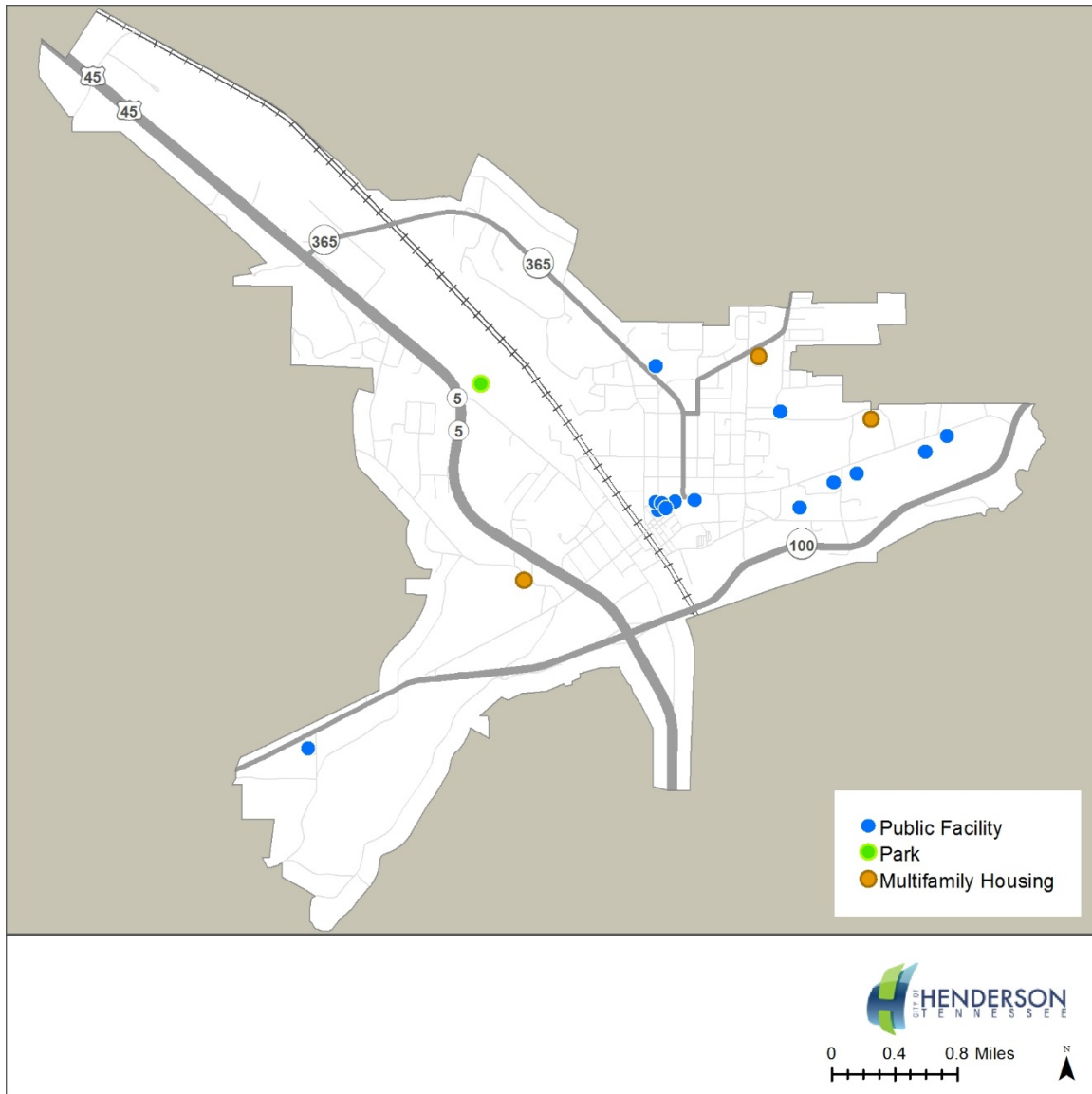


FIGURE 2.7 PUBLIC FACILITIES, PARKS, AND MULTIFAMILY HOUSING



2.6 PEDESTRIAN NETWORK

The pedestrian network is concentrated along Main Street and the dense grid network of roadways near the CBD (Figure 2.8). The existing pedestrian network consists of approximately 34,800 linear feet (6.6 miles) of sidewalk and 75 ramps. There are 12 pedestrian signals primarily located along Main Street.

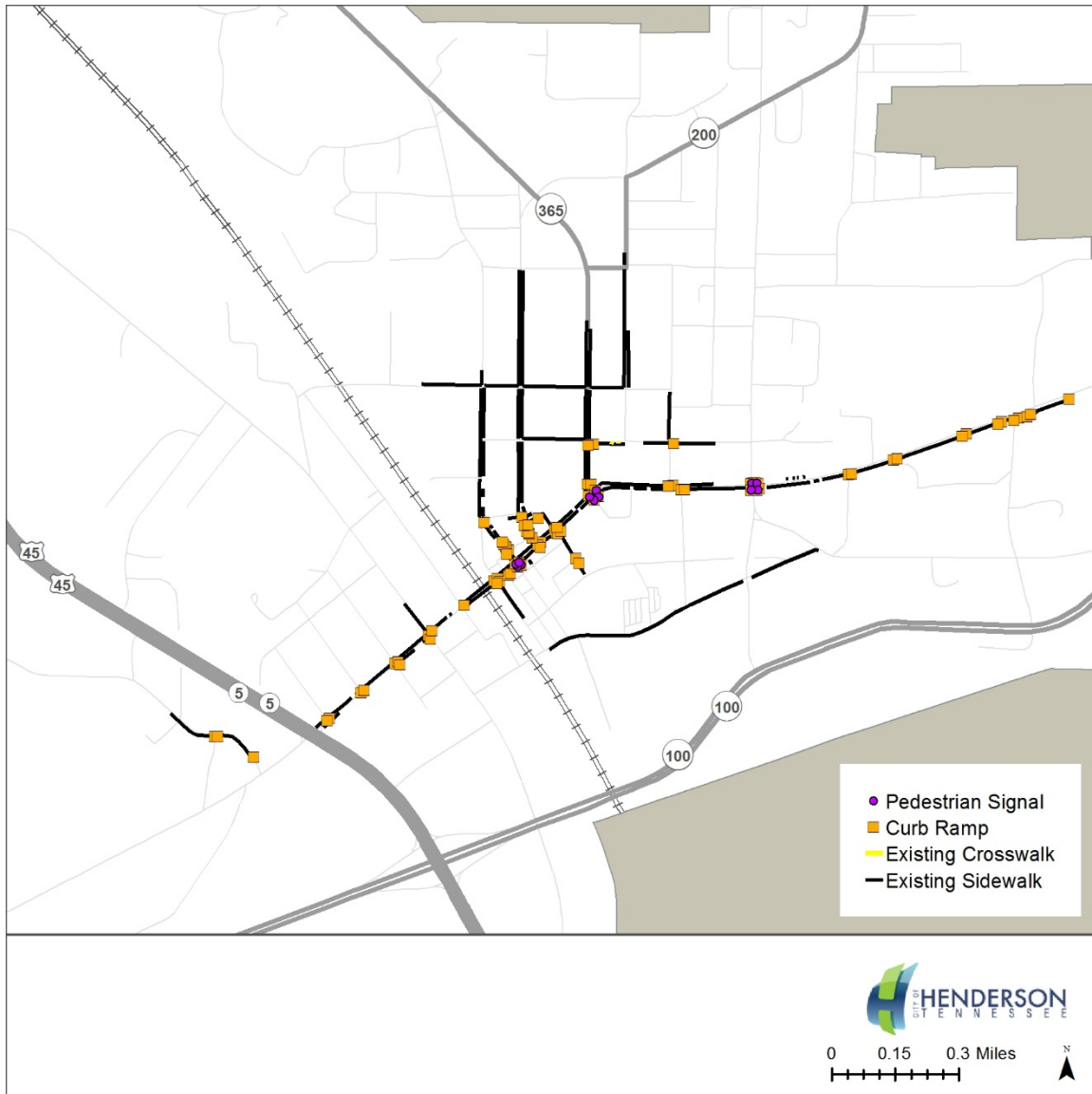


FIGURE 2.8 PEDESTRIAN NETWORK

An inventory of existing pedestrian infrastructure including sidewalks, sidewalk ramps, pedestrian crosswalks and pedestrian signals was completed as part of this plan (Figure 2.9). Data collection methods are detailed in Appendix A. A summary and analysis of the inventory is given in Chapter 3. Elements indicating condition issues and possible ADA noncompliance were documented using a mobile data collection application. Elements recorded are shown in Table 2.2. Sidewalk condition issues and noncompliance issues, ramps, crosswalks and pedestrian signals were photographed as part of the assessment.



TABLE 2.2 PEDESTRIAN NETWORK ATTRIBUTES COLLECTED

| Data Collected | Sidewalks | Ramps | Crosswalk | Pedestrian Signal |
|---------------------------------|-----------|-------|-----------|-------------------|
| Length | ✓ | | ✓ | |
| Condition Issues | ✓ | ✓ | | |
| Cracked Panels | ✓ | ✓ | | |
| Spalling | ✓ | ✓ | | |
| Vertical Faulting | ✓ | ✓ | | |
| Dirt/ Grass | ✓ | ✓ | | |
| Obstructions | ✓ | | | |
| Width | ✓ | | | |
| Run Slope | ✓ | | | |
| Cross Slope | ✓ | | | |
| Detectible Warnings | | ✓ | | |
| General Condition-DW | | ✓ | | |
| General Condition | | ✓ | | |
| Ramp Present* | | ✓ | | |
| Pedestrian Signal Present | | | | ✓ |
| Signal Functional | | | | ✓ |
| Pushbuttons within 10ft of Curb | | | | ✓ |
| Pushbuttons at least 10ft Apart | | | | ✓ |



FIGURE 2.9 PEDESTRIAN NETWORK DOWNTOWN

2.7 BICYCLE NETWORK

Two main components of bicycle networks are needed to analyze this bicycle network. The first is a determination of type of bicycle riders utilizing the network and the second is an inventory of bicycle infrastructure.

TYPES OF BICYCLE RIDERS

Few bicyclists were observed during the data gathering process and no formal cycling groups were identified during the public input or data gathering phases of this Plan. Census data indicates 0.0% of the



citizens of Henderson bike to work⁵. This coupled with a lack of infrastructure indicates low bicycle ridership in the study area.

BICYCLE INFRASTRUCTURE

The existing bicycle network consists of one TDOT signed route along the paved shoulder of SR 5 (US 45) (Figures 2.10 and 2.11). There are no pavement markings along the route. The shoulder of the roadway is considered part of the statewide bicycle route and is identified by signage along the route. This type of route could be used by the advanced bicyclist. There are no known bicycle racks or amenities located within the study area.



FIGURE 2.10 STATEWIDE BICYCLE ROUTE SR 5 (US 45)

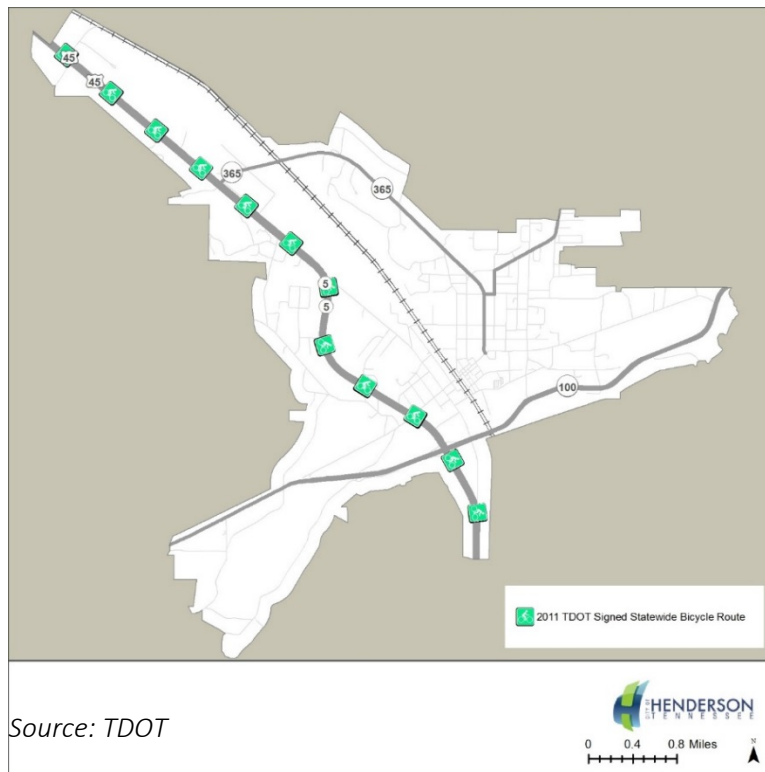


FIGURE 2.11 TDOT SIGNED STATEWIDE BICYCLE ROUTE

⁵ U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates



2.8 VULNERABLE POPULATIONS

Some populations including those in poverty, the elderly and dependent children do not have access to or are unable to drive a vehicle and are more reliant on alternative modes of transportation. Plans must also be sensitive to the inclusion of minority populations. This section identifies vulnerable populations in the plan area. Areas with concentrations higher than the state average are identified. This section does not identify concentrations of dependent children. Schools and residential areas identified as part of this Plan process will have concentrations of dependent children.

INDIVIDUALS IN POVERTY

Concentrations of individuals in poverty in the last 12 months (as defined by the U.S. Census Bureau) are shown in Figure 2.13. Census tracts with more than the state average of 17% of individuals in poverty are identified. The southern portion of the study area has a higher than average percentage of individuals experiencing poverty slightly above the state average in the last 12 months.

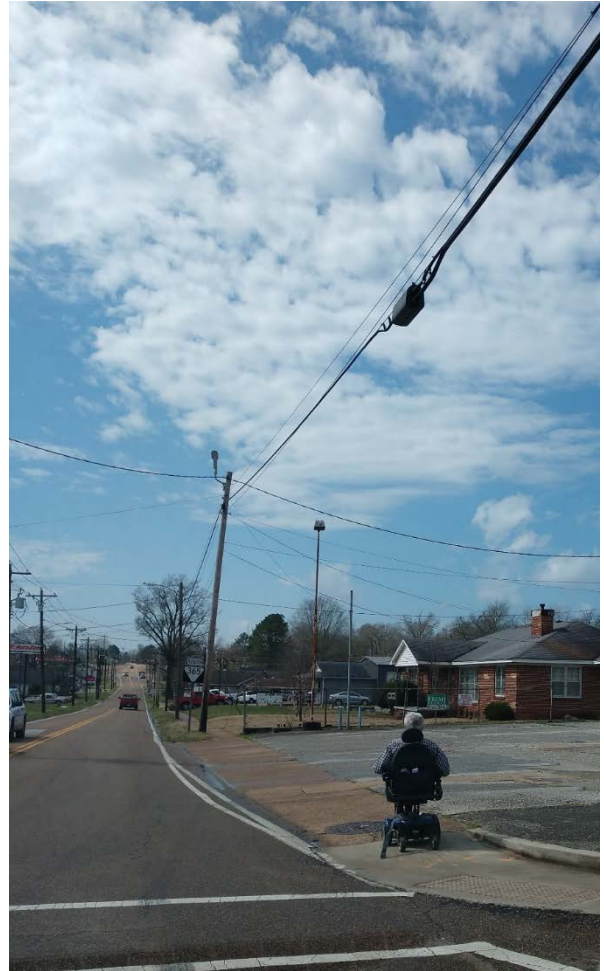


FIGURE 2.12 VULNERABLE POPULATIONS IN HENDERSON

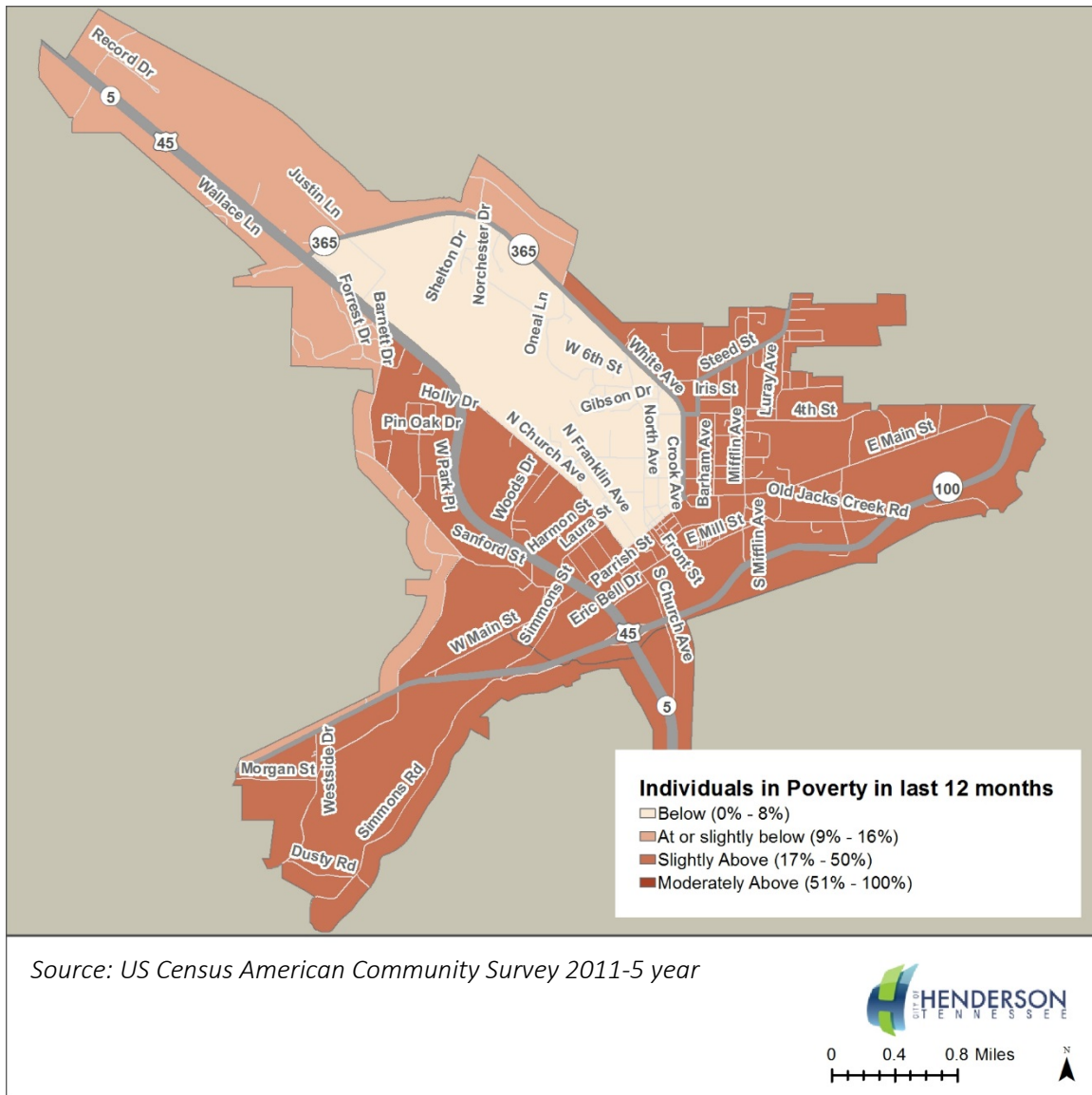


FIGURE 2.13 INDIVIDUALS IN POVERTY IN LAST 12 MONTHS

MINORITY POPULATION

Concentrations of minority individuals are shown in Figure 2.14. For the purposes of this analysis, a minority person is defined as non-white and non-Hispanic. Census tracts with more than the state average of 24% of minority individuals are identified. The western portion of the study area has a higher than average percentage of minority individuals.

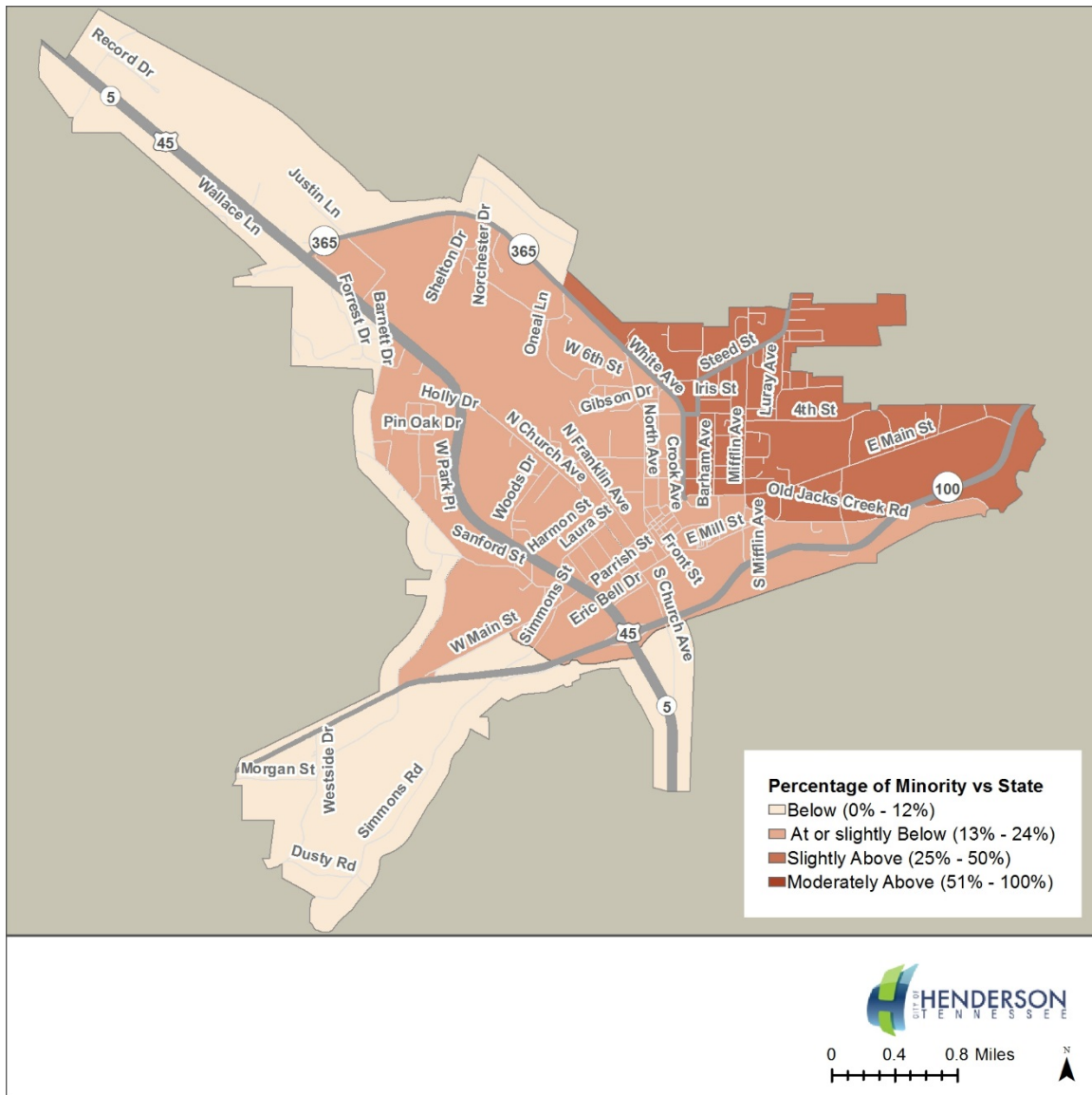


FIGURE 2.14 PERCENTAGE OF MINORITY INDIVIDUALS

OVER AGE 65 POPULATION

Concentrations of individuals over the age of 65 are shown in Figure 2.15. Census tracts with more than the state average of 13% of individuals over age 65 are identified. The western portion of the study area has a higher than average percentage of individuals over the age of 65.

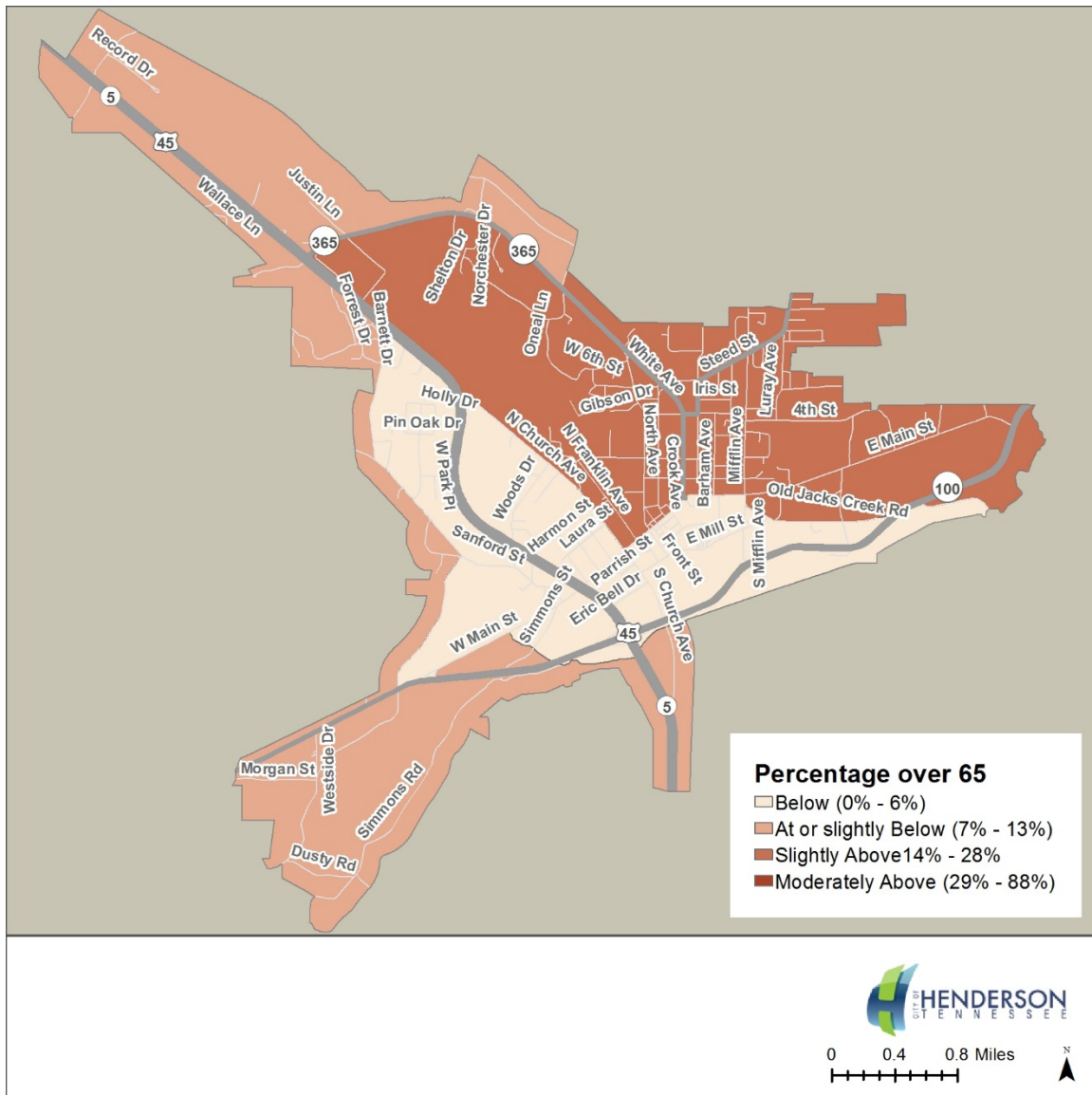


FIGURE 2.15 PERCENTAGE OF PERSONS OVER AGE 65

2.9 PUBLIC INPUT

The full public involvement process is detailed in Chapter 5. As part of the public involvement process, stakeholders and residents were invited to public meetings where they participated in visioning and



prioritization exercises and residents were encouraged to take an online survey. An overview of the results of the prioritization exercises and survey are discussed here.



FIGURE 2.16 PUBLIC MEETING

next to the items that they prioritize most among the elements. The elements were listed in the order shown below. The count of the placed blue sticker dots is noted for each of the following design element:

- ADA (Americans With Disabilities Act) Accessibility Improvements- 13 Dots
- Improvements to existing Sidewalk Connections- 11 Dots
- New Sidewalk Connections- 4 Dots
- Shared use Paths- 2 Dots
- Bicycle Lanes (placed within the shoulder of the roadway) - 0 Dots
- New or Improved Crosswalks- 12 Dots
- Bump-outs or Pedestrian Refuges- 0 Dots
- Parking Improvements that Support Safe and Efficient Pedestrian Mobility and Access- 4 Dots
- Street Lighting and Signage that Enhance Pedestrian Safety- 2 Dots
- Accommodations for Street Furniture Elements (Benches, Tables, Trash & Recycling Receptacles, Landscaping, etc). - 2 Dots

ADA accessibility improvements, new or improved crosswalks, and improvements to existing sidewalk connections all ranked highly in the public meeting. Bicycle lanes and pedestrian refuges ranked lowest among the elements.

Survey participants were asked to rank the same elements in two separate questions.

The questions asked survey participants to rank improvements to the bicycle and pedestrian network and to rank improvements within the network. ADA Accessibility improvements were omitted as an improvement in the online survey. ADA improvements are considered a top priority for this Plan and are a basic element of the Plan.

The improvements were ranked as follows.

Prioritization exercises revealed the following as the most important improvements to the pedestrian and bicycle network: build new sidewalk connections, improve existing sidewalks, construct new or improved crosswalks, and include street lighting and signage that enhance pedestrian safety.

Participants at the public meeting were presented with a poster listing the ten typical design elements of a bike/pedestrian network. Participants were given 3 blue sticker dots to place



TABLE 2.3 SIDEWALK IMPROVEMENT PUBLIC MEETING RANKING

| Improvement | Rank |
|---|------|
| Build new sidewalk connections | 1 |
| Improve existing sidewalks | 2 |
| Construct shared use paths for bicycles and pedestrians | 3 |
| Build bicycle lanes | 4 |

The rankings reflect a desire to better connect existing sidewalks to pedestrian origins and destinations in the project area and improve the quality of existing sidewalks. Building bicycle lanes was ranked in the lowest priority, but the construction of shared use paths was ranked slightly higher.

Within the second category of sidewalk improvements, new or improved crosswalks were ranked highest with street lighting and signage to enhance public safety ranked second. Bump-outs or pedestrian refuges were ranked last. Information gathered at the public meeting suggests this sentiment is a reaction to the implementation of traffic calming measures along Main Street in the downtown area including bump outs, landscaping and pedestrian crosswalks. Drivers are currently acclimating to the changes which sought to rebalance the needs of pedestrians and motorists along the busy thoroughfare.

TABLE 2.4 SIDEWALK AMENITIES IMPROVEMENTS PUBLIC MEETING RANKING

| Improvement | Rank |
|---|------|
| New or improved crosswalks | 1 |
| Street lighting and signage that enhance pedestrian safety | 2 |
| Parking improvements that support safe and efficient pedestrian mobility and access | 3 |
| Bump-outs or pedestrian refuges | 4 |

During the public meetings, stakeholders and residents expressed a desire for the following connections. The desired connections were documented on maps shown in Appendix B and in survey data in Appendix C.

- Chester County school campuses to the library and ball park
- Chester County Schools Stewart Avenue and around the school campuses
- Downtown to Gene Record Memorial Park along Church Street
- Downtown to low income and multifamily housing to the west of the City along Main Street
- Downtown to low income and multifamily housing to the northeast of the City along Mifflin Avenue
- Connections to new track and field development at Freed-Hardeman University
- Improvements to existing connections along White Avenue, North Avenue and Crook Avenue



3. ANALYSIS

3.1 EXISTING FACILITIES ASSESSMENT

SIDEWALK NETWORK ANALYSIS

The existing sidewalk system is currently repaired as needed. The pedestrian network assessment revealed an aging infrastructure with condition and ADA compliance issues in low AADT residential areas.

TABLE 3.1 SIDEWALK EVALUATION

SIDEWALKS

Sixty-one of the sidewalk segments inventoried had condition issues including cracked panels, spalling, vertical faulting and dirt/grass covering the sidewalk (Table 3.1). Thirty-one sidewalk segments did not meet ADA width requirements. A maintenance schedule would assist in planning repairs, prioritizing repairs and identifying funding.

Figure 3.1 identifies sidewalk segments that have moderate issues or need maintenance. Sidewalk segments failing on 1-2 compliance measures were considered to have moderate issues. Segments failing on 3 or more issues were considered in need of maintenance.

| Compliance | |
|----------------------|--------------|
| Appears Compliant | 30 |
| Appears Noncompliant | 69 |
| Total Segments | 99 |
| | |
| Compliance Measures | Noncompliant |
| 1. Condition Issues | 61 |
| Cracked Panels | 34 |
| Spalling | 3 |
| Vertical Faulting | 14 |
| Dirt/ Grass | 10 |
| 2. Obstructions | 16 |
| 3. Width | 31 |
| 4. Run Slope | 25 |
| 5. Cross Slope | 16 |



FIGURE 3.1 SIDEWALK EVALUATION

RAMPS

An inventory of the ramps in the study area was collected and missing ramps were identified as part of this analysis. Condition issues of cracked panels, spalling, vertical faulting, dirt/ grass, general condition of ramp and general condition of detectible warnings were collected. The presence of detectible warning was recorded. The general condition of all detectible warnings was recorded. Some detectible warnings met the ADA requirement of utilizing truncated domes.

There were 83 ramps in the study area (Table 3.2). Thirty-six (36) ramps were missing at intersections of roadways and existing sidewalks. These ramps were not included in the condition and ADA assessment.

The total compliance of each ramp was ranked using a scale of 0-4. The ramp evaluation is shown in Figures 3.2 and 3.3. Ramps with a score of zero (0) had no identified compliance issues and are shown as “No Issues Identified”. Ramps with a score of 1-2 are identified as “Moderate Issues”. Ramps with a score of 3-4 are identified as “Needs Attention”. There were 26 ramps with no identified condition or other ADA compliance issues, 33 ramps identified with moderate issues and 24 ramps needing attention.



Twenty-six (26) of the ramps in the study area did not have truncated domes present. Of the ramps with truncated domes installed, 10 were in poor condition. Forty-nine (49) ramps had condition or general condition issues. Of those 49, only 21 had no detectible warning issues as well.

TABLE 3.2 RAMP EVALUATION

| Evaluation | |
|---|----|
| Appears in Good Repair | 26 |
| Total Noncompliant | 57 |
| Total Ramps | 83 |
| Evaluation Measures | |
| Noncompliant | |
| 1. Condition Issues | 38 |
| Cracked Panels | 5 |
| Spalling | 0 |
| Vertical Faulting | 3 |
| Dirt/ Grass | 34 |
| 2. Detectible Warnings –Truncated Domes | 26 |
| 3. General Condition-DW | 36 |
| 4. General Condition | 26 |
| 5. Ramp Present* | 36 |
| * Not included in total noncompliant; Refers only to ramps missing at intersection of sidewalk and street | |



FIGURE 3.2 SIDEWALK EVALUATION



FIGURE 3.3 SIDEWALK EVALUATION DOWNTOWN

CROSSWALKS

The location of crosswalks in the study area was identified (Figure 3.3). No additional characteristics of crosswalks were inventoried at this time.



FIGURE 3.4 CROSSWALK EVALUATION

PEDESTRIAN SIGNALS

There are 13 pedestrian signals in the study area (Figure 3.4, Table 3.3). Three are currently non-functional and 10 are not at least 10 feet apart. Pedestrian signals that are currently not functional and less than 10 feet apart are identified in Figure 3.4 as “needing attention”. Pedestrian signals with only one issue, placement of less than 10 feet apart are identified as having “moderate issues”.



TABLE 3.3 PEDESTRIAN SIGNAL EVALUATION

| | |
|---------------------------------|---------------------|
| Total Pedestrian Signal Present | 13 |
| Compliance Measure | Noncompliant |
| Signal Functional | 3 |
| Pushbuttons within 10ft of curb | 0 |
| Pushbuttons at least 10ft apart | 10 |



FIGURE 3.5 PEDESTRIAN SIGNAL EVALUATION

BICYCLE NETWORK ANALYSIS

As noted Chapter 2-Data Collection and Inventory, there is low bicycle ridership and little infrastructure in the City of Henderson.



The future bicycle network should plan to increase ridership. There is a potential for increased ridership in Henderson. According to a recent census report “Modes Less Traveled- Bicycling and Walking to Work in the United States” (2014), bicycle commuting rates are higher with workers ages 16-24, low income households, workers with low educational attainment and high educational attainment. Due to the presence of Freed-Hardeman University, there is a concentration of young, low income residents and residents with high educational attainment. The demographic composition of the City supports increased efforts to improve bicycle ridership. Additionally, there is some evidence to suggest that increases in bicycle infrastructure make bicyclists safer and therefore increase the number of bicyclists as more bicyclists feel comfortable using the bicycle network⁶.

In order to plan for future increases in bicycle ridership, it is important to understand bicycle travel can vary given the purpose of the trip and/or the proficiency of the rider. A 1994 report by the Federal Highway Administration (FHWA) outlines three general categories of bicyclists to assist highway designers in selecting the appropriate types of facilities. These guidelines have been adopted by the AASHTO *Guide to Designing Bicycle Facilities* (2012).

Group A bicyclists: These are advanced or experienced bicyclists who generally use their bicycle as they would a motor vehicle. They typically prefer direct access to destinations with a minimum of detour or delay. These bicyclists are generally comfortable riding with traffic and prefer to have sufficient operating space on the travel way or shoulder to eliminate the need for either themselves or a passing motor vehicle to shift position.

Group B bicyclists: This category includes basic or less confident adult riders. They may also be using their bicycles for transportation purposes such as traveling to work or shopping. They prefer to avoid roads with fast and busy traffic unless there is ample separation between their bicycle and the traffic. They are comfortable riding on neighborhood streets and separated pathways and prefer designated facilities such as pathways and striped bicycle lanes.

Group C bicyclists: Children riding on their own or with parents are included in group C. They may not travel as far as group A or B bicyclists but still require access to key destinations in their community (e.g. schools, recreational facilities or convenience stores). Appropriate facilities for group C bicyclists include separated pathways, residential streets with low vehicle speeds and other streets with well-defined separation between bicyclists and motor vehicles.

The current network supports only advanced bicyclists who are comfortable riding with traffic. Future infrastructure improvements could move toward supporting less confident adult riders heading to work, school or on errands and children riding to the elementary, middle, junior high and high schools and adjacent amenities within the study area.

SELECTION

No single type of facility meets the needs or desires of all bicyclists. When implementing bicycle infrastructure into a roadway the roadway type, annual daily traffic, and speed limit should be considered for the preliminary design choice. The intended user type, local behaviors, and network connectivity should then be considered, and the design choice may be altered or enhanced.

⁶ National Association of City Transportation Officials (NACTO) “Equitable Bike Share Means Building Better Places for People to Ride”(2016)



Typically, the needs of group B and C are combined to create two broad classes of bicyclists for consideration by facility designers. In general, group A bicyclists are best served by providing sufficient operating space on all roadways. Group B and C bicyclists are better served by providing designated bicycle routes and/or separated pathways.

Table 3.4 provides guidelines from the American Association of State Highway and Transportation Officials for bike facility types⁷. Figure 3.5 documents roadway classifications in Henderson. Average daily traffic (ADT) is discussed in Section 2.

⁷ AASHTO Guide to Bicycle Facilities 2012



TABLE 3.4 BICYCLE FACILITY GUIDELINES

| BIKE FACILITY TYPE | BEST USE | MOTOR VEHICLE DESIGN SPEED | TRAFFIC VOLUME | CLASSIFICATION OR INTENDED USE |
|---|---|--|---|---|
| SHARED LANES (UNMARKED) | Minor roads with low volumes, where bicyclists can share the road with no special provisions. | Variable (rural or urban) | Generally less than 1,000 vehicles per day | Rural roads, or neighborhood/local streets. |
| BICYCLE BOULEVARDS | Local roads with low volumes and speeds, offering an alternative to, but running parallel to, major roads. | Use where the speed differential between motorists and bicyclists is typically 15 mph or less. Generally posted limits of 25 mph or less. | Generally less than 3,000 vehicles per day. | Residential roadways. |
| MARKED SHARED LANES | Space-constrained roads with narrow travel lanes, or road segments for which bike lanes are not selected, due to space constraints or other limitations. | Variable. Use where the speed limit is 35 mph or less. | Variable. Useful where there is high turnover in onstreet parking. | Collectors or minor arterials. |
| SHARED LANES (WIDE OUTSIDE LANES) | Major roads where bike lanes are not selected due to space constraints or other limitations. | Variable. Generally any road where the design speed is more than 25 mph. | Generally more than 3,000 vehicles per day. | Arterials and collectors intended for major motor vehicle traffic movements. |
| BIKE LANES | Major roads that provide direct, convenient, quick access to major land uses. Also can be used on collector roads and busy urban streets with slower speeds. | Generally, any roadway where the design speed is more than 25 mph. | Variable. Speed differential is generally a more important factor in the decision to provide bike lanes than traffic volumes. | Arterials and collectors intended for major motor vehicle traffic movements. |
| PAVED SHOULDER | Rural highways that connect town centers and other major attractions. | Variable. Typical posted rural highway speeds (generally 40-55 mph) | Variable. | Rural roadways; intercity highways |
| OFF-ROAD FACILITIES | | | | |
| SHARED USE PATH ADJACENT TO ROADWAY | Adjacent to roadways with no or very few intersections or driveways. The path is used for a short distance to provide continuity between sections of path on independent rights of way. | Use where the adjacent roadway has high-speed motor vehicle traffic, such that bicyclists might be discouraged from riding on the roadway. | Use where the adjacent roadway has very high motor vehicle traffic volumes, such that bicyclists might be discouraged from riding on the roadway. | Provides a separated path for bicyclists and pedestrians. Intended to supplement a network of on-road bike lanes, bicycle boulevards, and paved shoulders. Not intended to substitute or replace on road accommodations for bicyclists, unless bicycle use is prohibited. |
| SHARED USE PATH ON INDEPENDENT RIGHT-OF-WAY (GREENWAY) | Linear corridors in greenways, or along waterways, freeways, active or abandoned rail lines, utility right of way, or unused right of way. | N/A | N/A | Provides a separated path for bicyclists and pedestrians. Intended to supplement a network of on-road bike lanes, bicycle boulevards and paved shoulders. |

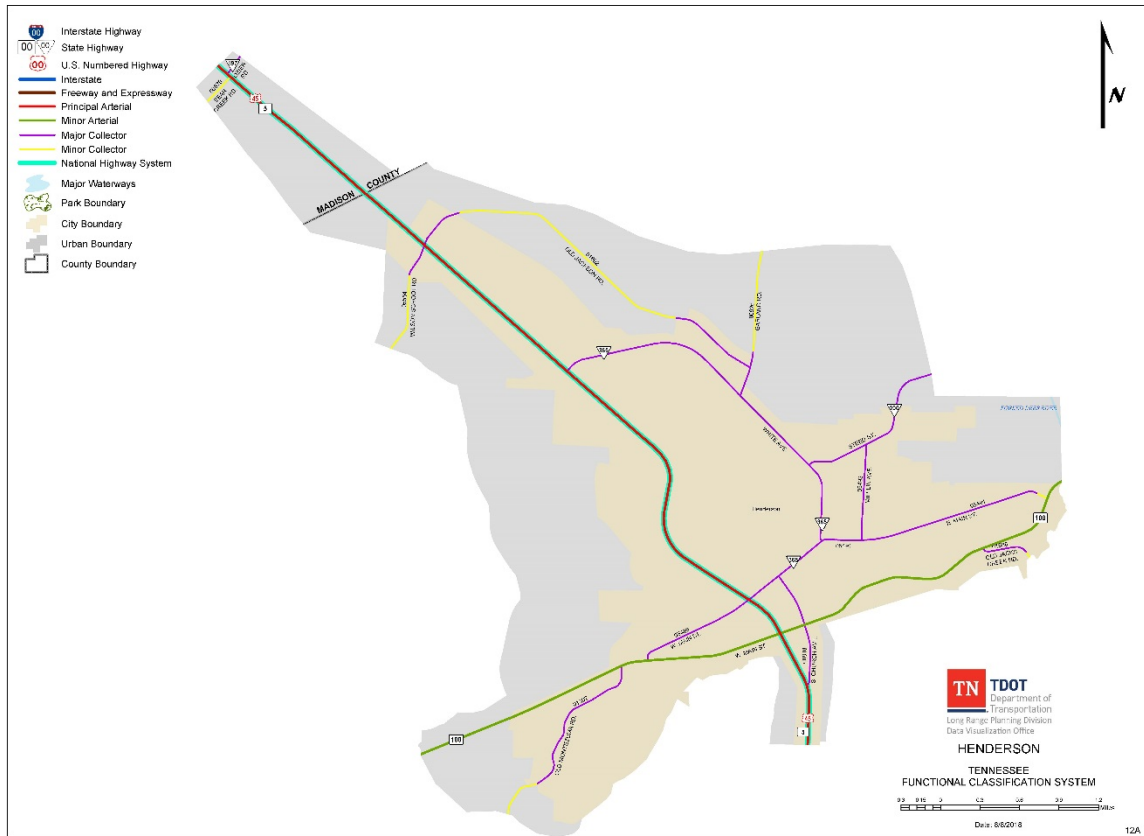


FIGURE 3.6 FUNCTIONAL CLASS MAP

TDOT *Roadway Design Guidelines* provide additional guidance for state roadway projects. When implementing bicycle infrastructure into a roadway the roadway type, annual daily traffic, and speed limit should be considered for the preliminary design choice. The intended user type, local behaviors, and network connectivity should then be considered, and the design choice maybe altered or enhanced. The Guidelines provide a table for guidance in the selection process.



TABLE 3.5 TDOT BICYCLE FACILITY GUIDELINES

| Minimum Bicycle Facility Guidance for Urban (Curb and Gutter) Cross Sections | | | | |
|--|-------------|----------------------------|----------------------------|---|
| ADT | | < 2,000 | 2,000 - 10,000 | > 10,000 |
| Posted Speed Limit | ≤ 35 mph | SL or WOL | SL or WOL | WOL or BL (5 ft) |
| | 40 - 45 mph | BL (5 ft) | BL (5 ft) or BBL (4 ft*) | BL (5 ft) or BBL (4 ft*) or SBL (4 ft*) |
| | 50 - 55 mph | BBL (4 ft*) or SBL (5 ft*) | BBL (4 ft*) or SBL (5 ft*) | BBL (4 ft*) or SBL (5 ft*) |
| | > 55 mph | SUP | SUP | SUP |
| SL = Shared Lane | | BBL = Buffered Bike Lane | SUP = Shared-Use Path | |
| PS = Paved Shoulder | | SBL = Separated Bike Lane | | |
| BL = Conventional Bike Lane | | WOL = Wide Outside Lane | | |
| * Add buffer a minimum of 3 feet in width; when on-street parking is present place 2 feet of the buffer adjacent to the parking lane | | | | |

8

Urban residential areas within the City of Henderson generally have ADT’s below 2000 and posted speed limits of < 35 mph. The suggested bicycle improvement is an unmarked shared lane or wide outside lane. It is recommended bicyclists could travel on residential side streets on existing roadways.

To gain access to destinations within the City, bicyclists would travel along low traffic, low speed limit roadways to larger collector roadways. Collector roadways within the City, such as White Avenue, Mifflin Avenue and Main Street have speed limits between 40-45mph with 2,000-10,000 ADT. Suggested infrastructure would be a bike lane or buffered bike lane. The historic grid pattern of the Main Street corridor leaves little room for expansion of ROW to accommodate a marked or buffered bike lane. The public input process also indicated low public support for on-street bicycle lanes.

An analysis completed as part of the *PLAN Go TDOT Long Range Transportation Plan (2005) Bike and Ped Elements* provides a bicycling level of service state roads (Figure 3.6). LOS is an evaluation of bicyclists’ perceived safety and comfort with respect to motor vehicle traffic while traveling in a roadway corridor. It identifies the quality of service for bicyclists or pedestrians that currently exists within the roadway environment⁹. The map indicates a BLOS D, E, and F for collector roadways within the City. Due to the poor level of service and narrow right-of-way (ROW), future bicycle improvements along collector roadways would need to be part of larger roadway projects and are cost prohibitive at this time.

Within the City of Henderson, only SR 5/US 45 surpasses an ADT of 10,000. The speed limit along SR 5 (US 45) is 55mph within the City of Henderson. The map indicates a BLOS of A for SR 100. This section of roadway is part of the statewide bicycle route.

The public input process revealed a desire for a shared-use path along Church Street to provide a connection from the downtown area to the City’s largest park, Gene Record Memorial Park and to provide bicycle and pedestrian linkages to existing commercial areas along Church Street. The southern portion of the route near Main Street has dense commercial development while the northern portion is low density residential. Church Street was previously a state route and as such has a wide ROW for most of its length through Henderson. Because it is not a state route, it would not need to follow TDOT bicycle infrastructure guidelines. Church Street has a relatively high ADT of 3,030 and but a low speed limit of 30

⁸ TDOT *Roadway Design Guidelines*; Table 9-5: Bicycle Facility Guidance for Urban Cross Sections

⁹ FHWA University Course on Bicycle and Pedestrian Transportation



mph. The southern portion of the route is marked by wide driveways and parking lots adjacent to the roadway. This would be a hazard to bicyclists in its current state. However, future repaving projects may provide an opportunity to utilize unused ROW and bring ROW access up to current roadway design standards. A shared-use path adjacent to the roadway could be constructed on existing ROW along the southern portion of the roadway and a separate shared use path (greenway) could provide access along the northern residential portion of the route.

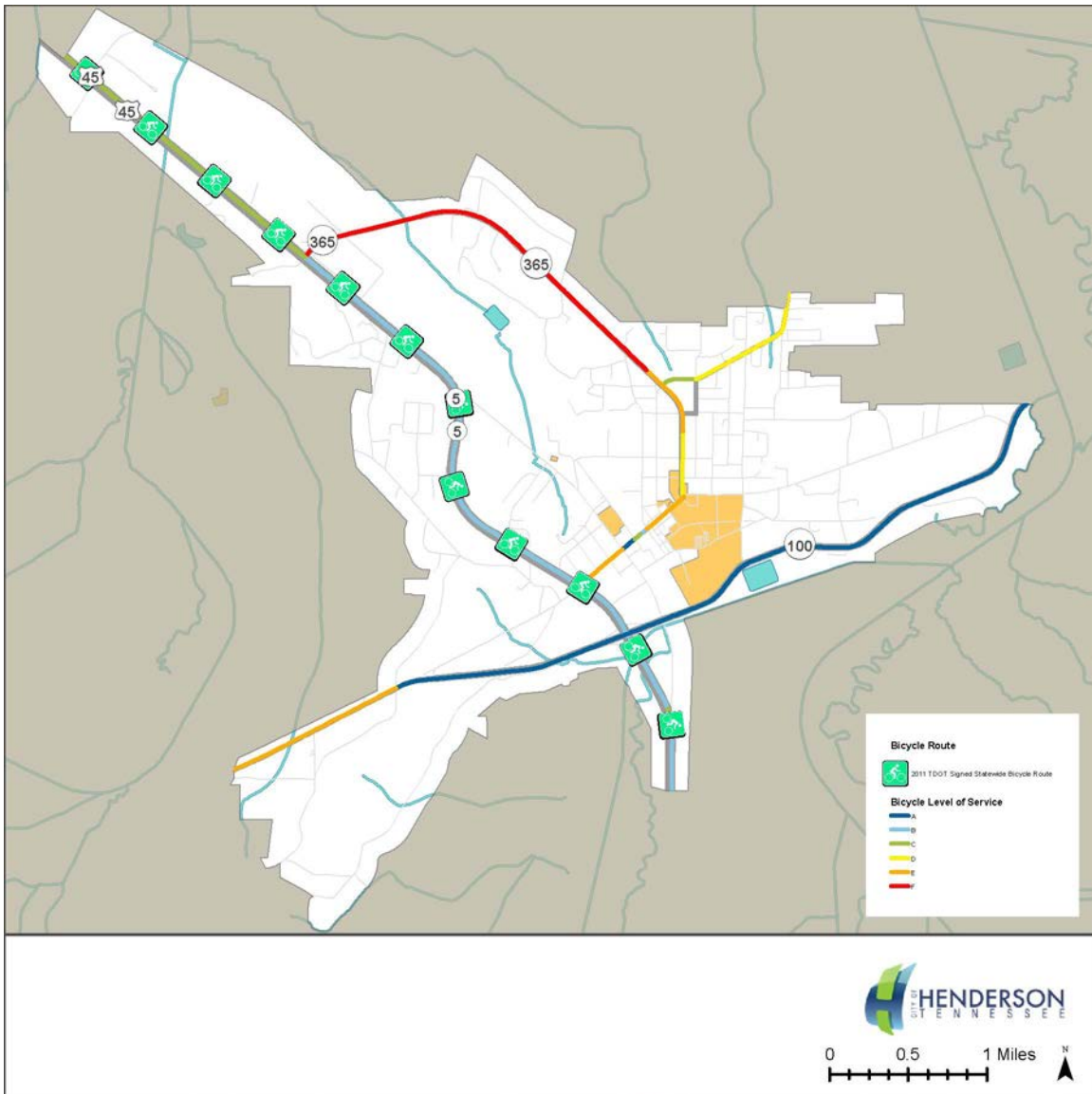


FIGURE 3.7 TDOT BICYCLE LEVEL OF SERVICE



3.2 NETWORK EVALUATION

Main Street serves as the spine of the pedestrian network in Henderson. The pedestrian network is laid out along the dense grid pattern of the streets in the downtown area.

The existing network connections to Main Street are aging and more connections are needed to peripheral areas containing dense residential populations, over age 65 populations, minority populations and those in poverty. These areas have been identified to the northeast and west of Main Street. Connections are needed to schools, public institutions, parks, employment areas and commercial areas. The public input supported these findings. The following network connections were identified and refined through data collection and public input:

- Chester County school campuses to the library and ball park
- Chester County Schools Stewart Avenue and around the school campuses
- Downtown to Gene Record Memorial Park along Church Street
- Downtown to low income and multifamily housing to the west of the City along Main Street
- Downtown to low income and multifamily housing to the northeast of the City along Mifflin Avenue
- Connections to new track and field development at Freed-Hardeman University
- Improvements to existing connections along White Avenue, North Avenue and Crook Avenue

Safety improvements to the network are also needed. An inventory of collision data and public input supports improvements to crosswalks and lighting in the downtown area along Main Street and adjacent areas.

3.3 PRELIMINARY ENVIRONMENTAL REVIEW

A preliminary environmental screening was performed for areas along existing roadways in Henderson, Chester County, Tennessee as part of this plan. The preliminary environmental screening has been conducted on a planning level to identify potential environmental constraints within the project area. Before construction of any project, further review will be needed to determine constraints.

Wetlands, flood hazard zones, historic structures and cultural resources, and sites with hazardous materials were identified within the City limits of Henderson. Endangered and sensitive species could potentially be located within or near the proposed project corridor and could be impacted by proposed activities. The following is a synopsis of the findings of the screening. The full report is attached in Appendix D.

STREAMS/WETLANDS: Wetlands exist within the proposed project area corridor along South Fork Forked Deer River in the southeastern portion of the project area, along Sugar Creek in the southern portion of the project area, and along Turkey Creek in the northwestern portion of the project area. The potential exists for the presence of wetland indicators along existing streams and in low-lying areas throughout the project area. Additionally, both Turkey Creek and Sugar Creek flow directly into the South Fork Forked Deer River that is connected to a network of streams and wetlands that ultimately flow into the Tennessee River, a navigable waterway subject to the Rivers and Harbors Act of 1899 and Section 404



of the Clean Water Act. The USACE Nashville District should be consulted for potential impacts to sensitive resources in relation to obstructions to wetlands, stream/river crossings, and low-lying areas in the plan area.

ENDANGERED SPECIES: There are federal and state-listed rare, threatened, and endangered species in Chester County. The USFWS and TDEC should be contacted prior to work in the project area for a determination of the presence of the listed species shown in Table 3.6.

TABLE 0.1 STATE AND FEDERALLY LISTED RARE, THREATENED, OR ENDANGERED SPECIES FOR CHESTER COUNTY, TN

| Scientific Name | Common Name | Fed. Status | State Status | Wet Habitat Flag |
|---------------------------------|----------------------------|----------------------|------------------------------|------------------|
| <i>Helianthus verticillatus</i> | Whorled Sunflower | Listed Endangered | Endangered | Possible |
| <i>Prenanthes barbata</i> | Bearded Rattlesnake- root | -- | Special Concern | Upland |
| <i>Creaserinus hortonii</i> | Hatchie Burrowing Crayfish | -- | Endangered | Aquatic |
| <i>Etheostoma cervus</i> | Chickasaw Darter | -- | Deemed in Need of Management | Aquatic |
| <i>Pseudognaphalium helleri</i> | Heller's Catfoot | -- | Special Concern | Upland |
| <i>Rhynchosia latifolia</i> | Prairie Rhynchosia | -- | Special Concern | Upland |

FLOODPLAIN/FLOODWAY: Portions of project area surrounding Turkey Creek, Sugar Creek, and South Fork Forked Deer River were located in the 100-year floodplain according to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM).

CULTURAL AND HISTORIC RESOURCES: Two architectural structures located within the City limits of Henderson are listed on the National Register of Historic Places:

- National Teacher’s Normal and Business College Administration Building located at 158 East Main Street, and
- Chester County Courthouse located at the Courthouse Square.

Two historical markers issued by the Tennessee Historical Commission (THC) were identified within the City limits:

- Cox’s Raid is located on East Main Street at White Avenue, and
- Freed-Hardeman College located at 158 East Main Street.

Numerous architectural resources with potential for listing on the National Register of Historic Places are located within Henderson City Limits. These resources include buildings, cemeteries, bridges and a potential historic district along Main Street and adjoining streets

HAZARDOUS MATERIALS: Numerous businesses with storage tanks for bulk storage, use, and transportation of hazardous materials and petroleum products were located within the City limits of Henderson.

Many sites with storage tanks were not identified as having had toxic releases according to the Environmental Protection Agency (EPA). However, the sites that have previously had toxic releases or are



considered to discharge water, create air pollution, or contain hazardous waste are shown in detail in Appendix D.

Prior to development of the proposed corridor area, further environmental review through state and federal agencies should be performed to ensure these sensitive resources will not be affected as a result of construction activities.

3.4 POLICIES AND PROCEDURES REVIEW

There is a strong desire to maintain and extend the current pedestrian and sidewalk infrastructure in Henderson. This desire is expressed in high level policies for the City. However, there are few regulations in place at the local level to ensure the continued preservation and evolution of the bicycle and pedestrian network in Henderson.

TDOT Roadway design guidelines ensure the development of the pedestrian network along state routes as state maintained roadways are reconstructed over time.

The City of Henderson Development Plan provides a strong policy background for the implementation of regulation that would protect and grow the pedestrian and sidewalk network. The policy calls for “sidewalks to be extended throughout the City and maintained in good repair”, for “sidewalks to be required in new City residential developments” and for a “City-wide hiking and biking system”.

This Plan has demonstrated the existing sidewalk infrastructure is aging and has condition issues. To ensure the sidewalk system is maintained in good repair, the City needs to provide a dedicated funding source annually for sidewalk rehabilitation and create and adopt a sidewalk prioritization matrix to determine allocation of funds.

To aid in the extension of the sidewalk network, the City should update the subdivision regulations to require new sidewalks or a standard impact fee as part of development or redevelopment. The standard impact fee can offset costs to connect the new development to existing pedestrian and bicycle infrastructure.

The existing subdivision regulations provide detailed guidance for the construction of sidewalks when required. The regulations should be updated to reference ADA standards to ensure development follows the federal requirements.

To support a City-wide bicycle network, bicycle amenities such as bike racks could be placed at community destinations including public facilities downtown, Freed-Hardeman University, Chester County Schools, the library, the Chester County Dixie Youth Ball Park and along Main Street.

Additionally, bicyclist safety could be supported through a public education campaign and through regular street sweeping of shoulders along SR 5 (US 45) and other roadways where debris can collect and pose a danger to bicyclists.

Finally, the City could work with the public to create a public education campaign to promote safe behaviors with regards to cyclists and pedestrians. The National Highway Traffic Safety Administration (NHTSA) provides a framework and resources on its website: <https://www.nhtsa.gov/road-safety>.



4. RECOMMENDATIONS

4.1 GENERAL IMPROVEMENTS

Eight recommendations for general improvements were identified through the Plan process. The location of these improvements is illustrated in Figure 4.1

1. Extend the existing sidewalk at the Henderson Elementary School to past the Chester County Public Library to the Chester County Dixie Youth Ball Fields Park.
2. Study improvements to crosswalks across Main Street downtown and near Freed-Hardeman University with the goals of increasing pedestrian safety and maintaining smooth traffic flow and improve the visibility of existing crosswalk areas downtown using signage, pavement striping and flashing lights where appropriate.
3. Improve existing sidewalk and add new sidewalk where needed along Main Street from the Bridge across the Norfolk Southern railroad to the intersection with US 45.
4. Construct new sidewalks along Mifflin Avenue from the intersection with Main Street northward to TN SR 200 to connect the residential neighborhood to Freed-Hardeman University and the downtown business district.
5. Construct new sidewalks along Mifflin Avenue from the intersection with Main Street southward adjacent to the university to connect to the future track and field athletic complex.
6. Construct a pedestrian crosswalk, turn lane and associated drainage improvements to provide a safe connection for Elementary, Middle and High school students across Stewart Avenue and construct a sidewalk connection along Old Jack's Creek Road from the school property to the existing sidewalk at East Mill Street.
7. Construct a shared use path for bicyclists and pedestrians along Church Avenue to connect downtown Henderson (Main Street) to the Gene Record Memorial Park near US 45 north of the City.
8. Fill in the gaps in the sidewalk network within the neighborhoods that feed into North Mifflin Avenue.



FIGURE 4.1 GENERAL IMPROVEMENTS RECOMMENDATIONS

4.2 PROJECT PRIORITIZATION

Projects were prioritized as short term (1-5 years), mid-term (5-10) years and long term (10+) years.

Project prioritization was based on the following factors.

Safety Public input revealed a strong desire for improved pedestrian and bicyclist safety. Specifically, students at the Chester County Schools Campuses, students at Freed-Hardeman and pedestrians at crosswalks downtown were identified as target populations for safety improvements. Data revealed a need to discourage mid-block crossings and improve lighting.



Provides network connection Gaps in the network keep people from accessing destinations. Dense population areas and vulnerable population areas should connect to schools, public institutions, employment areas, parks, and commercial areas.

Provides service to vulnerable populations Vulnerable populations including low income persons, minority persons, and those over age 65 should be provided connections to destinations

Limits Negative Environmental Impact Wetlands, flood hazard zones, historic structures and cultural resources, and sites with hazardous materials were identified within the City limits of Henderson. Endangered and sensitive species could potentially be located within or near the proposed project corridor and could be impacted by proposed activities.

Project Feasibility Projects with physical constraints, high costs, or low public support were ranked below those with few physical constraints low costs and public support.

Public Input Prioritization exercises revealed the following as the most important improvements to the pedestrian and bicycle network: build new sidewalk connections, improve existing sidewalks, construct new or improved crosswalks, and include street lighting and signage that enhance pedestrian safety. The 8 recommended general improvement projects were ranked during the public meeting and on the survey.

PUBLIC INVOLVEMENT AND PROJECT PRIORITIZATION

Survey Participants were asked to score each project from 1 (Low Priority) to 100 (High Priority). The projects were then ranked by average score in Table 4.1. Pedestrian improvements across Stewart Avenue and along Old Jack’s Creek Road near the Elementary, Middle and High School Campuses ranked highest. This reflects the sentiments of the public meeting participants. Improvements to the sidewalk along Mifflin Avenue North of Main Street ranked second and a shared use path along Church Avenue ranked third.

Participants in the Public meeting were given three green dots to place on the projects they prioritized as most important and red dots were available to mark projects participants were strongly against.

Participants concluded that the pedestrian crosswalk study downtown and the pedestrian crosswalk at the school campuses were most exigent due to safety concerns. There was strong support for pedestrian improvements along the northern portion of Mifflin Avenue to serve a dense population with a large concentration of low income, minority and student populations. There is currently a large amount of pedestrian traffic along the route originating from their homes in the neighborhood to the commercial areas along Main Street. In conclusion, these three improvements were designated as high priorities.

The other largely supported improvement was the “filling in the sidewalk gaps” within the residential neighborhoods adjacent to the west of Mifflin Avenue north of Main Street. Because the construction of the gaps would be dependent upon the completion of the high priority improvement to build a sidewalk along Mifflin Avenue, this “filling in the sidewalk gaps” project was designated as a medium priority.

The project to extend the sidewalk from the school properties to the Ball Park received 4 votes and the project to connect the future IMPROVE Act project to the Norfolk Southern railroad bridge by filling in sidewalk gaps received 3 votes. Participants viewed both projects as necessary but not exigent. It was felt that both projects would receive a high volume of low income, minority and student traffic and



provided necessary connections to heavily trafficked destinations. Safety would be improved and ADA compliance would be increased. In conclusion, these two improvements were designated as medium priorities.

The sidewalk project south of Mifflin did not garner any votes for or against. Participants viewed the path as a “next step” after the completion of the North Mifflin Avenue sidewalks and the future track and field project at Freed Hardeman University. There were concerns that the topography would cause the project to be more costly. This improvement was designated as a low priority.

The Multi-use Path along Church Avenue did not receive any votes, for or against. When participants were questioned about the path, residents felt that it was an ambitious undertaking requiring acquisition of ROW making it a possibly contentious and costly project. Participants liked that the project would provide a service to an area with no sidewalks and a connection from downtown to the park. Participants concluded that it would be a good long term project. This improvement was designated as a low priority.

TABLE 4.1 PUBLIC INPUT PROJECT RANKING

| Project | Survey Rank | Public Meeting Rank |
|--|-------------|---------------------|
| School Campus Pedestrian Connections | 1 | 2 |
| Mifflin Avenue (North) Sidewalks | 2 | 3 |
| Church Avenue to Gene Record Memorial Park Shared-use Connection | 3 | 7 |
| Crosswalk Safety Study/ Crosswalk Improvements | 4 | 1 |
| School to Ball Park Sidewalk Extension | 5 | 5 |
| Improve Residential Sidewalk Connections to Mifflin Avenue | 6 | 4 |
| Sidewalk Improvements near Railroad Bridge | 7 | 6 |
| Mifflin Avenue (South) sidewalks | 8 | 8 |

PRIORITIZATION AND TRADEOFFS DISCUSSION

PROJECT 1: SCHOOL TO BALL PARK SIDEWALK EXTENSION

The proposed project to extend the existing sidewalk at the Henderson Elementary School to past the Chester County Public Library to the Chester County Dixie Youth Ball Fields Park provides a valuable network connection between public facilities and schools. The connection would serve a vulnerable population, dependent children. The sidewalk would provide a safe, ADA accessible route to the public library and ball fields park. However, no exigent safety concerns have been identified in the project area. There are no identified physical or environmental barriers to the project. Public input revealed support for the project. For these reasons, the project was determined to be a mid-term priority.

PROJECT 2: CROSSWALK SAFETY STUDY/ CROSSWALK IMPROVEMENTS

The proposed project to study improvements to crosswalks across Main Street downtown and near Freed-Hardeman University with the goals of increasing pedestrian safety and maintaining smooth traffic flow and improve the visibility of existing crosswalk areas downtown using signage, pavement striping and



flashing lights where appropriate would improve upon existing network connections. Mid-block crossings were identified as a safety concern in the downtown area and near Freed-Hardeman University in initial public meetings. Specifically, meeting participants felt unsafe at the crosswalk at White Avenue and Main Street. They felt that motorists did not stop at the intersection due to the sweeping right turn. One non-fatal collision with a pedestrian was identified in the downtown area. The suggested pedestrian improvements would serve the employment locations and public facilities downtown as well as Freed-Hardeman University. There are few barriers to implementation of this project. Improvements to existing crosswalks such as signage and painting are relatively low cost. Public input revealed strong support for the projects. Due to the safety concerns, the strong support of the public, and the low cost of improvements, the project was identified as a short term priority.

PROJECT 3: SIDEWALK IMPROVEMENTS NEAR RAILROAD BRIDGE

The proposed project to improve existing sidewalk and add new sidewalk where needed along Main Street from the Bridge across the Norfolk Southern railroad to the intersection with SR 5 (US 45) would support efforts to connect the low-income housing to the west of SR 5 (US 45) with employment, commercial and public uses downtown. Sidewalks do exist intermittently along the north side of Main Street at this location. There are no identified physical or environmental barriers to the construction of this project. Implementation of this project will be most beneficial when timed to coordinate with the adjacent IMPROVE Act Project. Public input revealed support for this project and a desire to coordinate the implementation with adjacent projects. For these reasons, this project was identified as a long-term priority.

PROJECT 4: MIFFLIN AVENUE (NORTH) SIDEWALKS

The proposed project to construct new sidewalks along Mifflin Avenue from the intersection with Main Street northward to TN SR 200 would connect the residential neighborhood to Freed-Hardeman University and the downtown business district. This section of sidewalk would serve as major connection within the pedestrian network. It would connect a dense population of low-income, elderly and minority residents to employment, schools, public institutions, and commercial areas along Main Street. No urgent threats to public safety were identified along the route. However, the provision of ADA accessible path for a documented concentration of elderly would improve safety for residents using the route. The project would support a documented unmet need for residents of Henderson. There are no identified physical or environmental barriers to implementation of this project. Public meetings revealed strong public support for the project. For these reasons, this project was identified as a short-term priority.

PROJECT 5: MIFFLIN AVENUE (SOUTH) SIDEWALKS

The proposed project to construct new sidewalks along Mifflin Avenue from the intersection with Main Street southward adjacent to the university to connect to the future track and field athletic complex would provide access to and from Freed-Hardeman University and provide a connection from Main Street to the public amenities at the future track and field complex. A review of population density showed a pocket of density on the Freed-Hardeman University campus. This density is reflective of the presence of student dorm housing on campus. There are no identified environmental constraints to project implementation. The terrain adjacent to the roadway would require additional preparations before sidewalks could be installed resulting in a higher project cost per linear foot of sidewalk. For these reasons, this project was identified as a long term priority.



PROJECT 6: SCHOOL CAMPUS PEDESTRIAN CONNECTIONS

The proposed project to construct a pedestrian crosswalk, turn lane and associated drainage improvements to provide a safe connection for Elementary, Middle and High school students across Stewart Avenue and construct a sidewalk connection along Old Jack's Creek Road from the school property to the existing sidewalk at East Mill Street would provide safer connections for students. Public input revealed an urgent need for safety improvements on Stewart Avenue. Defined paths for pedestrians and vehicles will support the safety of students as they access school campuses along Stewart Avenue. Public input also revealed pedestrians utilizing the roadway and ROW along Old Jack's Creek Road as a preferred connection from existing sidewalks at East Mill Street to the school campuses. Students on these school campuses were identified as a vulnerable population due to their lack of access to transportation choices. There are no identified environmental constraints to the implementation of this project. This project would require the installation of drainage at Stewart Avenue. These project can be implemented in phases to first address the urgent safety needs at Stewart Avenue and later the sidewalk connection along Old Jack's Creek Road. For these reasons, this project was identified as a short term priority.

PROJECT 7: CHURCH AVENUE TO GENE RECORD MEMORIAL PARK SHARED-USE

The proposed project to construct a shared use path for bicyclists and pedestrians along Church Avenue would connect downtown Henderson (Main Street) to the Gene Record Memorial Park near SR 5 (US 45) north of the City. The corridor is lined with commercial and employment destinations and there is no existing pedestrian infrastructure along the route. Public input revealed a moderate amount of support for the project. The length of the connection, the possible need to purchase ROW and the existence of wide driveway entrances along the route are political, physical and financial constraints to project implementation. Some of these constraints could be mitigated if the project was included in future roadway improvements along the route. For these reasons, this project was identified as a long-term priority.

PROJECT 8: MIFFLIN AVENUE RESIDENTIAL CONNECTIONS

The proposed project to fill in the gaps in the sidewalk network within the neighborhoods that feed into North Mifflin Avenue would provide network connections from the dense residential population to the proposed pedestrian infrastructure along Mifflin Avenue and the existing sidewalk network just north of the CBD. The physical constraints of the project will vary by specific location. There were no identified environmental constraints in the project area. Public support for this project is strong, but it was recognized that the project is ancillary to the improvements along Mifflin Avenue. For these reasons, this project was identified as a mid-term project.



4.3 POLICIES AND PROCEDURES RECOMMENDATIONS

The following policies and procedures are recommended as part of this Plan. The policies and procedures recommended are the result of public input and the policies and procedures review.

- 1) Provide a dedicated funding source annually for sidewalk rehabilitation
- 2) Create sidewalk prioritization matrix to determine allocation of funds
- 3) Revise existing sidewalk policies to require sidewalk development in new development or redevelopment
- 4) Revise existing sidewalk policies to reference ADA standards
- 5) Place bicycle amenities such as bike racks community destinations including public facilities downtown, Freed-Hardeman University, Chester County Schools, the library, the Chester County Dixie Youth Ball Park and along Main Street
- 6) Provide regular street sweeping along shoulders where bicyclists may ride
- 7) Create a public education campaign to promote bicycle and pedestrian safety

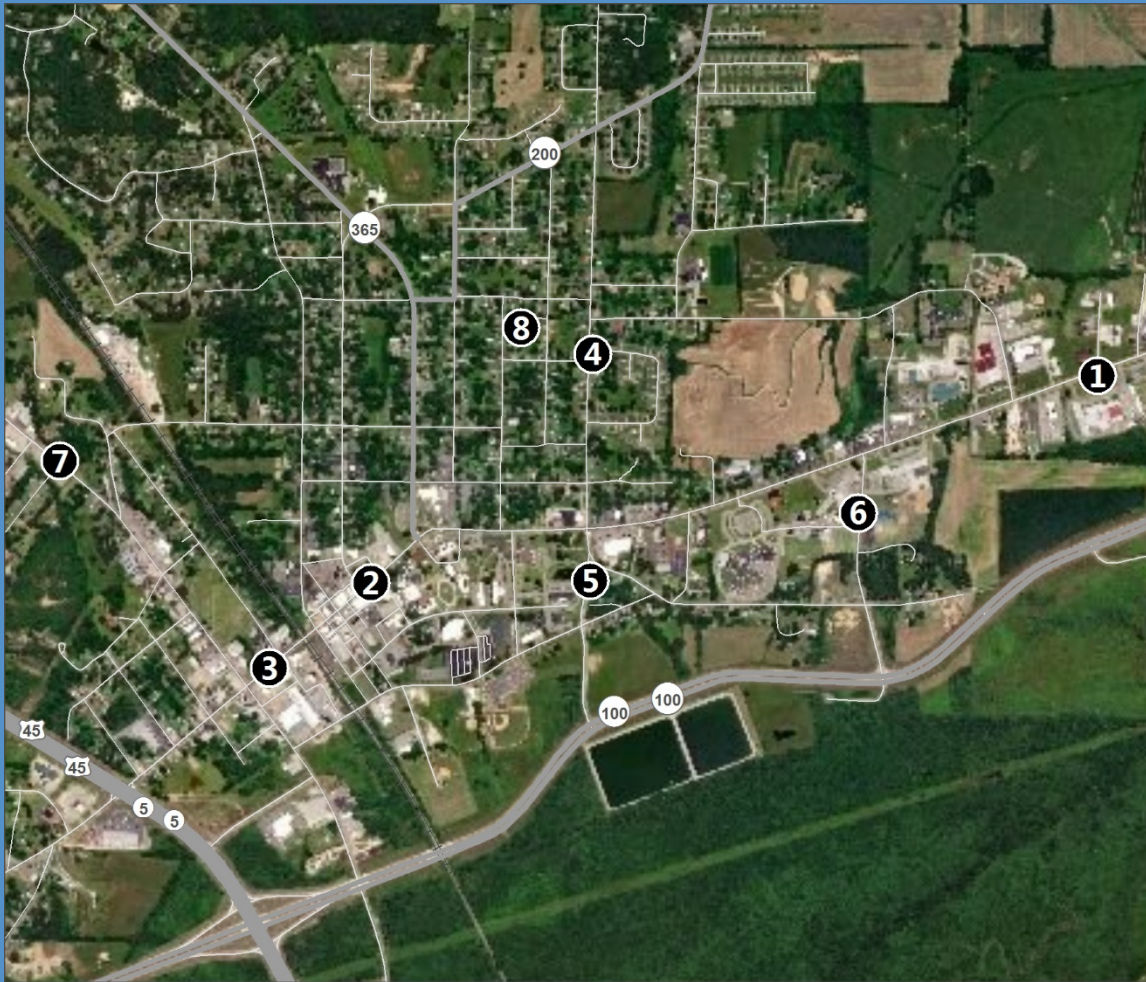


4.4 PROJECT SHEETS

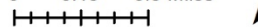




Project List



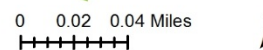
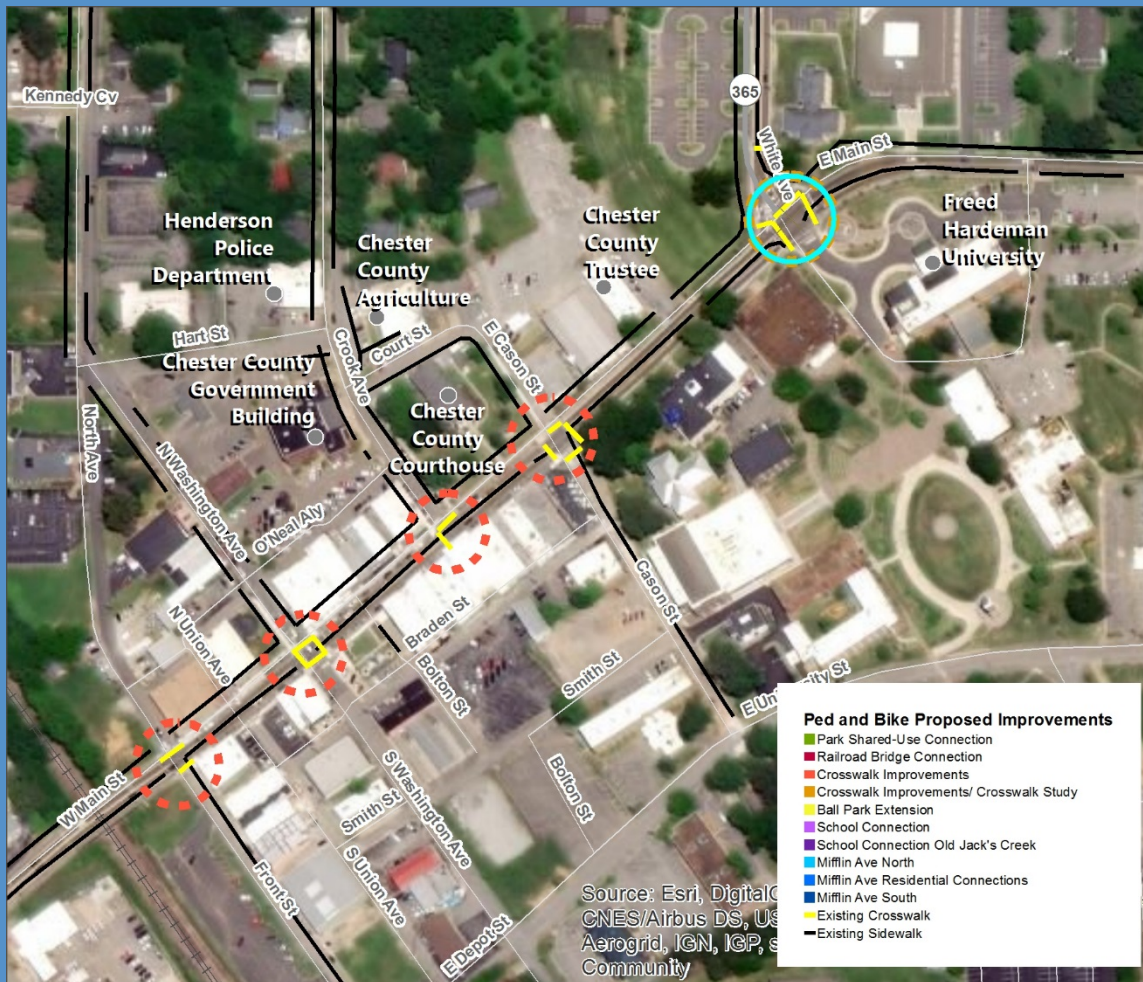
0 0.15 0.3 Miles



- 1 School to Ball Park Sidewalk Extension
- 2 Crosswalk Safety Study/ Crosswalk Improvements
- 3 Sidewalk Improvements near Railroad Bridge
- 4 Mifflin Avenue (North) Sidewalks
- 5 Mifflin Avenue (South) Sidewalks
- 6 School Campus Pedestrian Connections
- 7 Church Avenue to Gene Record Memorial Park Shared-use
- 8 Mifflin Avenue Residential Connections



Crosswalk Safety Study/ Crosswalk Improvements (Project 2)



Project Description: Study safety improvements to crosswalks across Main Street downtown and near Freed-Hardeman University, Traffic Engineering Study/Walkability Audit, with the goals of increasing pedestrian safety and maintaining smooth traffic flow and improve the visibility of existing crosswalk areas downtown using signage, pavement striping and flashing lights where appropriate.

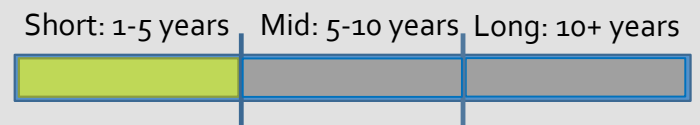
Planning Level Cost Estimates:

\$ Possibility to coordinate with TDOT for safety study

\$25,000 for flasher*

\$4,000 per crosswalk**

Prioritization: Short Term

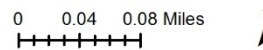
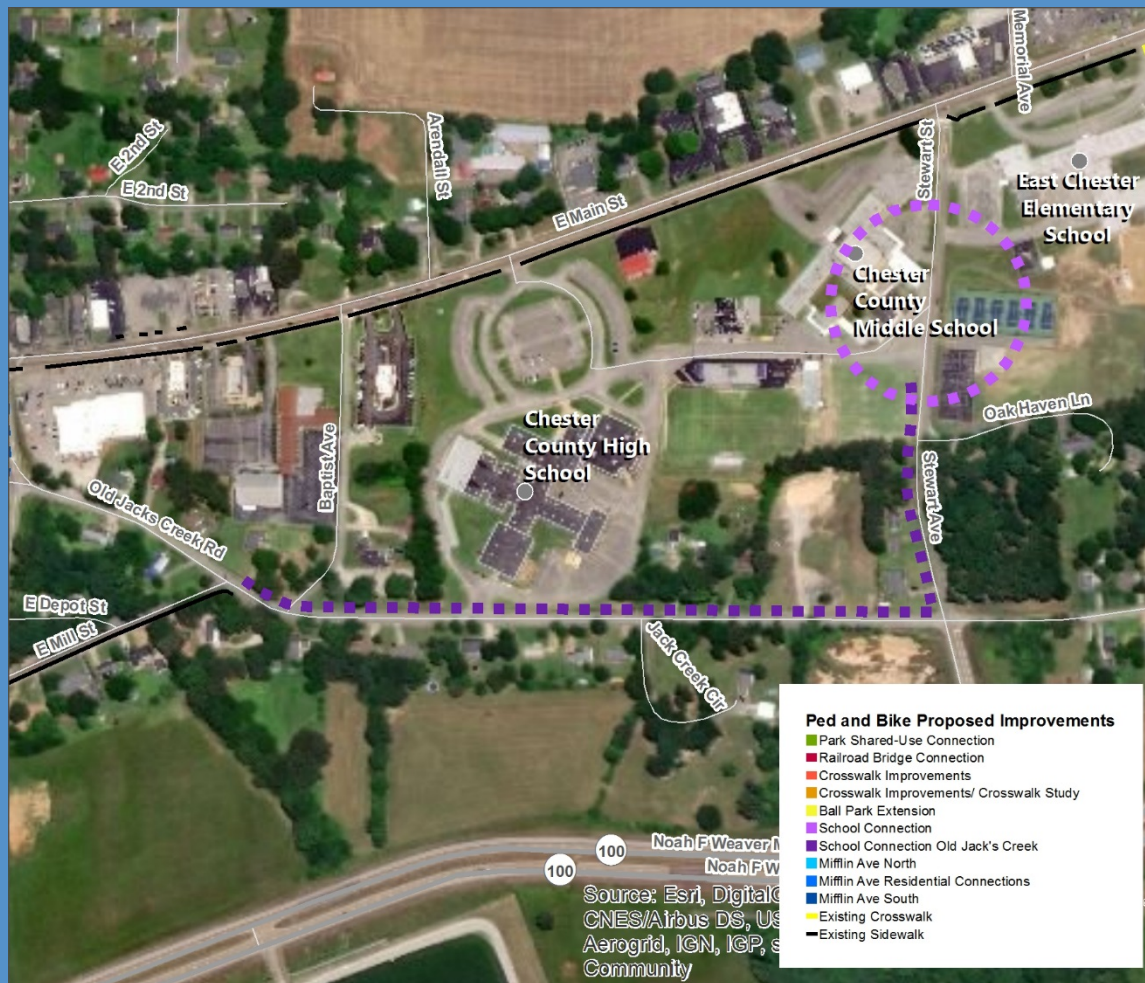


*wood poles, light, wire, etc. If steel poles are needed, add \$20,000 per pole

**includes MOT, sign, paint, and incidentals



School Campus Pedestrian Connections (Project 6)

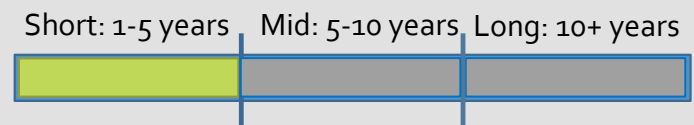


Project Description: Construct a pedestrian crosswalk, turn lane and associated drainage improvements to provide a safe connection for Elementary, Middle and High school students across Stewart Avenue and construct a sidewalk connection along Old Jack's Creek Road from the school property to the existing sidewalk at East Mill Street.

Planning Level Cost Estimates:
 \$ 210,000 for crosswalk, turn lane, drainage*
 \$ 378,000 for Old Jacks Creek Rd Sidewalk

Project Details:
 approximately 2700 Linear Feet

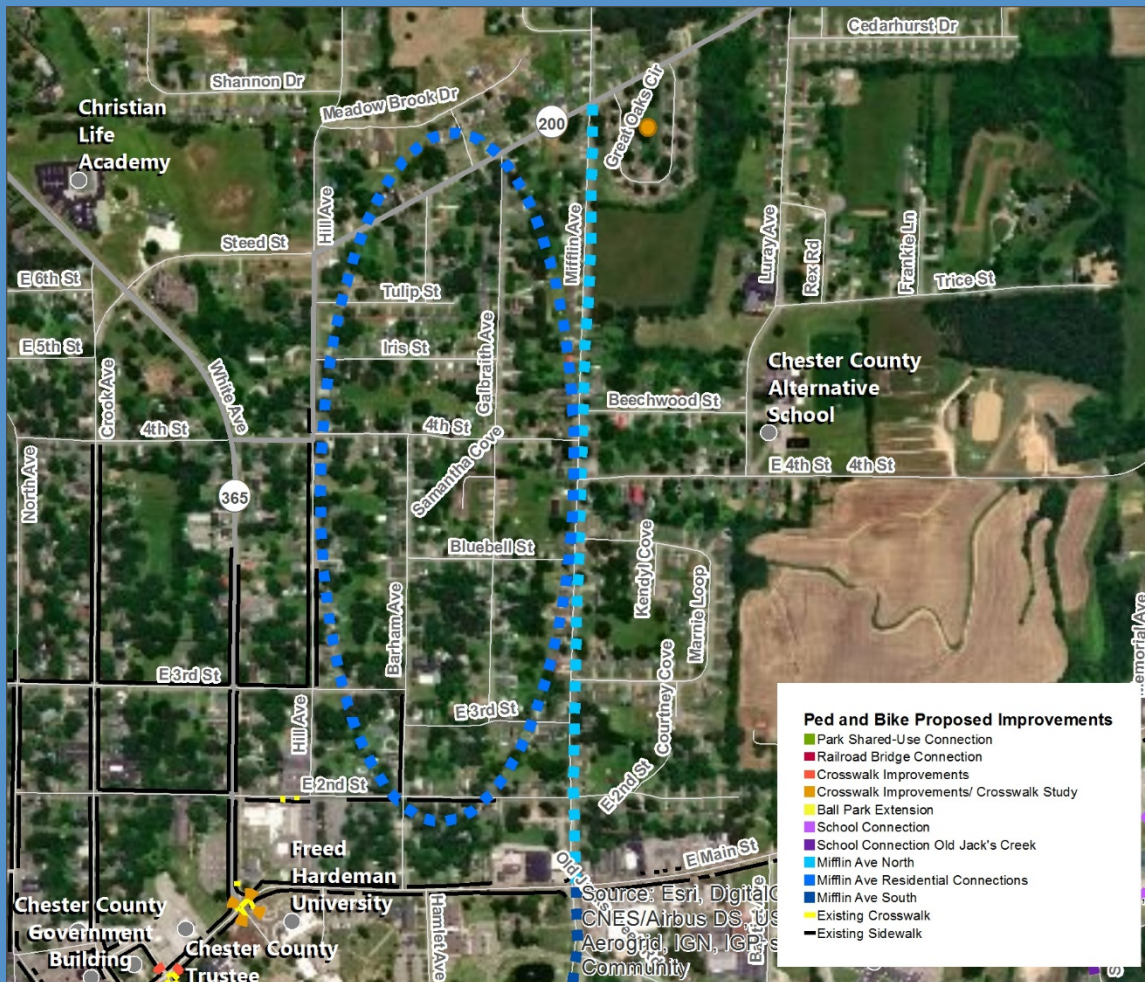
Prioritization: Short term



* Does not include cost to purchase ROW



Mifflin Avenue (north) Sidewalks (Project 4)



0 0.05 0.1 Miles

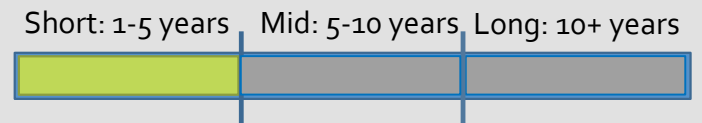


Project Description: Construct new sidewalks along Mifflin Avenue on one side of the street from the intersection with Main Street northward to TN SR 200 to connect the residential neighborhood to Freed-Hardeman University and the downtown business district.

Planning Level Cost Estimates:
\$ 610,000*

Project Details:
approximately 4400 Linear Feet

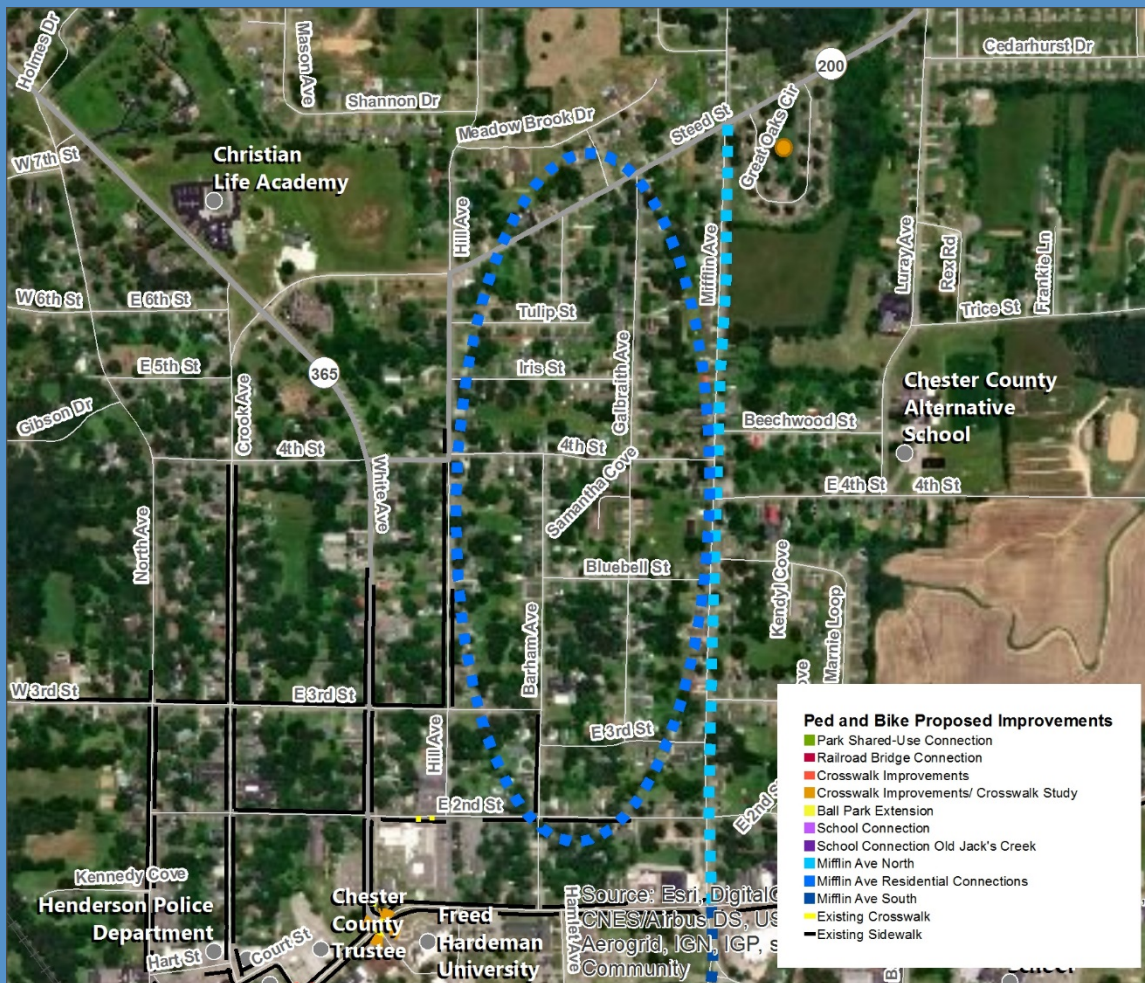
Prioritization: Long term



* Does not include cost to purchase ROW



Mifflin Ave Residential Connections (Project 8)

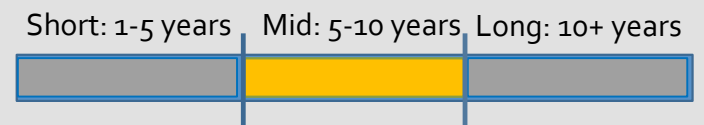


Project Description: Fill in the gaps in the sidewalk network within the neighborhoods that feed into North Mifflin Avenue.

Planning Level Cost Estimates: approximately \$ 140 per linear foot*

Project Details:

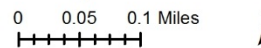
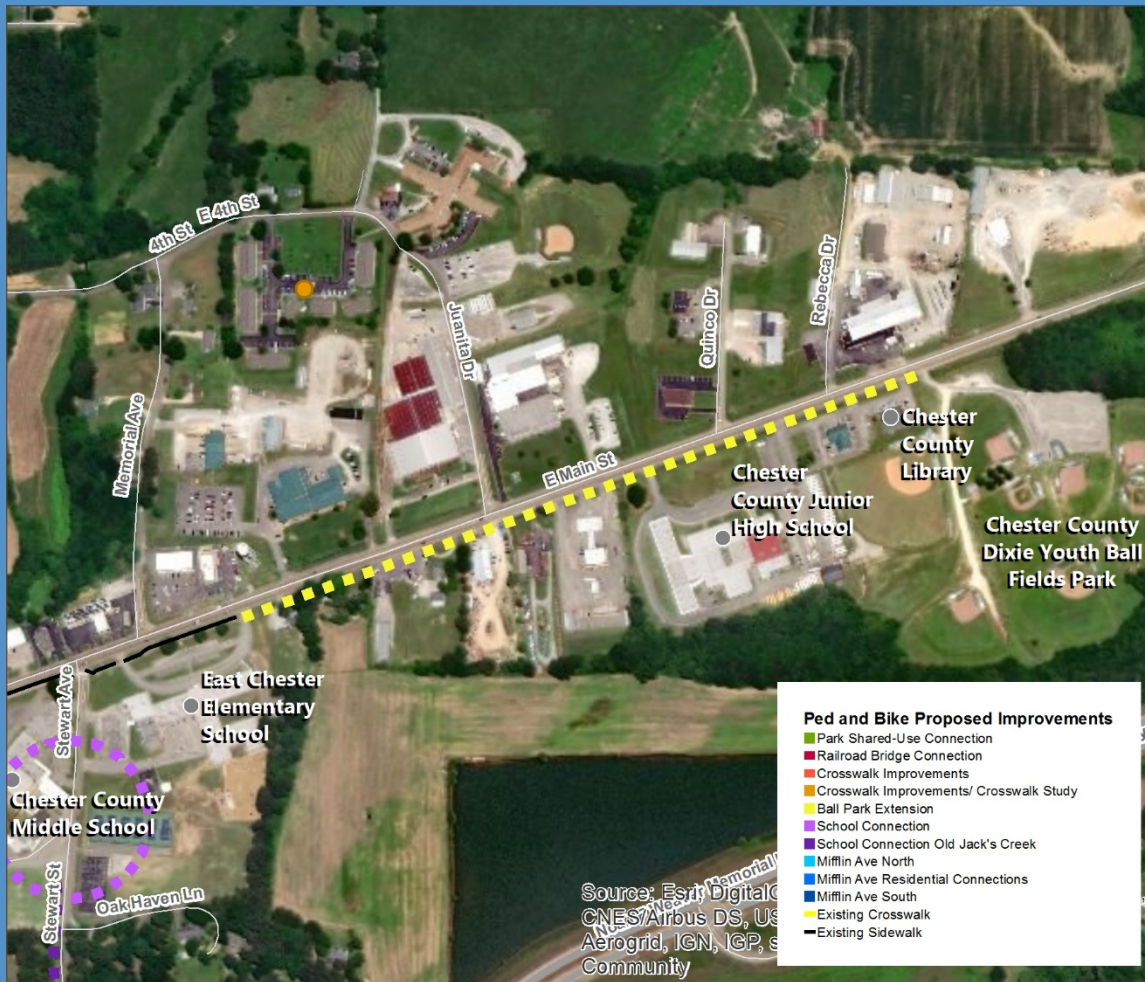
Prioritization: Mid-term



*Does not include cost to purchase ROW
 **Does include cost of ramps



School to Ballpark Extension (Project 1)

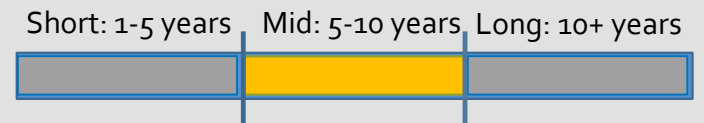


Project Description: Extend the existing sidewalk at the Henderson Elementary School to past the Chester County Public Library to the Chester County Dixie Youth Ball Fields Park.

Planning Level Cost Estimates:
\$ 316,000*

Project Details:
approximately 2300 Linear Feet

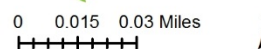
Prioritization: Mid-term



* Does not include cost to purchase ROW



Mifflin Avenue (south) Sidewalks (Project 5)

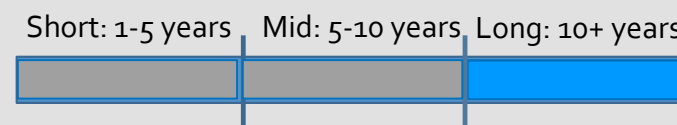


Project Description: Construct new sidewalks along Mifflin Avenue on one side of the street from the intersection with Main Street southward adjacent to the university to connect to the future track and field athletic complex.

Planning Level Cost Estimates:
\$145,000*

Project Details:
approximately 900 Linear Feet

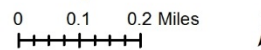
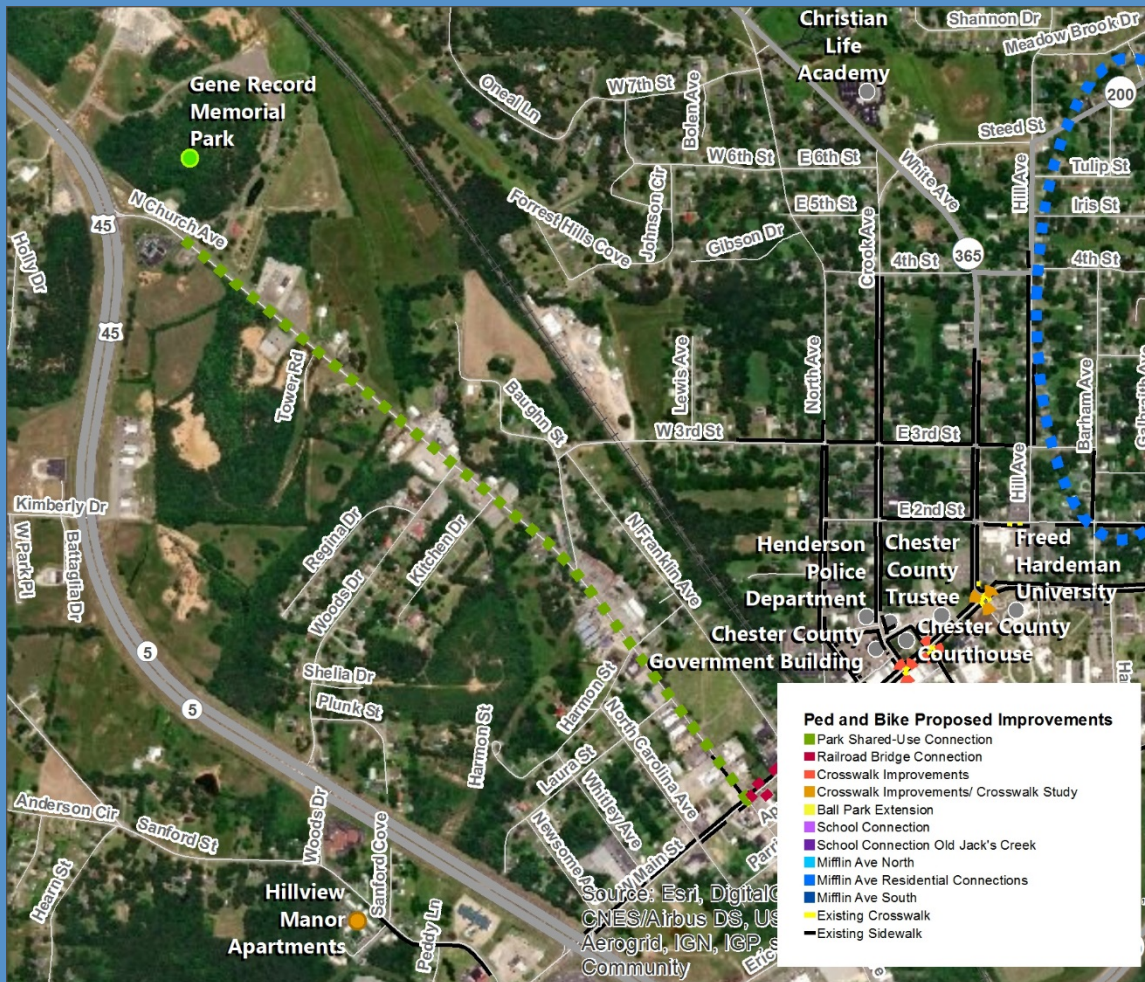
Prioritization: Long term



* Does not include cost to purchase ROW



Church Ave to Gene Record Memorial Park Shared-Use (Project 7)

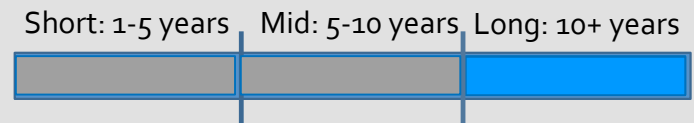


Project Description: Construct a shared use path for bicyclists and pedestrians along Church Avenue to connect downtown Henderson (Main Street) to the Gene Record Memorial Park near US 45 north of the city.

Planning Level Cost Estimates:
\$ 940,000 *

Project Details:
approximately 5700 Linear Feet

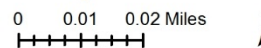
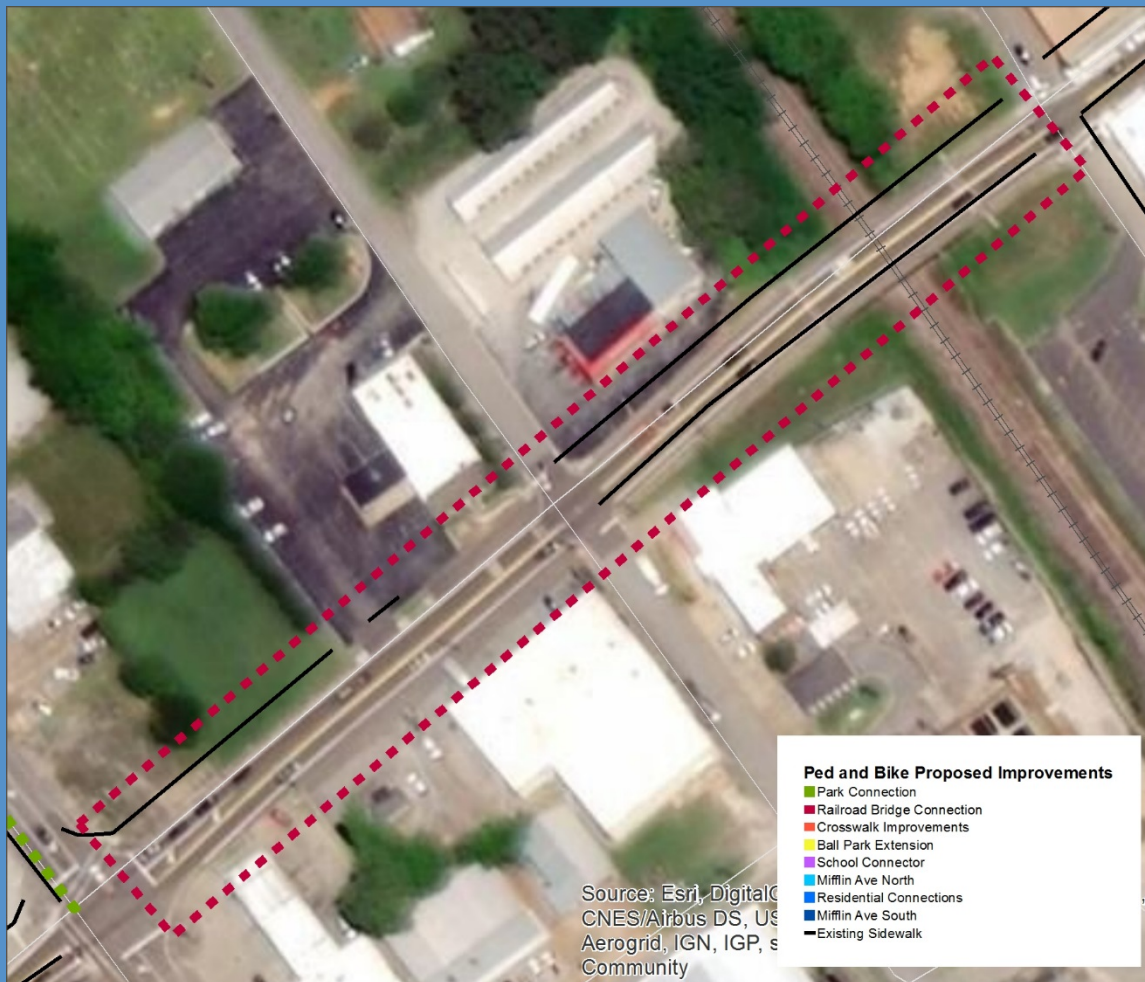
Prioritization: Long term



* Does not include cost to purchase ROW



Sidewalk Improvements near Railroad Bridge (Project 3)

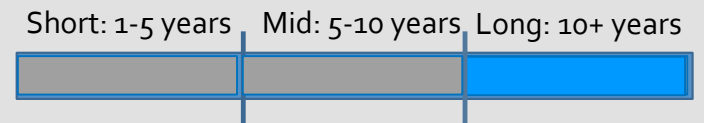


Project Description: Improve existing sidewalk and add new sidewalk where needed along Main Street on both sides from the Bridge across the Norfolk Southern railroad to the intersection with US 45.

Planning Level Cost Estimates:
\$ 104,000*

Project Details:
approximately 740 Linear Feet

Prioritization: Long term



* Does not include cost to purchase ROW



Policy Recommendations

- 1) Provide a dedicated funding source annually for sidewalk rehabilitation
- 2) Create sidewalk prioritization matrix to determine allocation of funds
- 3) Revise existing sidewalk policies to require sidewalk development in new development or redevelopment
- 4) Revise existing sidewalk policies to reference ADA standards
- 5) Place bicycle amenities such as bike racks community destinations including public facilities downtown, Freed-Hardeman University, Chester County Schools, the library, the ball Park and along Main Street
- 6) Provide regular street sweeping along shoulders where cyclists may ride
- 7) Create a public education campaign to promote bicycle and pedestrian safety



4.5 FUNDING

Implementation of the plan’s recommendations will require a persistent and phased approach across all of the eight recommended improvements to identify and secure funding opportunities from a variety of sources. The two main strategies include securing funding assistance from state and federal sources and exploring strategies at the local level for increasing revenues such as private/public partnerships or dedicated City or county revenues.

STATE AND FEDERAL FUNDING ASSISTANCE (GRANT APPLICATIONS)

The City will need to seek diverse funding sources to implement this Plan. The City should partner with private industry, institutions, including Freed-Hardeman University, and state and federal sources.

The Federal and State Government have a variety of programs that could potentially aid in funding various recommended plan projects. Some of the most popularly used programs in the state for the delivery of non-motorized improvements include the Transportation Alternatives Program (TAP), Surface Transportation Program (STP), Recreational Trails Program (RTP), and TDOT’s Multimodal Access Grant. Table 4.2 displays some of the most relevant grant programs as it relates to the pedestrian and bike improvements recommended in this plan.

Other agencies (such as the Department of Health, Department of Agriculture, Department of Tourism Development, and the Department of Economic and Community Development) should be consulted for programs that would provide funding for pedestrian or bicycle facility improvements as part of a secondary effort within the parameters of agency missions. For example, the Tennessee Department of Health’s Commissioner places strategic emphasis on preventative healthcare given Tennessee’s high rates of preventable diseases. Project Diabetes is an initiative provided by the Health Department that funds primary prevention projects, which may include educating the public, recommending community policies, or making non-motorized infrastructure improvements. Identifying such opportunities will require time and effort, but these agencies and grant programs are one of the top resources for smaller municipalities seeking funding assistance to develop their pedestrian and bicycle facility network.

TABLE 4.2 FUNDING

| | |
|---|---|
| Safe Routes to Schools Grants | https://www.tn.gov/tdot/multimodal-transportation-resources/bicycle-and-pedestrian-program/safe-routes-to-school.html |
| TN Department of Health (Diabetes Grants) | https://www.tn.gov/health/health-program-areas/mch-diabetes/d/project-diabetes.html |
| Multimodal Access Grants | https://www.tn.gov/tdot/multimodal-transportation-resources/multimodal-access-grant.html |
| Transportation Alternatives Program (TAP) | https://www.tn.gov/tdot/program-development-and-administration-home/local-programs/tap.html |
| Recreational Trails Program | https://www.tn.gov/environment/about-tdec/grants/grants-recreation-grants/grants-recreation-educational-trail-program.html |
| TN Highway Safety Improvement Program | https://www.tn.gov/tdot/strategic-transportation-investments/project-safety-office.html |



4.6 IMPLEMENTATION

Table 4.3 identifies all recommended projects and details implementation timeframes and project costs.

TABLE 4.3 IMPLEMENTATION TABLE

| | Project | From | To | Description | Planning Level Cost Estimate | Project Details | Prioritization |
|----|--|--|--------------|---|--|------------------|----------------|
| | School to Ball Park 1 sidewalk extension | E Main St | Stewart St | Extend the existing sidewalk at the Henderson Elementary School to past the Chester County Public Library to the Chester County Dixie Youth Ball Fields Park. | \$ 316,000* | 2300 Linear Feet | Mid-Term |
| 2a | Crosswalk Safety Study | E Main St | White Ave | Study Safety improvements to crosswalks across Main Street downtown and near Freed-Hardeman University, Traffic Engineering Study/ Walkability Audit, | | | Short Term |
| 2b | Crosswalk Improvements | E Main St | N Cason | with the goals of increasing pedestrian safety and maintaining smooth traffic flow and improve the visibility of existing crosswalk areas downtown using signage, pavement striping and flashing lights where appropriate. | \$25,000 for flasher*; \$4,000 per crosswalk** | | Short Term |
| | Sidewalk Improvements 3 near Railroad Bridge | E Main St | N Church Ave | Improve existing sidewalk and add new sidewalk where needed along Main Street on both sides from the Bridge across the Norfolk Southern railroad to the intersection with US 45. | \$ 104,000* | 740 Linear Feet | Long Term |
| | Mifflin Avenue (North) 4 sidewalks | Mifflin Ave | Main St | Construct new sidewalks along Mifflin Avenue on one side of the street from the intersection with Main Street northward to TN SR 200 to connect the residential neighborhood to Freed-Hardeman University and the downtown business district. | \$ 610,000* | 4400 Linear Feet | Short term |
| | Mifflin Avenue (South) 5 sidewalks | Mifflin Ave | Main St | Construct new sidewalks along Mifflin Avenue on one side of the street from the intersection with Main Street southward adjacent to the university to connect to the future track and field athletic complex. | \$145,000* | 900 Linear Feet | Long Term |
| 6a | School Campus pedestrian Connections | Stewart Ave | | Construct a pedestrian crosswalk, turn lane and associated drainage improvements to provide a safe connection for Elementary, Middle and High school students across Stewart Avenue | \$ 210,000 for crosswalk, turn lane, drainage* | | Short Term |
| 6b | | North Side Old Jack's Creek Road, E side Stewarts Road | E Mill St | Construct a sidewalk connection along Old Jack's Creek Road from the school property to the existing sidewalk at East Mill Street | \$ 378,000 for Old Jacks Creek Rd Sidewalk | 2700 Linear Feet | Short Term |
| | Church Ave to Gene Record Memorial Park 7 shared-use | Church Ave | Main St | Construct a shared use path for bicyclists and pedestrians along Church Avenue to connect downtown Henderson (Main Street) to the Gene Record Memorial Park near US 45 north of the city. | \$940,000* | 5700 Linear Feet | Long Term |
| | Mifflin Ave Residential 8 Connections | Various | | Fill in the gaps in the sidewalk network within the neighborhoods that feed into North Mifflin Avenue. | \$ 140 per linear foot* | undefined | Mid-Term |

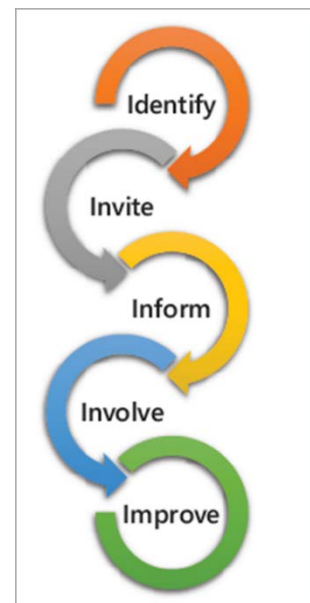


5. PUBLIC INVOLVEMENT

Our team used the “Five I’s of Public Involvement” as a framework for effective community engagement

THE FIVE I’S OF PUBLIC INVOLVEMENT

1. **Identify** the agency stakeholders who would be asked to provide the regulatory and fiscal constraints that affect the development and implementation of project recommendations and **identify** the community “touchstones” (Steering Committee) such as downtown merchant organization representatives, community leaders, churches, clubs or organizations that could support the plan and benefit from its outcomes that should be involved in the planning process.
2. **Invite** the community and stakeholders to participate in the planning process at key points in the plan development.
3. **Inform** the community and stakeholders about the planning process, their roles in the process, and the process outcomes.
4. **Involve** the community and stakeholders in easily accessible and effective activities which provide meaningful input which supports the decision-making for the pedestrian activity elements. A key element of this involvement was a survey which was designed to capture the preferences, tolerances, and vision for the plan
5. **Improve** the community engagement process throughout the project based on the activities in the previous steps and make adjustments during the process to ensure successful engagement.



A working group (steering committee) was selected by the City of Henderson to inform the study. Stakeholder members included:

Emily Johnson, Chester County Chamber of Commerce

Channing Carroll, Chester County Chamber of Commerce

Shannon Sewell, Freed-Hardeman University

Courtney Insell, Freed-Hardeman University

Danny Hutchenson, Chester County

Troy Kilzer II, Chester County Schools



Five meetings were held to guide the planning process and provide input from the community. Public meetings were advertised through the local newspaper and on the City’s social media page.

- Meeting 1: Project Kick-off, Needs Assessment and;
Held on November 11, 2018 at 1pm, Henderson City Hall
- Meeting 2: Stakeholder Meeting, Visioning Session and Preliminary Analysis;
Held on March 14, 2019 at 3pm, Henderson City Hall
- Meeting 3: Stakeholder/ Public Input Meeting, Recommendations, Project Prioritization;
Held on April 11, 2019 at 5pm, Henderson City Hall
- Meeting 4: Henderson Planning Commission Meeting;
Held on June 5, 2019 at 7pm, Henderson City Hall
- Meeting 5: City Council Meeting;
Held on June 13, 2019 at 7pm, Henderson City Hall

Attendees at the April 11th Public Meeting were given an overview of the data collected for the project. The data collected included existing sidewalk, ramps, crosswalks and pedestrian signals. A map showing state Bicycle planning efforts including a level of service analysis for state roads and an existing signed bicycle route were identified. The crash history showing 3 crashes involving pedestrians and bicycles, which included 2 crashes along Main Street near Freed-Hardeman University and 1 crash along the southern border of the project area. Existing transportation studies and policies guiding the process were reviewed. The results of the preliminary environmental review were presented. Further review would be needed to identify specific constraints as individual improvements move forward.

After a review of the existing conditions, each of the eight potential improvements identified in the kick-off and stakeholder meetings were described to the meeting attendees. Public Meeting participants were presented with a poster-sized map listing the following pedestrian/bike improvements. Participants were given 3 green dots to place next to the improvements that they prioritize as the highest. If the participant wanted to express their negative concern toward an improvement, then they were offered a red dot to be placed on the poster. During the exercise, two improvements were refined to better reflect the desires of the stakeholders and public. Voting took place after the projects were refined.



FIGURE 5.1 STAKEHOLDER MEETING

During the exercise, two improvements were refined to better reflect the desires of the stakeholders and public. Voting took place after the projects were refined.

A survey was administered concurrently with the public input meeting. The survey was administered with physical copies at the public input meeting and online access for up to 7 days after the April 11th Public Meeting. A link to the online survey was posted on the City’s social media page and the link was disseminated via email to all participants of the public meeting.



APPENDIX A: PEDESTRIAN INVENTORY METHODS

The scope of the plan called for a “windshield” level analysis of ADA compliance. The engineer tasked with data collection for this Plan was trained in PROWAG standards. No values, with the exception of sidewalk width, were measured as part of data collection efforts. ADA compliance concerns were identified and photographed.

A mobile data collection application, ESRI’s Collector, was used to collect data within the study area. Table A documents the data collection categories, the prompts given for each category and the possible responses.

| Category | Data Collection App Prompt | Possible Responses | |
|---|-----------------------------------|--------------------------|----------------------|
| Sidewalks | Obstructions | Pole or signpost | |
| | | Hydrant | |
| | | Bollard | |
| | | Grate | |
| | | Tree roots/ Vegetation | |
| | | Other | |
| | Obstruction Notes | text field | |
| | Width >48" | Width appears to be >48" | |
| | | Width appears to be <48" | |
| | Width notes | text field | |
| | Run slope notes | text field | |
| Cross slope notes | text field | | |
| Condition Issues | | Cracked Panels | |
| | | Spalling | |
| | | Dirt/Grass | |
| | | Faulting | |
| | | | |
| Ramps | Are Detectible Warnings Present | Truncated Domes | |
| | | No Truncated Domes | |
| | Condition | | Cracked Panels |
| | | | Spalling |
| | | | Dirt/Grass |
| | | | Faulting |
| | Ramp Present | Yes | |
| | | No | |
| General Condition of Ramp | | Good | |
| | | Poor | |
| General Condition of Detectible Warning | | Good | |
| | | Poor | |
| Pedestrian Signal | Is Signal Function | Appears Compliant | |
| | | Appears Noncompliant | |
| | Pushbutton is within 10ft of curb | | Appears Compliant |
| | | | Appears Noncompliant |
| | Pushbuttons at least 10ft apart | | Appears Compliant |
| | | | Appears Noncompliant |
| | Is pedestrian signal present | | Yes |
| | | | No |
| Crosswalk | Location only | | |



The following data dictionary describes data collection terms.

Cracked Panels – The panels of sidewalk have cracked.

Detectible Warning- Tactile surfaces such as truncated domes or pavement grooves.

Cross slope – The slope of the sidewalk or ramp perpendicular to the direction of travel.

Crosswalk – A path delineating a pedestrian path across a street.

Curb Ramp – A ramp leading to a street crossing.

Dirt/Grass – Dirt has accumulated on or grass has grown through the sidewalk or crosswalk.

Pedestrian Signal – A light showing walk, flashing walk, and do not walk to indicate when a pedestrian should cross the street.

Running Slope - The slope of the sidewalk or ramp parallel to the direction of travel.

Spalling – The concrete’s surface has peeled, popped, or flaked off.

Truncated Domes – Tactile domes placed at bottom of curb ramp to indicate a street crossing.

Vertical Faulting – Uneven surfaces of the sidewalk often caused by settling or tree roots. Vertical faults causing a pavement ridge of $\frac{1}{4}$ " or greater were identified.



CRACKED PANELS



CROSSWALK



CURB RAMP





DIRT/ GRASS



DETECTIBLE WARNING/ TRUNCATED DOMES



PEDESTRIAN SIGNAL



SPALLING



VERTICAL FAULTING





APPENDIX B: PRELIMINARY ENVIRONMENTAL REVIEW



Preliminary Environmental Screening for Proposed Pedestrian
and Bicycle Plan

Henderson, Chester County, Tennessee

For:
City of Henderson
Henderson, Chester County, TN

Prepared By:
Neel-Schaffer, Inc.
200 Whittington Pkwy #205
Louisville, KY 40222

Report Date: April 9, 2019

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EXECUTIVE SUMMARY

Neel-Schaffer, Inc. (NSI) has performed a preliminary environmental screening of areas along existing roadways within the City of Henderson, Chester County, Tennessee. It is our understanding that the City of Henderson is conducting a study for a potential pedestrian and bicycle plan as part of a Community Transportation Planning Grant for the City. The preliminary environmental screening has been conducted on a planning level to identify potential environmental constraints within the project area.

Wetlands, flood hazard zones, historic structures, cultural resources, and sites with hazardous materials were identified within the city limits of Henderson. Endangered and sensitive species could potentially be located within or near the proposed project area and could be impacted by proposed activities. Prior to development of the proposed corridor, further environmental review through state and federal agencies should be performed to ensure these sensitive resources will not be affected as a result of construction activities.

1.0 INTRODUCTION

The proposed action will include construction of a pedestrian and bicycle path and improvements to existing sidewalks within the city limits of Henderson, Tennessee. The preliminary environmental screening was completed through online desktop applications and a windshield survey. Maps were compiled utilizing ArcGIS software version 10.4.1.

2.0 RIGHT-OF-WAY

The amount of land to be acquired as a result of the proposed action has not yet been determined. The potential for the acquisition of more than one acre of right-of-way is still under review. Once the project limits have been determined, these criteria along with temporary easement locations should be presented to the Tennessee Department of Transportation (TOOT) point of contact (POC) for further recommendations. A map indicating Henderson City Limits can be found in Appendix 1.

3.0 ACCESS CONTROL

Proposed access control information will be available upon the release of proposed corridor plans.

4.0 STREAMS/WETLANDS

According to the United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Digital Wetlands Mapper, wetlands exist within the proposed project area corridor along South Fork Forked Deer River in the southeastern portion of the project area, along Sugar Creek in the southern portion of the project area, and along Turkey Creek in the northwestern portion of the project area. These wetlands consist of freshwater forested/shrub wetlands and freshwater emergent wetlands. However, the potential exists for the presence of wetland indicators along existing streams and in low-lying areas throughout the project area. Unnamed tributaries of these streams should be evaluated for the presence of potential wetlands.

Both Turkey Creek and Sugar Creek flow directly into South Fork Forked Deer River that is connected to a network of streams and wetlands that ultimately flow into the Tennessee River (Map 2). The Tennessee River is located approximately 21 miles east/southeast of the project area and is designated as a navigable waterway by the United States Army Corps of Engineers (USACE) Nashville District. Obstructions to wetlands, stream/river crossings, and low-lying areas within the

project area could be subject to regulations in accordance with the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act. The USACE Nashville District should be consulted for potential impacts to sensitive resources prior to proposed actions.

5.0 ENDANGERED SPECIES

The Tennessee Department of Environment and Conservation (TDEC) maintains an online database of federal and state-listed rare, threatened, and endangered species. The results of the database search are show in Table 1. The USFWS and TDEC should be contacted prior to work for a determination of the presence of listed species along the project area in accordance with the Clean Water Act, the Endangered Species Act, Fish and Wildlife coordination Act, Executive Order 11988, Floodplain Management, Executive Order 11990, Protection of Wetlands, Tennessee Non-game and Endangered or Threatened Wildlife Species Conservation Act of 1974, Tennessee Rare Plant Protection and Conservation Act of 1985, and the Tennessee Water Quality Control Act of 1977.

Table 1: State and Federally Listed Rare, Threatened, or Endangered Species for Chester County, TN

| Scientific Name | Common Name | Fed. Status | State Status | Wet Habitat Flag |
|--------------------------|----------------------------|----------------------|------------------------------|-------------------------|
| Helianthus verticillatus | Whorled Sunflower | Listed Endangered | Endangered | Possible |
| Prenanthes barbata | Bearded Rattlesnake-root | -- | Special Concern | Upland |
| Creaserinus hortonii | Hatchie Burrowing Crayfish | -- | Endangered | Aquatic |
| Etheostoma cervus | Chickasaw Darter | -- | Deemed in Need of Management | Aquatic |
| Pseudognaphalium helleri | Heller's Catfoot | -- | Special Concern | Upland |
| Rhynchosia latifolia | Prairie Rhynchosia | -- | Special Concern | Upland |

6.0 FLOODPLAIN/FLOODWAY

Portions of project area surrounding Turkey Creek, Sugar Creek, and South Fork Forked Deer River were located in the 100-year floodplain according to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM). The USACE Nashville District and TOOT POC should be contacted for direction prior to work being performed within the project area. Refer to Map 3 in Appendix A for flood hazard areas.

7.0 FARMLAND

The Natural Resources Conservation Service (NRCS) Web Soil Survey indicated soil units of prime farmland throughout the project corridor. Potential areas of cultivated land were identified within the city limits of Henderson. The majority of soil units suitable for prime farm land and indicated on the soil maps within the project area have previously been developed by roadway, residential, commercial, or industrial construction as shown on Map 4 in Appendix A.

8.0 WILD AND SCENIC RIVERS

The Tennessee Wildlife Resources Agency (TWRA) and TDEC maintain a list of state and federal-listed scenic rivers located throughout Tennessee. Wild and Scenic Rivers were not identified within the proposed project area according to TDEC's Tennessee Scenic Rivers Program located at the following link: <https://www.tn.gov/environment/program-areas/na-natural-areas/natural-areas-redirect/na-sr-scenic-rivers.html>.

9.0 AIR QUALITY

An air quality analysis will be conducted upon the release of project plans. The air quality analysis should include transportation conformity and Mobile Source Air Toxics (MSATs) for all projects, and pertinent information provided to the POC.

10. NOISE

A noise study and abatement measures analysis will be conducted upon the release of proposed corridor plans, if required.

11.0 CULTURAL AND HISTORIC RESOURCES

The National Park Service (NPS) maintains an online database of registered historic archaeological and architectural resources. Two architectural structures located within the city limits of Henderson are listed on the National Register of Historic Places:

- National Teacher's Normal and Business College Administration Building located at 158 East Main Street, and

- Chester County Courthouse located at the Courthouse Square.

Two historical markers issued by the Tennessee Historical Commission (THC) were identified within the city limits:

- Cox's Raid is located on East Main Street at White Avenue, and
- Freed-Hardeman College located at 158 East Main Street.

Numerous architectural resources with potential for listing on the National Register of Historic Places are located within Henderson City Limits. These resources include buildings, cemeteries, and a potential historic district along Main Street and adjoining streets (refer to Map 5 in Appendix A. A concrete bridge near the intersection of West Main Street and North Avenue may be eligible for listing in the NR and should be evaluated prior to improvements associated with the project. The City of Henderson, the Tennessee Historical Commission, and the NPS should be contacted prior to work performed along the corridor area to identify any potential or unrecorded historic properties that could be affected by construction. THC online viewer can be located at the following link: <https://tnmap.tn.gov/historicalcommission/>. An assessment of architectural structures located within and adjacent to the proposed project area will most likely be required to determine the current National Register eligibility of these resources and to update records at the Tennessee Historical Commission.

12.0 PARKS AND RECREATIONAL AREAS

Three parks were identified within Henderson City Limits. Chester T. Dog Park, Gene Record Memorial Park, and Dixie Youth Park. The location of these facilities can be found on Map 6 in Appendix A. No wildlife refuges were located within the project area. The TDEC Recreational Educational Services Division, Grants Program Office should be contacted prior to construction activities for a potential impact analysis of the proposed work.

13.0 NATIVE AMERICAN COORDINATION

Native American coordination will be required if the project involves acquisition of new ROW or ground disturbance on previously undisturbed land. This coordination will most likely involve a cultural resources assessment conducted by an Archaeologist meeting the Secretary of the Interior's requirements. Consultation with the THC and TOOT POC should be conducted once the proposed project plans are available to determine if any undisturbed ROW will be impacted.

14.0 HAZARDOUS MATERIALS

Numerous businesses with storage tanks for bulk storage, use, and transportation of hazardous materials and petroleum products were located within the city limits of Henderson. Many sites with storage tanks located within or near the project area were not identified as having had toxic releases according to the Environmental Protection Agency (EPA). However, the sites listed with previous toxic releases or are considered to discharge water, create air pollution, or contain hazardous waste are shown on Map 7 in Appendix A. Several commercial and industrial sites were observed within, and near, the city limits of Henderson during the site reconnaissance, in addition to the sites stated above. Prior to construction activities, a Phase I Environmental Site Assessment (ESA) should be conducted to determine if the referenced sites, or additional sites that may not have been identified during the site reconnaissance, have impacted or could impact the proposed project area.

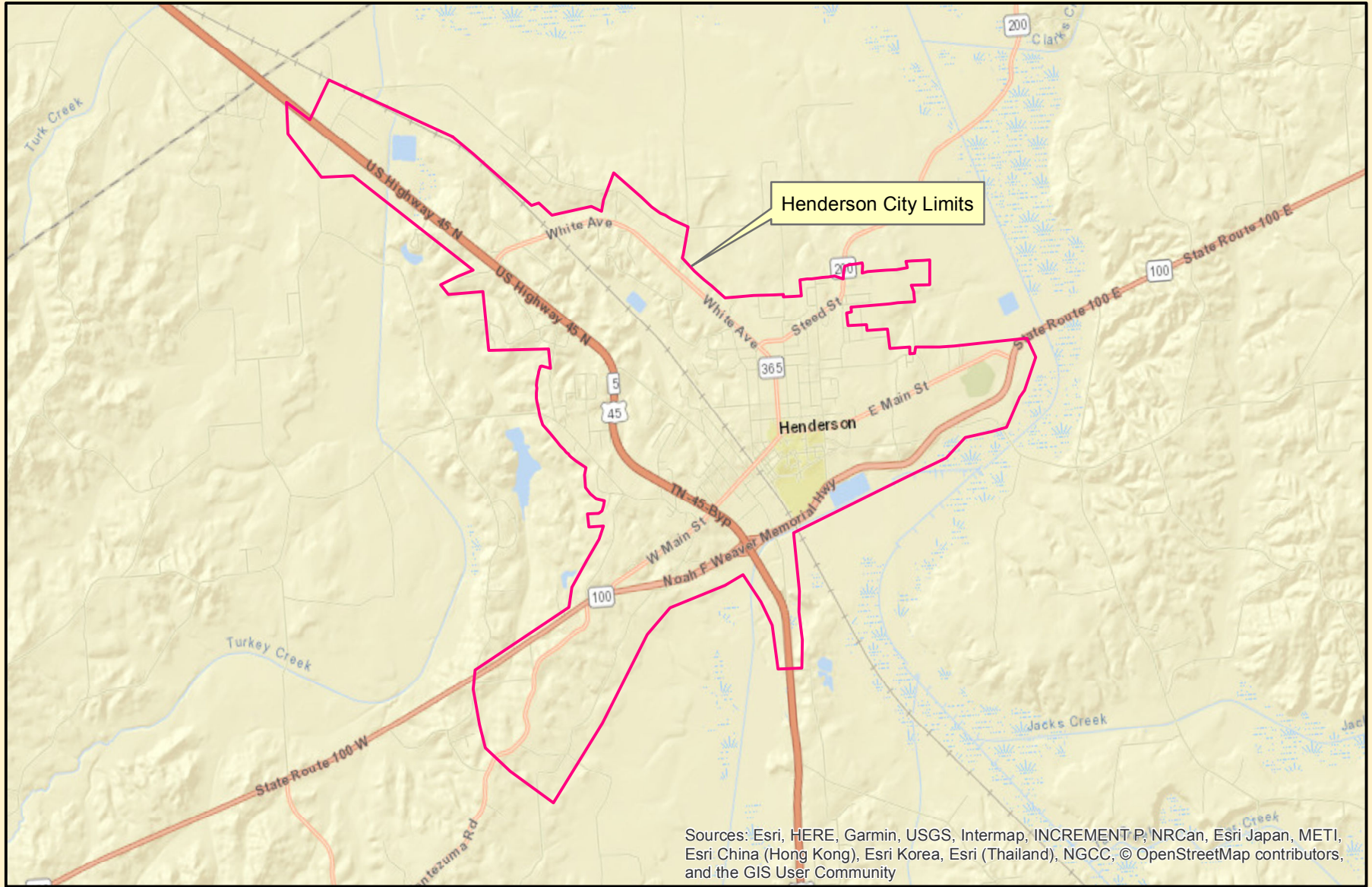
15.0 ENVIRONMENTAL JUSTICE

The majority of the project area is located in areas of occupied businesses, churches, schools, and single-family residences. The project should not have significant, negative impacts on minority and low-income populations.

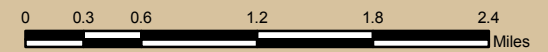
16.0 CONCLUSION

In conclusion, NSI has performed this preliminary environmental screening of the proposed project corridor to identify any sensitive resources that could be impacted by construction activities. Wetlands, flood hazard zones, historic structures and cultural resources, and sites with hazardous materials utilization and storage are located within the proposed project area. Prior to development of the project, thorough assessments and review of sensitive resources in the area are recommended to ensure these resources will not be affected by proposed construction activities.

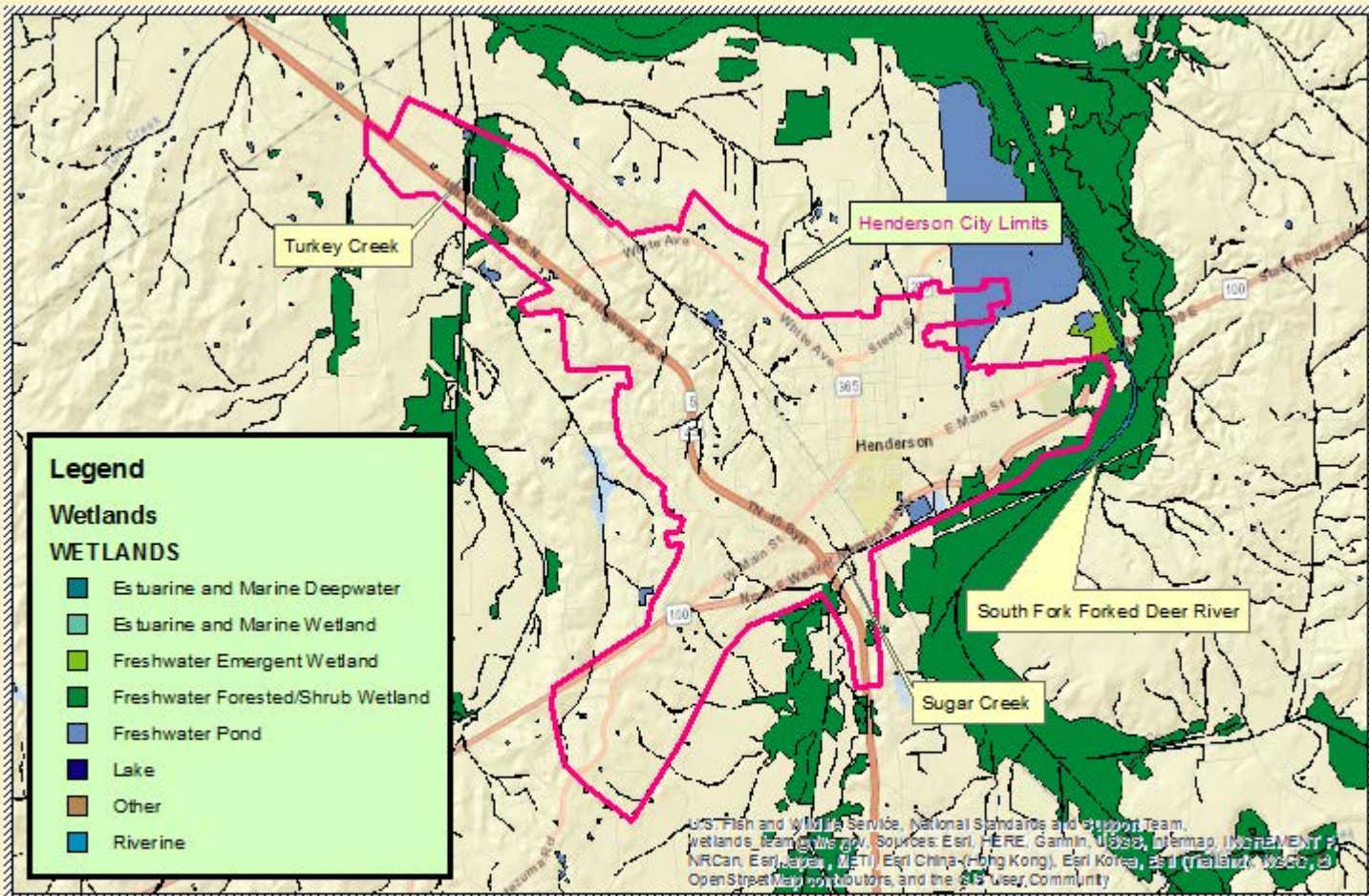
Appendix A



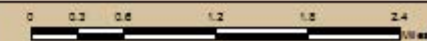
Map 1. Henderson, TN Project City Limits



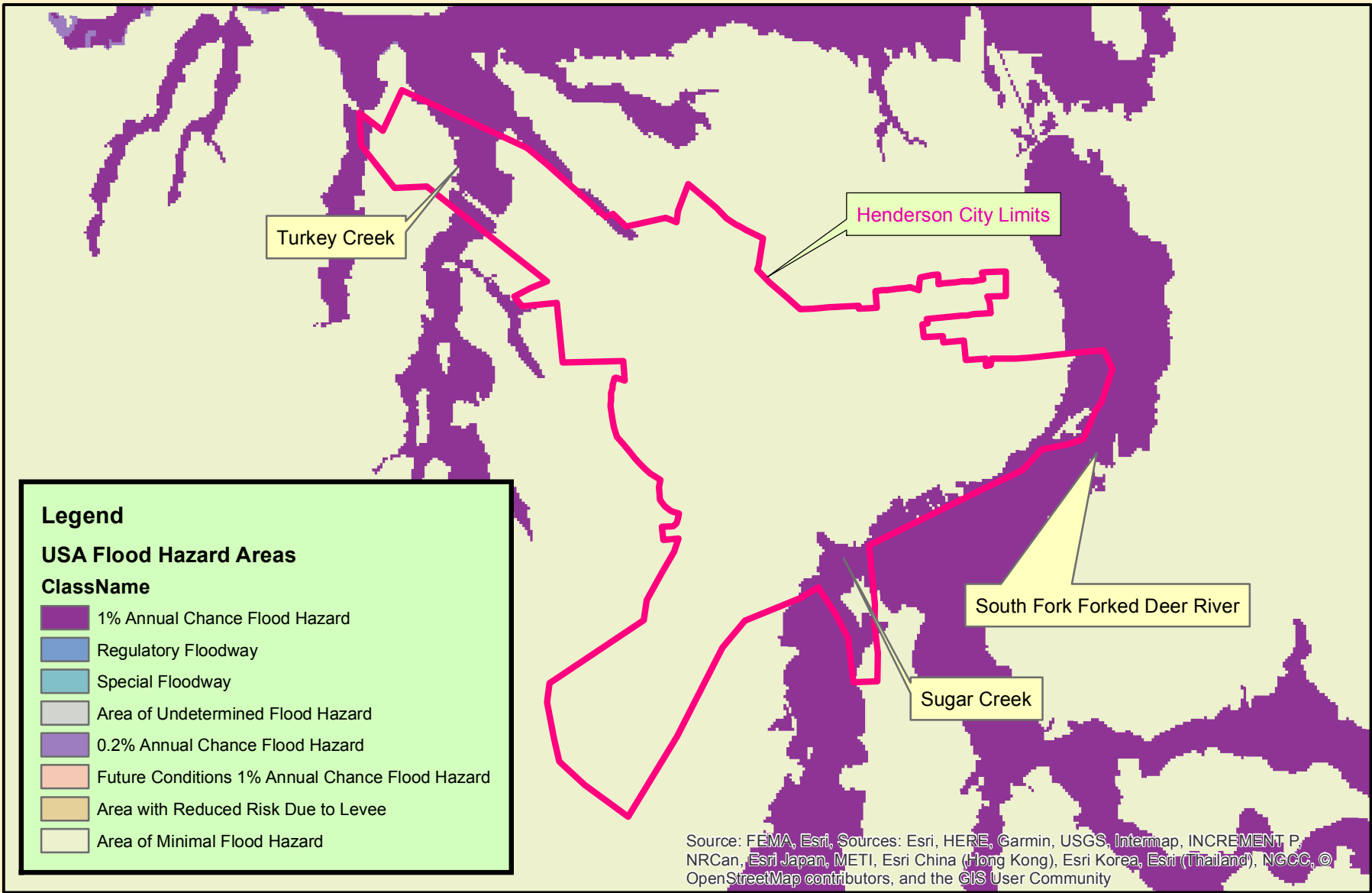
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 2nd Std Parallel: 60°0'0"N
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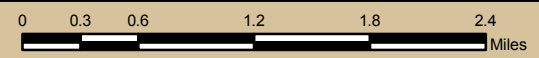
**Map 2. Henderson, TN
National Wetlands Inventory Map**



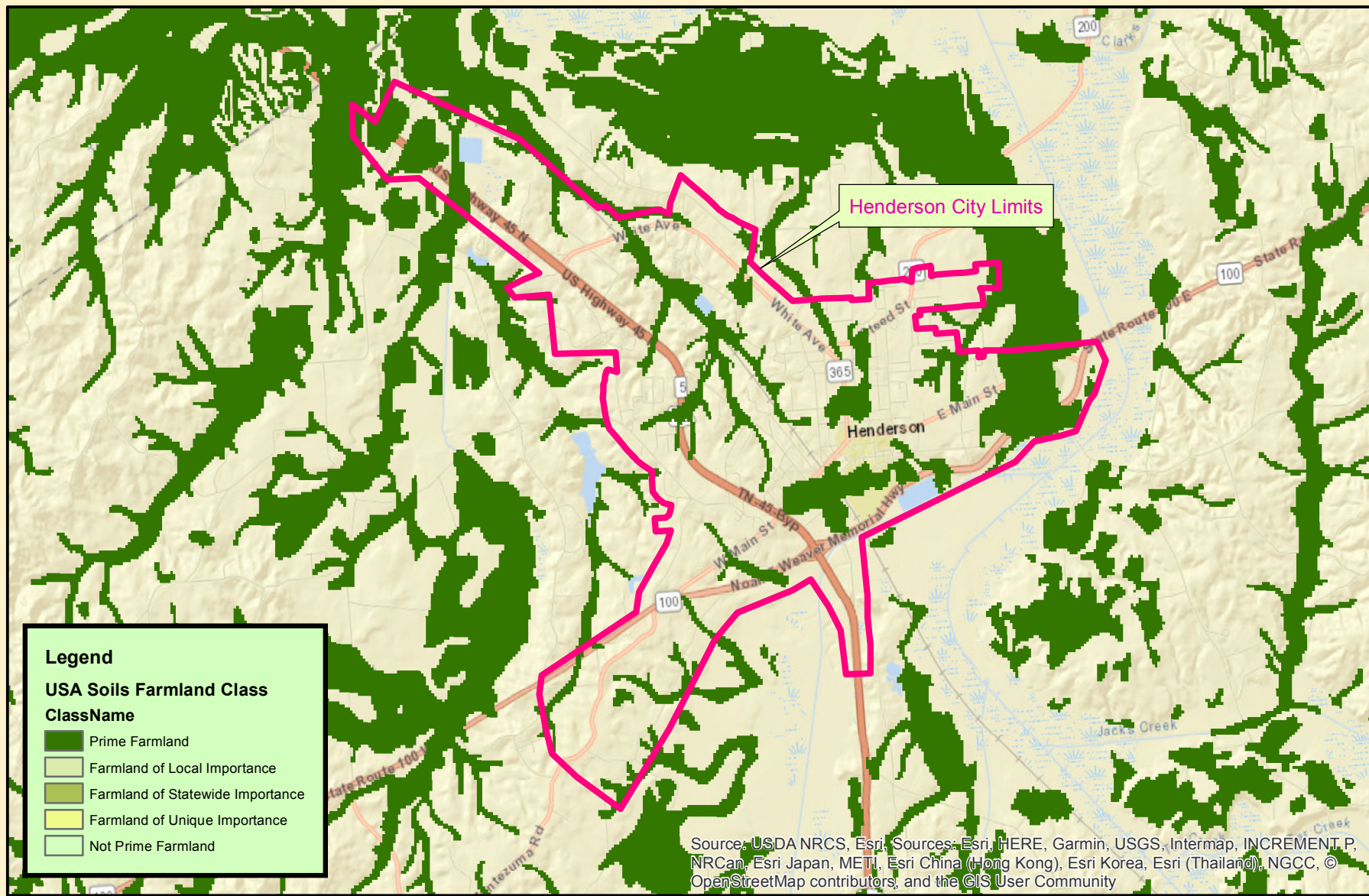
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 1st Std Parallel: 20°0'0"N
 2nd Std Parallel: 60°0'0"N
 Latitude of Origin: 40°0'0"N



Map 3. Henderson, TN USA Flood Hazard Areas



Coordinate System: Albers
 Central Meridian: 96°0'0"W
 1st Std Parallel: 20°0'0"N
 2nd Std Parallel: 60°0'0"N
 Latitude of Origin: 40°0'0"N



Legend

USA Soils Farmland Class

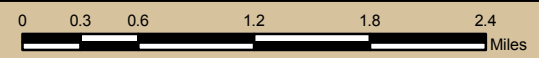
ClassName

- Prime Farmland
- Farmland of Local Importance
- Farmland of Statewide Importance
- Farmland of Unique Importance
- Not Prime Farmland

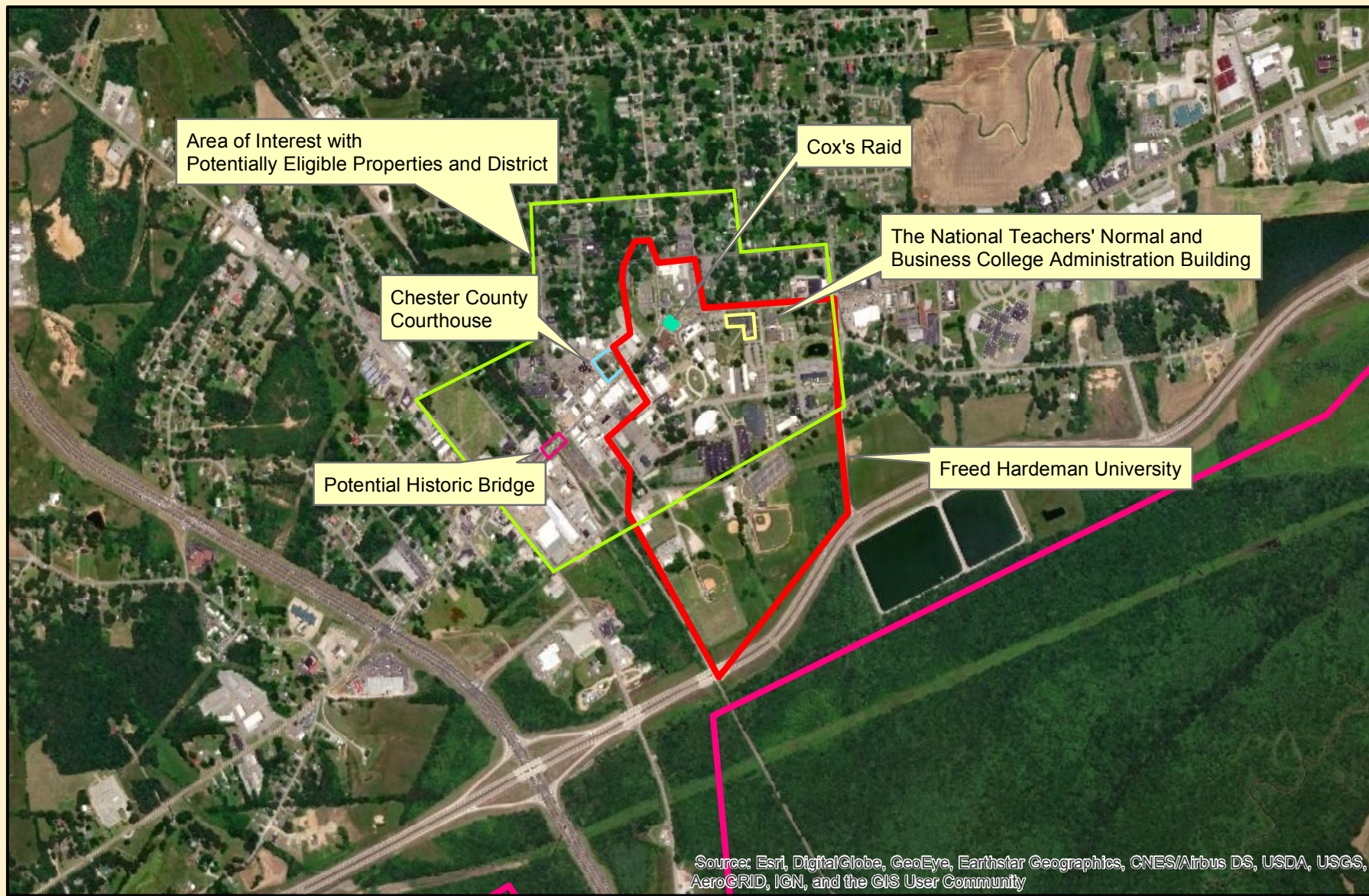
Source: USDA NRCS, Esri, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community



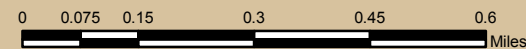
Map 4. Henderson, TN USDA Soils Farmland Class



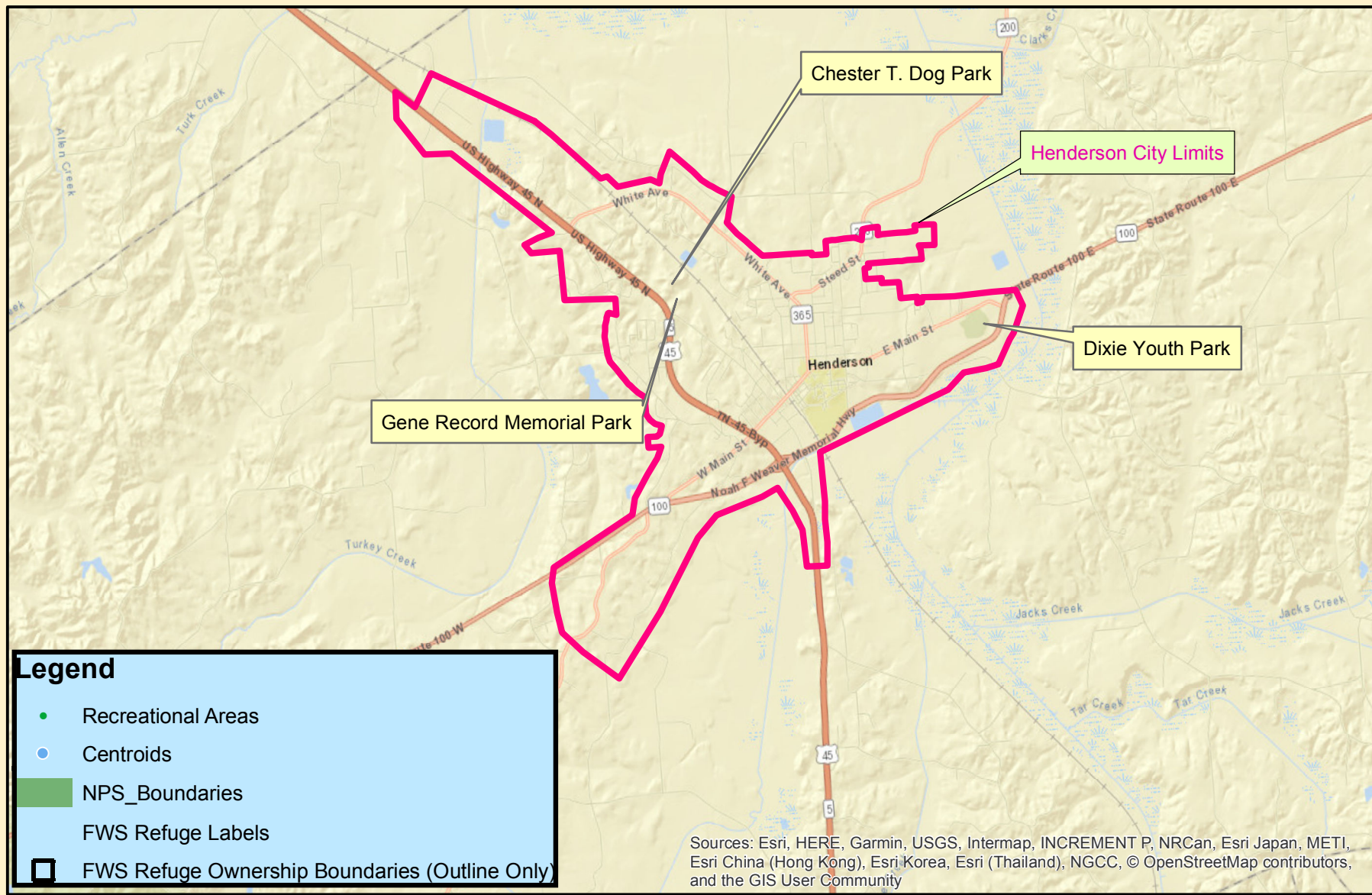
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 2nd Std Parallel: 60°0'0"N
 Latitude of Origin: 40°0'0"N



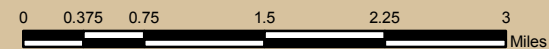
Map 5. Henderson, TN Cultural and Historic Resources



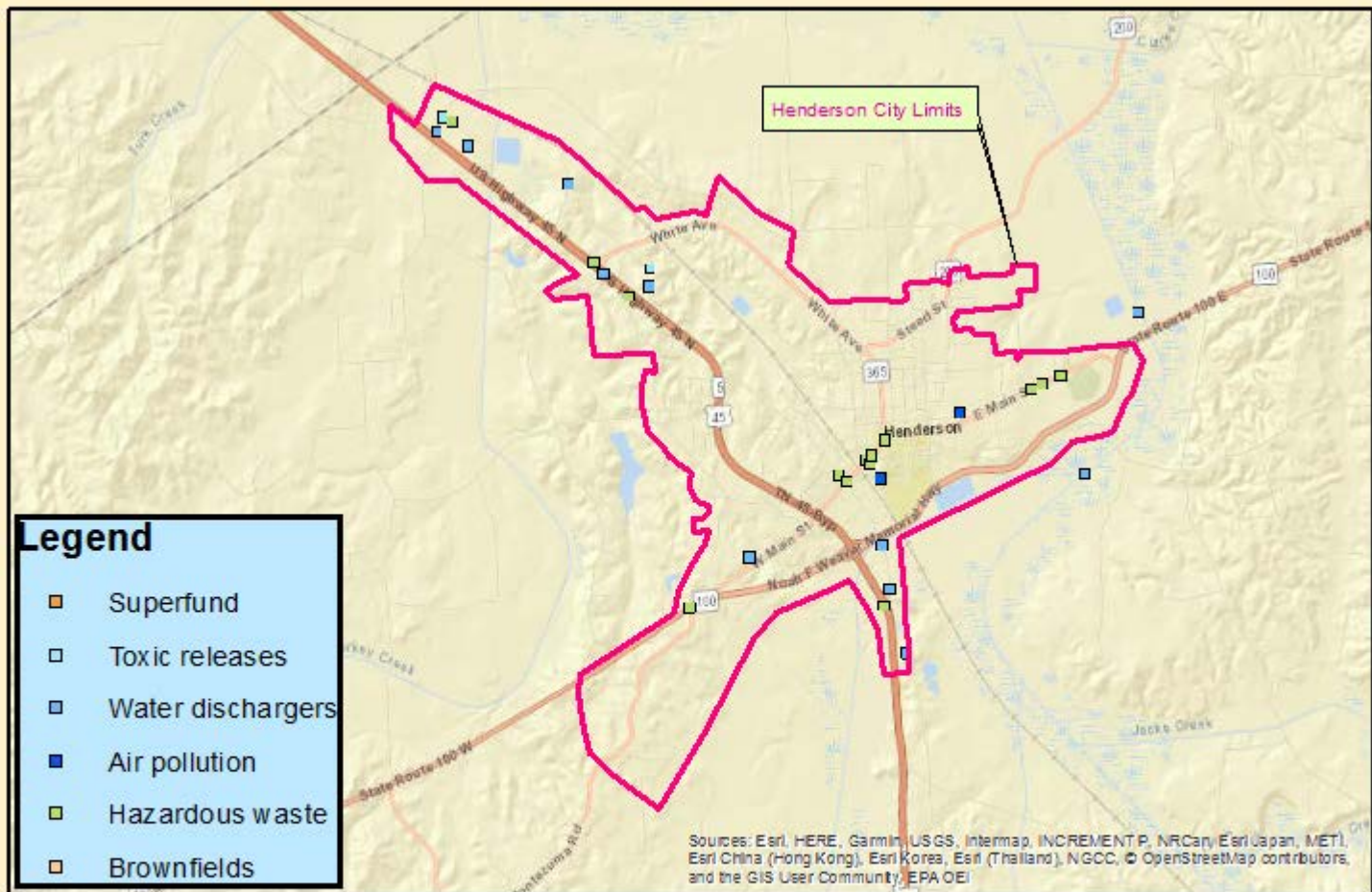
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 2nd Std Parallel: 60°0'0"N
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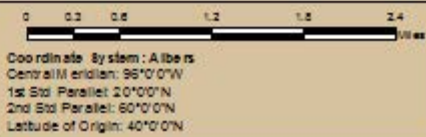
Map 6. Henderson, TN Parks and Recreational Areas



Coordinate System: Albers
 Central Meridian: 96°0'0"W
 1st Std Parallel: 20°0'0"N
 2nd Std Parallel: 60°0'0"N
 Latitude of Origin: 40°0'0"N



**Map 7. Henderson, TN
EPA Sites with Hazardous Materials**



Appendix B



Photo 1. Potential previous automotive repair facility located on Industrial Drive.



Photo 2. Arvin Sango facility located at 1121 Industrial Drive. This site is listed as an EPA “toxic release inventory” site.



Photo 3. Premier Manufacturing Corporation located on Premier Way. This site is listed as an EPA “air pollution” site.



Photo 4. One of several abandoned underground/aboveground storage tank/automotive repair facilities located in the area. This facility was located on Church Street.



Photo 5. EPA "air pollution" site located at 226 Arendall Street.



Photo 6. Historic mill/industrial facility located in the downtown area.



Photo 7. Chester County Courthouse located in the square and listed on the National Register of Historic Places.



Photo 8. Potentially historic structures on Main Street.



Photo 9. Potentially historic bridge on Main Street.



Photo 10. Historic structure on the Freed Hardeman University campus.



Photo 11. Potential historic structure on Freed Hardeman University campus.



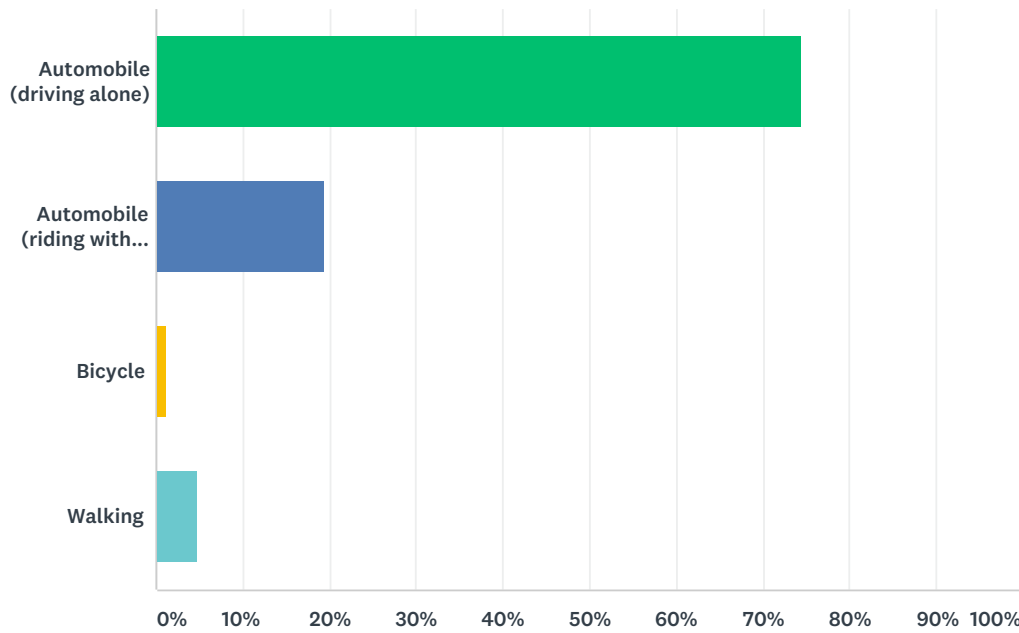
Photo 12. Potential historic structure near the Freed Hardeman University campus.



APPENDIX C: SURVEY RESULTS

Q1 Thinking of your typical day, what is your primary way to travel within Henderson?

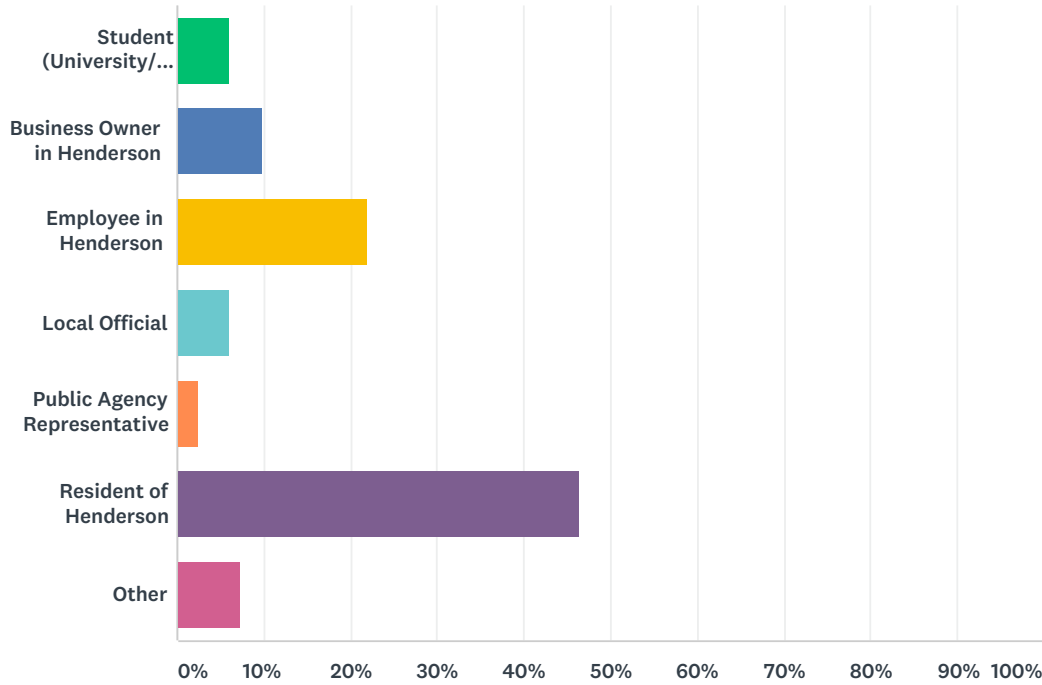
Answered: 82 Skipped: 1



| ANSWER CHOICES | RESPONSES | |
|---------------------------------|-----------|-----------|
| Automobile (driving alone) | 74.39% | 61 |
| Automobile (riding with others) | 19.51% | 16 |
| Bicycle | 1.22% | 1 |
| Walking | 4.88% | 4 |
| TOTAL | | 82 |

Q2 How would you best describe yourself?

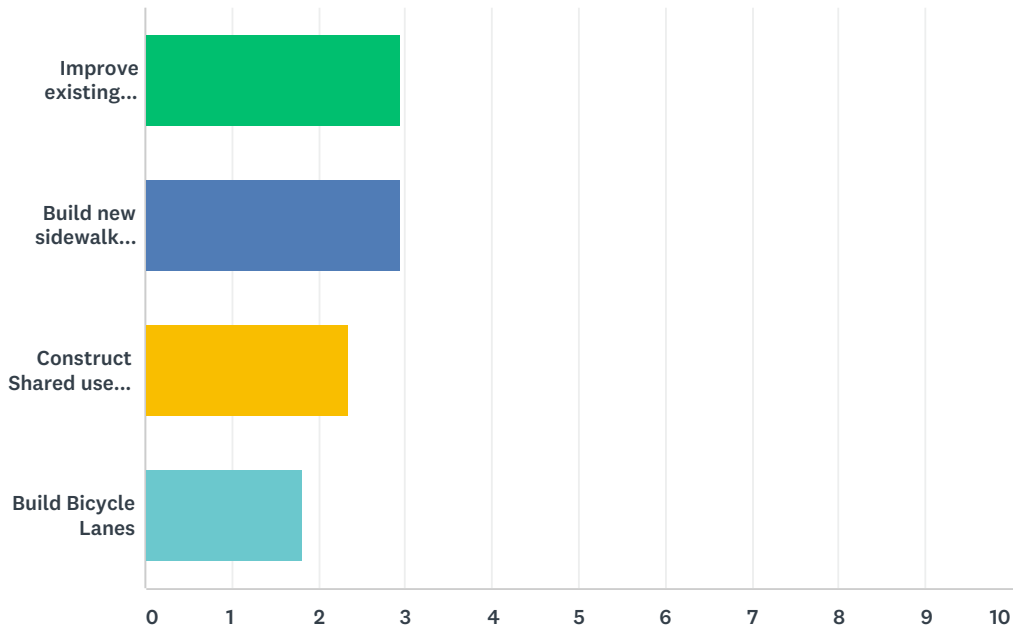
Answered: 82 Skipped: 1



| ANSWER CHOICES | RESPONSES | |
|---|-----------|-----------|
| Student (University/ Middle/ High School) | 6.10% | 5 |
| Business Owner in Henderson | 9.76% | 8 |
| Employee in Henderson | 21.95% | 18 |
| Local Official | 6.10% | 5 |
| Public Agency Representative | 2.44% | 2 |
| Resident of Henderson | 46.34% | 38 |
| Other | 7.32% | 6 |
| TOTAL | | 82 |

Q3 How would you prioritize the following possible improvements to the bicycle and pedestrian network? Please rank each item 1-4 with 1 being most important and 4 least important.

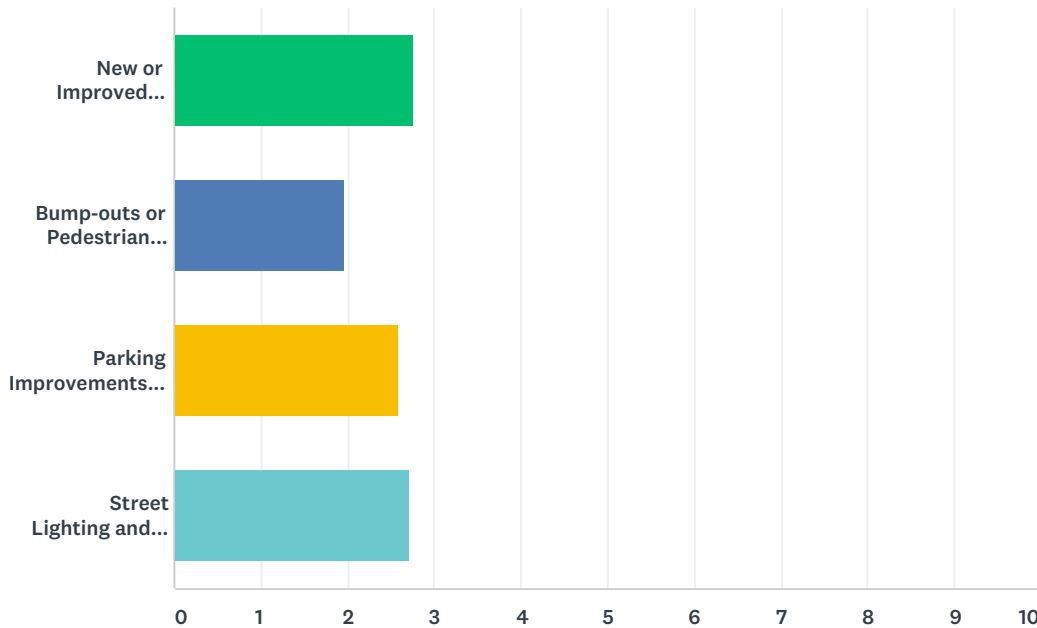
Answered: 82 Skipped: 1



| | 1 | 2 | 3 | 4 | TOTAL | SCORE |
|---|--------------|--------------|--------------|--------------|-------|-------|
| Improve existing sidewalks | 30.86% 25 | 43.21% 35 | 16.05% 13 | 9.88% 8 | 81 | 2.95 |
| Build new sidewalk connections | 38.75% 31 | 32.50% 26 | 13.75% 11 | 15.00% 12 | 80 | 2.95 |
| Construct Shared use Paths for bicycles and pedestrians | 18.18% 14 | 15.58% 12 | 48.05% 37 | 18.18% 14 | 77 | 2.34 |
| Build Bicycle Lanes | 13.41% 11 | 8.54% 7 | 24.39% 20 | 53.66% 44 | 82 | 1.82 |

Q4 How would you prioritize the following possible improvements within the bicycle and pedestrian network? Please rank each item 1-4 with 1 being most important and 4 least important.

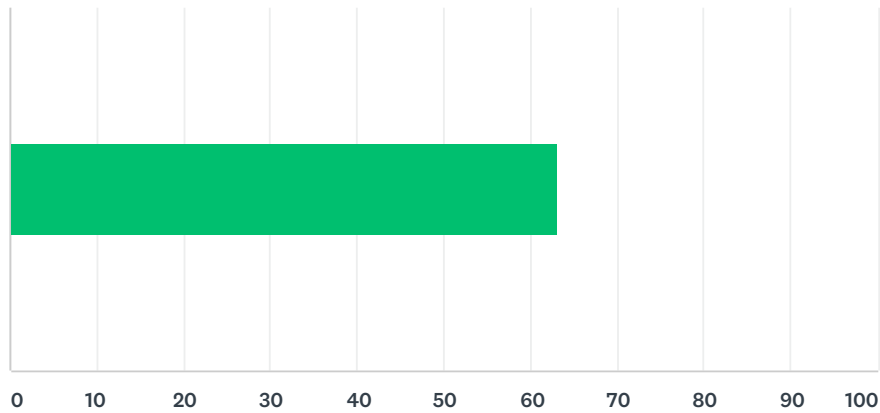
Answered: 83 Skipped: 0



| | 1 | 2 | 3 | 4 | TOTAL | SCORE |
|---|--------------|--------------|--------------|--------------|-------|-------|
| New or Improved Crosswalks | 37.04% 30 | 19.75% 16 | 25.93% 21 | 17.28% 14 | 81 | 2.77 |
| Bump-outs or Pedestrian Refuges | 7.23% 6 | 22.89% 19 | 28.92% 24 | 40.96% 34 | 83 | 1.96 |
| Parking Improvements that Support Safe and Efficient Pedestrian Mobility and Access | 28.75% 23 | 21.25% 17 | 31.25% 25 | 18.75% 15 | 80 | 2.60 |
| Street Lighting and Signage that Enhance Pedestrian Safety | 26.83% 22 | 37.80% 31 | 14.63% 12 | 20.73% 17 | 82 | 2.71 |

Q5 Extend the existing sidewalk at the Henderson Elementary School to past the Chester County Public Library to the Chester County Dixie Youth Ball Fields Park.

Answered: 78 Skipped: 5



| ANSWER CHOICES | AVERAGE NUMBER | TOTAL NUMBER | RESPONSES |
|----------------|----------------|--------------|-----------|
| | 63 | 4,921 | 78 |

Total Respondents: 78

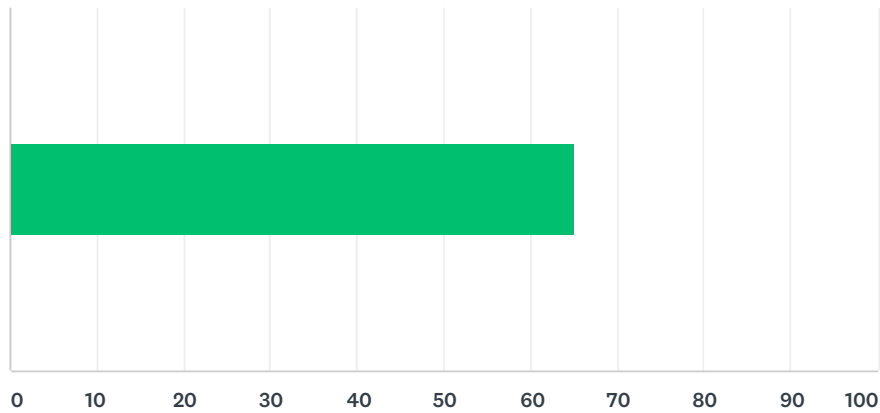
| # | AVERAGE NUMBER | DATE |
|----|----------------|--------------------|
| 1 | 97 | 4/20/2019 10:50 AM |
| 2 | 95 | 4/20/2019 10:43 AM |
| 3 | 98 | 4/20/2019 10:41 AM |
| 4 | 75 | 4/20/2019 9:09 AM |
| 5 | 10 | 4/19/2019 5:55 PM |
| 6 | 51 | 4/19/2019 1:06 PM |
| 7 | 56 | 4/17/2019 10:41 PM |
| 8 | 94 | 4/17/2019 6:19 PM |
| 9 | 50 | 4/17/2019 3:54 PM |
| 10 | 100 | 4/17/2019 1:48 PM |
| 11 | 75 | 4/16/2019 12:49 AM |
| 12 | 20 | 4/15/2019 10:16 PM |
| 13 | 71 | 4/15/2019 10:12 PM |
| 14 | 50 | 4/15/2019 10:02 PM |
| 15 | 44 | 4/15/2019 9:56 PM |
| 16 | 0 | 4/15/2019 9:51 PM |
| 17 | 0 | 4/15/2019 9:36 PM |
| 18 | 68 | 4/15/2019 8:47 PM |
| 19 | 100 | 4/15/2019 8:00 PM |
| 20 | 0 | 4/15/2019 7:49 PM |

| | | |
|----|-----|--------------------|
| 21 | 80 | 4/15/2019 7:24 PM |
| 22 | 28 | 4/15/2019 6:34 PM |
| 23 | 20 | 4/15/2019 5:19 PM |
| 24 | 50 | 4/15/2019 3:43 PM |
| 25 | 0 | 4/15/2019 3:30 PM |
| 26 | 83 | 4/15/2019 3:30 PM |
| 27 | 100 | 4/15/2019 3:02 PM |
| 28 | 88 | 4/15/2019 2:35 PM |
| 29 | 93 | 4/15/2019 2:13 PM |
| 30 | 80 | 4/15/2019 1:47 PM |
| 31 | 46 | 4/15/2019 1:42 PM |
| 32 | 58 | 4/15/2019 12:24 PM |
| 33 | 100 | 4/15/2019 12:21 PM |
| 34 | 75 | 4/15/2019 12:19 PM |
| 35 | 71 | 4/15/2019 12:17 PM |
| 36 | 100 | 4/15/2019 12:13 PM |
| 37 | 51 | 4/15/2019 12:05 PM |
| 38 | 70 | 4/15/2019 12:02 PM |
| 39 | 61 | 4/15/2019 11:52 AM |
| 40 | 95 | 4/15/2019 11:34 AM |
| 41 | 51 | 4/15/2019 11:25 AM |
| 42 | 70 | 4/15/2019 11:06 AM |
| 43 | 100 | 4/15/2019 11:06 AM |
| 44 | 76 | 4/15/2019 10:58 AM |
| 45 | 40 | 4/15/2019 10:47 AM |
| 46 | 0 | 4/15/2019 10:38 AM |
| 47 | 52 | 4/15/2019 10:33 AM |
| 48 | 53 | 4/15/2019 10:25 AM |
| 49 | 50 | 4/15/2019 10:21 AM |
| 50 | 75 | 4/15/2019 10:18 AM |
| 51 | 0 | 4/15/2019 10:11 AM |
| 52 | 100 | 4/15/2019 10:07 AM |
| 53 | 100 | 4/15/2019 10:06 AM |
| 54 | 98 | 4/15/2019 10:05 AM |
| 55 | 90 | 4/15/2019 10:00 AM |
| 56 | 80 | 4/15/2019 9:59 AM |
| 57 | 79 | 4/15/2019 9:58 AM |
| 58 | 78 | 4/15/2019 9:58 AM |
| 59 | 76 | 4/15/2019 9:58 AM |
| 60 | 70 | 4/15/2019 9:52 AM |
| 61 | 77 | 4/15/2019 9:52 AM |

| | | |
|----|-----|--------------------|
| 62 | 4 | 4/15/2019 9:52 AM |
| 63 | 50 | 4/15/2019 9:49 AM |
| 64 | 100 | 4/15/2019 9:48 AM |
| 65 | 65 | 4/15/2019 9:38 AM |
| 66 | 50 | 4/15/2019 9:32 AM |
| 67 | 0 | 4/15/2019 9:30 AM |
| 68 | 49 | 4/15/2019 9:29 AM |
| 69 | 99 | 4/15/2019 9:29 AM |
| 70 | 70 | 4/15/2019 9:28 AM |
| 71 | 31 | 4/15/2019 9:20 AM |
| 72 | 95 | 4/15/2019 5:37 AM |
| 73 | 65 | 4/14/2019 11:13 AM |
| 74 | 100 | 4/4/2019 9:49 AM |
| 75 | 53 | 4/4/2019 8:14 AM |
| 76 | 60 | 4/3/2019 5:19 PM |
| 77 | 100 | 4/3/2019 4:59 PM |
| 78 | 12 | 4/3/2019 4:24 PM |

Q6 Study improvements to crosswalks across Main Street downtown and near Freed-Hardeman University with the goals of increasing pedestrian safety and maintaining smooth traffic flow.

Answered: 79 Skipped: 4



| ANSWER CHOICES | AVERAGE NUMBER | TOTAL NUMBER | RESPONSES |
|----------------|----------------|--------------|-----------|
| | 65 | 5,146 | 79 |

Total Respondents: 79

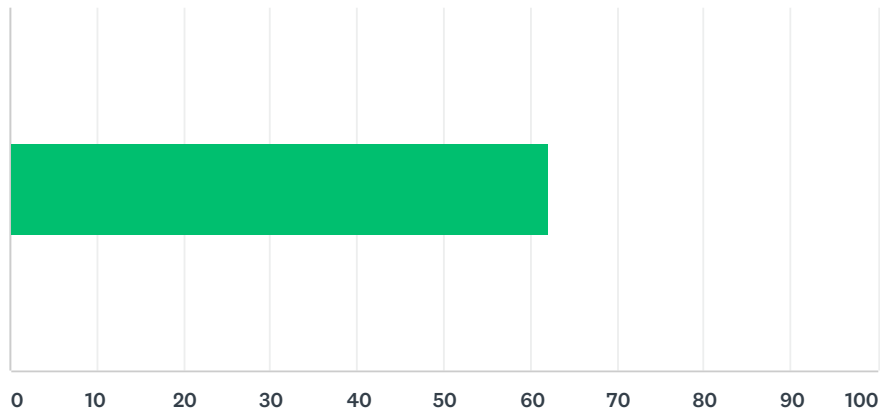
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|----|-----|--------------------|
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| 2 | 3 | 4/20/2019 10:41 AM |
| 3 | 100 | 4/20/2019 9:09 AM |
| 4 | 100 | 4/19/2019 5:55 PM |
| 5 | 71 | 4/19/2019 1:06 PM |
| 6 | 67 | 4/19/2019 7:59 AM |
| 7 | 90 | 4/17/2019 10:41 PM |
| 8 | 92 | 4/17/2019 6:19 PM |
| 9 | 100 | 4/17/2019 3:54 PM |
| 10 | 65 | 4/17/2019 1:48 PM |
| 11 | 60 | 4/16/2019 12:49 AM |
| 12 | 4 | 4/15/2019 10:16 PM |
| 13 | 63 | 4/15/2019 10:12 PM |
| 14 | 65 | 4/15/2019 10:02 PM |
| 15 | 98 | 4/15/2019 9:56 PM |
| 16 | 100 | 4/15/2019 9:51 PM |
| 17 | 50 | 4/15/2019 9:36 PM |
| 18 | 90 | 4/15/2019 8:47 PM |
| 19 | 25 | 4/15/2019 8:00 PM |
| 20 | 0 | 4/15/2019 7:49 PM |

| | | |
|----|-----|--------------------|
| 21 | 2 | 4/15/2019 7:25 PM |
| 22 | 100 | 4/15/2019 7:24 PM |
| 23 | 60 | 4/15/2019 6:34 PM |
| 24 | 0 | 4/15/2019 5:19 PM |
| 25 | 25 | 4/15/2019 3:43 PM |
| 26 | 89 | 4/15/2019 3:30 PM |
| 27 | 62 | 4/15/2019 3:30 PM |
| 28 | 0 | 4/15/2019 3:02 PM |
| 29 | 98 | 4/15/2019 2:35 PM |
| 30 | 62 | 4/15/2019 2:13 PM |
| 31 | 99 | 4/15/2019 1:47 PM |
| 32 | 100 | 4/15/2019 1:42 PM |
| 33 | 63 | 4/15/2019 12:24 PM |
| 34 | 100 | 4/15/2019 12:19 PM |
| 35 | 56 | 4/15/2019 12:17 PM |
| 36 | 98 | 4/15/2019 12:13 PM |
| 37 | 69 | 4/15/2019 12:05 PM |
| 38 | 94 | 4/15/2019 12:02 PM |
| 39 | 41 | 4/15/2019 11:52 AM |
| 40 | 35 | 4/15/2019 11:34 AM |
| 41 | 53 | 4/15/2019 11:25 AM |
| 42 | 100 | 4/15/2019 11:06 AM |
| 43 | 55 | 4/15/2019 11:06 AM |
| 44 | 96 | 4/15/2019 10:58 AM |
| 45 | 38 | 4/15/2019 10:47 AM |
| 46 | 68 | 4/15/2019 10:38 AM |
| 47 | 32 | 4/15/2019 10:33 AM |
| 48 | 100 | 4/15/2019 10:25 AM |
| 49 | 50 | 4/15/2019 10:21 AM |
| 50 | 70 | 4/15/2019 10:18 AM |
| 51 | 26 | 4/15/2019 10:11 AM |
| 52 | 90 | 4/15/2019 10:07 AM |
| 53 | 100 | 4/15/2019 10:06 AM |
| 54 | 81 | 4/15/2019 10:05 AM |
| 55 | 74 | 4/15/2019 10:02 AM |
| 56 | 80 | 4/15/2019 10:00 AM |
| 57 | 60 | 4/15/2019 9:59 AM |
| 58 | 75 | 4/15/2019 9:58 AM |
| 59 | 21 | 4/15/2019 9:58 AM |
| 60 | 84 | 4/15/2019 9:58 AM |
| 61 | 50 | 4/15/2019 9:52 AM |

| | | |
|----|-----|--------------------|
| 62 | 50 | 4/15/2019 9:52 AM |
| 63 | 51 | 4/15/2019 9:52 AM |
| 64 | 74 | 4/15/2019 9:49 AM |
| 65 | 58 | 4/15/2019 9:48 AM |
| 66 | 29 | 4/15/2019 9:38 AM |
| 67 | 100 | 4/15/2019 9:32 AM |
| 68 | 89 | 4/15/2019 9:30 AM |
| 69 | 25 | 4/15/2019 9:29 AM |
| 70 | 52 | 4/15/2019 9:29 AM |
| 71 | 100 | 4/15/2019 9:28 AM |
| 72 | 77 | 4/15/2019 9:20 AM |
| 73 | 50 | 4/15/2019 5:37 AM |
| 74 | 96 | 4/14/2019 11:13 AM |
| 75 | 98 | 4/4/2019 9:49 AM |
| 76 | 59 | 4/4/2019 8:14 AM |
| 77 | 48 | 4/3/2019 5:19 PM |
| 78 | 100 | 4/3/2019 4:59 PM |
| 79 | 88 | 4/3/2019 4:24 PM |

Q7 Improve existing sidewalk and add new sidewalk where needed along Main Street from the Bridge across the Norfolk Southern railroad to the intersection with US 45.

Answered: 76 Skipped: 7



| ANSWER CHOICES | AVERAGE NUMBER | TOTAL NUMBER | RESPONSES |
|-----------------------|----------------|--------------|-----------|
| | 62 | 4,716 | 76 |
| Total Respondents: 76 | | | |

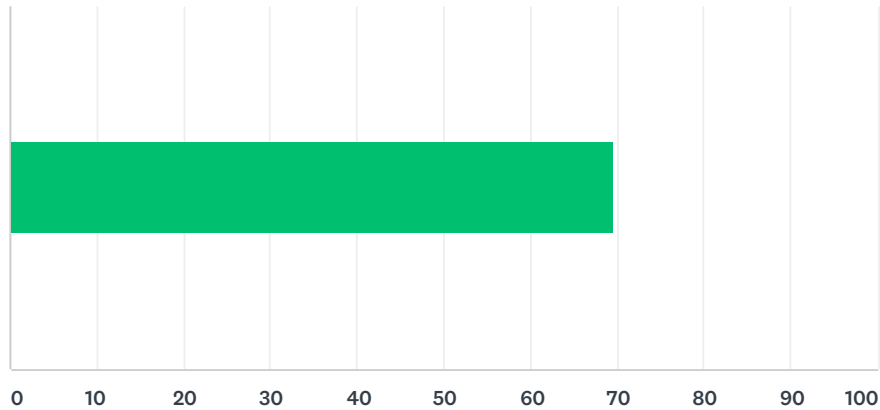
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| 3 | 56 | 4/19/2019 1:06 PM |
| 4 | 63 | 4/17/2019 10:41 PM |
| 5 | 89 | 4/17/2019 6:19 PM |
| 6 | 70 | 4/17/2019 3:54 PM |
| 7 | 76 | 4/17/2019 1:48 PM |
| 8 | 75 | 4/16/2019 12:49 AM |
| 9 | 70 | 4/15/2019 10:16 PM |
| 10 | 71 | 4/15/2019 10:12 PM |
| 11 | 80 | 4/15/2019 10:02 PM |
| 12 | 24 | 4/15/2019 9:56 PM |
| 13 | 73 | 4/15/2019 9:51 PM |
| 14 | 60 | 4/15/2019 9:36 PM |
| 15 | 39 | 4/15/2019 8:47 PM |
| 16 | 51 | 4/15/2019 8:00 PM |
| 17 | 50 | 4/15/2019 7:49 PM |
| 18 | 100 | 4/15/2019 7:25 PM |
| 19 | 75 | 4/15/2019 7:24 PM |
| 20 | 40 | 4/15/2019 6:34 PM |

| | | |
|----|-----|--------------------|
| 21 | 42 | 4/15/2019 5:19 PM |
| 22 | 75 | 4/15/2019 3:43 PM |
| 23 | 89 | 4/15/2019 3:30 PM |
| 24 | 71 | 4/15/2019 3:30 PM |
| 25 | 0 | 4/15/2019 3:02 PM |
| 26 | 88 | 4/15/2019 2:35 PM |
| 27 | 43 | 4/15/2019 2:13 PM |
| 28 | 25 | 4/15/2019 1:47 PM |
| 29 | 55 | 4/15/2019 1:42 PM |
| 30 | 39 | 4/15/2019 12:24 PM |
| 31 | 76 | 4/15/2019 12:19 PM |
| 32 | 57 | 4/15/2019 12:17 PM |
| 33 | 100 | 4/15/2019 12:13 PM |
| 34 | 18 | 4/15/2019 12:05 PM |
| 35 | 49 | 4/15/2019 12:02 PM |
| 36 | 61 | 4/15/2019 11:52 AM |
| 37 | 53 | 4/15/2019 11:34 AM |
| 38 | 51 | 4/15/2019 11:25 AM |
| 39 | 75 | 4/15/2019 11:06 AM |
| 40 | 100 | 4/15/2019 11:06 AM |
| 41 | 99 | 4/15/2019 10:58 AM |
| 42 | 19 | 4/15/2019 10:47 AM |
| 43 | 78 | 4/15/2019 10:38 AM |
| 44 | 50 | 4/15/2019 10:33 AM |
| 45 | 32 | 4/15/2019 10:25 AM |
| 46 | 75 | 4/15/2019 10:21 AM |
| 47 | 70 | 4/15/2019 10:18 AM |
| 48 | 57 | 4/15/2019 10:11 AM |
| 49 | 52 | 4/15/2019 10:07 AM |
| 50 | 100 | 4/15/2019 10:06 AM |
| 51 | 77 | 4/15/2019 10:05 AM |
| 52 | 64 | 4/15/2019 10:02 AM |
| 53 | 80 | 4/15/2019 10:00 AM |
| 54 | 72 | 4/15/2019 9:59 AM |
| 55 | 57 | 4/15/2019 9:58 AM |
| 56 | 50 | 4/15/2019 9:58 AM |
| 57 | 79 | 4/15/2019 9:58 AM |
| 58 | 83 | 4/15/2019 9:52 AM |
| 59 | 79 | 4/15/2019 9:52 AM |
| 60 | 50 | 4/15/2019 9:52 AM |
| 61 | 99 | 4/15/2019 9:49 AM |

| | | |
|----|-----|--------------------|
| 62 | 0 | 4/15/2019 9:48 AM |
| 63 | 70 | 4/15/2019 9:38 AM |
| 64 | 26 | 4/15/2019 9:32 AM |
| 65 | 50 | 4/15/2019 9:30 AM |
| 66 | 70 | 4/15/2019 9:29 AM |
| 67 | 89 | 4/15/2019 9:29 AM |
| 68 | 60 | 4/15/2019 9:28 AM |
| 69 | 57 | 4/15/2019 9:20 AM |
| 70 | 50 | 4/15/2019 5:37 AM |
| 71 | 76 | 4/14/2019 11:13 AM |
| 72 | 100 | 4/4/2019 9:49 AM |
| 73 | 52 | 4/4/2019 8:14 AM |
| 74 | 53 | 4/3/2019 5:19 PM |
| 75 | 100 | 4/3/2019 4:59 PM |
| 76 | 44 | 4/3/2019 4:24 PM |

Q8 Construct new sidewalks along Mifflin Avenue from the intersection with Main Street northward to TN SR 200 to connect the residential neighborhood to Freed-Hardeman University and the downtown business district.

Answered: 78 Skipped: 5



| ANSWER CHOICES | AVERAGE NUMBER | TOTAL NUMBER | RESPONSES |
|-----------------------|----------------|--------------|-----------|
| | 70 | 5,439 | 78 |
| Total Respondents: 78 | | | |

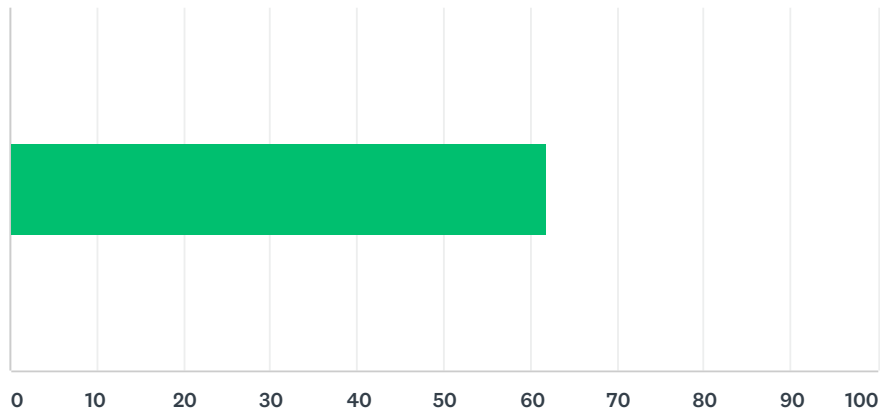
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| 3 | 93 | 4/19/2019 5:55 PM |
| 4 | 73 | 4/19/2019 1:06 PM |
| 5 | 70 | 4/19/2019 7:59 AM |
| 6 | 54 | 4/17/2019 10:41 PM |
| 7 | 97 | 4/17/2019 6:19 PM |
| 8 | 100 | 4/17/2019 3:54 PM |
| 9 | 75 | 4/17/2019 1:48 PM |
| 10 | 49 | 4/16/2019 12:49 AM |
| 11 | 18 | 4/15/2019 10:16 PM |
| 12 | 52 | 4/15/2019 10:12 PM |
| 13 | 100 | 4/15/2019 10:02 PM |
| 14 | 82 | 4/15/2019 9:56 PM |
| 15 | 62 | 4/15/2019 9:51 PM |
| 16 | 40 | 4/15/2019 9:36 PM |
| 17 | 68 | 4/15/2019 8:47 PM |
| 18 | 74 | 4/15/2019 8:00 PM |
| 19 | 100 | 4/15/2019 7:49 PM |

| | | |
|----|-----|--------------------|
| 20 | 100 | 4/15/2019 7:25 PM |
| 21 | 100 | 4/15/2019 7:24 PM |
| 22 | 70 | 4/15/2019 6:34 PM |
| 23 | 14 | 4/15/2019 5:19 PM |
| 24 | 25 | 4/15/2019 3:43 PM |
| 25 | 3 | 4/15/2019 3:30 PM |
| 26 | 100 | 4/15/2019 3:30 PM |
| 27 | 0 | 4/15/2019 3:02 PM |
| 28 | 74 | 4/15/2019 2:35 PM |
| 29 | 54 | 4/15/2019 2:13 PM |
| 30 | 50 | 4/15/2019 1:47 PM |
| 31 | 100 | 4/15/2019 1:42 PM |
| 32 | 100 | 4/15/2019 12:24 PM |
| 33 | 100 | 4/15/2019 12:19 PM |
| 34 | 36 | 4/15/2019 12:17 PM |
| 35 | 100 | 4/15/2019 12:13 PM |
| 36 | 58 | 4/15/2019 12:05 PM |
| 37 | 75 | 4/15/2019 12:02 PM |
| 38 | 100 | 4/15/2019 11:52 AM |
| 39 | 94 | 4/15/2019 11:34 AM |
| 40 | 95 | 4/15/2019 11:25 AM |
| 41 | 100 | 4/15/2019 11:06 AM |
| 42 | 100 | 4/15/2019 11:06 AM |
| 43 | 80 | 4/15/2019 10:58 AM |
| 44 | 58 | 4/15/2019 10:47 AM |
| 45 | 26 | 4/15/2019 10:38 AM |
| 46 | 25 | 4/15/2019 10:33 AM |
| 47 | 100 | 4/15/2019 10:25 AM |
| 48 | 62 | 4/15/2019 10:21 AM |
| 49 | 75 | 4/15/2019 10:18 AM |
| 50 | 60 | 4/15/2019 10:11 AM |
| 51 | 53 | 4/15/2019 10:07 AM |
| 52 | 100 | 4/15/2019 10:06 AM |
| 53 | 16 | 4/15/2019 10:05 AM |
| 54 | 70 | 4/15/2019 10:02 AM |
| 55 | 70 | 4/15/2019 10:00 AM |
| 56 | 65 | 4/15/2019 9:59 AM |
| 57 | 64 | 4/15/2019 9:58 AM |
| 58 | 100 | 4/15/2019 9:58 AM |
| 59 | 57 | 4/15/2019 9:58 AM |
| 60 | 100 | 4/15/2019 9:52 AM |

| | | |
|----|-----|--------------------|
| 61 | 50 | 4/15/2019 9:52 AM |
| 62 | 97 | 4/15/2019 9:52 AM |
| 63 | 50 | 4/15/2019 9:49 AM |
| 64 | 35 | 4/15/2019 9:48 AM |
| 65 | 100 | 4/15/2019 9:38 AM |
| 66 | 38 | 4/15/2019 9:32 AM |
| 67 | 99 | 4/15/2019 9:30 AM |
| 68 | 80 | 4/15/2019 9:29 AM |
| 69 | 100 | 4/15/2019 9:29 AM |
| 70 | 35 | 4/15/2019 9:28 AM |
| 71 | 81 | 4/15/2019 9:20 AM |
| 72 | 95 | 4/15/2019 5:37 AM |
| 73 | 66 | 4/14/2019 11:13 AM |
| 74 | 100 | 4/4/2019 9:49 AM |
| 75 | 48 | 4/4/2019 8:14 AM |
| 76 | 58 | 4/3/2019 5:19 PM |
| 77 | 100 | 4/3/2019 4:59 PM |
| 78 | 0 | 4/3/2019 4:24 PM |

Q9 Construct new sidewalks along Mifflin Avenue from the intersection with Main Street southward adjacent to the university to connect to the future track and field athletic complex.

Answered: 78 Skipped: 5



| ANSWER CHOICES | AVERAGE NUMBER | TOTAL NUMBER | RESPONSES |
|-----------------------|----------------|--------------|-----------|
| | 62 | 4,836 | 78 |
| Total Respondents: 78 | | | |

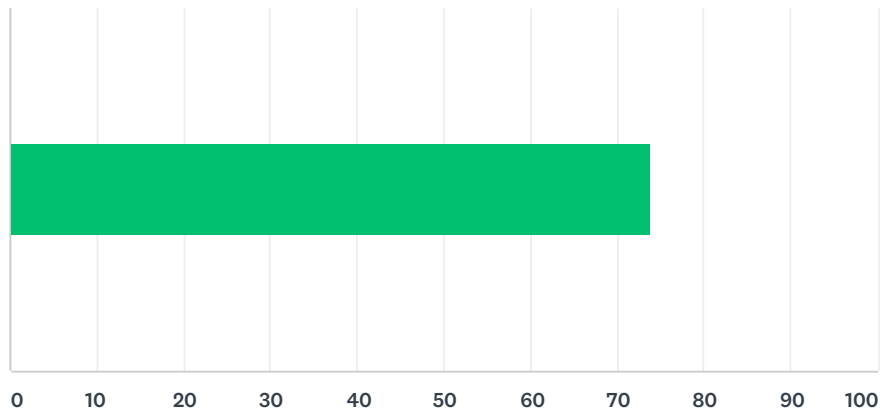
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| 3 | 9 | 4/19/2019 5:55 PM |
| 4 | 57 | 4/19/2019 1:06 PM |
| 5 | 71 | 4/19/2019 7:59 AM |
| 6 | 54 | 4/17/2019 10:41 PM |
| 7 | 97 | 4/17/2019 6:19 PM |
| 8 | 100 | 4/17/2019 3:54 PM |
| 9 | 76 | 4/17/2019 1:48 PM |
| 10 | 50 | 4/16/2019 12:49 AM |
| 11 | 20 | 4/15/2019 10:16 PM |
| 12 | 60 | 4/15/2019 10:12 PM |
| 13 | 50 | 4/15/2019 10:02 PM |
| 14 | 52 | 4/15/2019 9:56 PM |
| 15 | 50 | 4/15/2019 9:51 PM |
| 16 | 33 | 4/15/2019 9:36 PM |
| 17 | 78 | 4/15/2019 8:47 PM |
| 18 | 75 | 4/15/2019 8:00 PM |
| 19 | 100 | 4/15/2019 7:49 PM |
| 20 | 100 | 4/15/2019 7:25 PM |

| | | |
|----|-----|--------------------|
| 21 | 100 | 4/15/2019 7:24 PM |
| 22 | 50 | 4/15/2019 6:34 PM |
| 23 | 46 | 4/15/2019 5:19 PM |
| 24 | 25 | 4/15/2019 3:43 PM |
| 25 | 3 | 4/15/2019 3:30 PM |
| 26 | 82 | 4/15/2019 3:30 PM |
| 27 | 12 | 4/15/2019 3:02 PM |
| 28 | 76 | 4/15/2019 2:35 PM |
| 29 | 47 | 4/15/2019 2:13 PM |
| 30 | 73 | 4/15/2019 1:47 PM |
| 31 | 100 | 4/15/2019 1:42 PM |
| 32 | 76 | 4/15/2019 12:24 PM |
| 33 | 100 | 4/15/2019 12:19 PM |
| 34 | 42 | 4/15/2019 12:17 PM |
| 35 | 100 | 4/15/2019 12:13 PM |
| 36 | 52 | 4/15/2019 12:05 PM |
| 37 | 79 | 4/15/2019 12:02 PM |
| 38 | 44 | 4/15/2019 11:52 AM |
| 39 | 99 | 4/15/2019 11:34 AM |
| 40 | 88 | 4/15/2019 11:25 AM |
| 41 | 90 | 4/15/2019 11:06 AM |
| 42 | 100 | 4/15/2019 11:06 AM |
| 43 | 69 | 4/15/2019 10:58 AM |
| 44 | 66 | 4/15/2019 10:47 AM |
| 45 | 18 | 4/15/2019 10:38 AM |
| 46 | 26 | 4/15/2019 10:33 AM |
| 47 | 100 | 4/15/2019 10:25 AM |
| 48 | 60 | 4/15/2019 10:21 AM |
| 49 | 75 | 4/15/2019 10:18 AM |
| 50 | 33 | 4/15/2019 10:11 AM |
| 51 | 51 | 4/15/2019 10:07 AM |
| 52 | 100 | 4/15/2019 10:06 AM |
| 53 | 76 | 4/15/2019 10:05 AM |
| 54 | 80 | 4/15/2019 10:02 AM |
| 55 | 80 | 4/15/2019 10:00 AM |
| 56 | 85 | 4/15/2019 9:59 AM |
| 57 | 30 | 4/15/2019 9:58 AM |
| 58 | 37 | 4/15/2019 9:58 AM |
| 59 | 63 | 4/15/2019 9:58 AM |
| 60 | 100 | 4/15/2019 9:52 AM |
| 61 | 71 | 4/15/2019 9:52 AM |

| | | |
|----|-----|--------------------|
| 62 | 49 | 4/15/2019 9:52 AM |
| 63 | 50 | 4/15/2019 9:49 AM |
| 64 | 67 | 4/15/2019 9:48 AM |
| 65 | 80 | 4/15/2019 9:38 AM |
| 66 | 56 | 4/15/2019 9:32 AM |
| 67 | 50 | 4/15/2019 9:30 AM |
| 68 | 50 | 4/15/2019 9:29 AM |
| 69 | 38 | 4/15/2019 9:29 AM |
| 70 | 25 | 4/15/2019 9:28 AM |
| 71 | 64 | 4/15/2019 9:20 AM |
| 72 | 5 | 4/15/2019 5:37 AM |
| 73 | 80 | 4/14/2019 11:13 AM |
| 74 | 50 | 4/4/2019 9:49 AM |
| 75 | 51 | 4/4/2019 8:14 AM |
| 76 | 60 | 4/3/2019 5:19 PM |
| 77 | 100 | 4/3/2019 4:59 PM |
| 78 | 0 | 4/3/2019 4:24 PM |

Q10 Construct a pedestrian crosswalk, turn lane and associated drainage improvements to provide a safe connection for Elementary, Middle and High school students across Stewart Avenue and construct a sidewalk connection along Old Jack's Creek Road from the school property to the existing sidewalk at East Mill Street.

Answered: 77 Skipped: 6



| ANSWER CHOICES | AVERAGE NUMBER | TOTAL NUMBER | RESPONSES |
|-----------------------|----------------|--------------|-----------|
| | 74 | 5,689 | 77 |
| Total Respondents: 77 | | | |

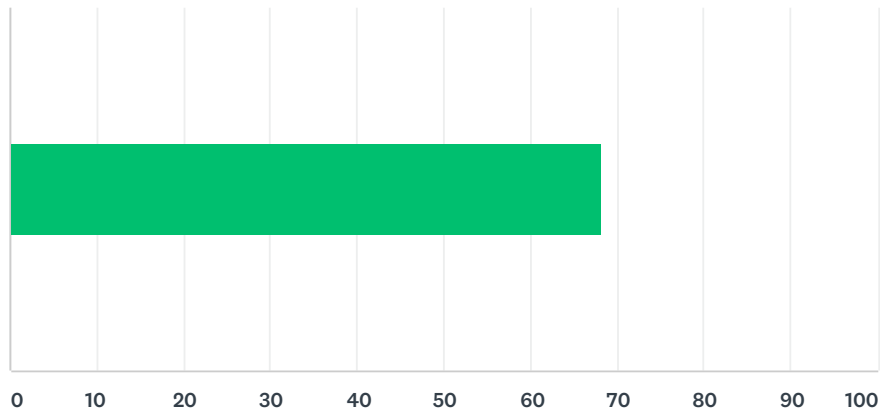
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| 2 | 97 | 4/20/2019 10:41 AM |
| 3 | 74 | 4/20/2019 9:09 AM |
| 4 | 95 | 4/19/2019 5:55 PM |
| 5 | 60 | 4/19/2019 1:06 PM |
| 6 | 64 | 4/17/2019 10:41 PM |
| 7 | 97 | 4/17/2019 6:19 PM |
| 8 | 100 | 4/17/2019 3:54 PM |
| 9 | 100 | 4/17/2019 1:48 PM |
| 10 | 58 | 4/16/2019 12:49 AM |
| 11 | 66 | 4/15/2019 10:16 PM |
| 12 | 83 | 4/15/2019 10:12 PM |
| 13 | 65 | 4/15/2019 10:02 PM |
| 14 | 12 | 4/15/2019 9:56 PM |
| 15 | 39 | 4/15/2019 9:51 PM |
| 16 | 71 | 4/15/2019 9:36 PM |
| 17 | 94 | 4/15/2019 8:47 PM |

| | | |
|----|-----|--------------------|
| 18 | 96 | 4/15/2019 8:00 PM |
| 19 | 0 | 4/15/2019 7:49 PM |
| 20 | 100 | 4/15/2019 7:25 PM |
| 21 | 82 | 4/15/2019 7:24 PM |
| 22 | 40 | 4/15/2019 6:34 PM |
| 23 | 76 | 4/15/2019 5:19 PM |
| 24 | 83 | 4/15/2019 3:43 PM |
| 25 | 31 | 4/15/2019 3:30 PM |
| 26 | 93 | 4/15/2019 3:30 PM |
| 27 | 51 | 4/15/2019 3:02 PM |
| 28 | 82 | 4/15/2019 2:35 PM |
| 29 | 69 | 4/15/2019 2:13 PM |
| 30 | 60 | 4/15/2019 1:47 PM |
| 31 | 72 | 4/15/2019 1:42 PM |
| 32 | 56 | 4/15/2019 12:24 PM |
| 33 | 70 | 4/15/2019 12:19 PM |
| 34 | 97 | 4/15/2019 12:17 PM |
| 35 | 100 | 4/15/2019 12:13 PM |
| 36 | 51 | 4/15/2019 12:05 PM |
| 37 | 95 | 4/15/2019 12:02 PM |
| 38 | 30 | 4/15/2019 11:52 AM |
| 39 | 100 | 4/15/2019 11:34 AM |
| 40 | 48 | 4/15/2019 11:25 AM |
| 41 | 100 | 4/15/2019 11:06 AM |
| 42 | 100 | 4/15/2019 11:06 AM |
| 43 | 100 | 4/15/2019 10:58 AM |
| 44 | 86 | 4/15/2019 10:47 AM |
| 45 | 100 | 4/15/2019 10:38 AM |
| 46 | 59 | 4/15/2019 10:33 AM |
| 47 | 100 | 4/15/2019 10:25 AM |
| 48 | 74 | 4/15/2019 10:21 AM |
| 49 | 100 | 4/15/2019 10:18 AM |
| 50 | 64 | 4/15/2019 10:11 AM |
| 51 | 55 | 4/15/2019 10:07 AM |
| 52 | 100 | 4/15/2019 10:06 AM |
| 53 | 91 | 4/15/2019 10:05 AM |
| 54 | 80 | 4/15/2019 10:00 AM |
| 55 | 90 | 4/15/2019 9:59 AM |
| 56 | 57 | 4/15/2019 9:58 AM |
| 57 | 50 | 4/15/2019 9:58 AM |
| 58 | 91 | 4/15/2019 9:58 AM |

| | | |
|----|-----|--------------------|
| 59 | 91 | 4/15/2019 9:52 AM |
| 60 | 74 | 4/15/2019 9:52 AM |
| 61 | 50 | 4/15/2019 9:52 AM |
| 62 | 50 | 4/15/2019 9:49 AM |
| 63 | 71 | 4/15/2019 9:48 AM |
| 64 | 63 | 4/15/2019 9:38 AM |
| 65 | 68 | 4/15/2019 9:32 AM |
| 66 | 50 | 4/15/2019 9:30 AM |
| 67 | 60 | 4/15/2019 9:29 AM |
| 68 | 92 | 4/15/2019 9:29 AM |
| 69 | 76 | 4/15/2019 9:28 AM |
| 70 | 47 | 4/15/2019 9:20 AM |
| 71 | 99 | 4/15/2019 5:37 AM |
| 72 | 94 | 4/14/2019 11:13 AM |
| 73 | 100 | 4/4/2019 9:49 AM |
| 74 | 76 | 4/4/2019 8:14 AM |
| 75 | 67 | 4/3/2019 5:19 PM |
| 76 | 100 | 4/3/2019 4:59 PM |
| 77 | 9 | 4/3/2019 4:24 PM |

Q11 Construct a shared use path for bicyclists and pedestrians along Church Avenue to connect downtown Henderson (Main Street) to the Gene Record Memorial Park near US 45 north of the city.

Answered: 77 Skipped: 6



| ANSWER CHOICES | AVERAGE NUMBER | TOTAL NUMBER | RESPONSES |
|-----------------------|----------------|--------------|-----------|
| | 68 | 5,246 | 77 |
| Total Respondents: 77 | | | |

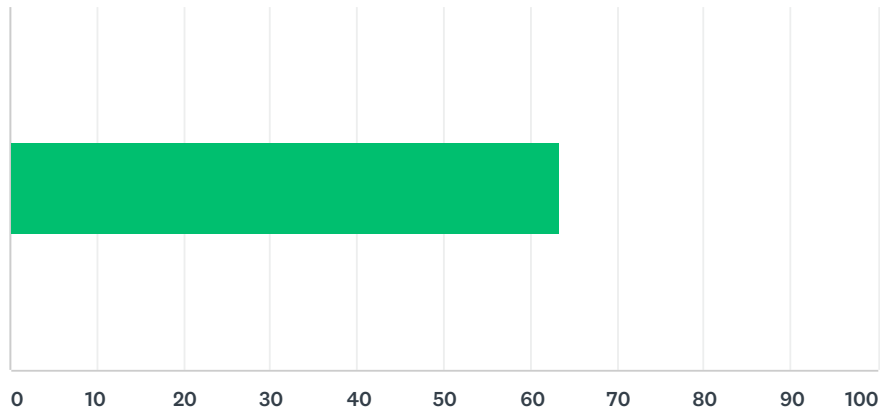
| # | | DATE |
|----|-----|--------------------|
| 1 | 67 | 4/20/2019 9:09 AM |
| 2 | 24 | 4/19/2019 5:55 PM |
| 3 | 73 | 4/19/2019 1:06 PM |
| 4 | 89 | 4/17/2019 10:41 PM |
| 5 | 97 | 4/17/2019 6:19 PM |
| 6 | 100 | 4/17/2019 3:54 PM |
| 7 | 68 | 4/17/2019 1:48 PM |
| 8 | 100 | 4/16/2019 12:49 AM |
| 9 | 53 | 4/15/2019 10:16 PM |
| 10 | 75 | 4/15/2019 10:12 PM |
| 11 | 85 | 4/15/2019 10:02 PM |
| 12 | 100 | 4/15/2019 9:56 PM |
| 13 | 78 | 4/15/2019 9:51 PM |
| 14 | 22 | 4/15/2019 9:36 PM |
| 15 | 83 | 4/15/2019 8:47 PM |
| 16 | 100 | 4/15/2019 8:00 PM |
| 17 | 74 | 4/15/2019 7:49 PM |
| 18 | 48 | 4/15/2019 7:25 PM |
| 19 | 81 | 4/15/2019 7:24 PM |
| 20 | 20 | 4/15/2019 6:34 PM |

| | | |
|----|-----|--------------------|
| 21 | 31 | 4/15/2019 5:19 PM |
| 22 | 90 | 4/15/2019 3:43 PM |
| 23 | 55 | 4/15/2019 3:30 PM |
| 24 | 100 | 4/15/2019 3:30 PM |
| 25 | 0 | 4/15/2019 3:02 PM |
| 26 | 88 | 4/15/2019 2:35 PM |
| 27 | 65 | 4/15/2019 2:13 PM |
| 28 | 100 | 4/15/2019 1:47 PM |
| 29 | 64 | 4/15/2019 1:42 PM |
| 30 | 32 | 4/15/2019 12:24 PM |
| 31 | 100 | 4/15/2019 12:19 PM |
| 32 | 100 | 4/15/2019 12:17 PM |
| 33 | 100 | 4/15/2019 12:13 PM |
| 34 | 26 | 4/15/2019 12:05 PM |
| 35 | 50 | 4/15/2019 12:02 PM |
| 36 | 8 | 4/15/2019 11:52 AM |
| 37 | 75 | 4/15/2019 11:34 AM |
| 38 | 54 | 4/15/2019 11:25 AM |
| 39 | 100 | 4/15/2019 11:06 AM |
| 40 | 100 | 4/15/2019 11:06 AM |
| 41 | 98 | 4/15/2019 11:04 AM |
| 42 | 72 | 4/15/2019 10:58 AM |
| 43 | 16 | 4/15/2019 10:47 AM |
| 44 | 67 | 4/15/2019 10:38 AM |
| 45 | 66 | 4/15/2019 10:33 AM |
| 46 | 30 | 4/15/2019 10:25 AM |
| 47 | 76 | 4/15/2019 10:21 AM |
| 48 | 85 | 4/15/2019 10:18 AM |
| 49 | 36 | 4/15/2019 10:11 AM |
| 50 | 55 | 4/15/2019 10:07 AM |
| 51 | 100 | 4/15/2019 10:06 AM |
| 52 | 84 | 4/15/2019 10:05 AM |
| 53 | 76 | 4/15/2019 10:02 AM |
| 54 | 80 | 4/15/2019 10:00 AM |
| 55 | 80 | 4/15/2019 9:59 AM |
| 56 | 73 | 4/15/2019 9:58 AM |
| 57 | 70 | 4/15/2019 9:58 AM |
| 58 | 73 | 4/15/2019 9:58 AM |
| 59 | 77 | 4/15/2019 9:52 AM |
| 60 | 95 | 4/15/2019 9:52 AM |
| 61 | 50 | 4/15/2019 9:52 AM |

| | | |
|----|-----|--------------------|
| 62 | 73 | 4/15/2019 9:49 AM |
| 63 | 81 | 4/15/2019 9:48 AM |
| 64 | 100 | 4/15/2019 9:38 AM |
| 65 | 63 | 4/15/2019 9:32 AM |
| 66 | 73 | 4/15/2019 9:30 AM |
| 67 | 10 | 4/15/2019 9:29 AM |
| 68 | 92 | 4/15/2019 9:29 AM |
| 69 | 10 | 4/15/2019 9:28 AM |
| 70 | 69 | 4/15/2019 9:20 AM |
| 71 | 50 | 4/15/2019 5:37 AM |
| 72 | 95 | 4/14/2019 11:13 AM |
| 73 | 100 | 4/4/2019 9:49 AM |
| 74 | 50 | 4/4/2019 8:14 AM |
| 75 | 46 | 4/3/2019 5:19 PM |
| 76 | 100 | 4/3/2019 4:59 PM |
| 77 | 0 | 4/3/2019 4:24 PM |

Q12 Fill in the gaps in the sidewalk network within the neighborhoods that feed into North Mifflin Avenue

Answered: 79 Skipped: 4



| ANSWER CHOICES | AVERAGE NUMBER | TOTAL NUMBER | RESPONSES |
|-----------------------|----------------|--------------|-----------|
| | 63 | 5,015 | 79 |
| Total Respondents: 79 | | | |

| # | | DATE |
|----|-----|--------------------|
| 1 | 98 | 4/20/2019 10:50 AM |
| 2 | 97 | 4/20/2019 10:43 AM |
| 3 | 50 | 4/20/2019 9:09 AM |
| 4 | 50 | 4/19/2019 5:55 PM |
| 5 | 80 | 4/19/2019 1:06 PM |
| 6 | 78 | 4/19/2019 7:59 AM |
| 7 | 57 | 4/17/2019 10:41 PM |
| 8 | 96 | 4/17/2019 6:19 PM |
| 9 | 76 | 4/17/2019 3:54 PM |
| 10 | 69 | 4/17/2019 1:48 PM |
| 11 | 60 | 4/16/2019 12:49 AM |
| 12 | 84 | 4/15/2019 10:16 PM |
| 13 | 59 | 4/15/2019 10:12 PM |
| 14 | 100 | 4/15/2019 10:02 PM |
| 15 | 53 | 4/15/2019 9:56 PM |
| 16 | 50 | 4/15/2019 9:51 PM |
| 17 | 29 | 4/15/2019 9:36 PM |
| 18 | 78 | 4/15/2019 8:47 PM |
| 19 | 50 | 4/15/2019 8:00 PM |
| 20 | 100 | 4/15/2019 7:49 PM |
| 21 | 100 | 4/15/2019 7:25 PM |

| | | |
|----|-----|--------------------|
| 22 | 99 | 4/15/2019 7:24 PM |
| 23 | 39 | 4/15/2019 6:34 PM |
| 24 | 46 | 4/15/2019 5:19 PM |
| 25 | 38 | 4/15/2019 3:43 PM |
| 26 | 31 | 4/15/2019 3:30 PM |
| 27 | 95 | 4/15/2019 3:30 PM |
| 28 | 14 | 4/15/2019 3:02 PM |
| 29 | 75 | 4/15/2019 2:35 PM |
| 30 | 55 | 4/15/2019 2:13 PM |
| 31 | 51 | 4/15/2019 1:47 PM |
| 32 | 100 | 4/15/2019 1:42 PM |
| 33 | 60 | 4/15/2019 12:24 PM |
| 34 | 70 | 4/15/2019 12:19 PM |
| 35 | 65 | 4/15/2019 12:17 PM |
| 36 | 75 | 4/15/2019 12:13 PM |
| 37 | 50 | 4/15/2019 12:05 PM |
| 38 | 51 | 4/15/2019 12:02 PM |
| 39 | 80 | 4/15/2019 11:52 AM |
| 40 | 52 | 4/15/2019 11:34 AM |
| 41 | 53 | 4/15/2019 11:25 AM |
| 42 | 95 | 4/15/2019 11:06 AM |
| 43 | 63 | 4/15/2019 11:06 AM |
| 44 | 68 | 4/15/2019 10:58 AM |
| 45 | 45 | 4/15/2019 10:47 AM |
| 46 | 27 | 4/15/2019 10:38 AM |
| 47 | 55 | 4/15/2019 10:33 AM |
| 48 | 100 | 4/15/2019 10:25 AM |
| 49 | 70 | 4/15/2019 10:21 AM |
| 50 | 76 | 4/15/2019 10:18 AM |
| 51 | 37 | 4/15/2019 10:11 AM |
| 52 | 72 | 4/15/2019 10:07 AM |
| 53 | 100 | 4/15/2019 10:06 AM |
| 54 | 18 | 4/15/2019 10:05 AM |
| 55 | 65 | 4/15/2019 10:02 AM |
| 56 | 60 | 4/15/2019 10:00 AM |
| 57 | 72 | 4/15/2019 9:59 AM |
| 58 | 75 | 4/15/2019 9:58 AM |
| 59 | 64 | 4/15/2019 9:58 AM |
| 60 | 69 | 4/15/2019 9:58 AM |
| 61 | 76 | 4/15/2019 9:52 AM |
| 62 | 93 | 4/15/2019 9:52 AM |

| | | |
|----|-----|--------------------|
| 63 | 51 | 4/15/2019 9:52 AM |
| 64 | 50 | 4/15/2019 9:49 AM |
| 65 | 40 | 4/15/2019 9:48 AM |
| 66 | 59 | 4/15/2019 9:38 AM |
| 67 | 30 | 4/15/2019 9:32 AM |
| 68 | 31 | 4/15/2019 9:30 AM |
| 69 | 40 | 4/15/2019 9:29 AM |
| 70 | 96 | 4/15/2019 9:29 AM |
| 71 | 55 | 4/15/2019 9:28 AM |
| 72 | 82 | 4/15/2019 9:20 AM |
| 73 | 50 | 4/15/2019 5:37 AM |
| 74 | 53 | 4/14/2019 11:13 AM |
| 75 | 50 | 4/4/2019 9:49 AM |
| 76 | 67 | 4/4/2019 8:14 AM |
| 77 | 48 | 4/3/2019 5:19 PM |
| 78 | 100 | 4/3/2019 4:59 PM |
| 79 | 0 | 4/3/2019 4:24 PM |

Q13 Do you have any additional suggestions for improvement to the bicycle and pedestrian network?

Answered: 33 Skipped: 50

| # | RESPONSES | DATE |
|----|--|--------------------|
| 1 | Sidewalk construction/ improvements along Jack's Creek Street to (through) Stewart Ave | 4/20/2019 10:41 AM |
| 2 | Our family lives in the neighborhood of Crook and North, allowing us to take family walks and bike rides within the city limits. It was one of the reasons we chose to buy a house in town. Even with sidewalk accessibility, we have had some concerns over the past few years about the route we take within the city. We would like to bring these concerns to your attention. 1. The marked crosswalks at the intersection of Main Street and Crook Avenue and Main Street and Cason Street are not observed by motorists as the law describes. Our family has to wait till the road is completely clear before we can cross within the crosswalk. Very rarely will motorists stop. Our suggestion to this is to add in flashing lights for when a pedestrian is about to cross. We have seen such signs (with a button for pedestrians to push) in Downtown Gatlinburg. 2. With the FHU campus growing, students, faculty, and community members are crossing Mill Street often to reach the sports fields on the other side. Mill Street also has a lot of pedestrian traffic with runners and walkers. An added marked crosswalk connecting the sidewalks from the FHU Sports Center to Carnes Baseball Field will help direct pedestrian traffic to cross at one point. 3. On Crook Avenue, there are several houses with hedges growing up directly beside their driveway. Most of the hedges are cut back from the road but not from the sidewalk. A driver backing out of his driveway, cannot see a pedestrian and specifically children on the sidewalk. This has been an issue more than once and we have cautioned our children strictly to watch specifically for cars in the driveway. I believe a simple letter to these residences will help encourage them to trim back their hedges to increase visibility around the sidewalks. 4. The sidewalks on Crook and North have a few broken spaces. This is a small thing but could prove helpful for those using the sidewalks for wheelchairs or children riding their bikes. Thank you for being attentive to our community's concerns. We are saddened that our schedule changed and we are not able to attend the meeting called to discuss sidewalks and bicycle accessibility, and again, we thank you for addressing this important concern! | 4/20/2019 9:09 AM |
| 3 | No | 4/17/2019 10:41 PM |
| 4 | Electric bicycles | 4/17/2019 6:19 PM |
| 5 | More street lights along Crook. Extend sidewalks down North. Flashing lights at crosswalks along Main Street in downtown. | 4/17/2019 3:54 PM |
| 6 | None | 4/17/2019 1:48 PM |
| 7 | Extend the sidewalk network up North Avenue to make it less hazardous for both pedestrians and cyclists. Cars tend to fly down that road and there is minimal visibility because of hills, so there is currently no way to get to 5-7th Street residential without being in danger of being hit by a car. | 4/15/2019 10:02 PM |
| 8 | Signage, lights, & education to create awareness of pedestrian crossings. The general public seems to be largely unaware that they should allow pedestrians an opportunity to cross the street when using a crosswalk. And that there is a speed limit through the downtown and college area. | 4/15/2019 9:51 PM |
| 9 | Spend the money on the streets. They need to be fixed before we worry about bike paths. Sounds like someone's trying to push a grant off on the board. | 4/15/2019 9:36 PM |
| 10 | Roads such as North and Crook would be well fitted to have continuous sidewalks from one end to the other on both sides. | 4/15/2019 8:47 PM |
| 11 | Making sidewalks or areas for bicyclists to use up and down main street and to Gene Record | 4/15/2019 8:00 PM |
| 12 | Mifflin needs sidewalks that extend from Main Street to 200. Too many pedestrians on a daily basis, including kids, and this needs to be made much more safe. | 4/15/2019 7:49 PM |
| 13 | There is not reason to worry about bicycle network! I never see anyone riding bicycle through town | 4/15/2019 3:02 PM |
| 14 | Build a green belt park connecting downtown (starting at no excuse) to Gene Record Park along the side of the rail line. This would improve connectivity without impacting church street and allow for additional connections at third street. | 4/15/2019 2:13 PM |

| | | |
|----|---|--------------------|
| 15 | Improve and add sidewalks down north ave. People use this as a through street from white ave to Main Street, so there is a lot of traffic. There are also a lot of pedestrians walking/running, and it's hard to see them around the curves down that street. | 4/15/2019 12:19 PM |
| 16 | Make the intersection of Hill and SR 200 and the intersection of Mifflin Ave and SR 200 4-way stops to slow traffic and increase pedestrian and bicycle safety. And a 3-way stop at 4th St E and Mifflin Ave N would improve traffic and pedestrian safety as well. Mifflin Ave N is a residential area with many children and people drive it at 50mph to cut across to SR 200. Also, if sidewalks are not added to Mifflin N, please add additional lighting to that road. There are many pedestrians both early morning and late evening traveling to and from work and school, and the current lighting creates bright spots and blind spots. Your eyes do not have time to adjust between the lighted area and the dark area to see if there is someone in the road. It is only a matter of time before someone is seriously injured or killed if the street is not improved. The traffic on that road keeps increasing with all the increased housing construction in the northeast part of the county. | 4/15/2019 11:52 AM |
| 17 | No | 4/15/2019 11:25 AM |
| 18 | Mifflin is a constant concern for my family as we see it as a heavily trafficked pedestrian/bike/electric wheelchair route and also a place cars drive too fast. Top priority. Also, around FHU, students and traffic are a concern, especially crossing Main Street. Pedestrian right of way signs are needed as cars do not seem to understand this! Don't forget foot traffic east of Mifflin as well as west. Thank you for really caring about Henderson and it's residents! | 4/15/2019 11:06 AM |
| 19 | More street lights on 100 bypass near where Main Street comes out. Very very dark section for runners/cyclists | 4/15/2019 11:06 AM |
| 20 | No | 4/15/2019 10:21 AM |
| 21 | Add a parking garage downtown | 4/15/2019 10:07 AM |
| 22 | Need to look at improving existing sidewalks in areas of North., Crook and white Avenues areas need to be repaired or replaced. | 4/15/2019 10:05 AM |
| 23 | No | 4/15/2019 10:00 AM |
| 24 | No | 4/15/2019 9:58 AM |
| 25 | No | 4/15/2019 9:58 AM |
| 26 | Research a bike share rent program | 4/15/2019 9:52 AM |
| 27 | Many neighborhoods, including mine, have no sidewalks. This discourages pedestrians. I don't want to have to get in my car and drive to Gene Record Park in order to take a walk. I would love to see more sidewalks throughout the city! | 4/15/2019 9:52 AM |
| 28 | No | 4/15/2019 9:48 AM |
| 29 | Downtown needs signage at the crosswalks. I have sat at the crosswalk downtown for over 2 minutes waiting on incoming traffic to stop so the pedestrians could cross. | 4/15/2019 9:32 AM |
| 30 | The sidewalks on North end and then pick back up later. Those need to be extended all the way down North Ave on both sides. There is lots of traffic along that route and much of it is foot traffic. | 4/15/2019 9:20 AM |
| 31 | none. | 4/15/2019 5:37 AM |
| 32 | Bicycle trail within the city limits. | 4/4/2019 9:49 AM |
| 33 | I would just really love to see the town become more friendly for bikers and walkers. | 4/3/2019 4:59 PM |



2 INITIAL POSSIBLE PROJECT IDENTIFICATION



