

CHAPTER 2

Project Approach



Project Approach

The project approach for this Master Plan was developed to ensure specific needs for all users of the network in Tallahassee and Leon County would be met. Several considerations were gauged in identifying projects and routes to enhance the existing system and encourage bicycle and pedestrian travel.



Public engagement during Bicycle Kickoff Month May 2018

The following resources were used to determine appropriate routes that would foster a network that would be comfortable and safe for all user types:

- **Focus Areas**
- **Bicycle Comfort Level (BCL) and types of cyclists**
- **GIS Data**
- **Public and Stakeholder Input**
- **Tallahassee-Leon County Greenways Master Plan 2015 Update**
- **Blueprint Projects**

These are detailed in the following sections.

Focus Areas

In order to build a bicycle and pedestrian network that will provide safe facilities for a variety of user types, as well as encourage residents to begin to choose bicycling and walking as a form of transportation, focus areas were identified. One of the key goals of this Plan is to better connect areas within each focus area, since most bicycle and pedestrian trips are typically shorter in length. These focus areas have concentrations of commercial and residential development patterns that are typically close to parks, community amenities, and entertainment districts.

A study conducted by Breakaway Research Group for People for Bikes, found that 53% of the 16,000 American adults polled wanted to ride their bike more often but had great concerns regarding traffic.¹

Another statistic from the League of American Bicyclists reports that of all biking trips, 59% are of 1 mile or less and 85% are three miles or less.²

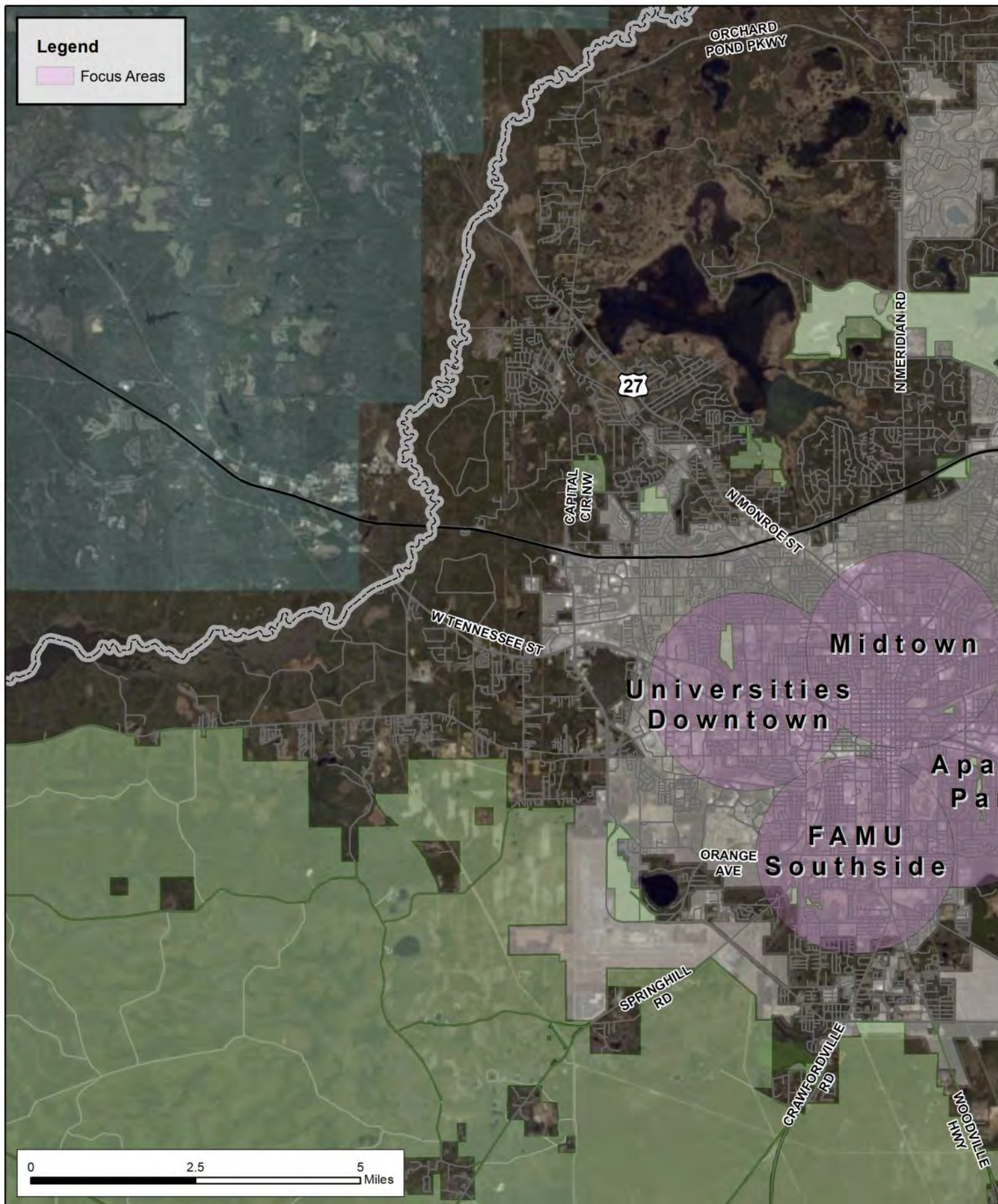
This research supports that by identifying areas that would allow for shorter trips on safe routes, bicycling would become more accessible to many of Tallahassee and Leon County's residents and may encourage increased ridership. Providing options for short, localized trips in and between the focus areas of this Plan will provide residents with choices for alternative transportation modes when accessing these locations. As noted previously, five focus areas were identified in Leon County: Apalachee Parkway, Downtown/Universities, Northside/Killlearn, Midtown, and Southside/FAMU, which are shown in **Figures 3-8** on the following pages. These areas were used to identify routes that would make connections within and between them.



Public event in Downtown Tallahassee

¹Breakaway Research Group (2015) *U.S. Bicycling Participation Benchmark Study Report*. https://b.3cdn.net/bikes/7b69b6010056525bce_ilm6vs5q1.pdf

²League of American Bicyclists (2010) *National Household Travel Survey*. https://www.bikeleague.org/sites/default/files/2009_NHTS_Short_Trips_Analysis.pdf



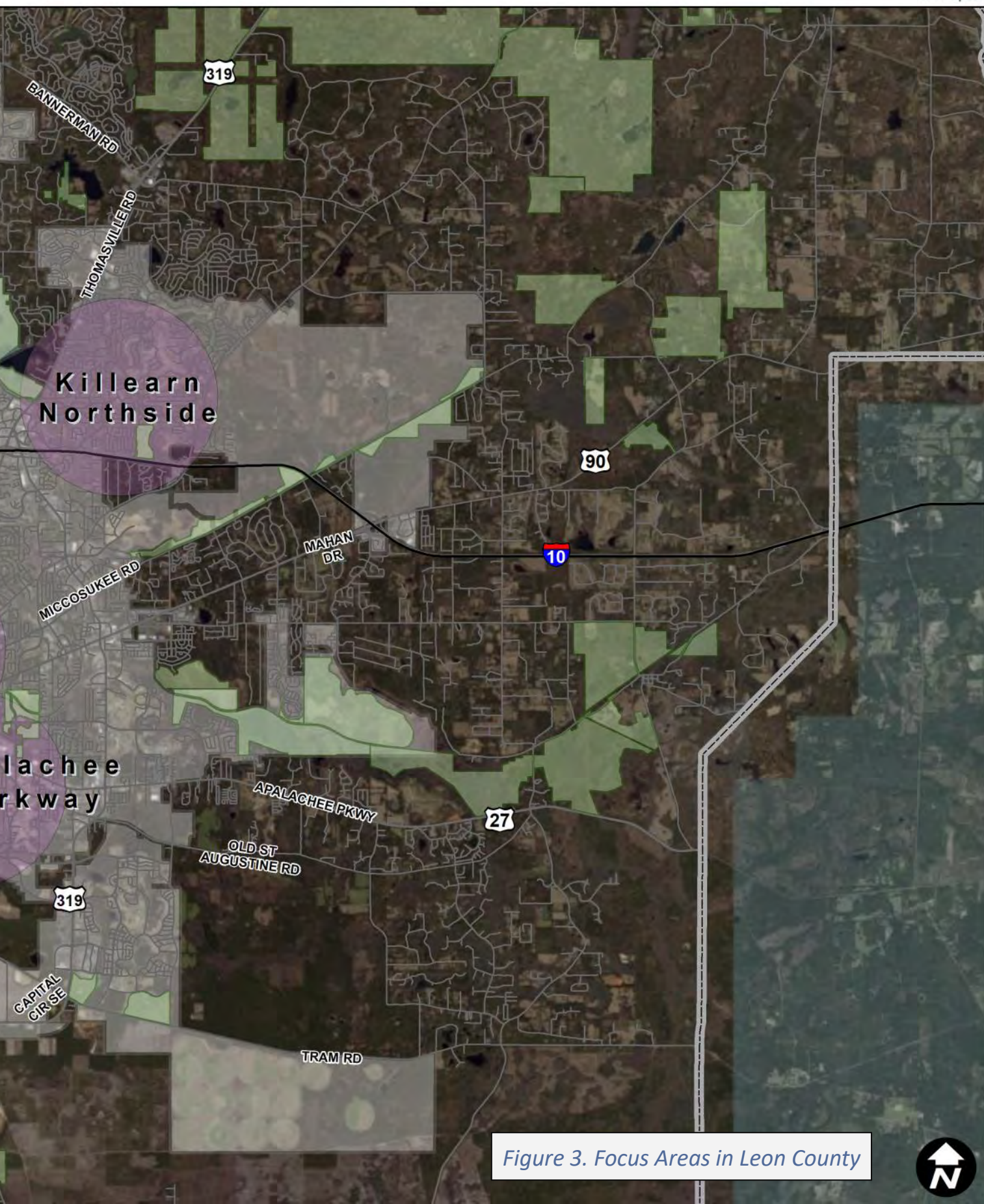
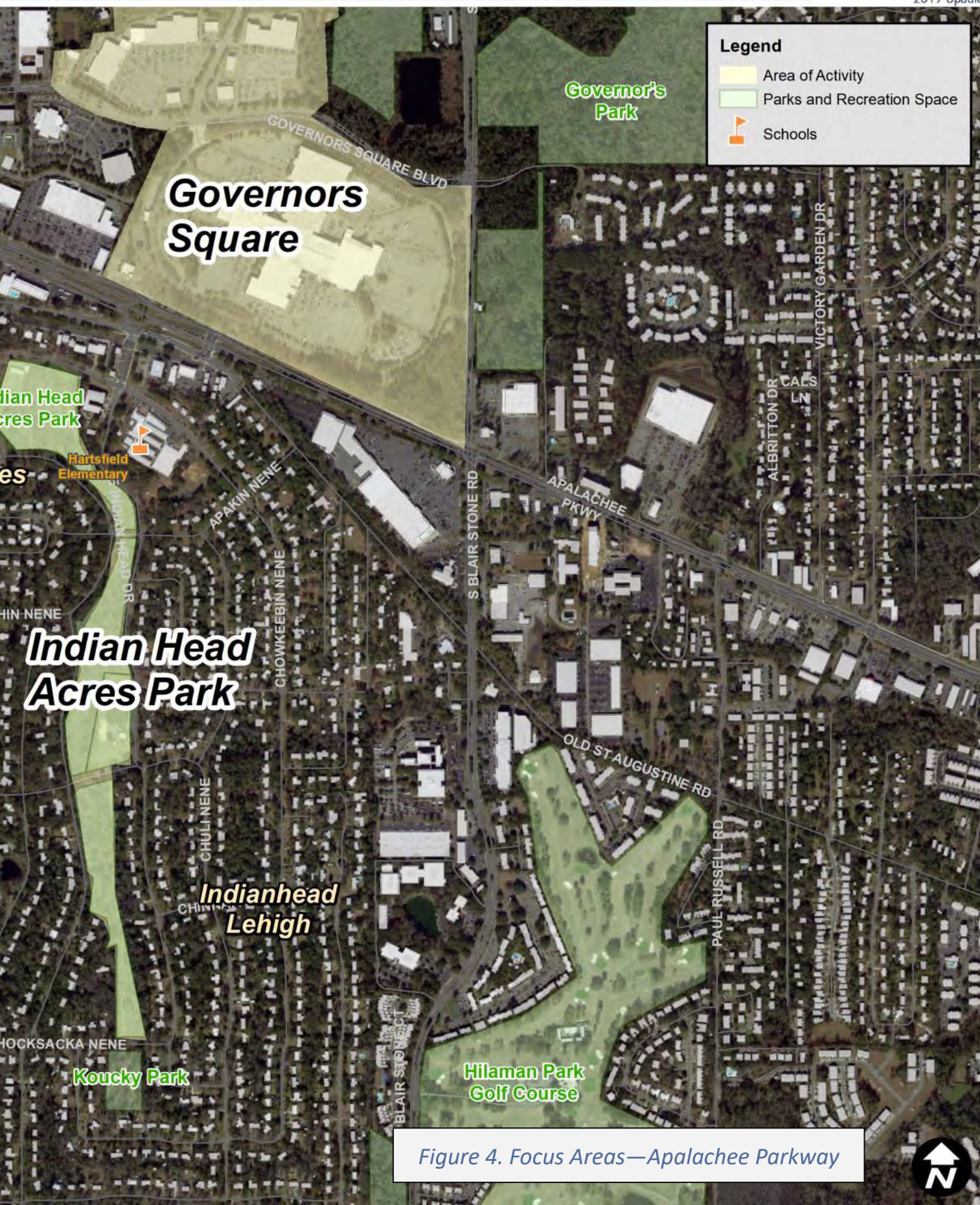


Figure 3. Focus Areas in Leon County





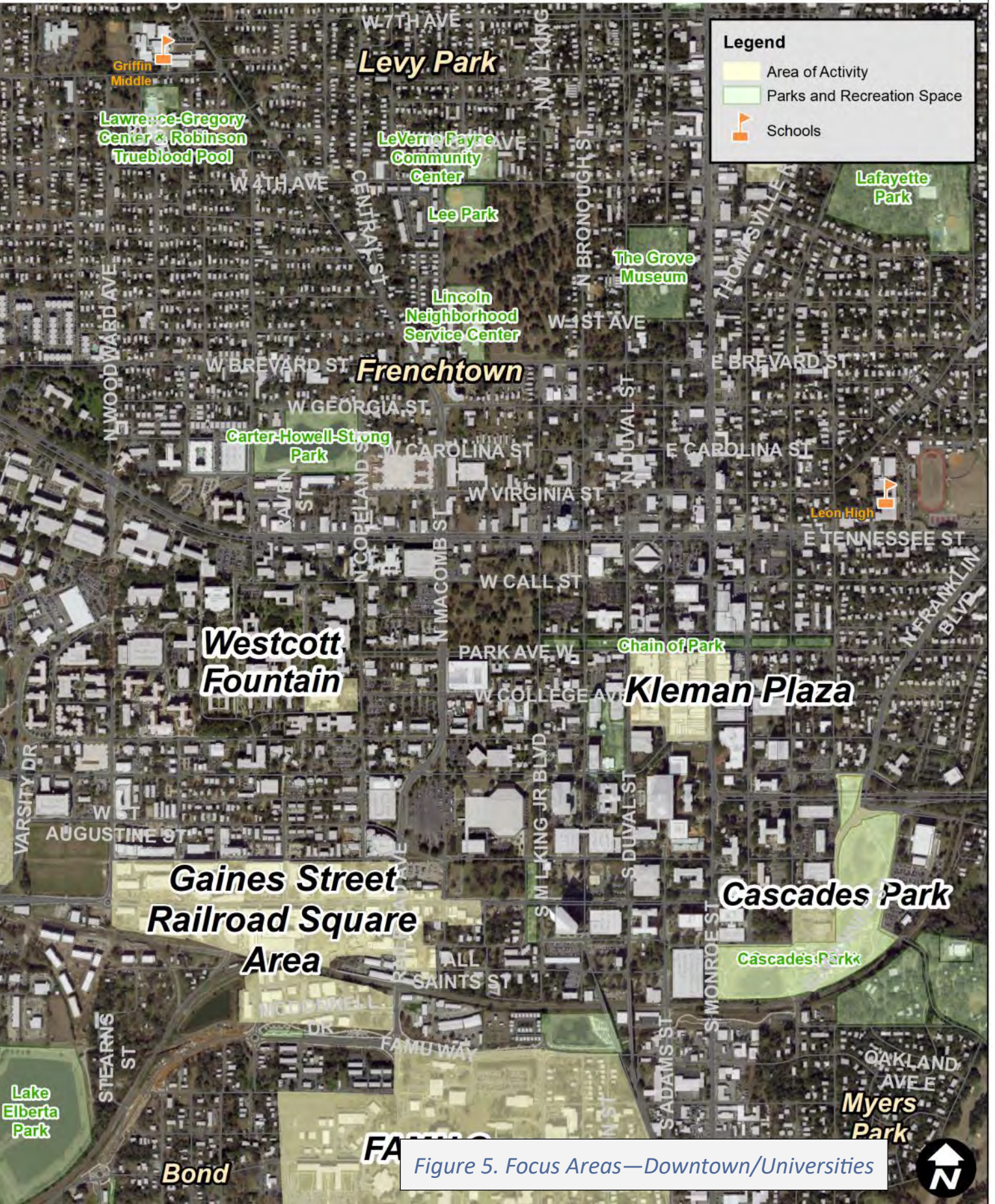
TALLAHASSEE-LEON COUNTY
Bicycle and Pedestrian Master Plan
2019 Update



Focus Areas: D



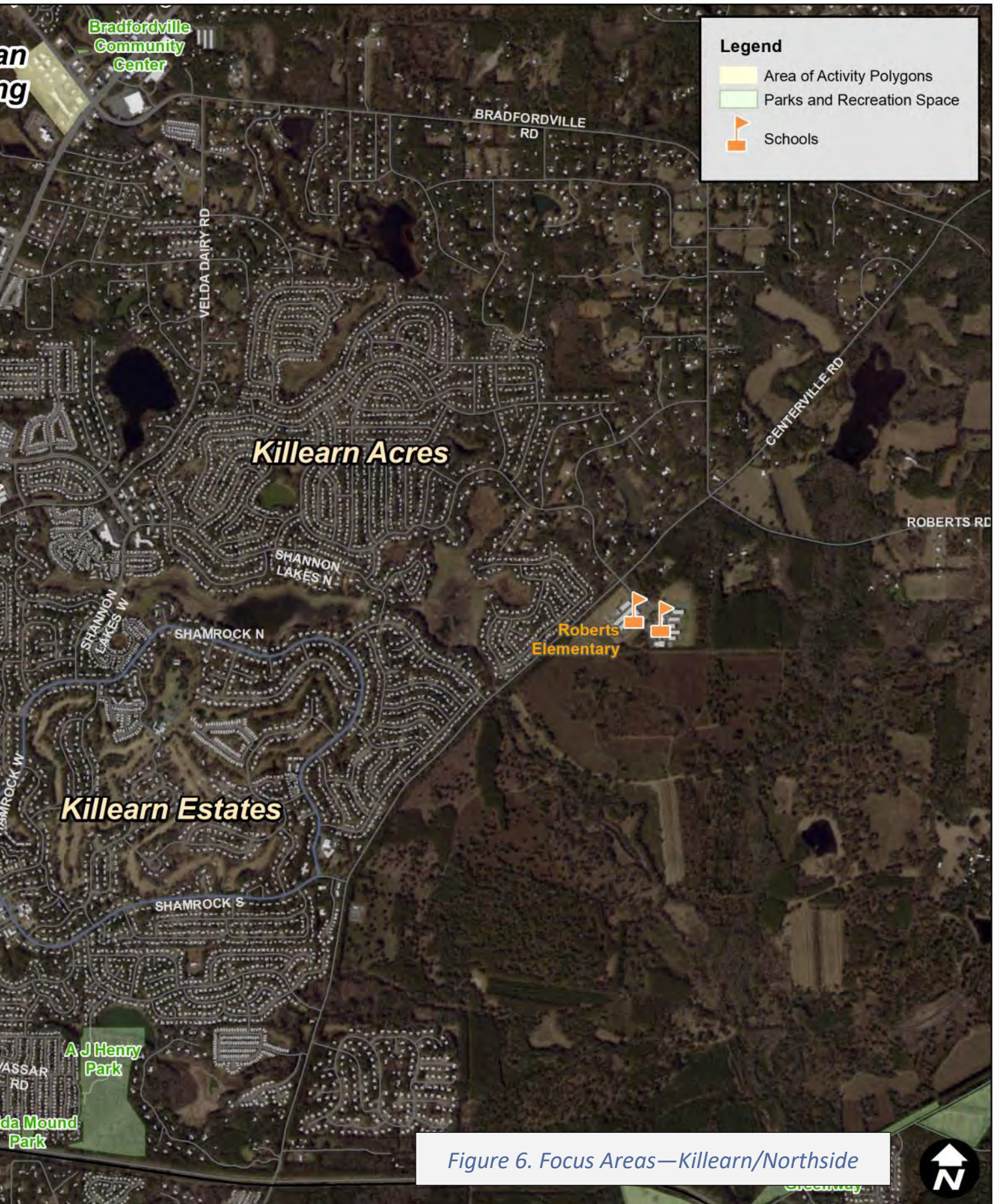
Downtown/Universities





Focus Areas: K







Focus A

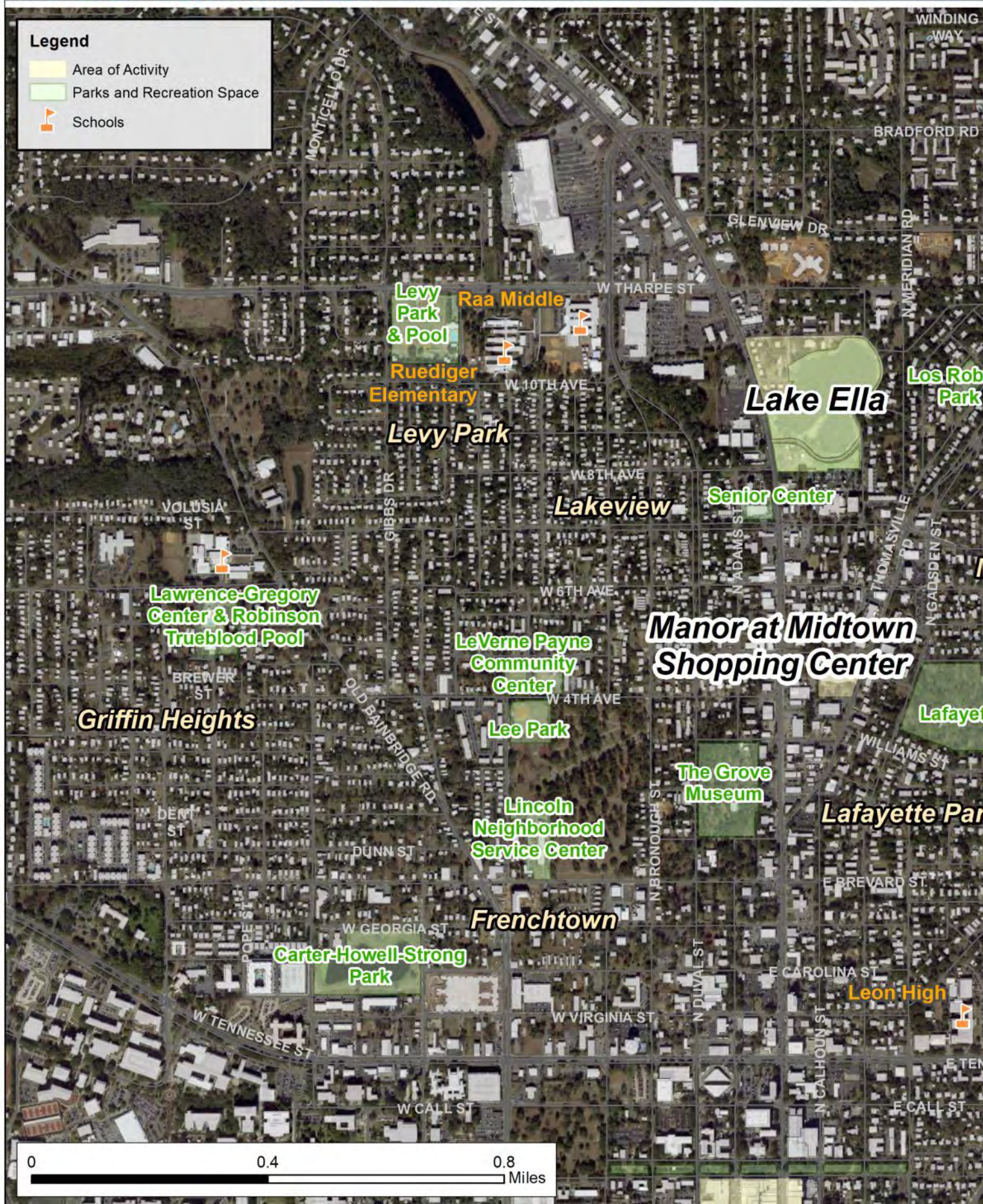
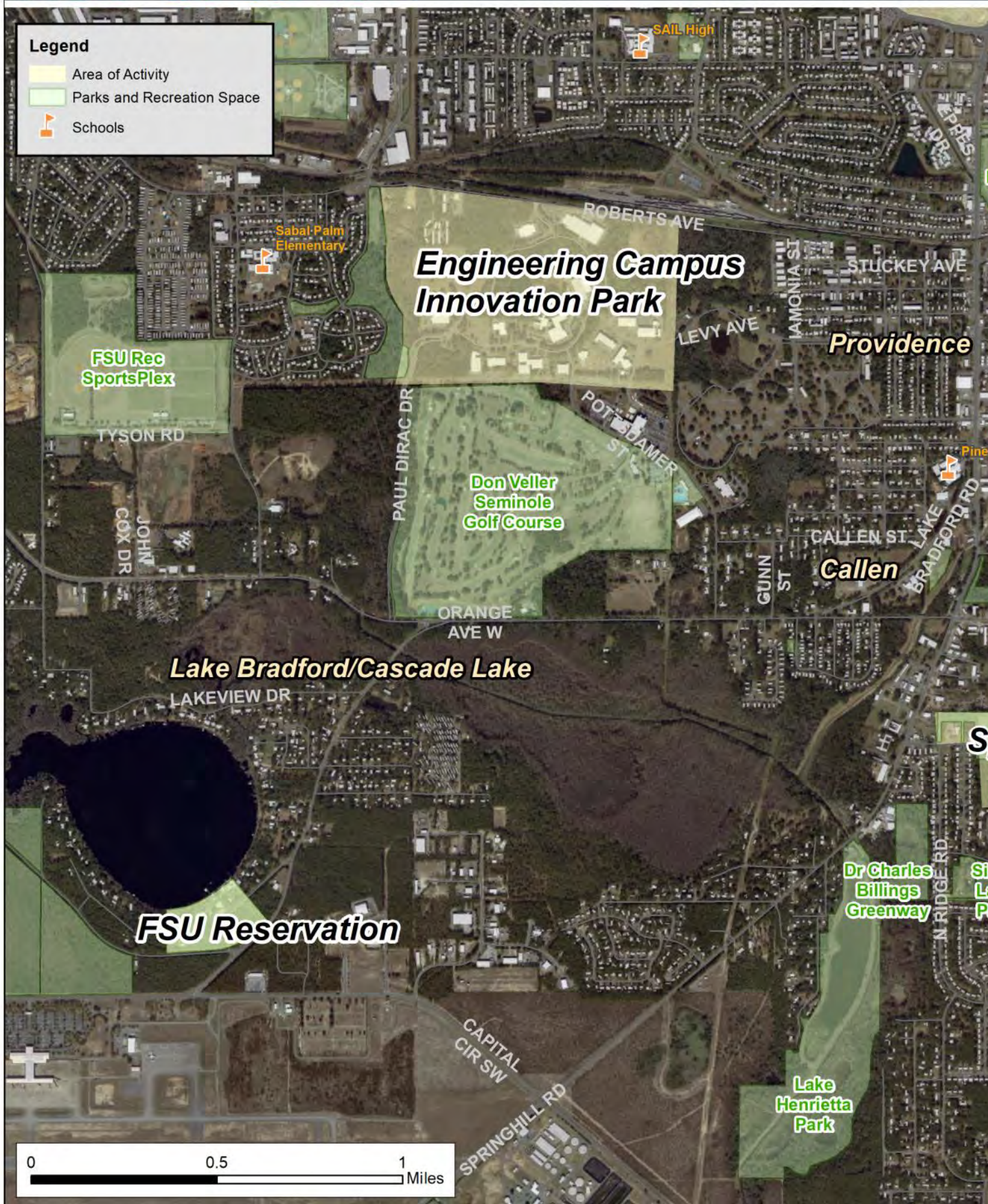




Figure 7. Focus Areas—Midtown



Focus Areas:



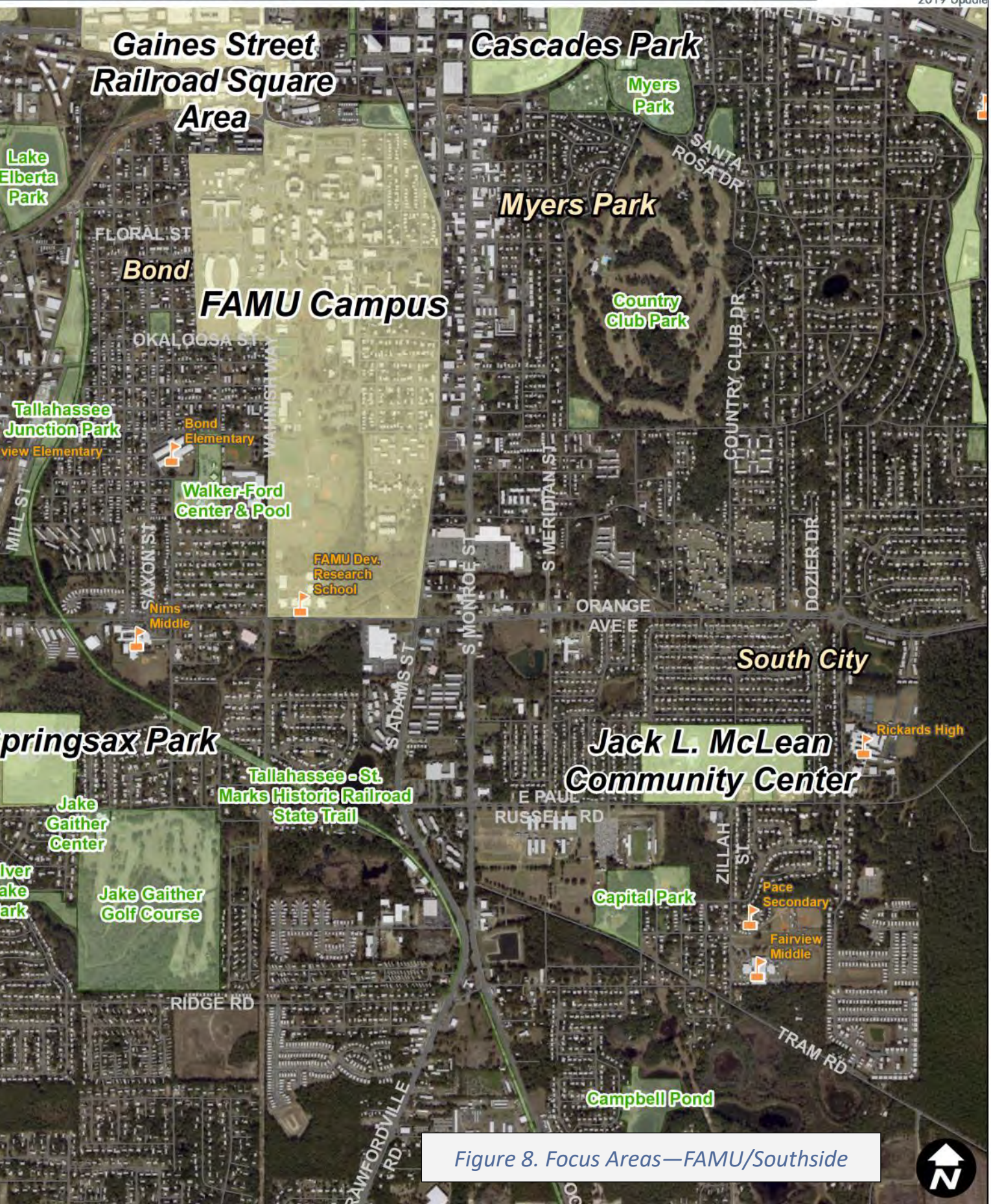


Figure 8. Focus Areas—FAMU/Southside





Bicycle Comfort Level (BCL) and Types of Cyclists

Bicycle Comfort Level, or BCL, was a significant determinant in identifying projects and routes. Bicycle Comfort Level, often referred to as Level of Traffic Stress, refers to how safe or comfortable a cyclist feels while riding based on the below list of roadway characteristics:

- Posted Speed Limit
- Number of Travel Lanes
- Average Annual Daily Traffic (AADT) (assumptions may be made for low volume local roads)
- Existing Designated On-Street Bicycle Facilities
- Elevations are used during route determination





Using this criteria, four categories were developed to represent how roads within Leon County provided comfort for bicyclists. These categories were labeled BCL 1, BCL 2, BCL 3, and BCL 4, with BCL 1 being the most concerning and BCL 4 being the most comfortable (**Figure 9**). These groups were then correlated with user types, to determine appropriate facilities based on a bicyclist's experience, skills, and their comfort using various types of facilities, which is shown in **Figure 10**. There are four types of bicyclists that correlate with the BCL designations; these are Strong and Fearless, Enthused and Confident, Interested but Concerned, and Children and Elderly. This method for designating facilities and associated users was designed to easily determine a road or facility's viability in providing comfortable connectivity within the bicycle network that will serve all user types. The breakdown of facility type by road within Leon County is shown in **Figure 11**.

Figure 9. Bicycle Comfort Level Designations for Roadway Conditions

| Bicycle Comfort Level Designations | | | |
|--|---|--|---|
| BCL 1 | BCL 2 | BCL 3 | BCL 4 |
| Very low level of comfort for bicyclists. Corridors with BCL 1 should have off-street facilities to accommodate multimodal users including multi-use paths and protected bike lanes. | Low level of comfort for bicyclists. Corridors with BCL 2 should have off street facilities or be retrofitted to accommodate protected or buffered bicycle lanes. | A moderate level of comfort for bicyclists. Roads with BCL 3 should be utilized to make connections between safe existing facilities and corridors with a BCL 4. Buffered bike lanes, sharrows, may be utilized on roads with BCL 3. | Highest level of comfort for bicyclists. Corridors with BCL 4 can implement sharrows and other traffic calming measures to help bicyclists share the road with motorists. BCL 4 roads are typically neighborhood roads. |

The Bicycle Comfort Level categories are correlated with four identified bicyclist types:

Figure 10. Bicycle Comfort Level Designations & User Types

| Bicycle Comfort Level Designations & User Types | | |
|---|--------------------------|---|
| Bicycle Comfort Level (BCL) <i>Facility</i> | <i>Users</i> | |
| BCL 1 | Strong and Fearless |  |
| BCL 2 | Enthusied and Confident |  |
| BCL 3 | Interested but Concerned |  |
| BCL 4 | Children and Elderly |  |



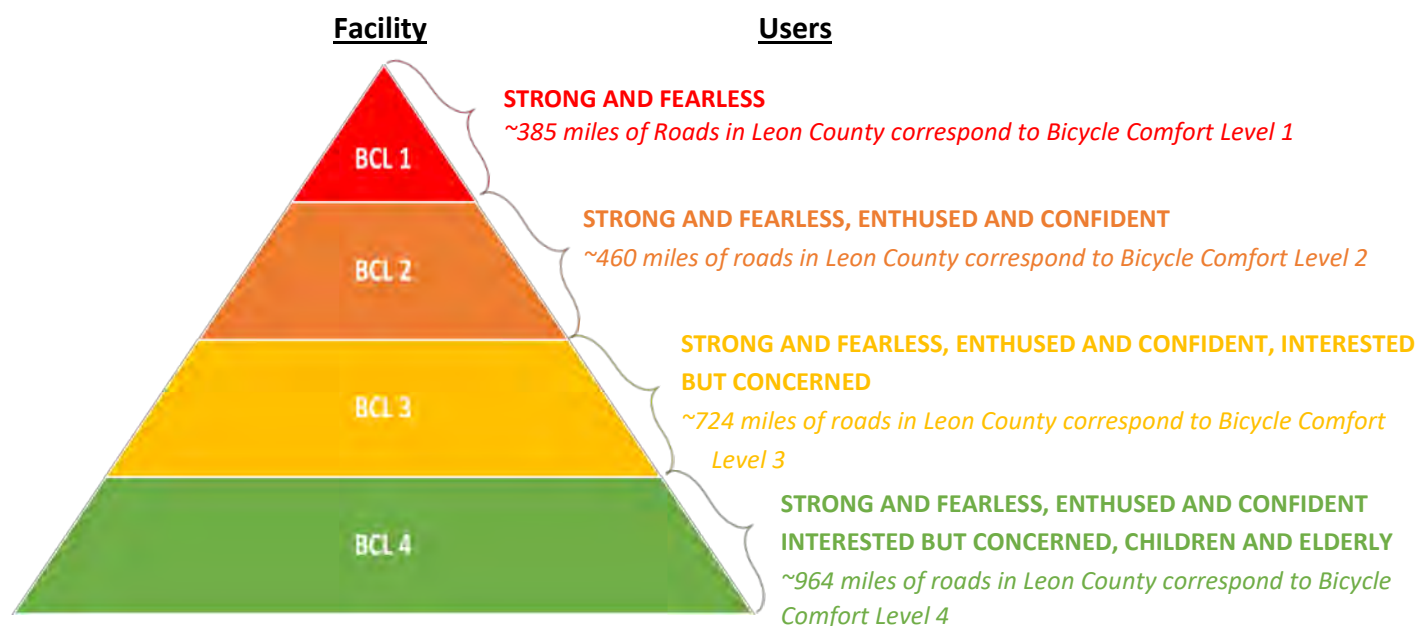
TALLAHASSEE-LEON COUNTY
Bicycle and Pedestrian Master Plan
2019 Update



As indicated in **Figure 10**, roads with an inadequate BCL (1 or 2) are not comfortable for bicyclists in the BCL 3 and 4 categories, which include children and elderly, and users that are interested but concerned. These types of users are better suited to roads ranked BCL 3 or 4, which are typically neighborhood roads or those with lower traffic volumes and low speeds. Enthused and Confident cyclists, or those associated with BCL 2, are best suited to roads that are ranked as BCL 2, 3, or 4. Strong and Fearless cyclists will likely use any corridor regardless of the BCL, but most users do not self-identify as being strong or fearless.

In Tallahassee and Leon County, nearly 75% of the roads are designated BCL 3 or 4, indicating an opportunity to bike throughout the City and County on routes that are safe and comfortable for all user types. Despite this high percentage of comfortable roads, from a network connectivity perspective, there are many gaps that need to be addressed to make the system operate efficiently and safely for all users. The remaining roads that fall below BCL 2 tend to create these gaps, and hinder connectivity between roads that are BCL 3 and 4 because of inadequate facilities, high traffic volumes, and generally unsafe conditions for users. An example of this is Thomasville Road. While Thomasville Road offers north-south connectivity for motorists, it's high volume and inadequate sidewalks and bicycle lanes make it an unsafe option for traversing the City by biking or walking. Through this Bicycle Comfort Level analysis, it is categorized as a BCL 1, indicating that it is only suitable for Strong and Fearless riders, who still might not feel safe on these facilities depending on other factors, such as time of day. As is, Thomasville limits north-south bicycle and pedestrian connectivity as well as creates a barrier for east-west access on roads that are better suited for less experience users and are categorized as a BCL 3 or BCL 4. With improved facilities that focus on bicyclist and pedestrian comfort and safety, Thomasville Road could be categorized as BCL 3 or 4, and could connect a significant portion of the community to and from focus areas identified in this Plan and the areas of activity within them. **Figure 12** shows in more detail which BCL categories correspond to each user type, and the number of miles associated with each category in Leon County.

Figure 12. Bicycle Comfort Level



GIS Data

In combination with the Bicycle Comfort Level analysis, GIS data associated with Tallahassee and Leon County was also used to identify safer routes with better BCLs that would accommodate bicyclists.

Elevation

Tallahassee and Leon County are located in the Red Hills region which is characterized by gently rolling hills that can be a source of difficulty for bicyclists and pedestrians. It was determined that anything greater than 6% slope would pose a challenge to the different types of cyclists and should be avoided unless no other suitable roads that would foster connectivity were located in the vicinity. While major changes in elevation were avoided, it was not always possible to create routes in certain areas that had no elevation gain, but recommended projects and routes involving significant fluctuations in elevation are limited.

Crash Data

The University of Florida's Signal Four Analytics (SIGNAL4) web application was used to obtain crash data and identify locations throughout the County where bicycle and pedestrian accidents occurred between October 2013 to December 2017. By identifying the patterns of bicycle and pedestrian crash locations, the project team was able to identify improvements to resolve the issue. This data also helped identify larger areas within the County where bicyclists and pedestrians are more likely to be present, and where more improvements would be necessary to prevent conflict between bicyclists, pedestrians, and motorists.



Bicycle lane signage in Downtown Tallahassee



Greenways Master Plan

The Adopted 2004 Tallahassee-Leon County Greenways Master Plan provides detailed guidance for the acquisition, development, and management of the local greenways network. This identifies a series of paved and natural surface trails in Tallahassee and Leon County. The projects identified in this document have been adopted by both the Board of County Commissioners and the Tallahassee City Commission. Since the 2015 update and adoption, the Blueprint Intergovernmental Agency has adopted the plan for implementation of its program in the coming years. The Greenways Master Plan projects were reviewed and its recommendations were incorporated and considered in the development of this Plan.



Chain of Parks in Downtown Tallahassee

Public and Stakeholder Input

Public and Stakeholder Input was collected and incorporated into the recommendations of this Plan. This included the identification and suggestion of specific routes and projects that could transform the current bicycle and pedestrian network. Initially, stakeholders from various agencies were consulted to identify ways to improve the bicycle and pedestrian network. These stakeholders included:

- Tallahassee-Leon County Planning Department
- City of Tallahassee Underground Utilities
- Leon County Public Works
- Blueprint Intergovernmental Agency
- Leon County Bike Work Group
- Florida State University
- The Florida Department of Environmental Protection Office of Greenways and Trails
- Various local cycling groups



Downtown Tallahassee

Stakeholders provided information regarding the existing project delivery process for bicycle and pedestrian facilities and roadway resurfacing projects. In addition, improvements, upcoming projects, and common routes often used by the local cycling community were identified. Stakeholders were updated frequently throughout the development of this Plan, and were given the opportunity to comment on recommendations to ensure that there was a shared understanding of the way this Plan would be implemented.

Interactive workshops were held in the five focus areas to provide participants opportunities to share their thoughts on the existing network and provide suggestions for future improvements. The workshops provided activities that encouraged participants to identify routes they ride, or that they would prefer to ride. In addition, participants were asked to identify themselves as one of the four types of cyclists associated with the Bicycle Comfort Level designations and identify the minimum facility they would be comfortable riding their bicycle on (the results are listed below in **Figure 13**) The information gathered in these workshops was then overlaid onto existing maps to pinpoint locations and routes identified by participants and ensure that their concerns regarding these areas were addressed in future recommendations.

Overall, participants revealed that they are concerned about their safety, especially on major roadways with heavy traffic and high speeds. They also stated that they were interested in seeing educational initiatives be implemented that promote safe driving and information on sharing the road. Crosswalks, sidewalks, signage, and existing bicycle facilities were all cited as needing improvements in locations all over Leon County. Feedback related to facility type and cyclist type was generally as follows:

Figure 13. Public Input related to Bicycle Comfort Level

| Public Feedback | | |
|--------------------------|-------------------------------------|---|
| Type of Cyclist | % of Respondents identified as type | Minimum Accepted Facilities according to Survey |
| Children and Elderly | 10% | Buffered or Separated Bike Lane, Multi-use Trail |
| Interested but Concerned | 38% | Buffered, Designated or Separated Bike Lane |
| Enthusied and Confident | 37% | Buffered or Designated Bike Lane, Paved Shoulder, Sharrows |
| Strong and Fearless | 15% | Buffered or Designated Bike Lane, Paved Shoulder, Sharrows, no facilities |



After recommended routes and projects were developed, a final public open house was held to present these recommendations to the public and collect any final input. This meeting was held at Cascades Park, a centerpiece of the City with significant biking and walking trails. Participants had the opportunity to provide comments and mark-up the maps to indicate areas they felt had been missed or note projects that they found significant to their travel needs. The open house was ultimately presented as a way to ensure that those who had been involved in the process from the beginning would be able to see and validate the potential routes and projects.

Further information gathered from stakeholder and public involvement initiatives is available in **Appendix A**.

Project Types: Major Projects, Neighborhood Network, and Minor Projects

Through the different components associated with this project approach, the project team developed physical recommendations to address comfort and connectivity within the bicycle and pedestrian network. These recommendations were categorized by the following project types :

Major Projects

These projects include corridors that will require a significant effort to reconstruct them to achieve an acceptable BCL. These projects may include road reconstruction, moving curb and gutter, constructing a multi-use trail, or other higher cost solutions. These are typically recommended where critical bicycle route gaps exist and where there are limited alternative or parallel routes. These projects may have right of way constraints, which can also be costly or limiting.

Neighborhood Network

These routes typically span through neighborhood or local streets where posted speed limits at 30 mph or lower and where volumes are very low. The majority of these roads can be associated with a of BCL 3 or BCL 4, and most users will likely feel comfortable on them. Neighborhood network projects will include the addition of signage, shared-use lane markings or sharrows, and traffic calming. With the addition of these low-cost improvements, users will likely feel comfortable riding on them.

Minor Projects

Minor projects will be completed to support the neighborhood network. Minor projects will include intersection improvements, enhanced cross walks, mid-block crossings, traffic calming, and other features to improve safety and connectivity for bicyclists and pedestrians. These projects may also be completed in coordination with resurfacing projects.

Prioritization and Evaluation

Once route and project development was complete, neighborhood network routes and major projects were separately ranked against evaluation criteria using a points system generated through GIS analysis. The criteria is described in further detail in **Figure 14**. Once ranked, they were broken into tiers based on a break in the project scores. Higher scoring projects were placed in Tier I, followed by middle-ranking scores in Tier II, and the lowest ranking scores in Tier III. Projects and routes with higher scores meet more of the criteria, and will therefore serve the greatest need within the bicycle network. This was done to allow implementing agencies more flexibility in choosing projects and allows for costs savings where projects can be better coordinated with existing, programmed projects. It is intended that the projects be implemented in order of tier. The rankings within each tier are less stringent, and projects within the tiers may be implemented in any order depending on connectivity or “project piggybacking”. Prioritization criteria and scoring is further detailed in **Appendix B**.

Figure 14. Public Input related to Bicycle Comfort Level

| Prioritization Criteria | |
|-------------------------|---|
| Project Goals | Recommended Evaluation Metrics |
| Safety | Addresses locations that have been identified as a safety concern for cyclists/pedestrians through public input opportunities |
| | Near bicycle/pedestrian crash area |
| Multimodal | Located within or passes through an area of high population density |
| | Connects to a transit route |
| Equity | Within a low-income area |
| | Serves an area with high numbers of citizens aged 65+ |
| | Within a census area of high percentage of households without vehicles |
| Connectivity | Connects to park, school, or community center |
| | Connects to an existing bicycle facility |
| Health | Contributes to an extended trip by walking or biking |