HARDEE COUNTY BICYCLE AND PEDESTRIAN MASTER PLAN









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Introduction

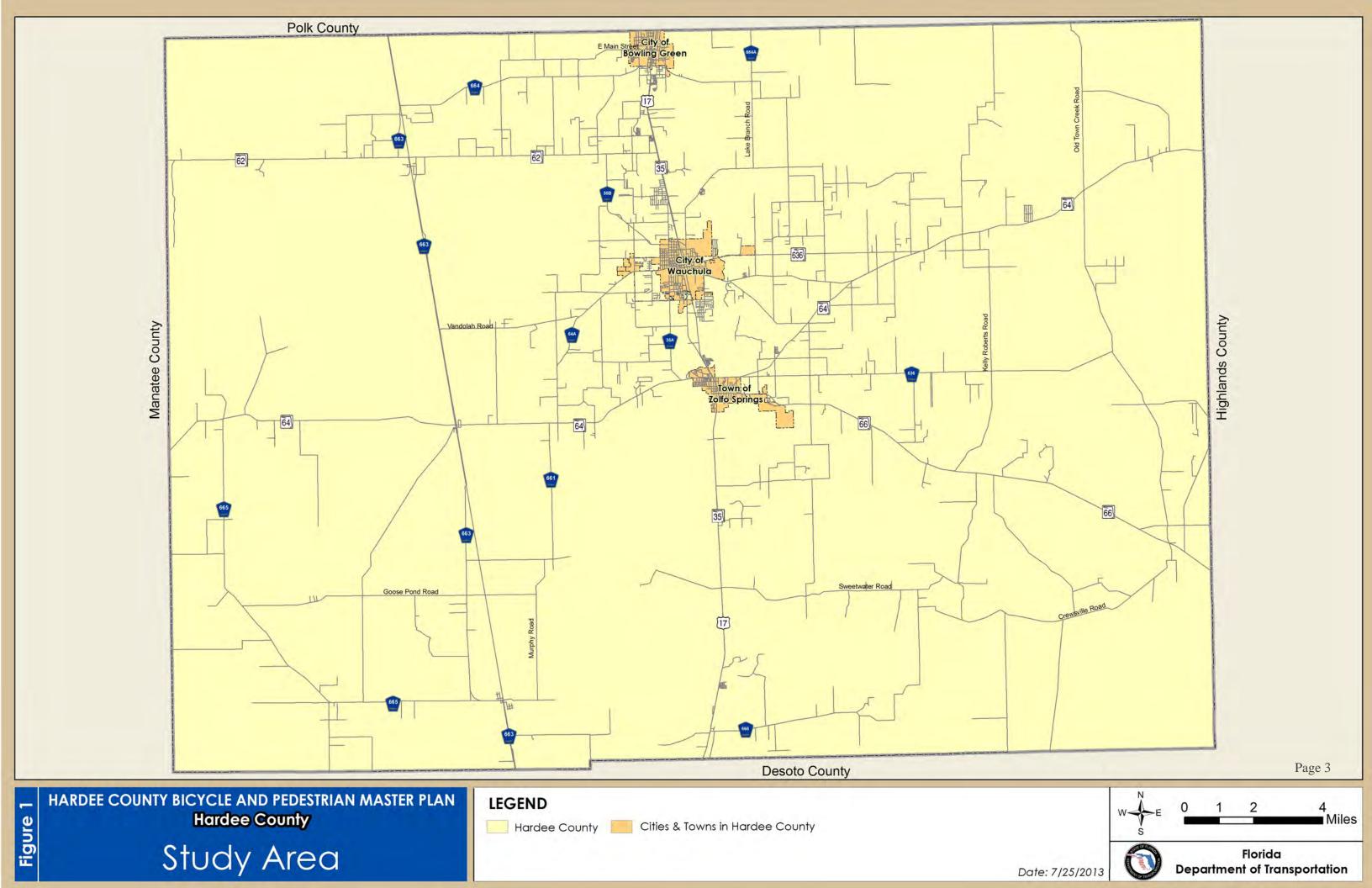
Hardee County is located in Central Florida, within the twelve County region in District One of the Florida Department of Transportation (FDOT). Hardee County is a rural County, bound by Polk County to the north, Highlands County to the east, DeSoto County on the south, and Manatee County to the west. Figure 1 illustrates the Hardee County area. The major industries for the County are citrus, phosphate mining, vegetable farming, and cattle. The County's municipalities are the City of Wauchula, the City of Bowling Green, and the Town of Zolfo Springs. Hardee County has a 2012 population of 27,514 according to the US Census Bureau, and the County seat, Wauchula, is the largest municipality with a population of 4,929 (US Census Bureau).

Purpose

The purpose of this <u>Hardee County Bicycle and Pedestrian Master Plan</u> (hereafter: "Master Plan") is to facilitate the identification and implementation of the projects that aim to provide a safe, accessible, and well-connected bicycle/pedestrian network that will enhance the non-motorized commute within unincorporated Hardee County, the Cities of Bowling Green and Wauchula, and the Town of Zolfo Springs. The development of this plan was conducted through extensive coordination between the Florida Department of Transportation (FDOT), Hardee County, the cities of Bowling Green and Wauchula, the Town of Zolfo Springs, and the Hardee County School Board. The intent of this document is to provide the following information:

- An inventory and assessment of the existing bicycle and pedestrian facilities within the limits of Hardee County;
- Programmed network improvements including bicycle lanes, shared lane marking, sidewalks, intersection improvements and roadway capacity improvements;
- Analysis of crash data using a three year period of countywide crash data from August 2008 to September 2011, inclusive; and

• Recommendation of bicycle lanes, sidewalk improvements and intersection improvements in accordance with the guidelines of the Americans with Disabilities Act (ADA).



Data Collection, Inventory and Review

An inventory of the existing bicycle and pedestrian facilities within the County provides data that allows stakeholders to identify opportunities for improvements and the knowledge to prioritize projects. A geodatabase was developed to provide an inventory of existing bicycle and pedestrian facilities, but not limited to, roadway networks, maintaining jurisdictions, number of lanes, speed limits, sidewalks and designated/undesignated bicycle lanes, width of sidewalk and bicycle lane facilities. This geodatabase will aid in determining the existing deficiencies in the bicycle and pedestrian facilities, recommending future improvements, and establishing minimum criteria for bicycle and pedestrian facility types. State, County, and local jurisdictions were used as a source for any available GIS data for Hardee County, including the Cities of Bowling Green, Wauchula, and the Town of Zolfo Springs.

The data provided by the State, County and the Cities/Towns jurisdiction was updated and verified with FDOT Roadway Characteristics Inventory (RCI) Database, FDOT Straight Line Diagrams (SLD), FDOT Video Logs, Google's Aerial Images and Street View, the and United States Geological Survey (USGS) Earth Explorer tool, as well as field visits.

Roadway characteristic information, including posted speed limits, number of lanes, functional classification, maintaining jurisdiction, the presence of sidewalk and designated/un-designated bicycle lane facilities, and information showing whether they are signed and striped, were obtained for all the State and County maintained roadway facilities within unincorporated Hardee County, the Cities of Wauchula and Bowling Green, and the Town of Zolfo Springs. This also included arterials and collectors within a half mile radius of all educational facilities/schools.

In addition, the existing goals and policies pertaining to bicycle and pedestrians facilities adopted by Hardee County, the Cities of Wauchula and Bowling Green, and the Town of Zolfo Springs from their respective Comprehensive Plans were reviewed.

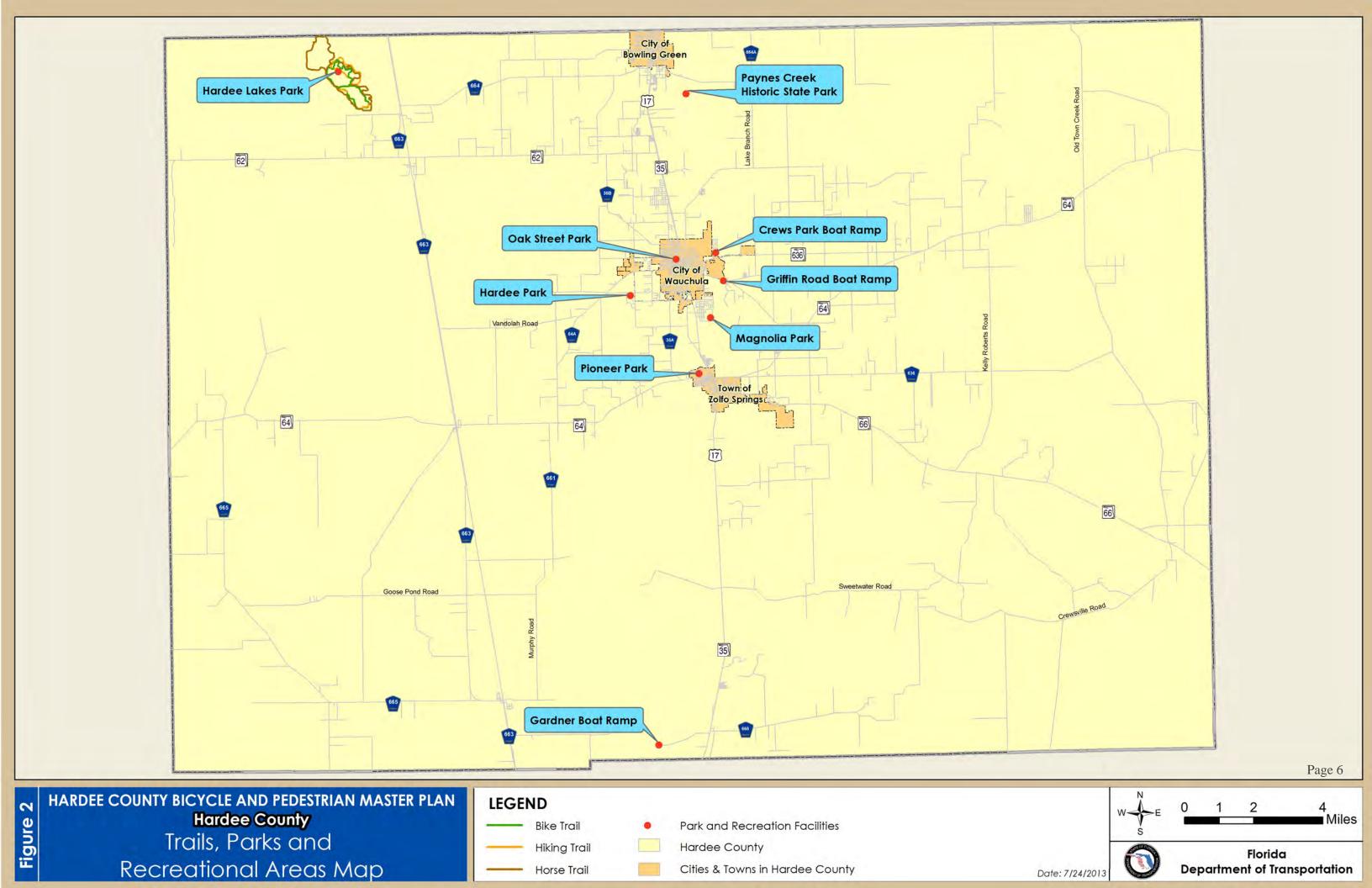
Note: Geodatabase is a common data storage and management framework for Geographical Information System (GIS). It combines "geo" (spatial data) with "database" (data repository) to create a central data repository for spatial data storage and management.

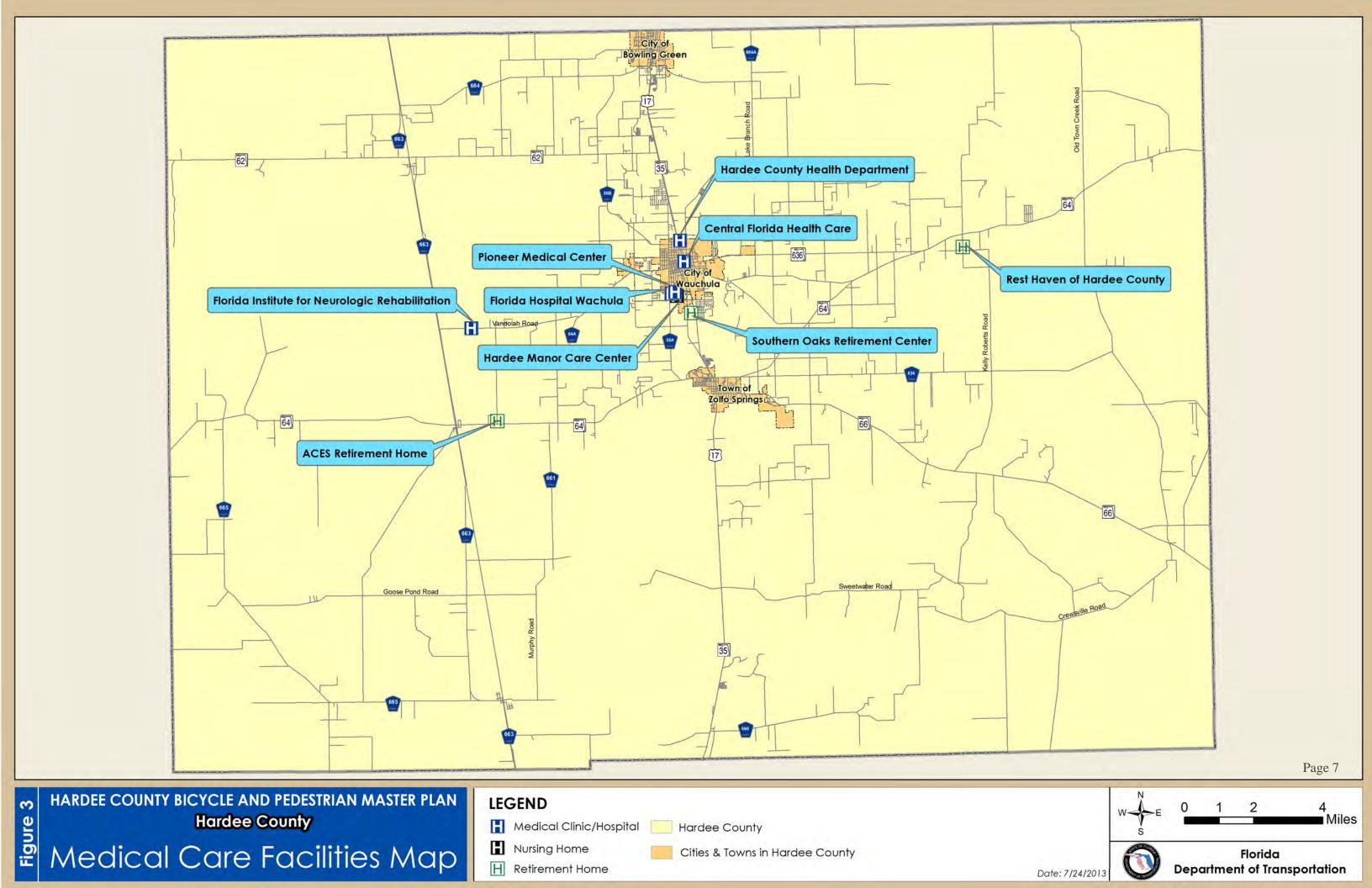
Bicycle and Pedestrian, Attractors and Generators

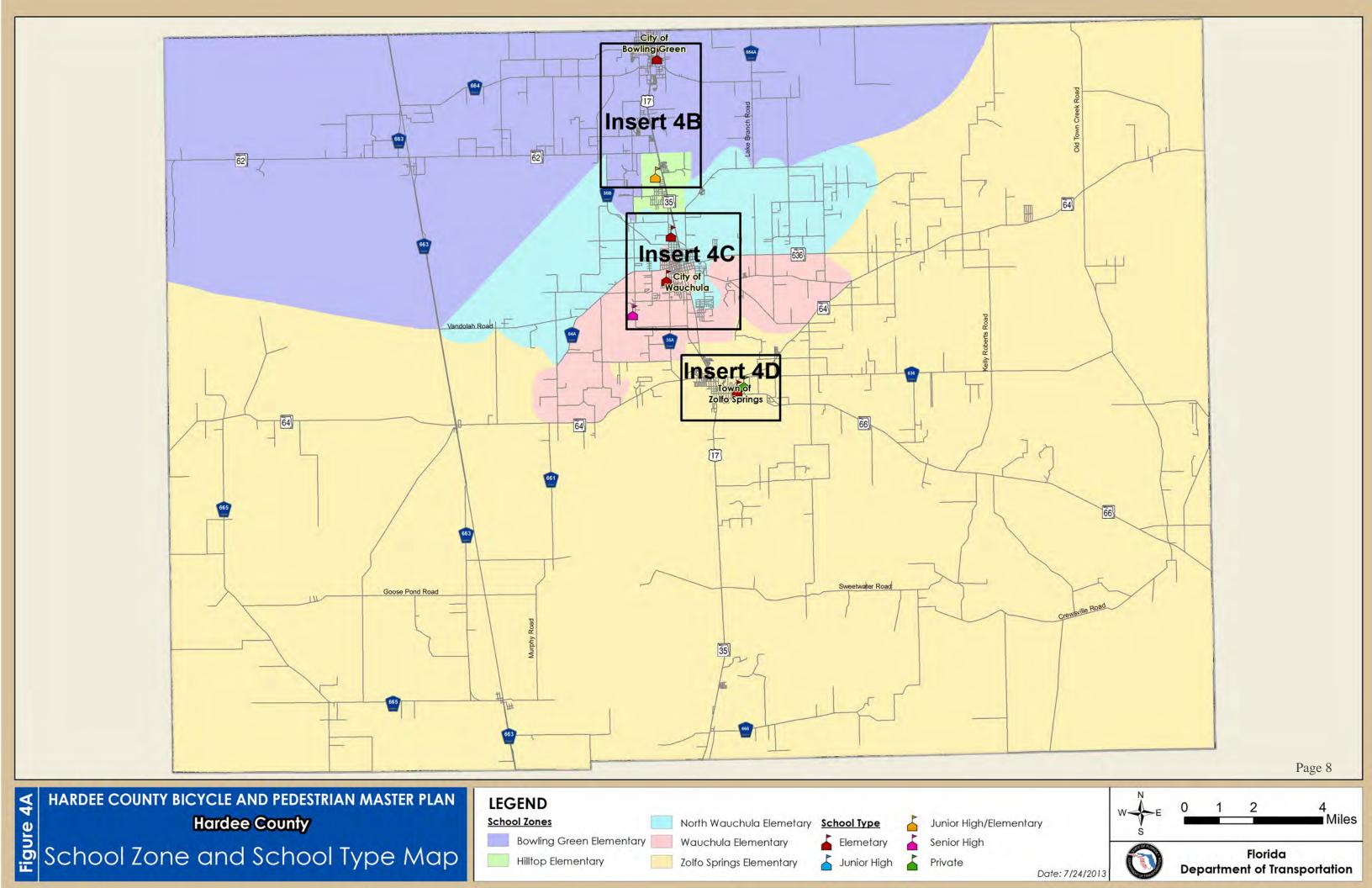
Bicycle and Pedestrian trip attractors and generators within Hardee County study area were examined. This includes facilities that support and enhance bicycle and pedestrian mobility. The following are key areas considered within this Study:

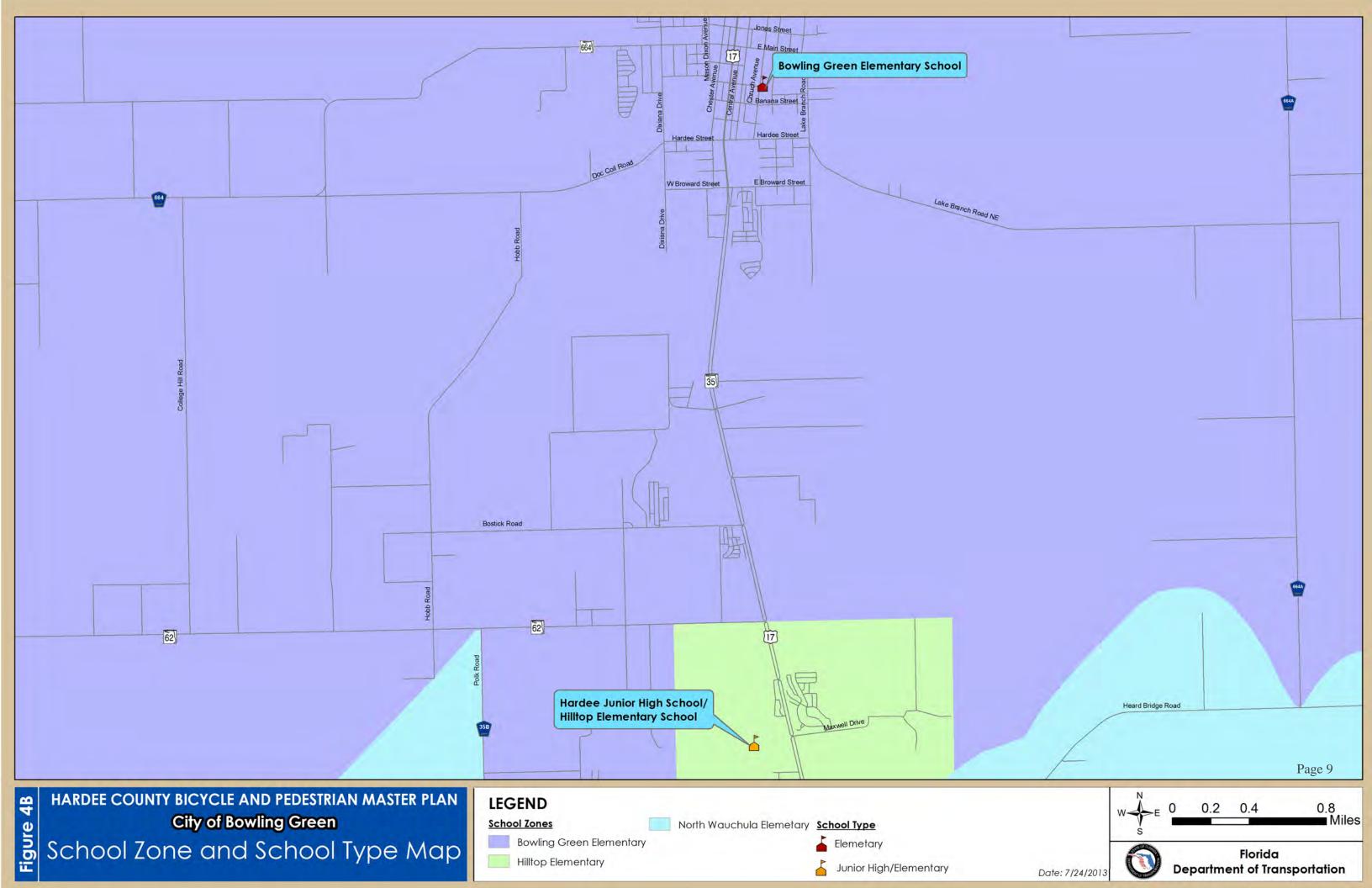
- Trails, parks, and recreational areas Figure 2
- Medical care facilities (hospitals, clinics, retirement communities, skilled nursing and/or assisted living facilities) – Figure 3
- School zones and school types Figures 4A 4D
- Public Airports Figure 5
- Railroad and rail crossings Figure 6

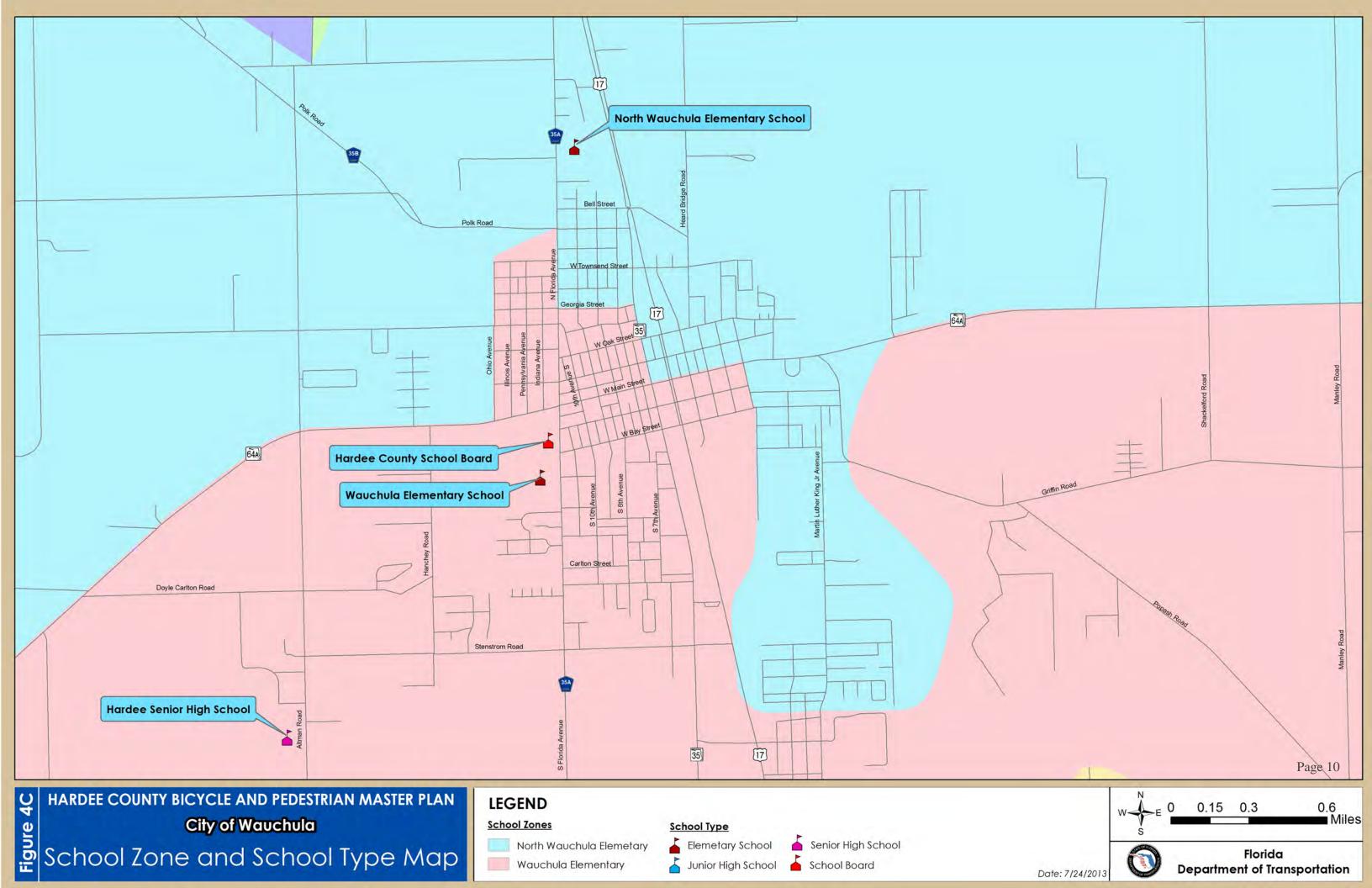
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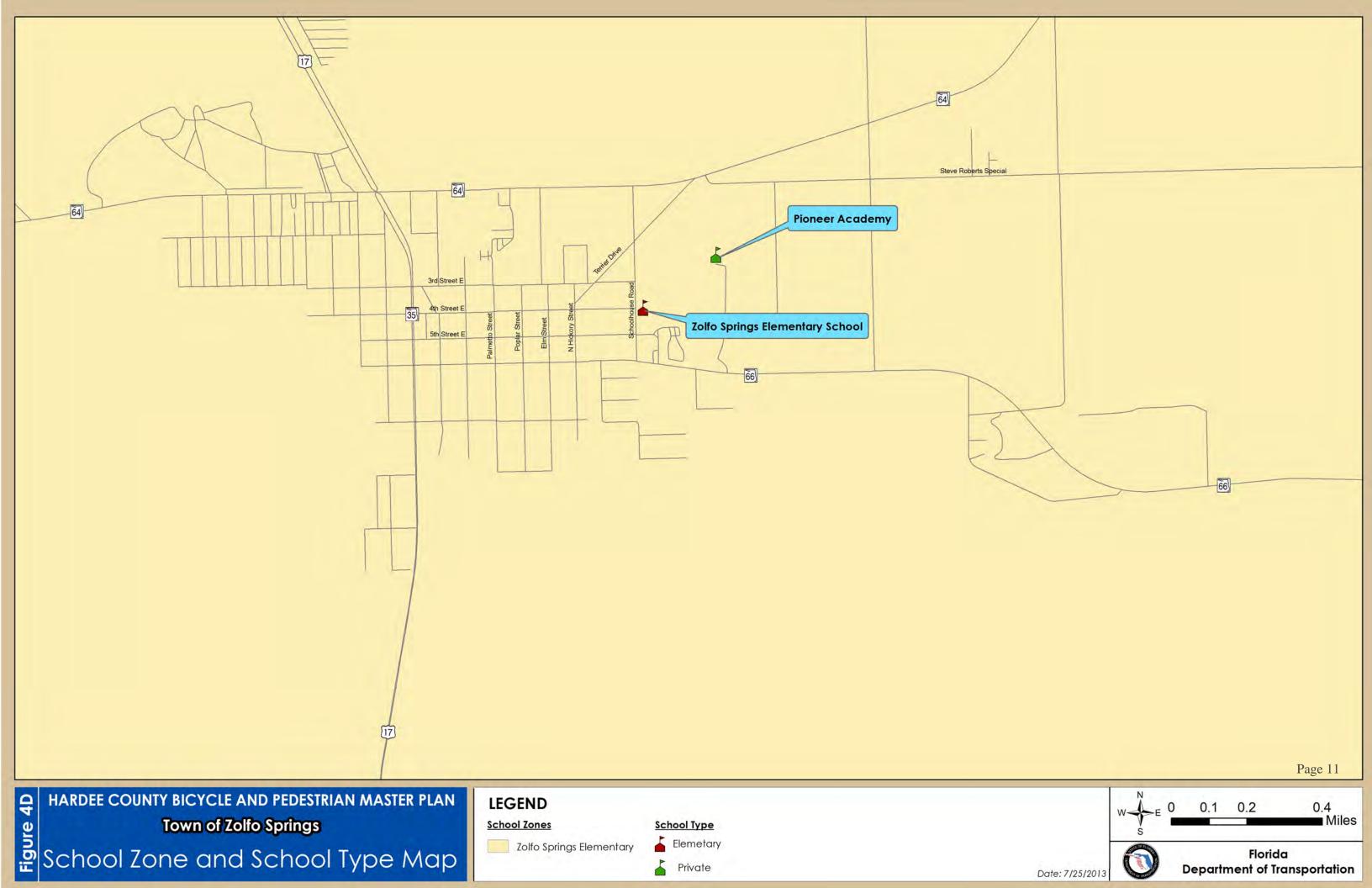


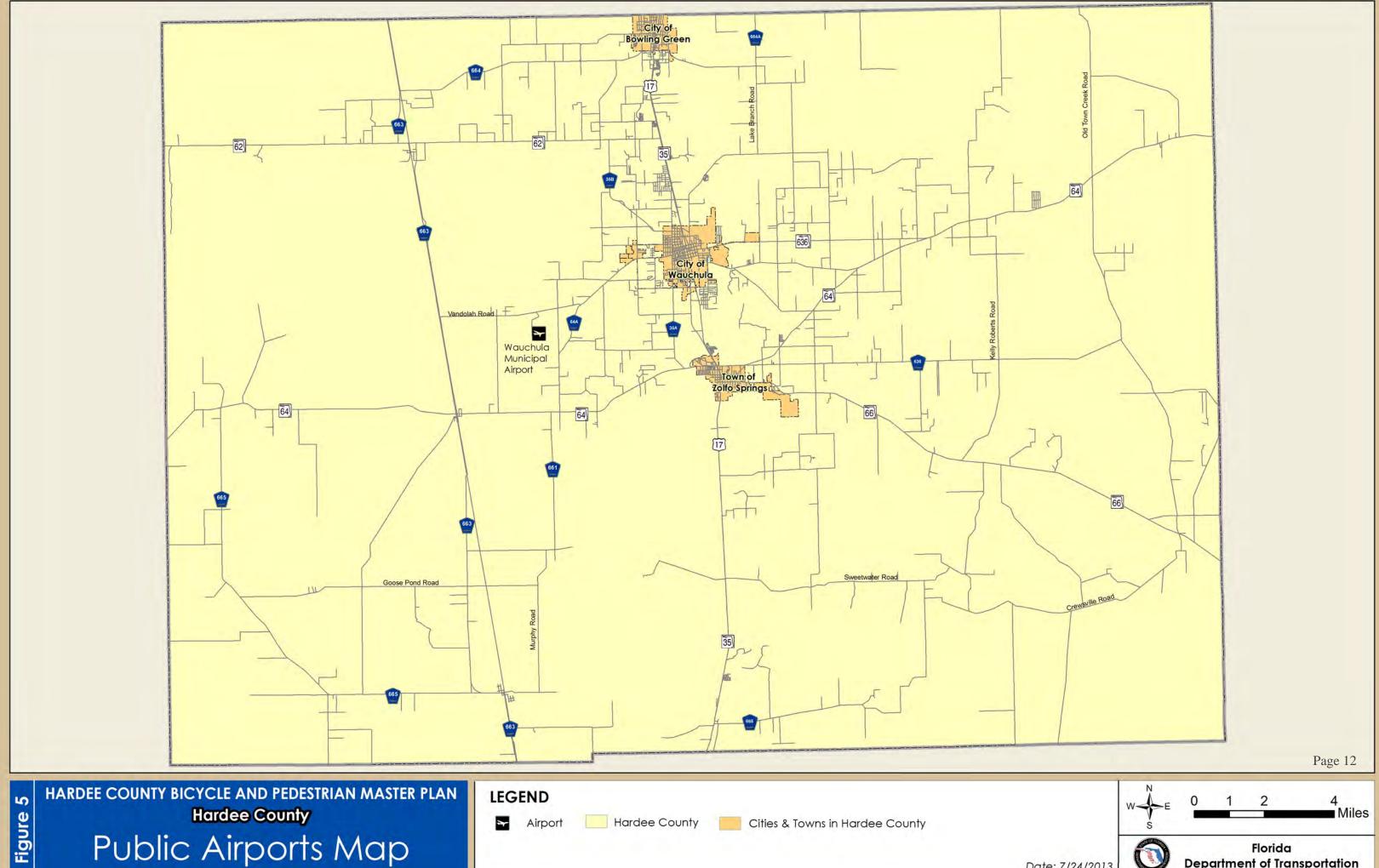








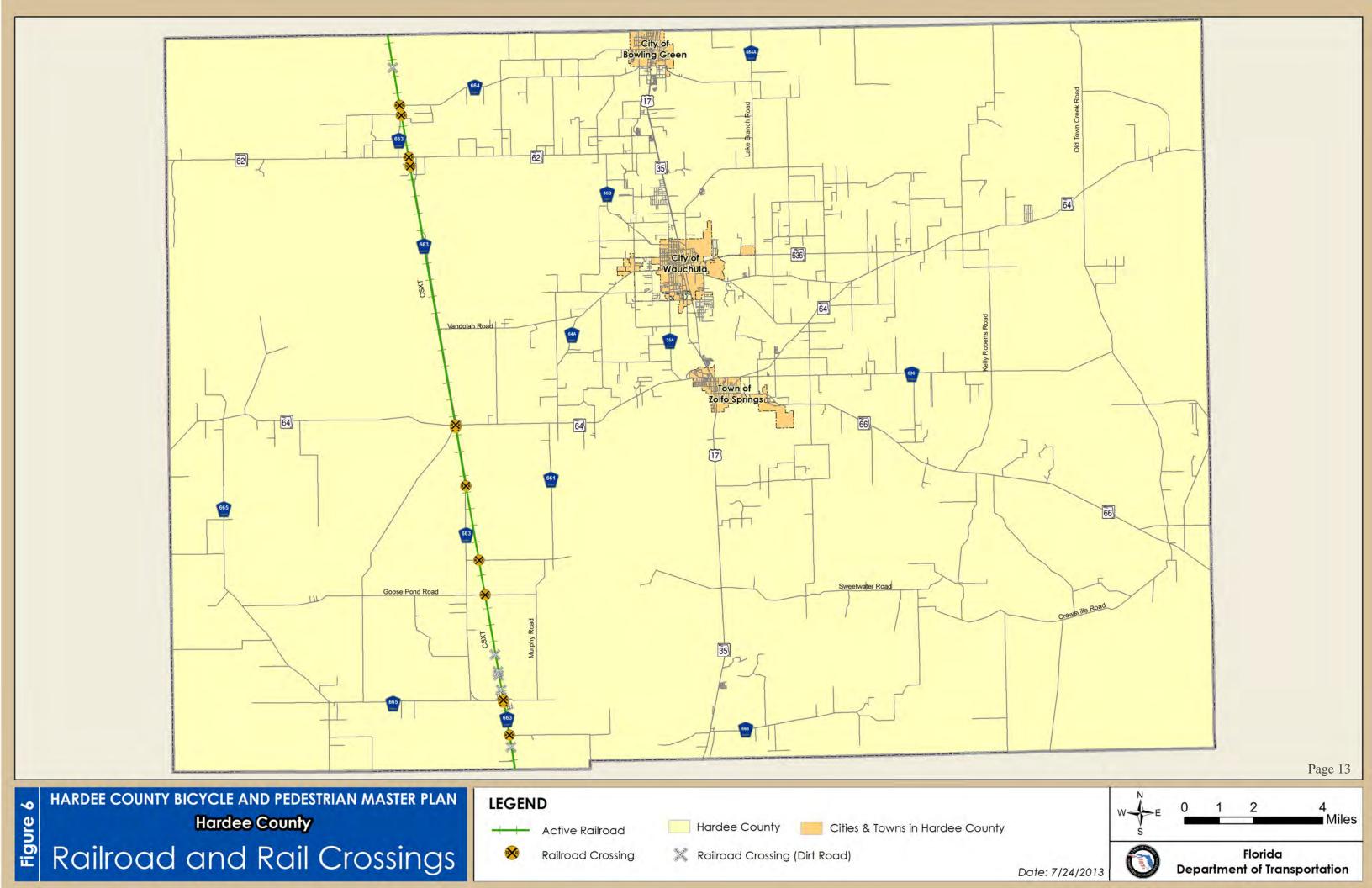




Public Airports Map



Florida **Department of Transportation**



Roadway, Sidewalks and Bicycle Lane Inventory

The following roadway characteristics were collected for all the State and County roadway facilities, including arterial and collector roadways within a half-mile radius of public schools within Hardee County. This information, along with the bicycle and pedestrian generation information described in the previous section was used to create the geodatabase and identify any existing deficiencies in the sidewalk and bicycle facilities and, where applicable, illustrated in maps found in Figures 7A through 11.

Following are the various roadway characteristics collected in the field:

Roadway:

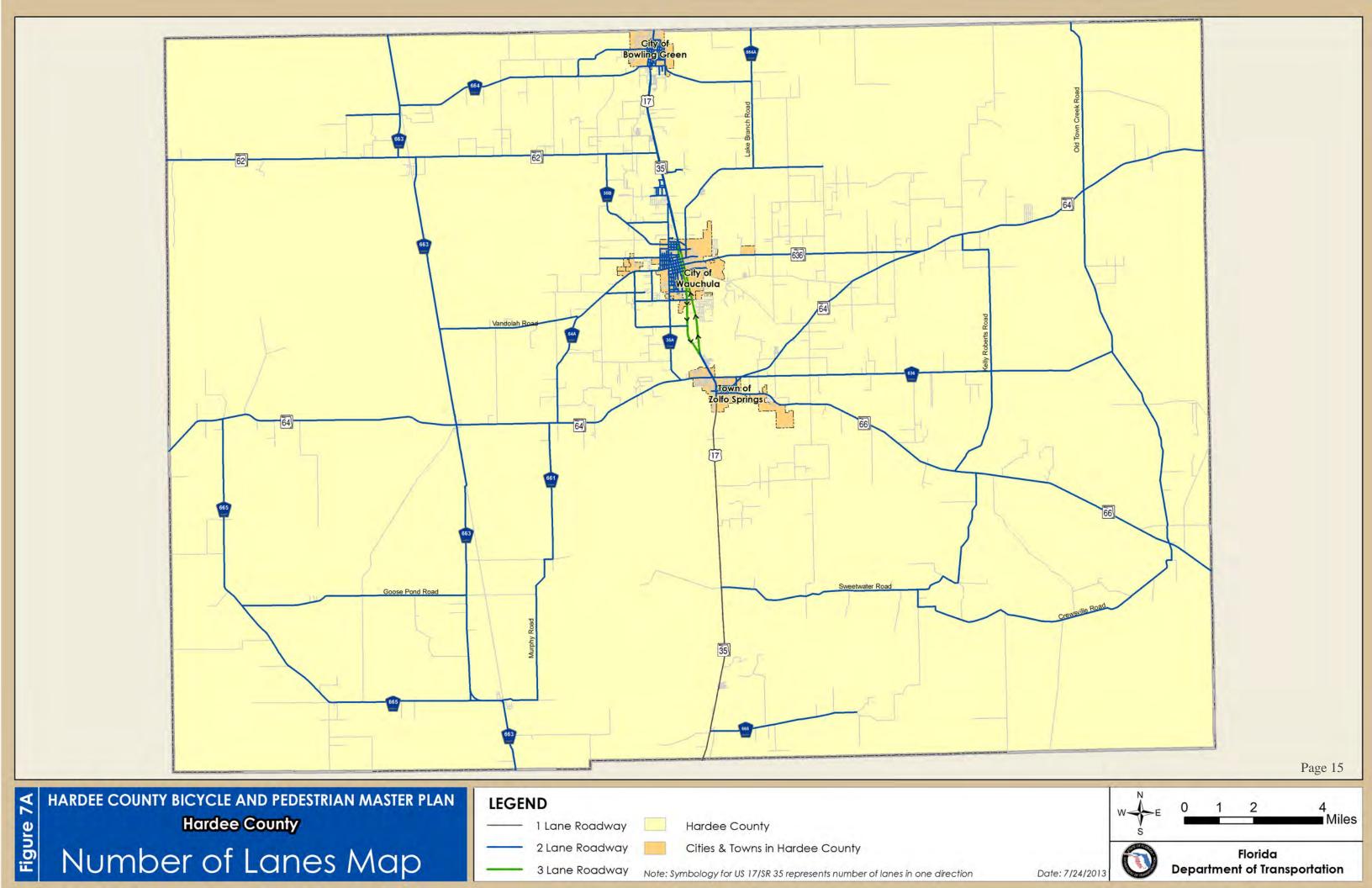
- Number of lanes Figures 7A 7D
- One-way or two-way traffic flow
- Speed limit Figures 8A 8D
- Maintaining agency or jurisdiction
- Signalized intersections Figure 9

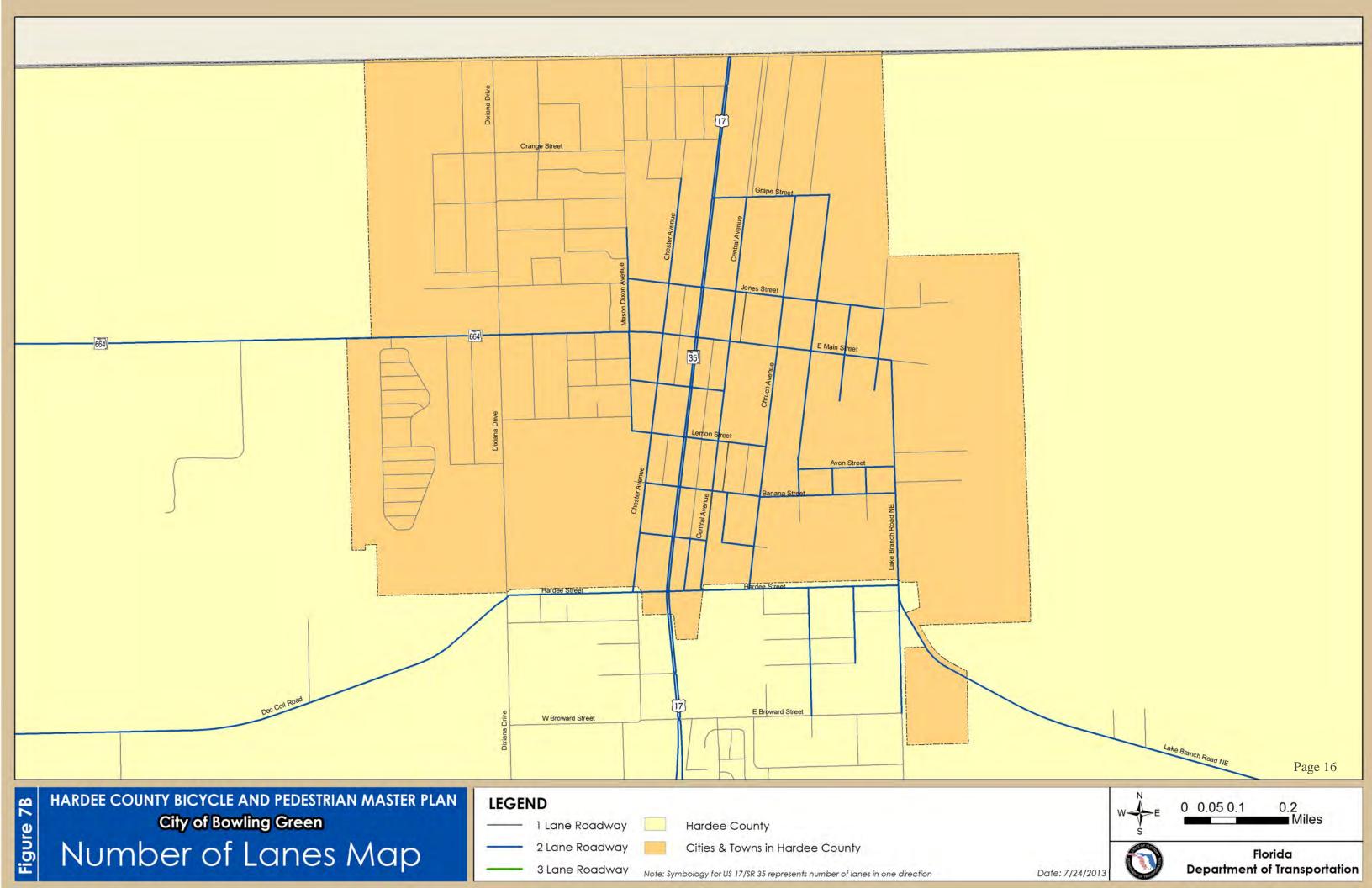
Sidewalks:

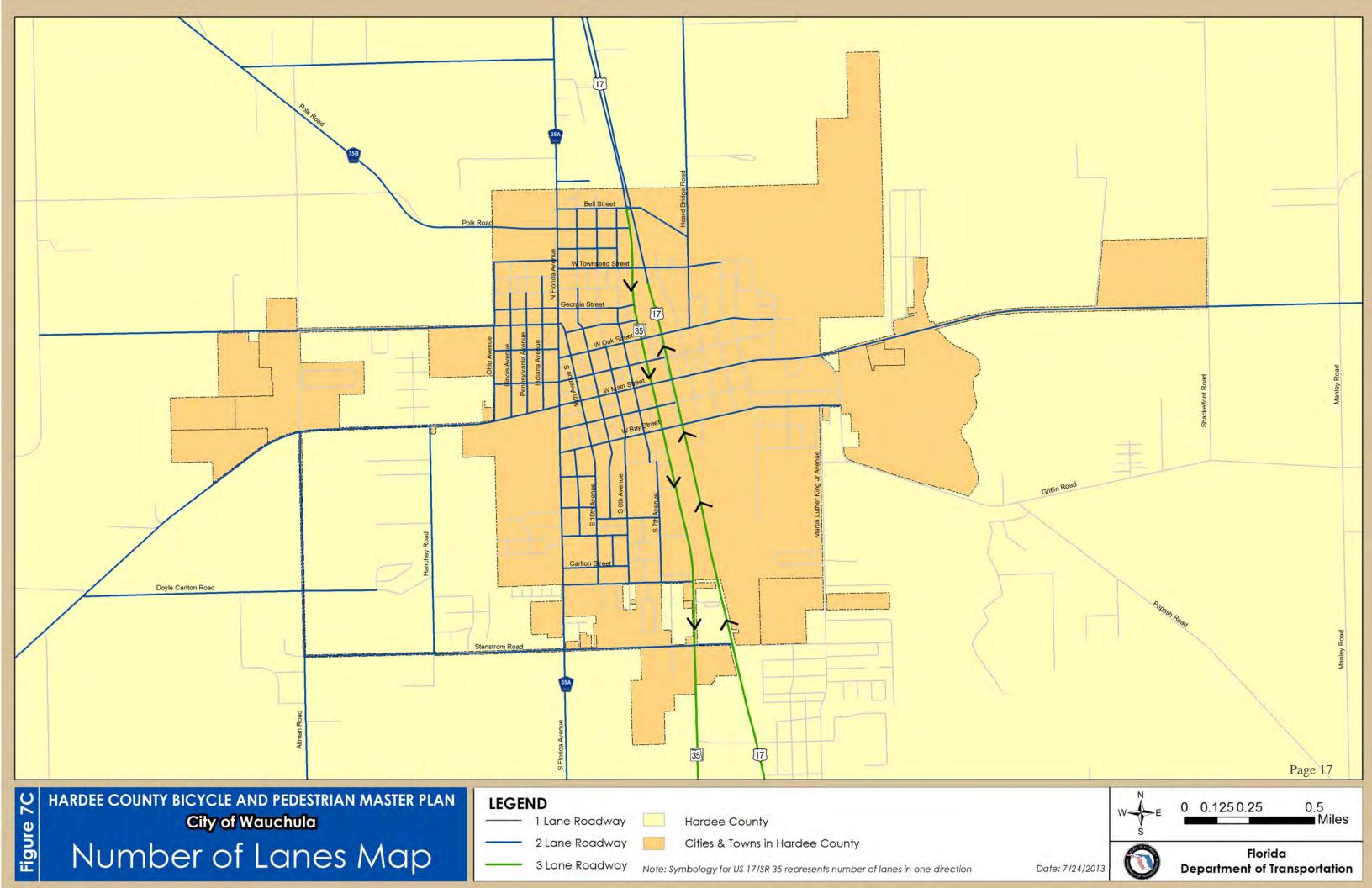
- Side of roadway (This field specifies if a sidewalk is located on one or both sides of the roadway) – Figures 10A – 10D
- Sidewalk width left side
- Sidewalk width right side

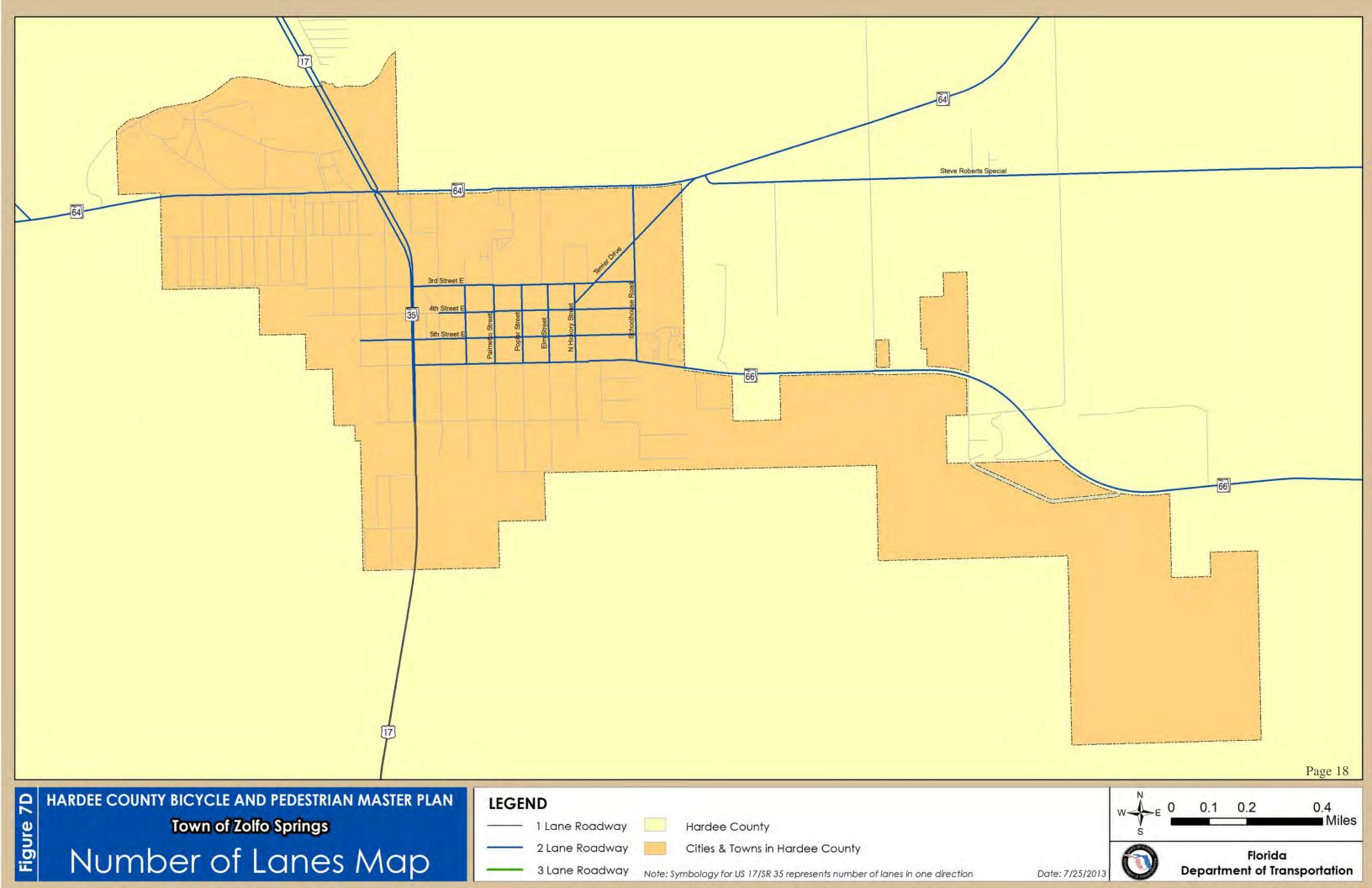
Bicycle Lane:

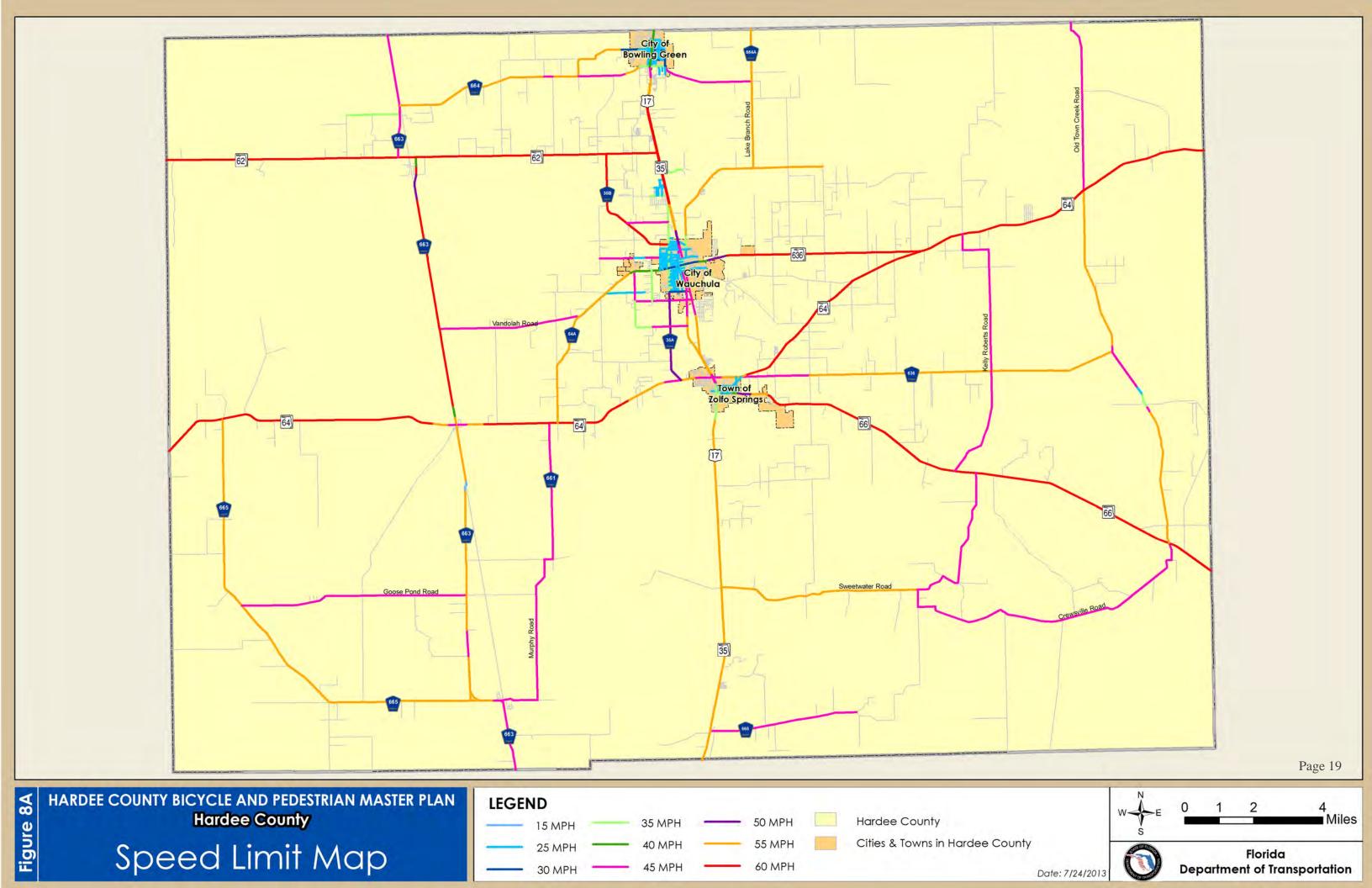
- Side of roadway (This field specifies if a bicycle lane is located on one or both sides of the roadway) Figure 11
- Bicycle lane width left side
- Bicycle lane width right side
- Designated (This field helps to determine if the bicycle lane is a designated bicycle lane or un-designated bicycle lane)

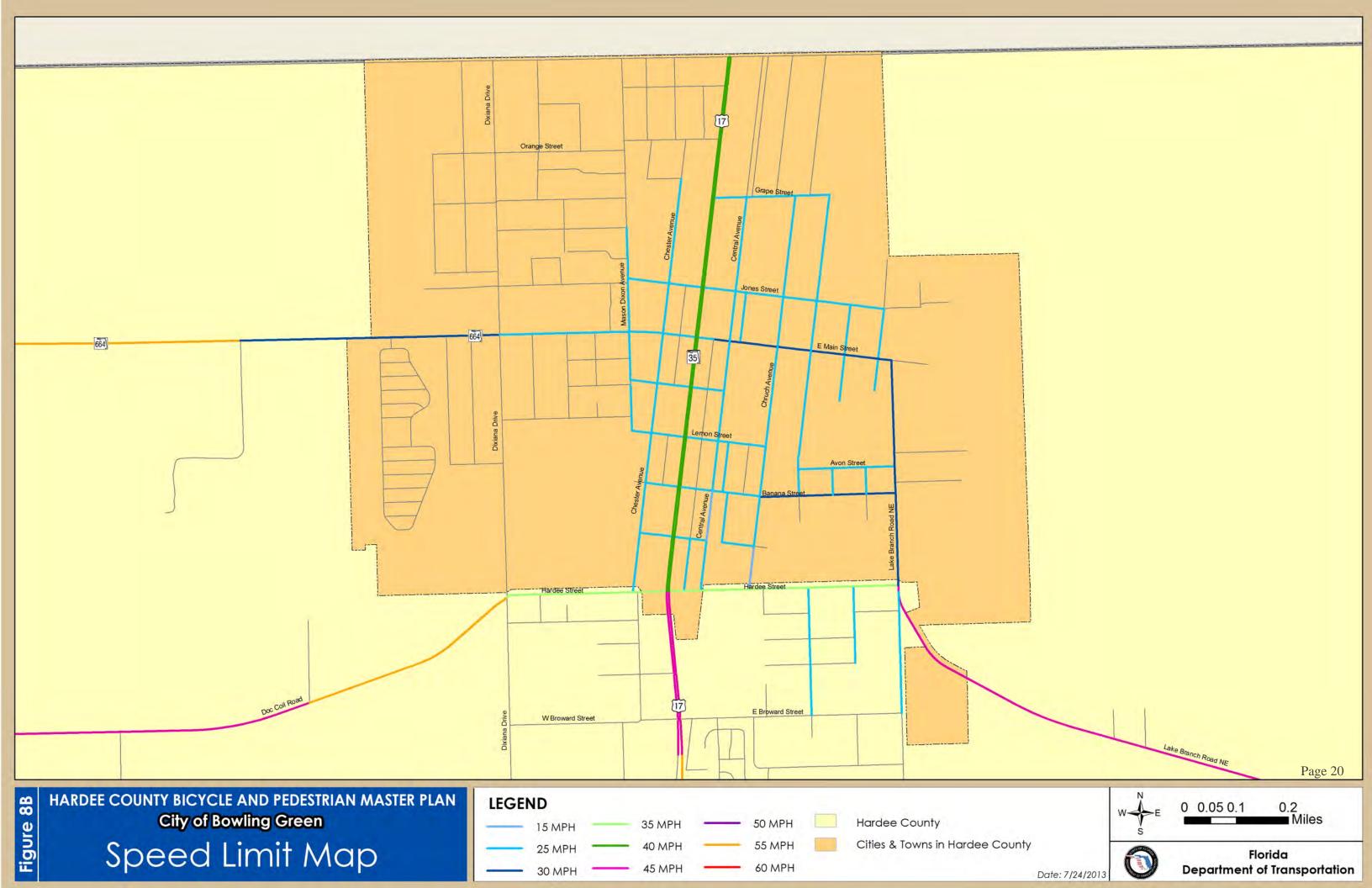


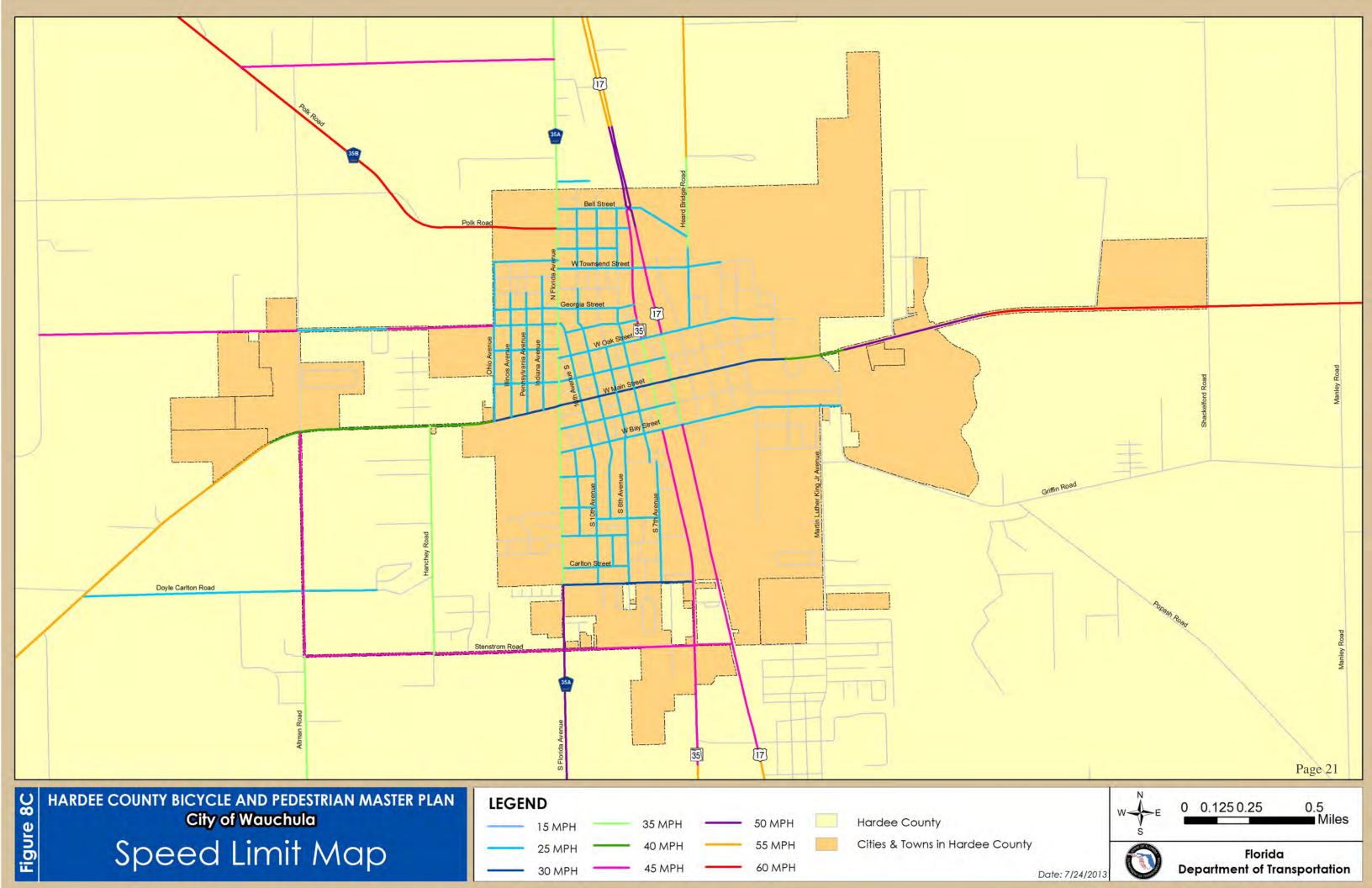


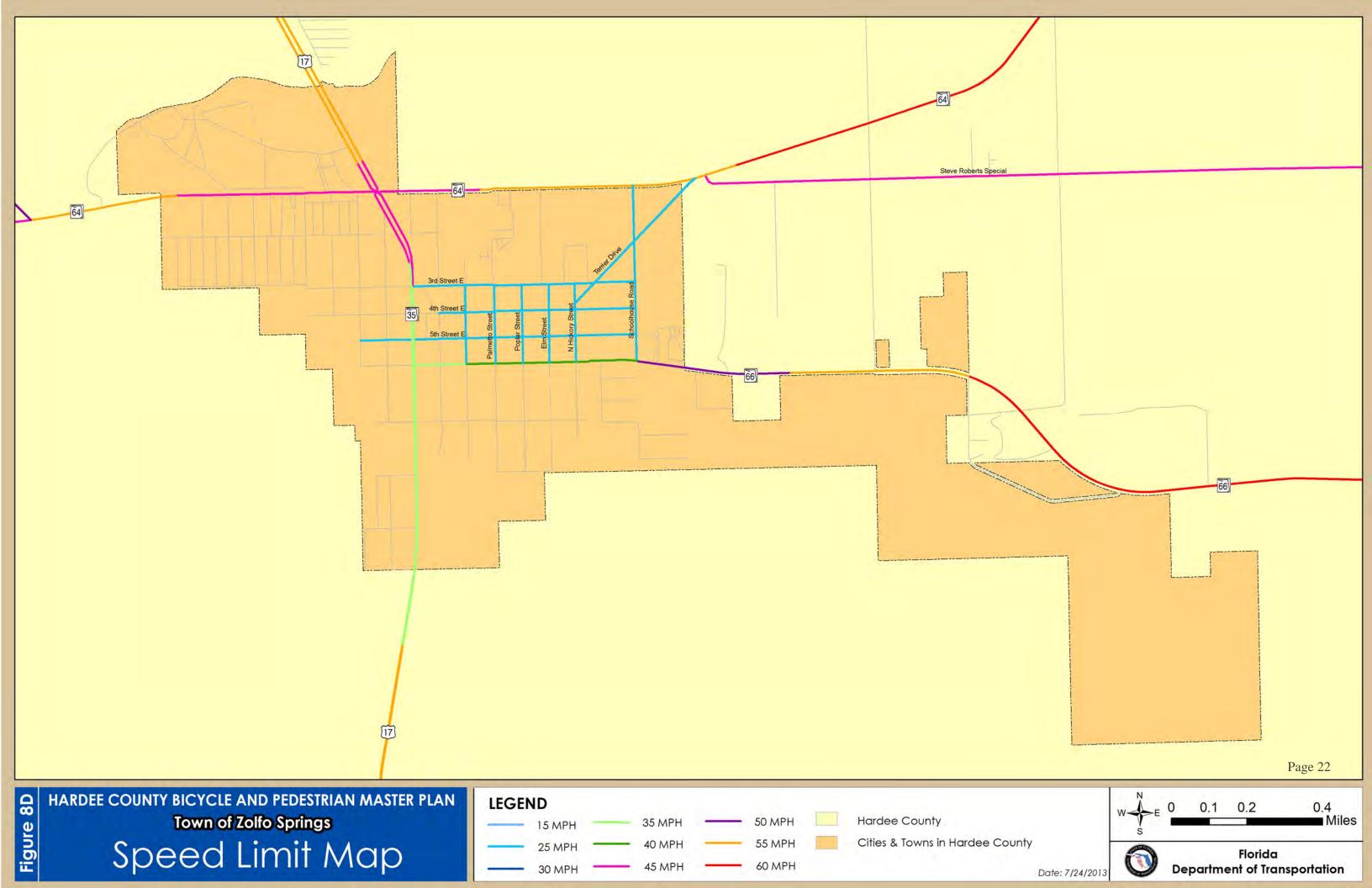


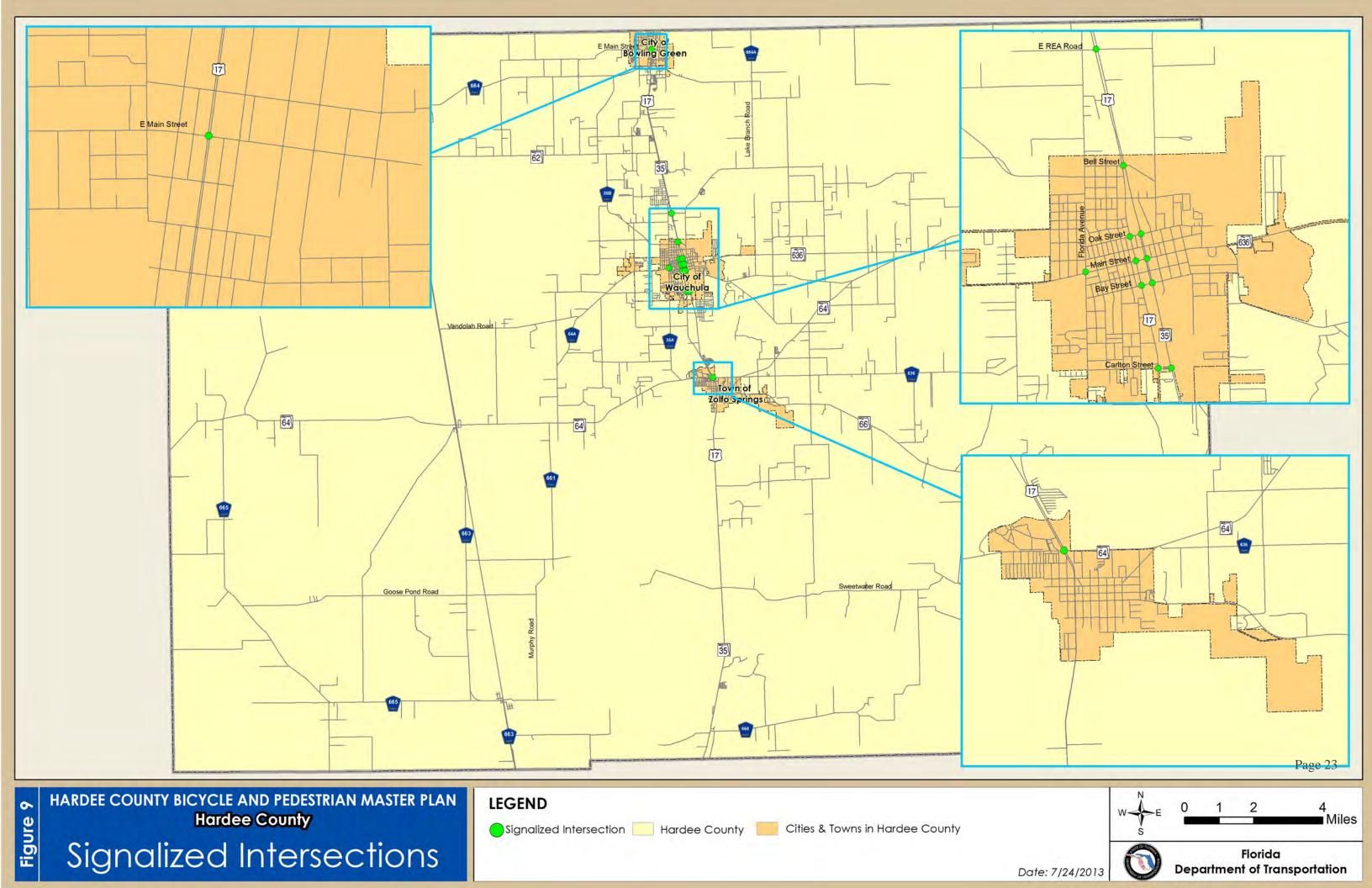


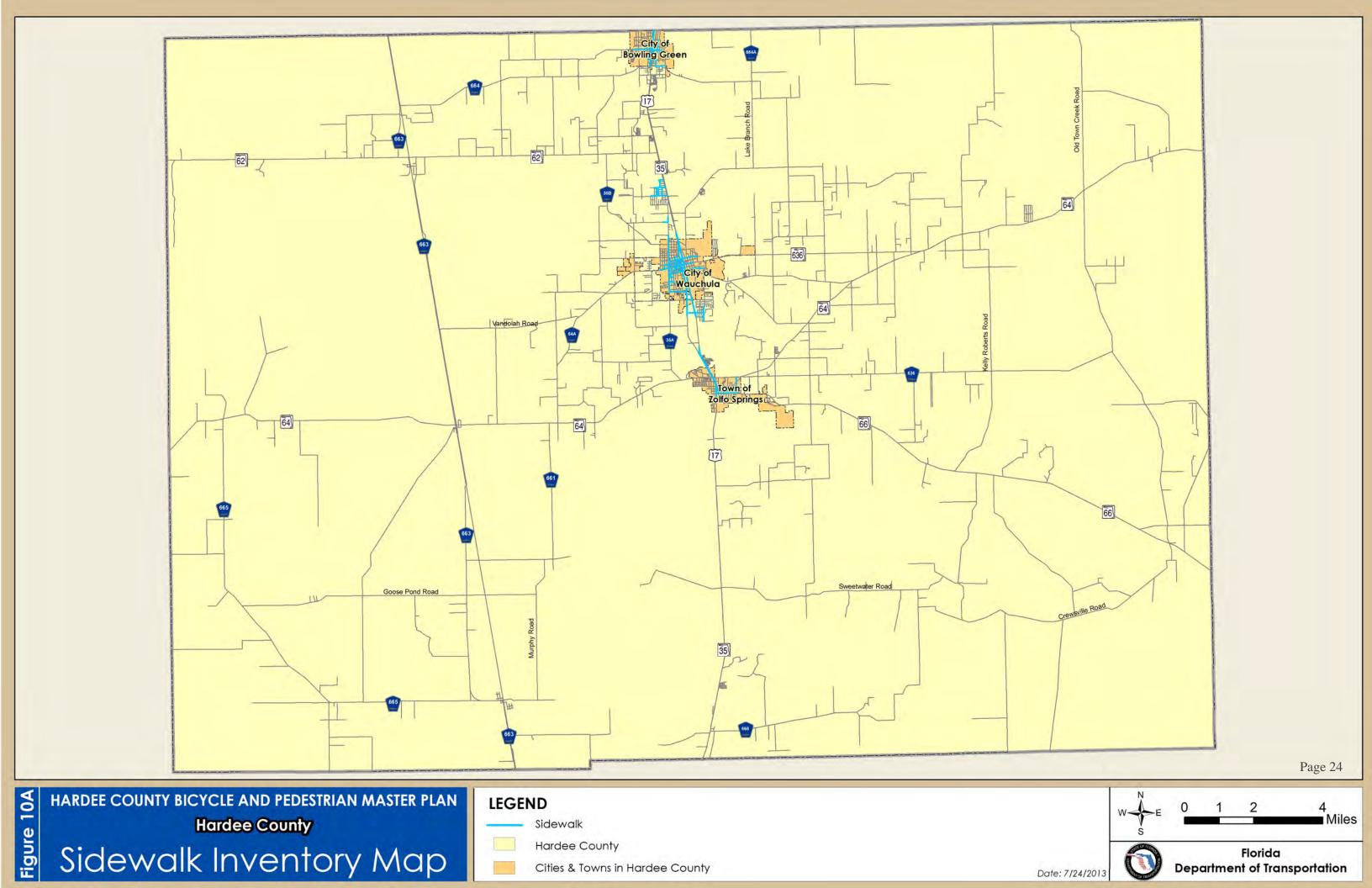


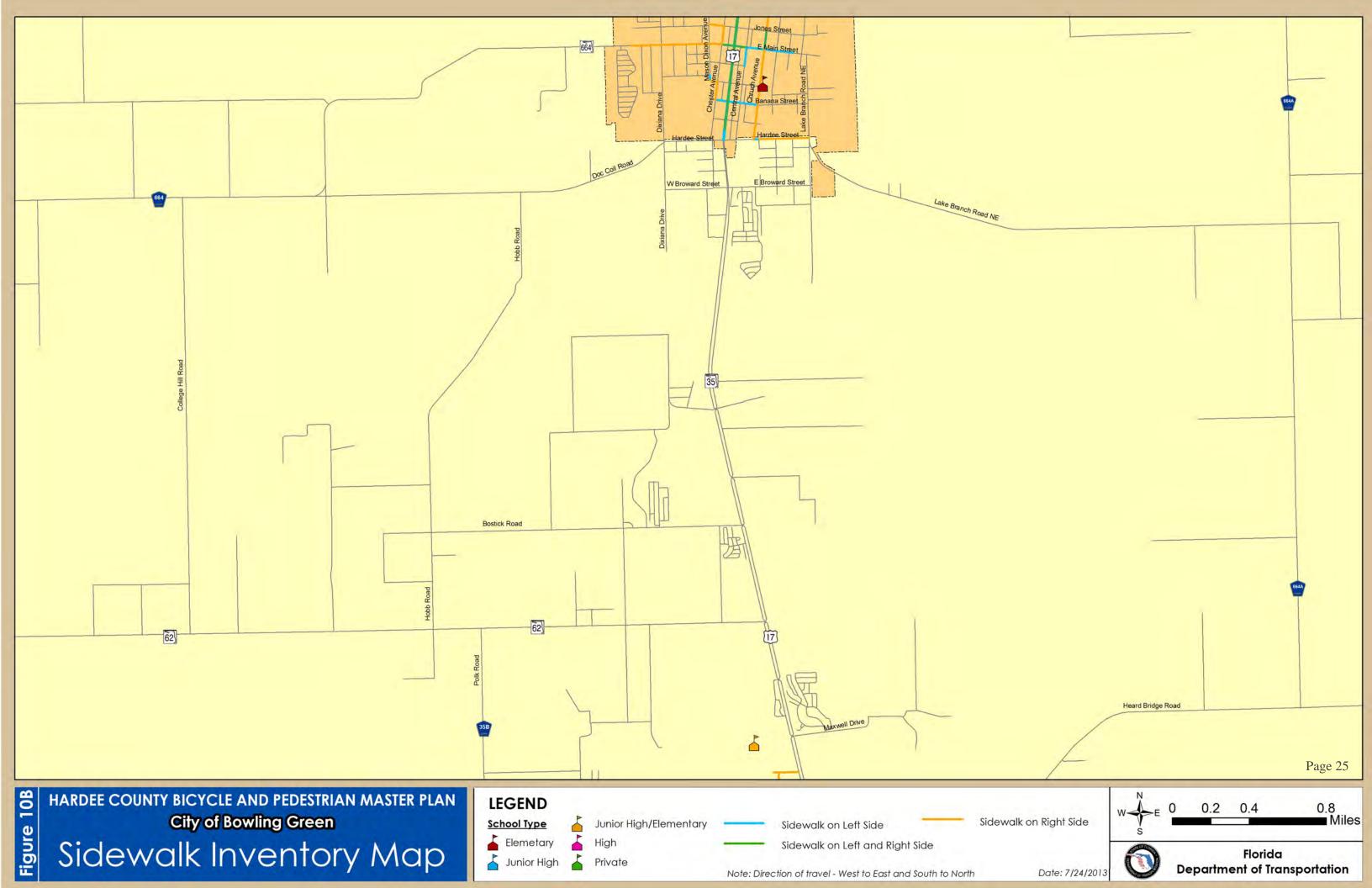


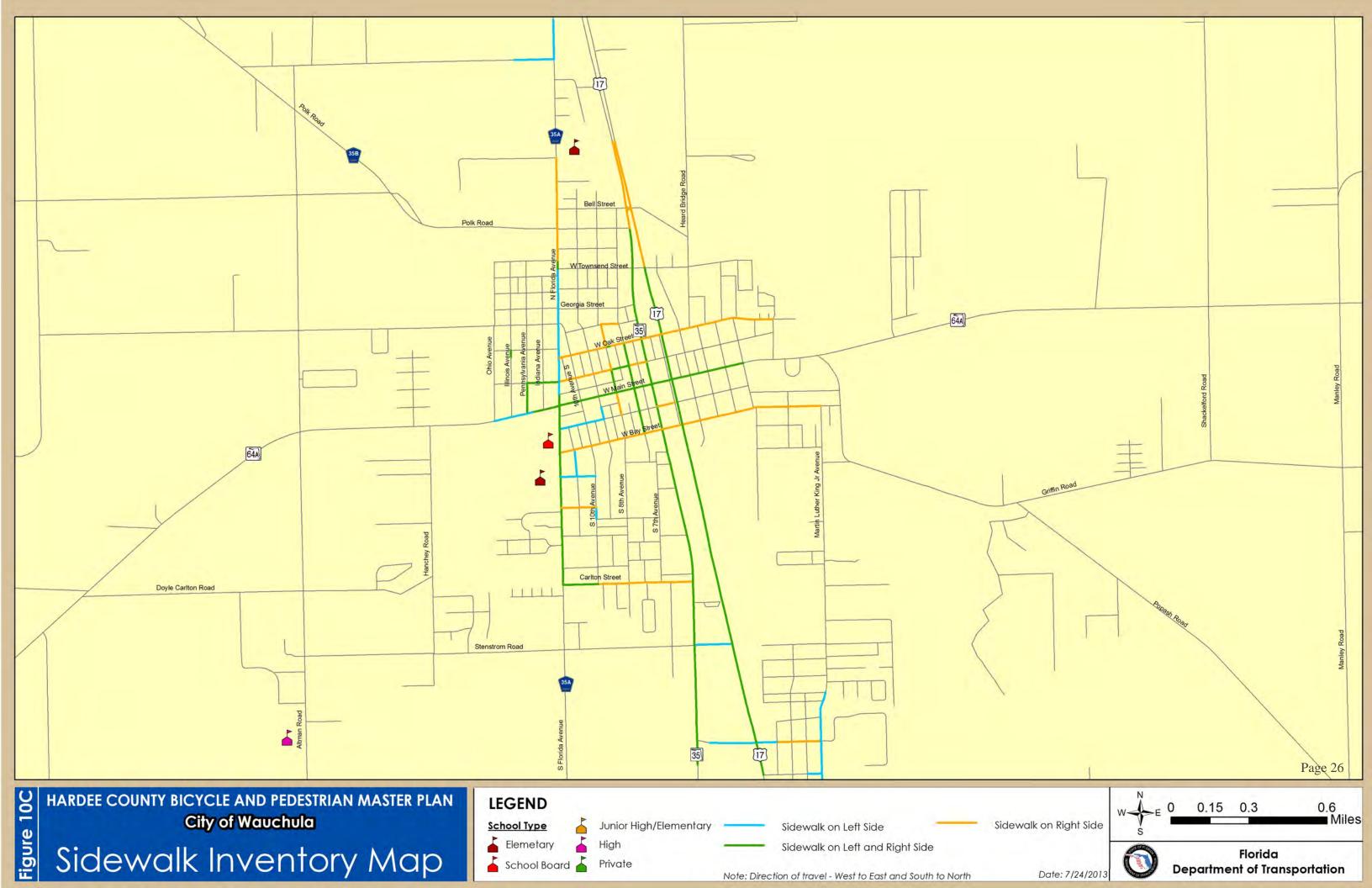


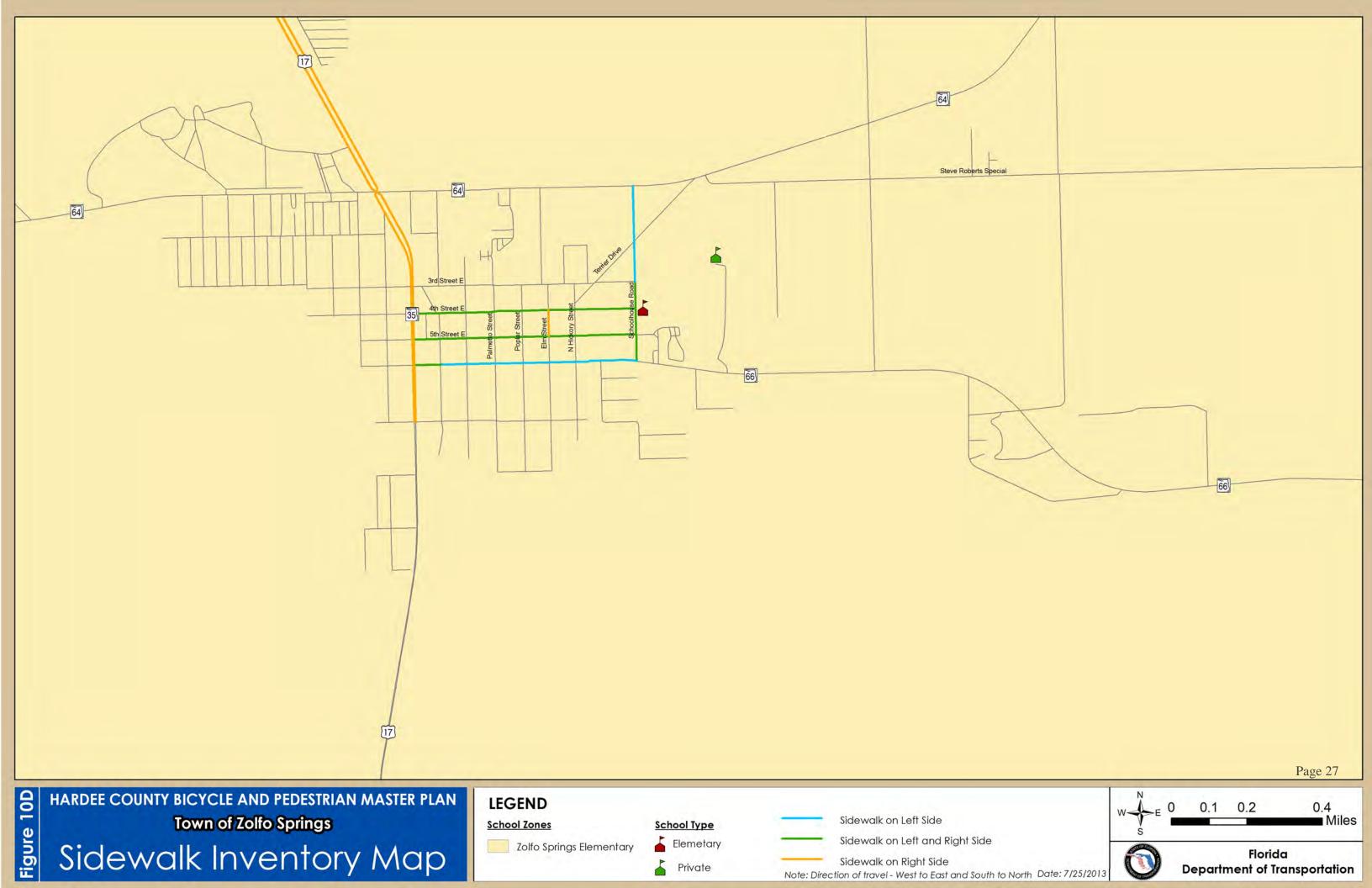


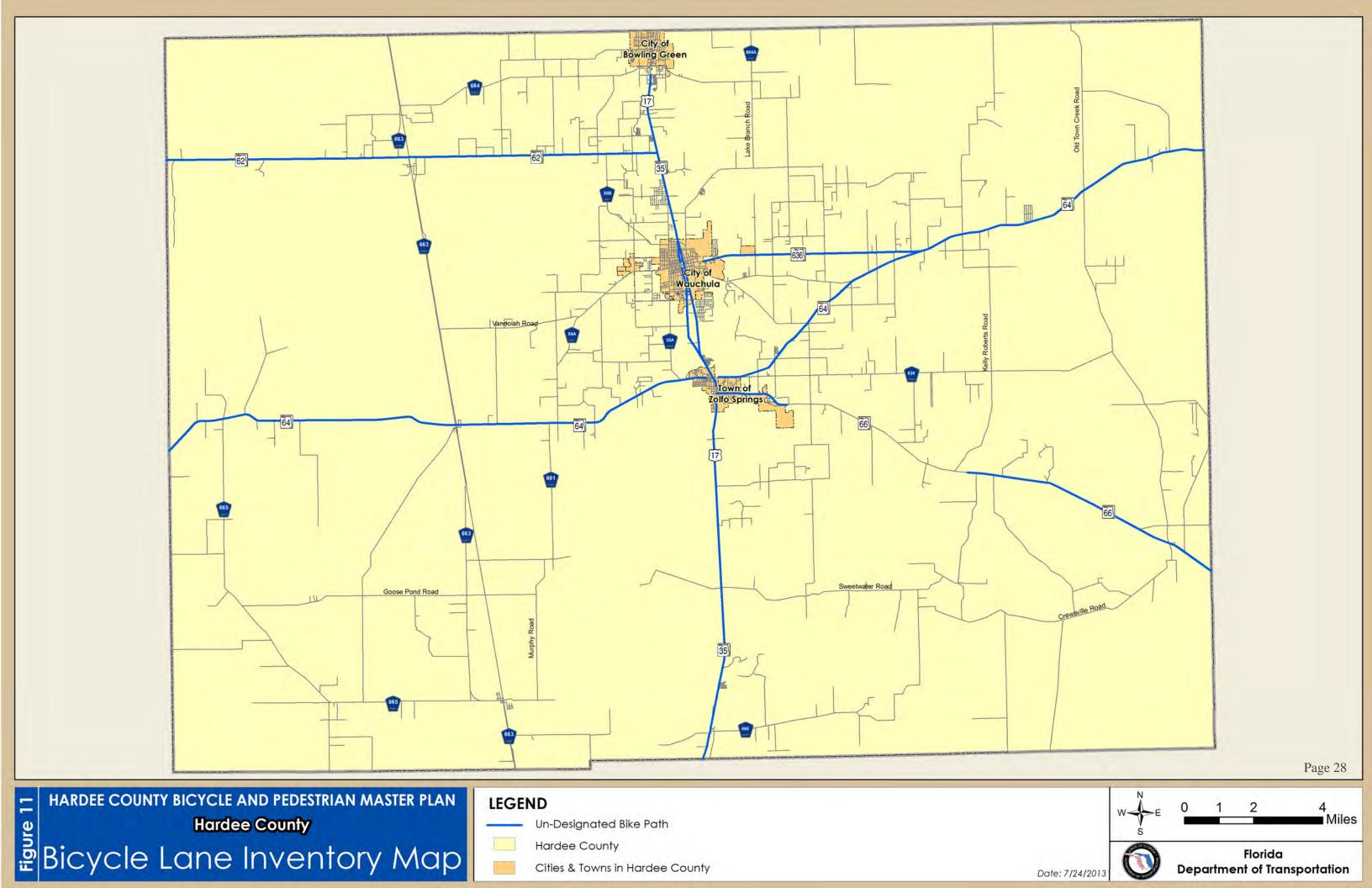












Review of Local Comprehensive Plan Goals and Policies

This section of the Master Plan summarizes the Goals and Policies from the respective currently adopted Comprehensive Plans of Hardee County, the Cities of Bowling Green and Wauchula, and the Town of Zolfo Springs, pertinent to bicycle and pedestrian facilities. This review of local government goals and policies aids in identifying the goals and policies that are supportive of developing a safe bicycle/pedestrian-friendly environment. As such the following planning documents were reviewed:

- 1) Hardee County Comprehensive Plan
- 2) Hardee County Unified Land Development Code
- 3) City of Bowling Green Comprehensive Plan
- 4) City of Bowling Green Unified Land Development Code
- 5) City of Wauchula Comprehensive Plan
- 6) City of Wauchula Unified Land Development Code
- 7) Town of Zolfo Springs Comprehensive Plan
- 8) Town of Zolfo Springs Unified Land Development Code

Following is a list of Policies that are currently adopted by Hardee County and its local municipalities to achieve a safe, accessible, and well-connected bicycle/pedestrian system.

Hardee County Comprehensive Plan

Future Land Use Element

Policy L 1.11: 12 Development Standards:

iii) The design shall include a pedestrian circulation system to connect the proposed uses. Primary

pedestrian routes and bikeways shall coincide with the internal street system or other public spaces such

as parks or squares, and should avoid routes through parking lots.

Transportation Element

Policy T1.6:

Transportation projects to increase safety in Hardee County will include consideration of bicycle and

pedestrian facilities as additions to roadway expansion projects or new roadway construction.

Policy T5.2:

To provide for energy efficiency and savings, alternative modes of transportation shall be accommodated

to create communities and developments that are not solely reliant on the automobile for all

transportation trips. At a minimum, this will address conceptual designs to accommodate: transit,

pedestrians, bicycles, and alternative vehicles (e.g., electric vehicles, etc.) Hardee County shall consider

providing bicycle or pedestrian facilities on public new road construction or reconstruction, where

feasible; also, encourage the contribution of bicycle and pedestrian facilities in private developments.

Housing Element

Policy H8.3:

The County shall, through the Future Land Use Map and Future Land Use Categories, encourage a

higher concentration of densities, pedestrian- oriented urban neighborhoods where the mix of activity

provides access to a full range of residential services and amenities, and opportunities for people to live

within walking distance of employment.

Recreation and Open Space Element

Policy R3.6:

Through the development approval process, the County will encourage new development to provide pedestrian interconnectivity within the project and to areas external to the project such as the County's parks and recreation system.

Public School Facilities Element

Policy PSF5.6:

Public schools shall provide bicycle and pedestrian access consistent with Florida Statutes. Bicycle access and trails to public schools should be incorporated in trail projects and programs that are currently scheduled by the County and municipalities. Parking and sidewalks at public schools will be provided consistent with applicable land development regulations.

Hardee County Unified Land Development Code

3.08.00. - Sidewalks.

Design and Construction Standards. Design and construction of sidewalks and other footpaths shall conform to all applicable engineering requirements adopted by Hardee County, including provisions for access by physically handicapped persons.

A) New subdivisions abutting Principal and Minor Arterials and Major Rural Collectors shall provide sidewalks adjacent to such roadways. Location of sidewalks shall be consistent with planned roadway improvements. Sidewalk construction shall be exempt in F-R and A-1 zoning districts. Developments of one acre or more in the R-1, R-2, R-3 and PUD overlay zoning districts may request the sidewalk requirements to be paid in lieu of construction. The Board of County Commissioners may at the time of Subdivision Plat approval, approve payment in lieu of construction. The fee shall be based on calculated costs of construction and approved by the Director of Public Works prior to Board action.

- (B) Sidewalks shall be provided on both sides of all residential streets where the average lot width at the street is less than 150 feet, except as otherwise exempted.
- (C) Where a proposed development includes improvements or new construction of Collector or Arterial facilities, facility designs shall include provision for sidewalks and footpaths within the right-of-way.
- (D) Residential developments adjacent to or in the immediate vicinity of commercial, office, service, schools or recreation activities shall provide pedestrian and bicycle access from the development to the activity center.
- (E) Sidewalks shall be of concrete construction, a minimum of 5 feet in width and 4 inches in thickness.
- (F) Pedestrian-ways or crosswalks, not less than 10 feet wide with a sidewalk meeting the requirements of this Section, may be required to be placed in the center of blocks more than 800 feet long where deemed necessary to provide circulation or access to schools, playgrounds, shopping centers, transportation and other community facilities.

Section 1.6. Pedestrian Ways and Bike Paths

All developments having lots primarily facing Arterial or Collector roads shall provide concrete pedestrian ways on the right-of-way of these roads.

Pedestrian ways or bike paths shall be a minimum of five feet in width. Where the sub divider elects to provide a pedestrian corridor on a local road, the corridor may be incorporated as part of the lot outside of, but adjacent to and abutting, the right-of-way lines, as an easement, and no obstructions will be allowed in these areas, without a variance.

If existing right-of-way is insufficient, additional right-of-way must be provided for pedestrian way construction.

City of Bowling Green Comprehensive Plan

Future Land Use Element

Policy 2.3: The City shall require new development and substantial development to conform to the following criteria:

C) Integrate pedestrian-oriented features, including sidewalks, trail, or walkways into all development including pedestrian shelters or awnings;

Policy 9.1: The City shall, through new development and redevelopment, promote the creation of interconnected systems for vehicular and pedestrian travel and the location and orientation of buildings and vehicular parking areas.

Transportation Element

Policy 5.1: Bowling Green shall include in its Land Development Regulations the requirement that new commercial and residential development dedicate sidewalks.

Policy 5.2: Bowling Green shall implement a program that inventories and prioritizes sidewalk construction and repair.

Policy 5.3: The City shall prioritize new sidewalk construction for those areas of the City lacking an existing sidewalk network.

Policy 5.4: Bowling Green shall cooperate with the Hardee County School Board to ensure that new schools, parks, and playgrounds provide pedestrian access.

Policy 5.5: New sidewalks shall be designed to be accessible to handicapped persons. Adopted December 13, 2011.

Policy 5.6: Plans for the expansion of arterial and collector roads in Bowling Green shall include bicycle ways where practical.

Policy 6.1: The City will work to develop, where feasible, a bicycle facility network through the inclusion of bikeways in road construction projects and through greenways.

Policy 6.2: The City shall work to develop, where feasible, a bicycle network such that all significant commercial, employment, public school facilities, and recreational centers are accessible via a bikeway route along at least one collector or arterial roadway route serving the center.

Policy 6.3: The City shall encourage bicycle facilities at commercial and recreational areas and other appropriate locations.

Public School Facilities Element

Policy 5.4: Bicycle access and trails to public schools should be incorporated in trail projects and programs that are currently scheduled by the City. Parking and sidewalks at public schools will be provided consistent with applicable land development regulations.

Recreation and Open Space Element

Policy 2.4: As part of the Transportation Element, identify and designate bicycle and/or pedestrian routes along local streets linking public recreational facilities. In addition, provide the appropriate signage along such routes to improve accessibility.

City of Bowling Green Unified Land Development Code

3.02.04 Sidewalks and Bikeways

- (A) When Required
- (1) Projects abutting Urban Collector or Principal Arterial facilities shall provide sidewalks adjacent to such roadways. Location of sidewalks shall be consistent with planned roadway improvements.
- (2) Sidewalks shall be provided on both sides of all residential streets where the average lot width at the street is 60 feet or less.

- (3) Sidewalks shall be provided on one side of all residential streets where the average lot width at the street is greater than 60 feet but less than 150 feet.
- (4) Where a proposed development includes improvements or new construction of collector or arterial facilities, facility designs shall include provision for sidewalks and bikeways within the right-or-way.
- (5) Residential projects adjacent to or in the immediate vicinity of commercial, office, service, or recreation activities shall provide pedestrian and bicycle access from the development to the activity center.
- (6) Pedestrian-ways or crosswalks, not less than 10 feet wide with a sidewalk meeting the requirements of this Section, may be required to be placed in the center of blocks more than 800 feet long where deemed necessary to provide circulation or access to schools, playgrounds, shopping centers, transportation and other community facilities.

City of Wauchula Comprehensive Plan

Future Land Use Element

Policy 5.3: The City shall require new development and substantial redevelopment to conform with the following criteria:

C) Integrate pedestrian-oriented features, including sidewalks, trails, or walkways into all development including pedestrian shelters or awnings;

Policy 11.2: The City shall, through new development and redevelopment, promote the creation of interconnected systems for vehicular and pedestrian travel and the location and orientation of buildings and vehicular parking areas.

Traffic Circulation Element

Policy 2.3: The City will promote mixed-use developments with multimodal provisions that include sidewalks, bikeways and trails linkages between commercial areas and residential areas. [9J-5.019(4)(c) 9.]

Policy 2.6: The City will minimize disruption to its historic downtown and historic buildings that may result from the construction of roadway improvements and transit projects; the City shall plan pedestrian and bicycle routes that minimize disruption of the historic street grid in downtown. [9]-5.019(4)(c) 5.]

Policy 4.1: The City will analyze the existing sidewalk network annually and identify key gaps in pedestrian routes, including near schools, parks, and trails; and in the future, transit stops. [9J-5.019(4)(c) 5.]

Policy 4.2: Funding priorities for correcting existing deficiencies and for future sidewalk improvements shall first be directed to locations where a critical public safety concern or an emergency exists; and second, serve pedestrian needs within $\frac{1}{4}$ mile of all schools, parks, and trails; and in the future, transit stops, aviation and rail facilities. [9]-5.019(4)(c) 6, 8, 14.]

Policy 4.3: The City will incorporate consideration of sidewalks and bikeways in all roadway improvements and new construction. Sidewalks and bikeways will be constructed where practical in the existing rights-of-way throughout the City. [9J-5.019(4)(c) 5, 6.]

Policy 4.4: Sidewalks and bikeways shall be combined where practical and feasible to keep the cost of improvements and maintenance to a minimum. The City will incorporate sidewalk and bikeway features into intersection projects and resurfacing projects to keep the cost of such projects to a minimum.

Policy 4.5: Expand the coverage of the City's bikeway facility network by including bikeways as part of local or regional greenway trail development.

Policy 4.6: Improve the bikeway network such that all significant commercial, employment, and recreational centers are accessible via a bikeway route along a collector or arterial route serving the center; or via a greenway where available.

Policy 4.7: Support the acquisition of right-of-way or easement for a bike path/walkway along the Peace River connecting Wauchula's Peace River Park with Paynes Creek Park to the north in Bowling Green and Pioneer Park to the south in Zolfo Springs.

Policy 4.8: The City will work with the FDOT and Hardee County in the identification of locations for sidewalks and bikeway on State and County highways. [9]-5.019(4)(c) 5, 6.]

Public School Facilities Element

Policy 5.4: Bicycle access and trails to public schools should be incorporated in trail projects and programs that are currently scheduled by the City. Parking and sidewalks at public schools will be provided consistent with applicable land development regulations.

City of Wauchula Unified Land Development Code

3.02.06 Sidewalks and Bikeways

Design and Construction Standards. Design and construction of sidewalks and bikeways shall conform to all applicable engineering requirements adopted by the City of Wauchula, including provisions for access by physically handicapped persons.

- (A) Projects abutting collector or arterial facilities shall provide sidewalks adjacent to such roadways. Location of sidewalks shall be consistent with planned roadway improvements.
- (B) Sidewalks shall be provided on both sides of all residential streets where the average lot width at the street is 60 feet or less.
- (C) Sidewalks shall be provided on one side of all residential streets where the average lot width at the street is greater than 60 feet.
- (D) Where a proposed development includes improvements or new construction of collector or arterial facilities, facility designs shall include provision for sidewalks and bikeways within the right-or-way.

(E) Residential projects adjacent to or in the immediate vicinity of commercial, office, service, schools or recreation activities shall provide sidewalks from the development to the activity center.

(F) Pedestrian-ways or crosswalks, not less than 10 feet wide with a sidewalk meeting the requirements of this Section, may be required to be placed in the center of blocks more than 800 feet long where deemed necessary to provide circulation or access to schools, playgrounds, shopping centers, transportation and other community facilities.

Town of Zolfo Springs Comprehensive Plan

Future Land Use Element

Policy 2.7: The Town shall require new development and substantial redevelopment to conform to the following criteria:

C) Integrate pedestrian-oriented features, including sidewalks, trails, or walkways into all development including pedestrian shelters;

Traffic Circulation Element

Policy 2.8: The Town shall prioritize new sidewalk construction for those areas of the Town lacking and existing sidewalk network.

Policy 4.1: At a minimum, at the conceptual design stage of development, address features that accommodate: future transit, pedestrians, bicycles, and alternative vehicles (i.e. electric vehicles, etc.).

Policy 4.2: The Town shall encourage bicycle facilities at commercial and recreational areas and other appropriate locations.

Housing Element

Policy 8.4: The Town shall, through the Future Land Use Map and Future Land Use Categories, encourage pedestrian-oriented urban neighborhoods having convenient access to regional transit stations

where the mix of activity provides access to a full range of residential services and amenities, and opportunities for people to live within walking distance of employment.

Recreation and Open Space Element

Policy 1.4: Through the development approval process, the Town will encourage new development to provide pedestrian interconnectivity within the project and to areas external to the project such as the Town's parks and recreation system and schools.

Public School Facilities Element

Policy 1.5.4: Bicycle access and trails to public schools should be incorporated in trail projects and programs that are currently scheduled by the Town. Parking and sidewalks at public schools will be provided consistent with applicable land development regulations.

Town of Zolfo Springs Unified Land Development Code

3.02.04 Sidewalks and Bikeways

- (A) When Required
- (1) Projects abutting Urban Collector or Principal Arterial facilities shall provide sidewalks adjacent to such roadways. Location of sidewalks shall be consistent with planned roadway improvements.
- (2) Sidewalks shall be provided on both sides of all residential streets where the average lot width at the street is 60 feet or less.
- (3) Sidewalks shall be provided on one side of all residential streets where the average lot width at the street is greater than 60 feet but less than 150 feet.

- (4) Where a proposed development includes improvements or new construction of collector or arterial facilities, facility designs shall include provision for sidewalks and bikeways within the right-or-way.
- (5) Residential projects adjacent to or in the immediate vicinity of commercial, office, service, or recreation activities shall provide pedestrian and bicycle access from the development to the activity center.
- (6) Pedestrian-ways or crosswalks, not less than ten feet wide with a sidewalk meeting the requirements of this Section, may be required to be placed in the center of blocks more than 800 feet long where deemed necessary to provide circulation or access to schools, playgrounds, shopping centers, transportation and other community facilities.

Programmed Improvements

Table 1 summarizes the programmed improvements identified in the FDOT Five Year Work Program Fiscal Year (FY) 2012/13 – FY 2016/17 (as of 03/01/2013). Table 2 summarizes the programmed improvements identified in the FDOT Draft Tentative Work Program FY 2013/14 – FY 2017/18. In addition, the City of Wauchula has a sidewalk project currently programed along the north side of Stenstrom Road from Chatham Pointe Apartments to US 17 southbound. All the improvements identified in Tables 1 and 2 (including the Stenstrom Road improvement) are depicted in Figure 12.

Table 1: FDOT Adopted Five Year Work Program FY 2012/2013 - FY 2016/2017

FM#	Roadway	From	То	Project Type	Phase	Year	Location
429816-1	Dixiana Avenue	Jones Street	Grape Street	Sidewalk	CST	2016	City of Bowling Green
428142-1	E Main Street	US 17	E. of Lake Branch Road	Sidewalk	CST	2014	City of Bowling Green
429836-1	US 17	Mc Ewen Road	Pine Cone Park North	Sidewalk	CST	2014	N. of City of Wauchula
414547-1	US 17	Desoto C/L	CR 634	Add Lanes & Reconstruct	CST	2016	N. of City of Wauchula
420633-1	US 17	CR 634	7th Avenue	Add Lanes & Reconstruct	CST	2013	Town of Zolfo Springs
430039-2	Zolfo Elementary Sch	nool Sidewalks (Off Sys	tem)	Sidewalk	CST	2013	Town of Zolfo Springs
428136-1	W Central Avenue	Hardee Street	Polk C/L	Sidewalk	CST	2014	City of Bowling Green
431341-1	US 17	KD Revell Road	REA Road	Sidewalk	CST	2017	N. of City of Wauchula
431121-1	US 17	At Maxwell Drive		Intersection Improvement	CST	2013	N. of City of Wauchula
431344-1	US 17	At Will Duke Road		Drainage Improvement	CST	2013	S. of City of Wauchula
431340-1	SR 64	At SR 636		Intersection Improvement	CST	2014	E. of City of Wauchula
a FROTII	Jork Program EV 2012/13 - EV	2016/17					

Source: FDOT Work Program FY 2012/13 - FY 2016/17

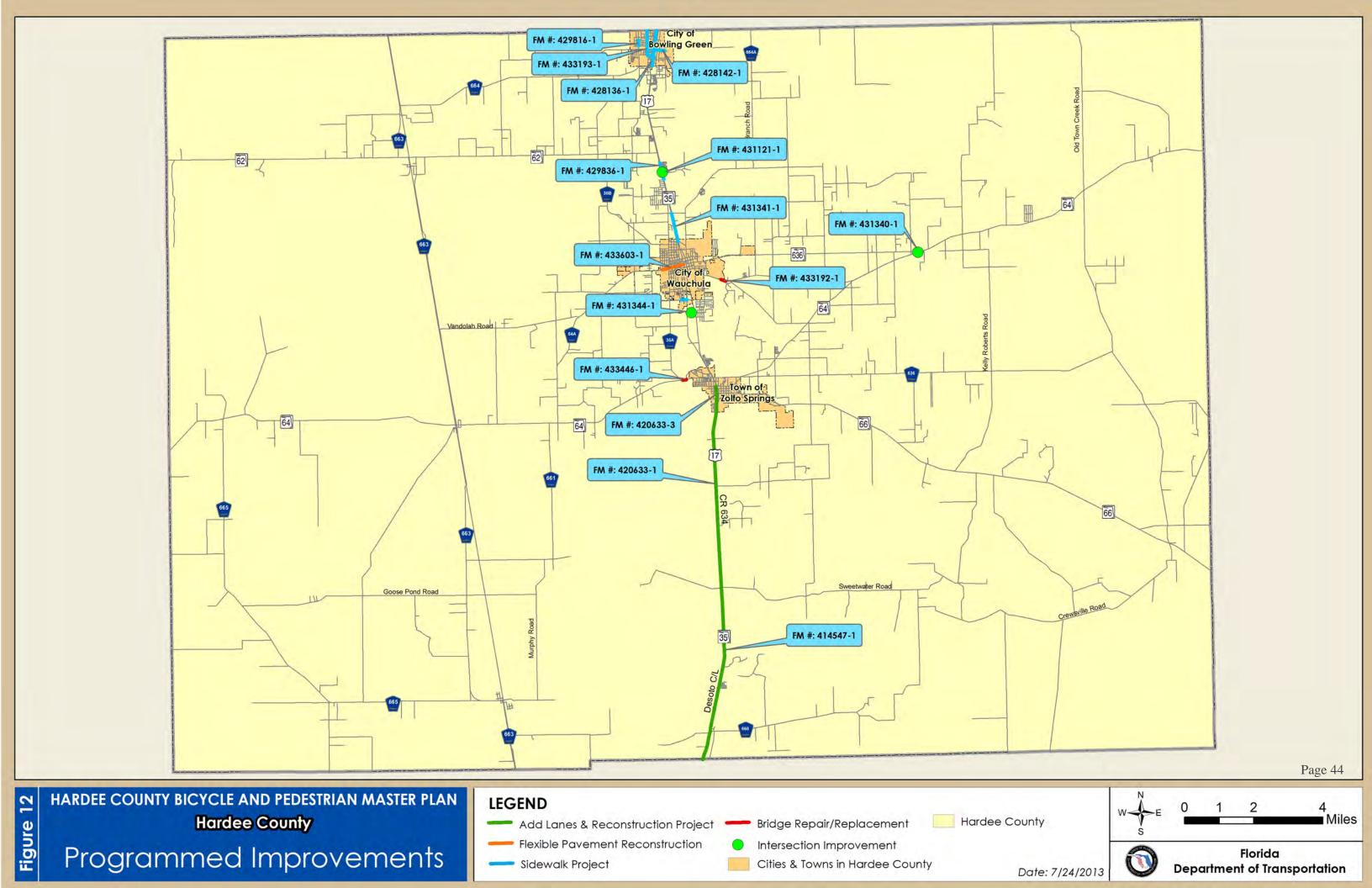
CST - Construction

Table 2: FDOT Draft Tentative Work Program FY 2013/2014 - FY 2017/2018

FM #	Roadway	From	То	Project Type	Phase	Year	Location
429816-1	Dixiana Avenue	Jones Street	Grape Street	Sidewalk	CST	2016	City of Bowling Green
428142-1	E Main Street	US 17	E of Lake Branch Road	Sidewalk	CST	2014	City of Bowling Green
433192-1	Griffin Road	Bridge Number 060030 over I	Peace River	Bridge Replacement	PDE	2018	City of Wauchula
433193-1	Mason Dixion-Lemon	County Line Road	US 17	Sidewalk	CST	2015	City of Bowling Green
433603-1	N Main Street	Illinois Avenue	US 17	Flexible Pavement Reconstruct	CST	2015	City of Wauchula
431340-1	SR 64	At SR 636		Intersection Improvement	CST	2017	E. of City of Wauchula
433446-1	SR 64	Over Peace River at Bridge Nu	umber 060021	Bridge-Repair/Rehabilitation	CST	2016	E. of Town of Zolfo Springs
414547-1	US 17	Desoto C/L	CR 634	Add Lanes & Reconstruct	CST	2016	N. of City of Wauchula
431341-1	US 17	KD Revell Road	REA Road	Sidewalk	CST	2016	N. of City of Wauchula
420633-3	US 17	9th Street	N of 3rd Street	Add Lanes & Reconstruct	ROW	2015	Town of Zolfo Springs

Source: FDOT Draft Tentative Work Program FY 2013/14 - FY 2017/18 (Dated: 04/04/2013)

CST - Construction; ROW - Right of Way



Crash Analysis

Detailed crash reports were obtained from the FDOT Crash Analysis Reporting System (CARS) database for all crashes involving bicycles and pedestrians within Hardee County. This data covers the period from August 29, 2008 to September 9, 2011. A crash summary is provided in **Table 3** and crash diagrams are provided in **Figures 13A** through 13D.

Based on this information and engineering judgment, there appears to be a pattern of crashes near north Florida Ave. at US 17 (Unincorporated Hardee County). Four separate crashes occurred at this location where pedestrians were struck crossing or walking on the shoulder of US 17 (three fatalities related to crash numbers 2, 11, and 16). Additionally, near the intersection of Franklin Street at US 17 (City of Bowling Green) two separate crashes occurred where pedestrians were struck crossing US 17 (two fatalities related to crash numbers 4 and 14).

During the three year analysis period, it is noted that 8 of 23 crashes occurred at or after dark. Five of these eight crashes occurred on the US 17 corridor (Crash numbers 2, 3, 11, 14, and 19), of which three crashes resulted in fatalities (Crash numbers 2, 11, and 14). Table 4 illustrates the lighting information for US 17 within Hardee County based on the information obtained from the FDOT RCI Database.

Table 3: County Wide Crash Summary SECTION: MAIOR ROUTE: N/A COLINTY: HARDEE INTERSECTING ROUTE: CITY: N/A STUDY PERIOD 29-Aug-08 TO ENGINEER JNK CONTRIBUTING DATE DAY TIME PED/BIKE PROPERTY DAY/ WET/ ALCOHOL/D CRASH REF AGE CRASH TYPE FATAL INJURY DOB NO RUGS MOTORCYCLE DAMAGE NIGHT DRY CALISE IMPROPER LANE CHANGE 1 8/29/2008 Friday 6:08 PM 7/4/1963 45 BIKE ALCOHOL SIDE SWIPE 0 0 \$500 DAY DRY 2 9:50 PM 11/5/1963 45 PED ALCOHOL HIT PEDESTRIAN 1 1 \$2,000 NIGHT DRY 4/2/2009 Thursday 4/11/2009 27 PED NO HIT PEDESTRIAN PED CROSSED ROADWAY 5:05 AM 11/19/1981 0 \$0 NIGHT DRY 3 Saturday 4 5/15/2009 1/29/1991 18 PED NO HIT PEDESTRIAN 1 0 PED CROSSED ROADWAY Friday 9:30 AM \$800 DAY DRY 5/28/2009 Thursday 12:58 PM 2/14/1995 14 BIKE NO ANGLE 0 \$1,550 DAY DRY FTYRW 6 8/22/2009 Saturday 6:30 PM BIKE NO ANGLE 0 0 \$0 DUSK DRY CARELESS DRIVING 9/2/2009 Wednesday 7:15 AM BIKE NO ANGLE 0 0 \$100 DAY DRY FTYRW HIT PEDESTRIAN CARELESS DRIVING 8 12/3/2009 Thursday 11:18 AM 10/12/1979 30 PED NO 0 1 \$0 DAY DRY 9 12/4/2009 Friday 2:30 PM 4/17/1959 51 BIKE NO LOST CONTROL 0 1 \$0 DAY WET NO IMPROPER DRIVING FTYRW 10 2/4/2010 Thursday 4:15 PM BIKE NO ANGLE 0 \$100 DAY DRY 11 2/8/2010 Monday 7:07 PM PED ALCOHOL HIT PEDESTRIAN 1 0 \$5,000 NIGHT DRY PED CROSSED ROADWAY 12 Wednesday 9:45 AM 85 PED NO HIT PEDESTRIAN 0 \$0 DAY DRY CARELESS DRIVING 13 4/15/2010 Thursday 6:51 PM 10/11/1961 49 BIKE NO SIDE SWIPE 0 0 \$550 DUSK DRY OTHER PED CROSSED ROADWAY 14 4/16/2010 Friday 8:57 PM 7/13/1973 37 PED NO HIT PEDESTRIAN 1 0 \$500 NIGHT DRY 15 4/30/2010 Friday 7:26 AM 1/20/1959 51 BIKE NO ANGLE 0 0 \$0 DAY DRY FTYRW HIT PEDESTRIAN PED CROSSED ROADWAY 16 4:57 PM 2/14/1030 72 PED NO 1 0 \$3,000 8/29/2010 Sunday DAY DRY 11/27/1971 39 PED HIT PEDESTRIAN IMPROPER BACKING 17 9/21/2010 Tuesday 8:13 AM NO 0 \$0 DAY DRY 0 HIT PEDESTRIAN 0 CARELESS DRIVING 18 1/29/2011 Saturday 7:47 PM 10/24/1987 23 PED NO 1 \$0 NIGHT DRY 19 2/28/2011 Monday 7:27 PM 2/14/1987 24 PED NO HIT PEDESTRIAN \$0 DUSK DRY PED CROSSED ROADWAY 20 3/28/2011 Monday 4:15 PM 9/30/1972 38 PED NO HIT PEDESTRIAN 0 0 \$25 DAY WET PED CROSSED ROADWAY FAILURE TO OBEY TRAFFIC DEVICE 21 6/5/2011 Sunday 6:09 PM 5/15/1997 14 BIKE NO ANGLE 0 0 \$500 DAY DRY HIT PEDESTRIAN 22 8/25/2011 Thursday 12:55 PM 5/12/1966 45 PED NO 0 1 \$0 DAY DRY IMPROPER BACKING 23 61 PED NO HIT PEDESTRIAN 0 DAY DRY FAILURE TO OBEY TRAFFIC DEVICE 9/9/2011 Friday 6:40 AM 9/24/1950 \$500 Total 11 CRASH TYPE BICYCLE HIT FIXED TOTAL PFD OVER HIT LEFT RIGHT RFAR LOST FATAL INJURY CRASHES CRASHES CRASHES TURNED PEDESTRIAN ANGLE TURN TURN END SIDE SWIPE HEAD ON HIT ANIMAL OBJECT CONTROL CRASHES CRASHES 23 14 14 61% 39% 0% 61% 26% 0% 0% 0% 9% 0% 0% 0% 4% 22% 48% CONTRIBUTING CAUSE LIGHTING CONDITION ROAD CONDITION NO IMPROPER FAILURE TO FOLLOWED TOO IMPROPER CARELESS FTYRW IMPROPER IMPROPER OBEY TRAFFIC PED CROSSED ROADWAY LANE CLOSE DEVICE DAY NIGHT DUSK DRY WET DRIVING DRIVING CHANGE TURN BACKING DUI OTHER 15 5 3 21 2 1 4 4 1 0 2 1 0 2 7 1 32% 22% 13% 91% 4% 17% 17% 4% 0% 9% 4% 9% 4% 65% 9%

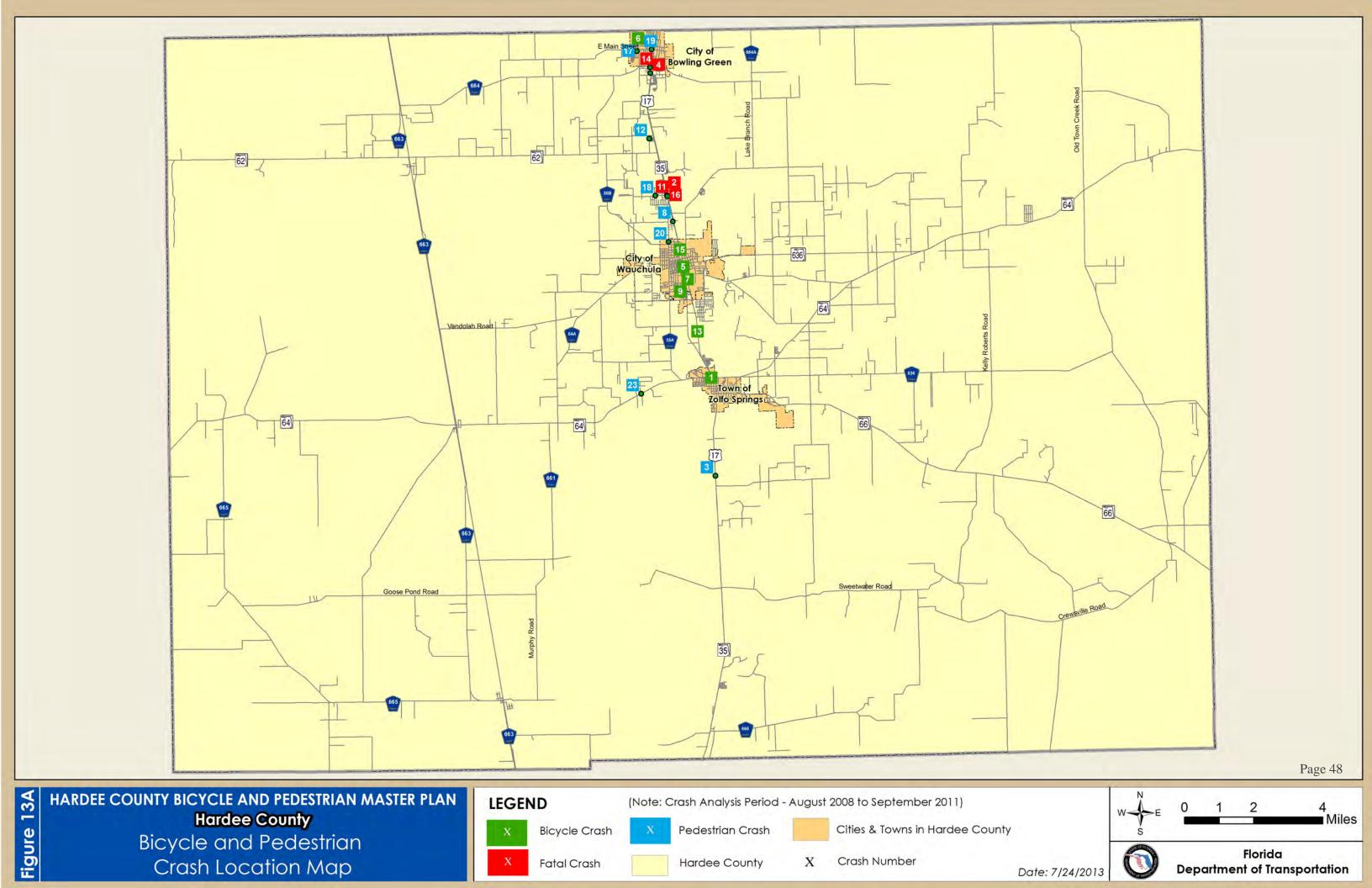
Note

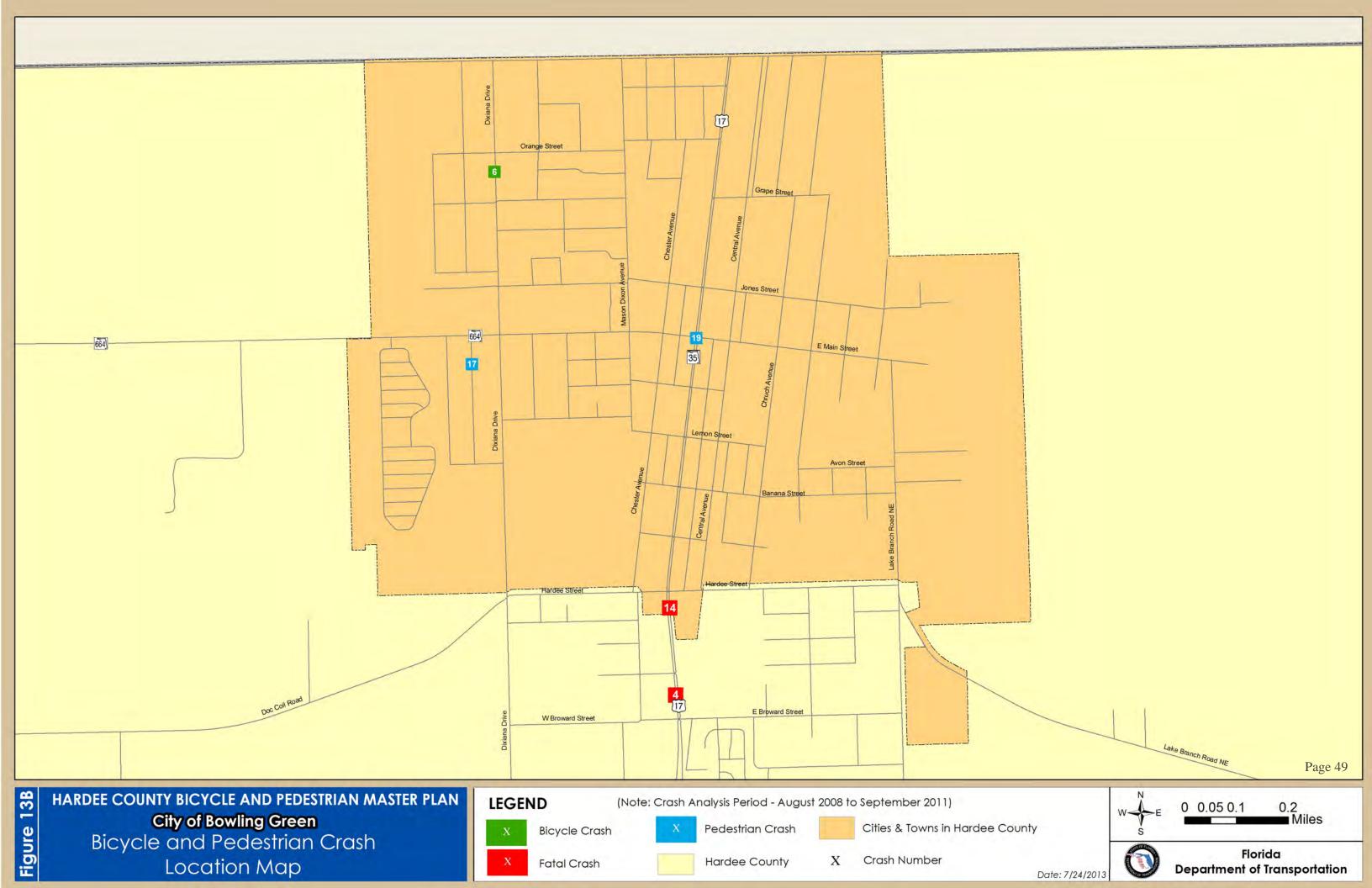
FTYRW-FAILURE TO YIELD RIGHT OF WAY DUI-DRIVING UNDER THE INFLUENCE

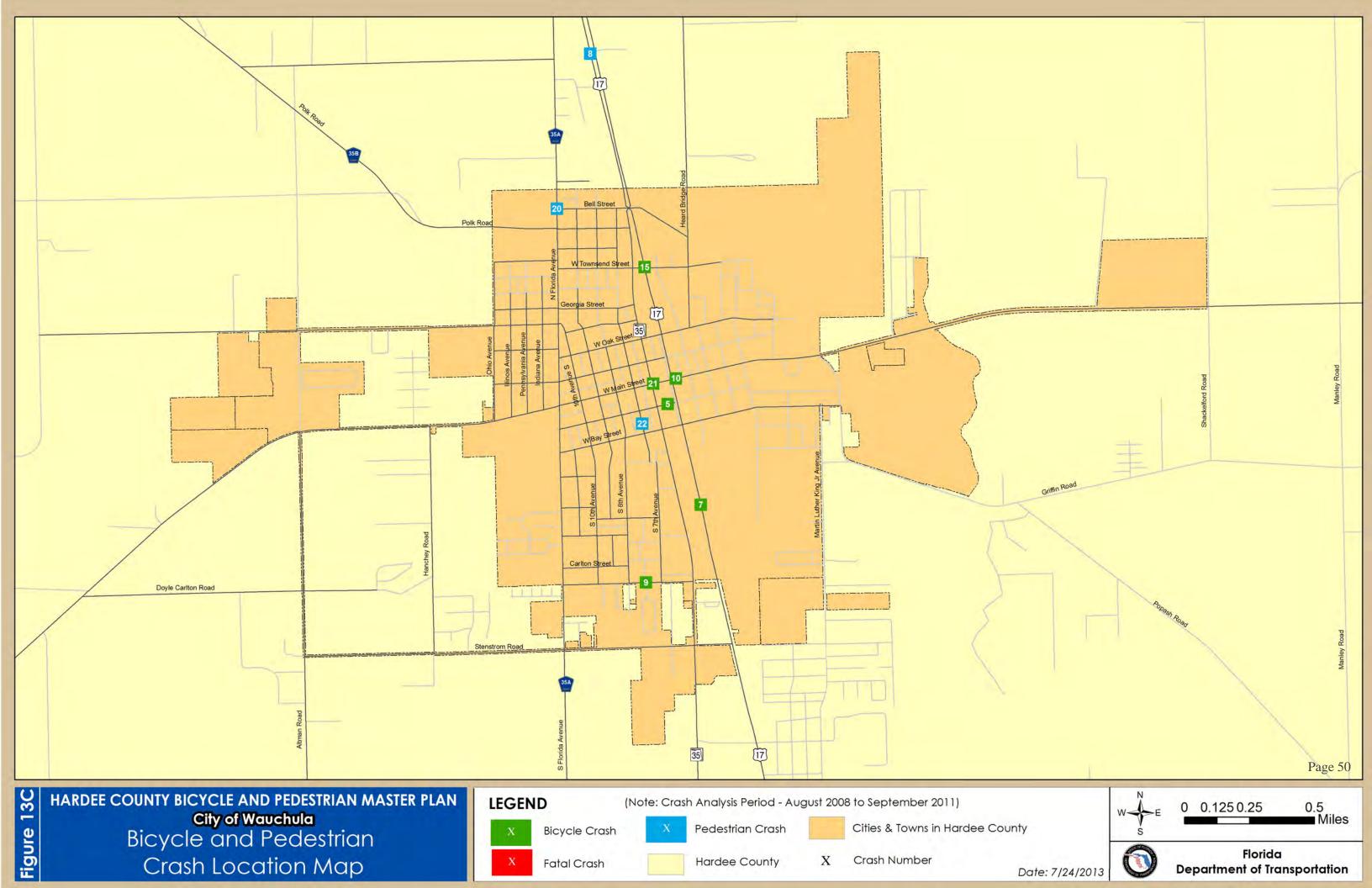
Table 4: US 17 Lighting Information

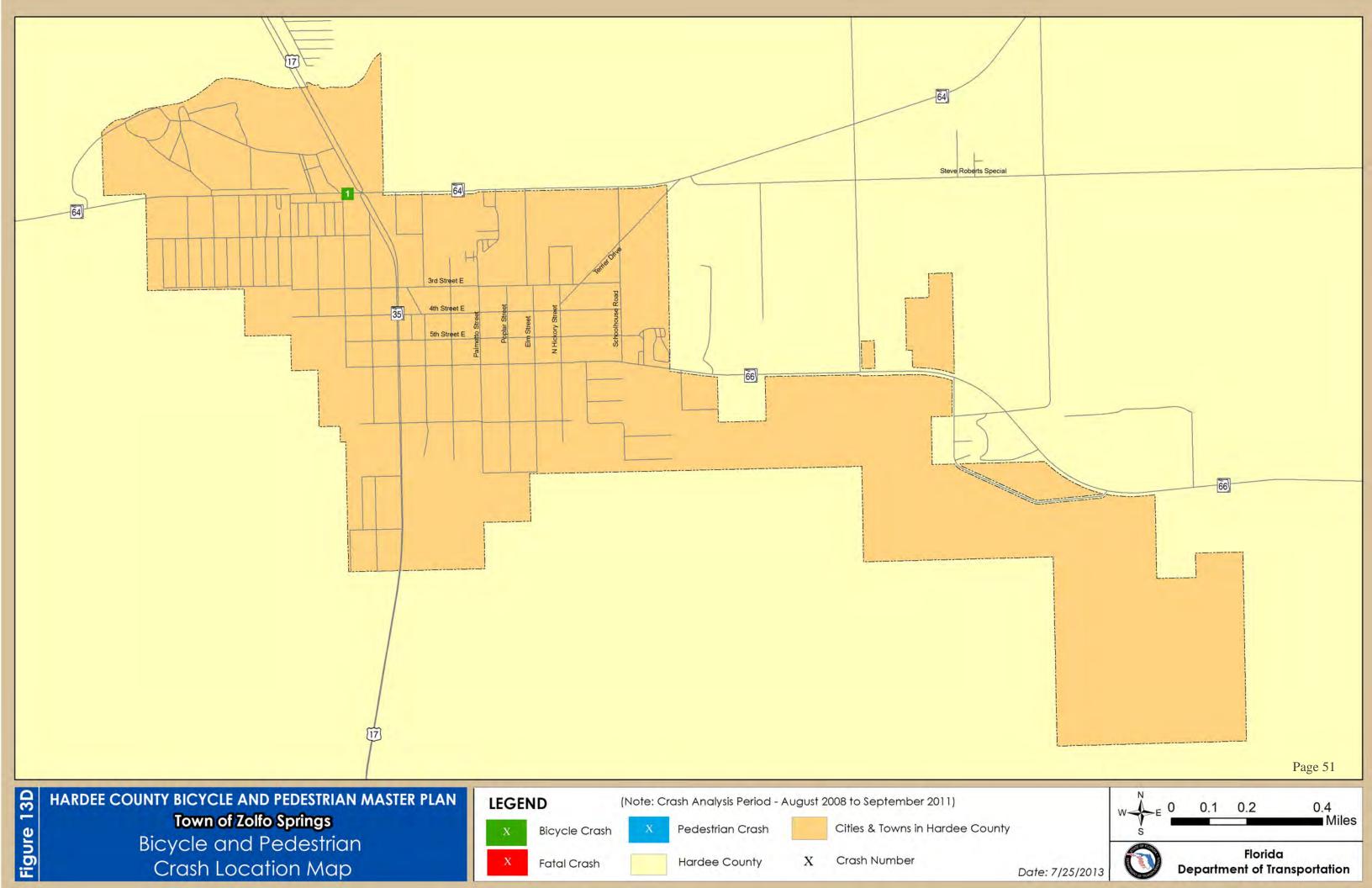
Begin	End	Characteristic	Value	Unit	Side
MP	MP	Characteristic	varue	Onic	oluc
10	11	LUMINAIRES UNDER LOCAL AGRMNT	9	EΑ	L
10	11	OWNER OF LOCAL LUMINARIES	ZOLFO SPRINGS	EA	L
10	11	LUMINAIRES UNDER LOCAL AGRMNT	15	EA	R
10	11	OWNER OF LOCAL LUMINARIES	ZOLFO SPRINGS	EA	R
11	11.753	LUMINAIRES UNDER LOCAL AGRMNT	8	EA	L
11	11.753	OWNER OF LOCAL LUMINARIES	ZOLFO SPRINGS	EA	L
11	11.753	LUMINAIRES UNDER LOCAL AGRMNT	7	EA	R
11	11.753	OWNER OF LOCAL LUMINARIES	ZOLFO SPRINGS	EA	R
15.292	16	LUMINAIRES UNDER LOCAL AGRMNT	13	EA	L
15.292	16	OWNER OF LOCAL LUMINARIES	WAUCHULA	EA	L
15.292	16	LUMINAIRES UNDER LOCAL AGRMNT	13	EA	R
15.292	16	OWNER OF LOCAL LUMINARIES	WAUCHULA	EA	R
20	21	LUMINAIRES UNDER LOCAL AGRMNT	8	EA	L
20	21	OWNER OF LOCAL LUMINARIES	BOWLING GREEN	EA	L
20	21	LUMINAIRES UNDER LOCAL AGRMNT	9	EA	R
20	21	OWNER OF LOCAL LUMINARIES	BOWLING GREEN	EA	R
21	21.5	LUMINAIRES UNDER LOCAL AGRMNT	8	EA	L
21	21.5	OWNER OF LOCAL LUMINARIES	BOWLING GREEN	EA	L
21	21.5	LUMINAIRES UNDER LOCAL AGRMNT	8	EA	R
21	21.5	OWNER OF LOCAL LUMINARIES	BOWLING GREEN	EA	R

The fatal crash numbers 2 and 11 occurred on US 17 at an approximate Mile Post (M.P.) (a series of posts set up to mark distance by miles used by the FDOT along state roads or an individual post showing the distance from a starting point) of 16.664 and 16.541 respectively. Based on the above RCI data and field verification, these locations do not have any roadway lighting. It is recommended that a "Lighting Justification Study" be conducted along the US 17 corridor between M.P. 16.000 and M.P. 20.000.









Needs Assessment

This section of the Master Plan involved field reviews to identify improvements to support existing and future bicycle and pedestrian mobility. This includes a short term assessment, with respect to identification of locations of concern that are not in compliance with the standards set forth in the ADA guidelines and other safety issues. The long term assessment was conducted in regards to providing an accessible and well-connected bicycle/pedestrian system.

ADA, Bicycle and Pedestrian Design Improvements

Short term improvements are those improvements that can be accomplished by the identification of areas of concern based on minimum criteria set forth in ADA Standards for Accessible Design, the Manual on Uniform Traffic Control Devices (MUTCD), the FDOT Plans Preparation Manual (PPM), and the Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System.

This section discusses short term pedestrian improvements based on the identification and evaluation of facilities that fall below the minimum safety/mobility criteria.

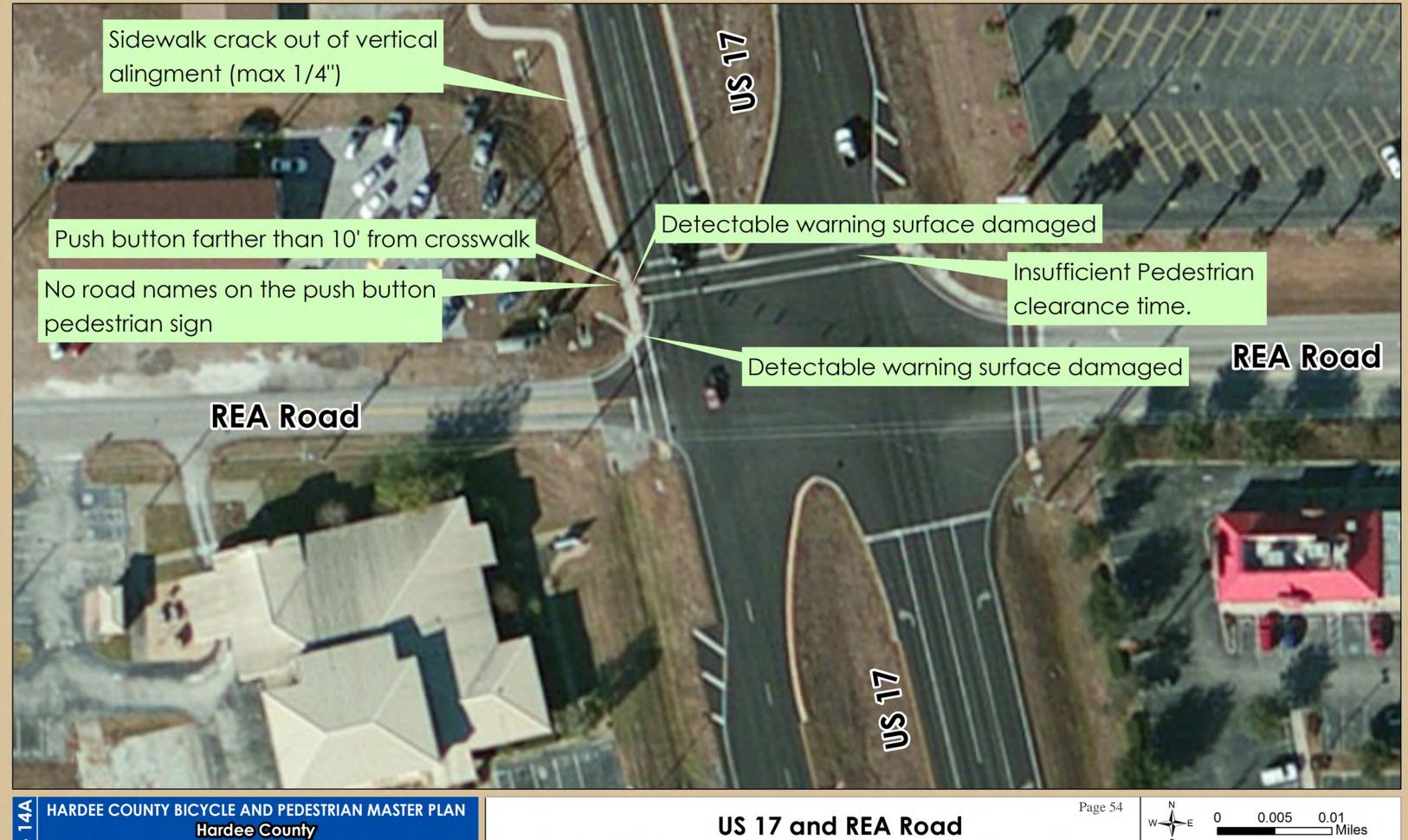
The safety/mobility evaluation was conducted at specific intersections, school areas, and areas with a history of bicycle and pedestrian crashes.

Intersections:

A field review was conducted to identify the short term improvements related to intersection specific concerns such as: sidewalk, curb cut ramps, crosswalks, roadway signing, pedestrian signals, lighting and sight obstructions. Of the thirteen signalized intersections within Hardee County the following five intersections were selected as specific areas of interest. These signalized intersections were selected based on the presence of crosswalks, number of lanes, history of bicycle/pedestrian crashes at the intersection, and areas of attraction for bicycle/pedestrian trips. The rationale for intersection selections are listed below:

- US 17 (SR 35) at REA Road (Section 6010000 M.P. 16.136) Adjacent to the commercial shopping area, including Wal-Mart and Winn Dixie
- US 17 (S. 6th Avenue) at Main Street (Section 6010102 M.P. 0.687) A pedestrian crash occurred at this intersection within last 3 years
- US 17 (SR 35) at SR 64 (Section 6010000 M.P. 11.136) A large intersection with channelized yield controlled right turn lanes with a busy Circle K convenience store located at the intersection
- Florida Ave. (CR 35A) at west Main Street (CR 64A) Residential area with heavy pedestrian use located near a school
- US 17 (SR 35) at Main Street (CR 664) (Section 6010000 M.P. 20.959) A pedestrian crash occurred at this intersection within last 3 years

Figures 14A through 14E illustrate the ADA and safety concerns identified at these intersections. Table 5 lists the associated guideline reference, and the potential improvements for these intersections.



Hardee County Intersection Safety & ADA Concerns

Unincorporated Hardee County







Hardee County
Intersection Safety & ADA Concerns

City of Wauchula



Date: 7/25/2013



Intersection Safety & **ADA Concerns**

Town of Zolfo Springs



Date: 8/29/2013



Florida Avenue Ramp slope exceeds maximum of Sidewalk crack out of 1:12. vertical alignment (max 1/4") Dirt and debris collects obstructing pathway. - Truncated dome type detectable - Ramp slope exceeds maximum of warning surface missing 1:12. - Truncated dome type detectable W. Main Street warning surface missing Crosswalk with no curb cut ramp. Sidewalk out of vertical alignment (max 1/4") W. Main Street Floriida Avenue Sidewalk out of Ramp slope exceeds maximum of vertical alignment (max 1/4") 1:12. Dirt and debris collects obstructing - Dirt and debris collects obstructing pathway. pathway. - Truncated dome type detectable Truncated dome type detectable warning surface missing warning surface missing HARDEE COUNTY BICYCLE AND PEDESTRIAN MASTER PLAN Page 57 0.005 **Hardee County**

Intersection Safety & ADA Concerns

Florida Avenue and W. Main Street City of Wauchula







Intersection Safety &

ADA Concerns

US 17 and Main Street

City of Bowling Green



0.005 0.01 Miles



Table 5: Intersection Safety and ADA Improvements

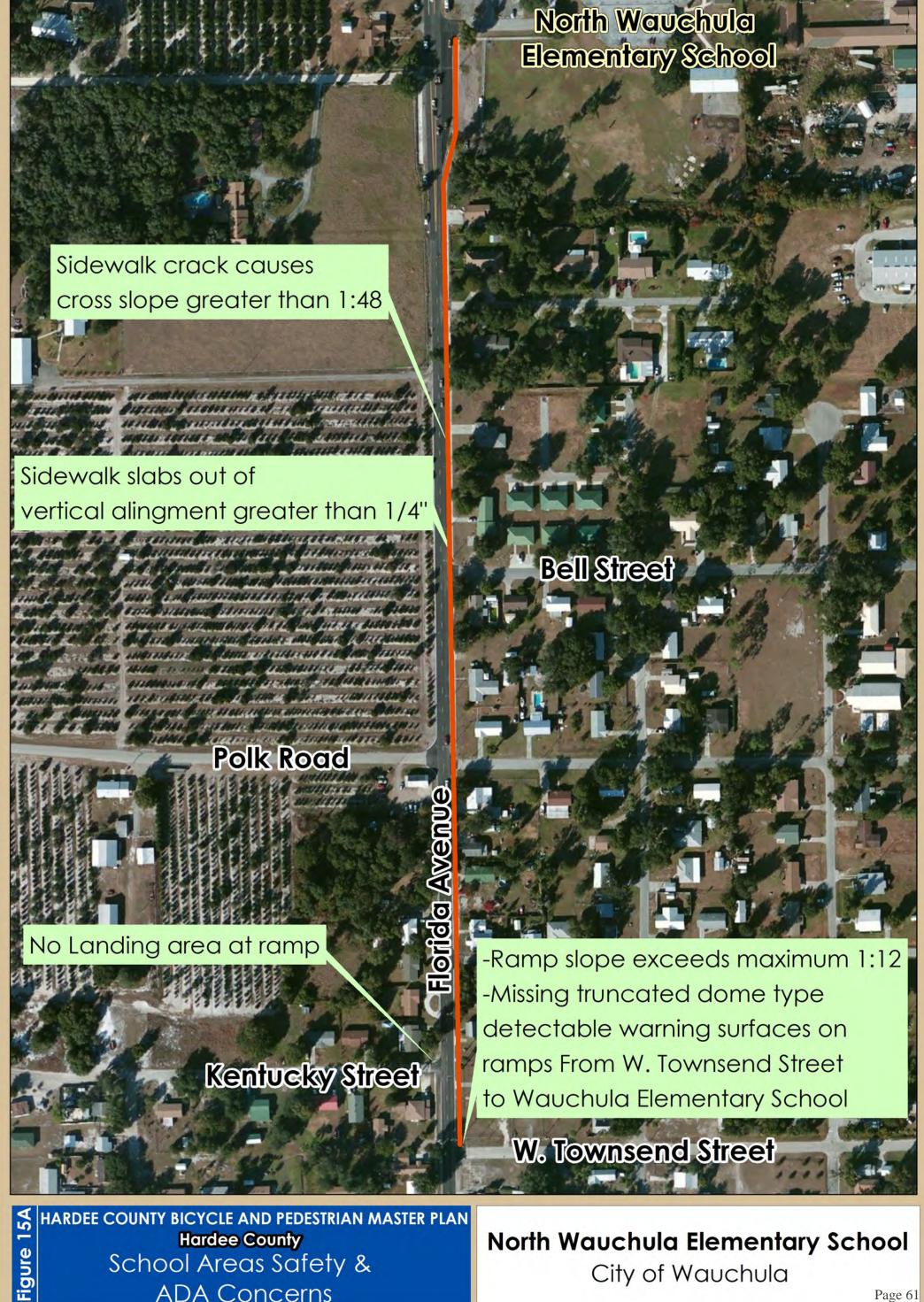
Location	Description	Potential Improvements	Lead Responsible Agency	Design Guidelines Reference
	Sidewalk Repair	Repair cracked sidewalk where it is out of vertical alignment.	FDOT District 1	ADA 303.3
	Relocate Existing Pedestrian Detector	Relocate pedestrian detector in the NW corner so that it is closer to curb ramp across the west leg.	FDOT District 1	MUTCD 4E.08
US 17 at REA Road (Sec. 6010000 M.P. 16.136)	Detectable Warning Surface	Repair damaged truncated dome type detectable warning surfaces in the NW corner	FDOT District 1	ADA 705
10.130)	Pedestrian Detector Sign	Add pedestrian signs on pedestrian signal detector poles, with roadway names describing correct pedestrian signal crossing.	FDOT District 1	Design Standard Index No. 17784
	Pedestrian Clearance Time	Increase pedestrian clearance times along the north leg of the intersection	FDOT District 1	MUTCD 4E.06
	Ramp Slope	Adjust pedestrian ramp slope to 1:12 in the SW corner of the intersection.	FDOT District 1	ADA 405.2
US 17 (S. 6th Avenue)	Ramp Slope	Adjust pedestrian ramp slope to 1:12 in the NE corner of the intersection.	FDOT District 1	ADA 405.2
at Main Street (Sec. 6010102 M.P. 0.687)	Relocate Exist. Pedestrian Detector	Move pedestrian detector in the NE corner next to a flat landing.	FDOT District 1	MUTCD 4E.08
	Relocate Exist. Pedestrian Detector	Move pedestrian detector in the SW corner next to a flat landing.	FDOT District 1	MUTCD 4E.08
	Replace Pedestrian Detector Sign	Pedestrian detector sign in the pedestrian island in the NW corner of the intersection is worn and needs replacement.	FDOT District 1	Design Standard Index No. 17784
LIC 17 -4 CD 64 (C	Pedestrian Clearance Time	Increase pedestrian clearance times along the north leg of the intersection	FDOT District 1	MUTCD 4E.06
US 17 at SR 64 (Sec. 6010000 M.P. 11.136)	Pedestrian Clearance Time	Increase pedestrian clearance times along the east leg of the intersection	FDOT District 1	MUTCD 4E.06
	Install Pedestrian Detector Sign	Install pedestrian detector sign in the pedestrian island at the SE corner of the intersection.	FDOT District 1	Design Standard Index No. 17784
	Install Detectable Warning Surfaces	Install truncated dome type detectable warning surfaces to all ramps within the intersection.	FDOT District 1	ADA 705
	Sidewalk Repair	Repair cracks and gaps where sidewalk is out of horizontal or vertical alignment.	Hardee County	ADA 303.3
CR 35A (Florida Ave) at W. Main Street (CR	Ramp Slope	Adjust pedestrian ramp slopes to 1:12 in the NW, NE, and SE corners of the intersection.	Hardee County	ADA 405.2
64A)	Install Detectable Warning Surfaces	Install truncated dome type detectable warning surfaces to all ramps within the intersection.	Hardee County	ADA 705
	Install Curb Ramp	Install curb ramp in the SE corner of the intersection for the east leg cross walk.	Hardee County	MUTCD 3B.18
	Relocate Exist. Pedestrian Detector	Move pedestrian detector in the SW corner next to a flat landing.	FDOT District 1	MUTCD 4E.08
US 17 (Oak Street) at	Install Pedestrian Signal	Remove existing pedestrian siganl and install a count-down type pedestrian signal.	FDOT District 1	MUTCD 4E.07
Main Street (CR 664) (Section 6010000 M.P.	Adjust Pedestrian Signal timings	Existing pedestrian signal timing is malfunctioning and needs to be adjusted.	FDOT District 1	Engineering Judgement
20.959)	Relocate School Crossing Sign	Relocate existing school crossing sign in the NE corner.	FDOT District 1	MUTCD 1A.04
	Adjust Pedestrian Signal	Pedestrian signal head in the SE corner needs to be adjusted for better visibility.	FDOT District 1	MUTCD 4E.04

School Areas

A field review, along with information gathered from local law enforcement and school representatives, was conducted to identify major bicycle and pedestrian routes for students during school opening and closing hours and identify safety concerns for all schools within Hardee County. Safety concerns related to bicycle and pedestrian trips were identified by corridor features such as: sidewalk, curb cut ramps, crosswalks, roadway signing, pedestrian signals, pedestrian and street lighting, and sight obstructions. In addition, engineering judgment was used to determine if there are any other safety concerns for bicycles and pedestrians within the corridor. The following five schools were selected as areas of interest for safety and ADA concerns within Hardee County:

- North Wauchula Elementary School
- Wauchula Elementary School
- Hilltop Elementary/Middle School
- Bowling Green Elementary School
- Zolfo Springs Elementary School

Figures 15A through 15E illustrate the ADA and safety concerns identified within the school areas. Tables 6A through 6E lists the potential improvements and associated design guideline references for each school area.



ADA Concerns **LEGEND**

Primary Pedestrian Traffic Movement

School Areas Safety &

North Wauchula Elementary School

City of Wauchula

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Table 6A-North Wauchula Elementary School Safety and ADA Improvements

Location	Description	Potential Improvements	Lead Responsible Agency	Design Guidelines Reference
CR 35A (Florida Ave) at Townsend	Ramp	Adjust pedestrian ramp slope to 1:12	Hardee County	ADA 405.2
Street	Detectable Warning Surface	Install truncated dome type detecable warning surfaces (where missing) at all curb ramp locations	Hardee County	ADA 705
CR 35A (Florida Ave) at Kentucky Street	Ramp	Install landing area at ramp.	Hardee County	ADA 405.7
	Detectable Warning Surface	Install truncated dome type detecable warning surfaces (where missing) at all curb ramp locations	Hardee County	ADA 705
CR 35A (Florida Ave) at Bell Street	Sidewalk Repair	Repair cracks and gaps where sidewalk is out of vertical alignment.	Hardee County	ADA 303.3
	Detectable Warning Surface	Install truncated dome type detecable warning surfaces (where missing) at all curb ramp locations	Hardee County	ADA 705



Figure 15B

HARDEE COUNTY BICYCLE AND PEDESTRIAN MASTER PLAN
Hardee County
School Area Safety &
ADA Concerns

Wauchula Elementary School

City of Wauchula

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LEGEND

Primary Pedestrian Traffic Movement

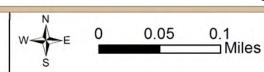


Table 6B-Wauchula Elementary School Safety and ADA Improvements

Location	Description	Potential Improvements	Lead Responsible Agency	Design Guidelines Reference
CR 35A (Florida Ave) at Carlton	Install Crosswalk	Add Crosswalk Markings Across Carlton Street	Hardee County	MUTCD 3B.18
Street	Detectable Warning Surface	Install truncated dome type detecable warning surfaces (where missing) at all curb ramp locations	Hardee County	ADA 705

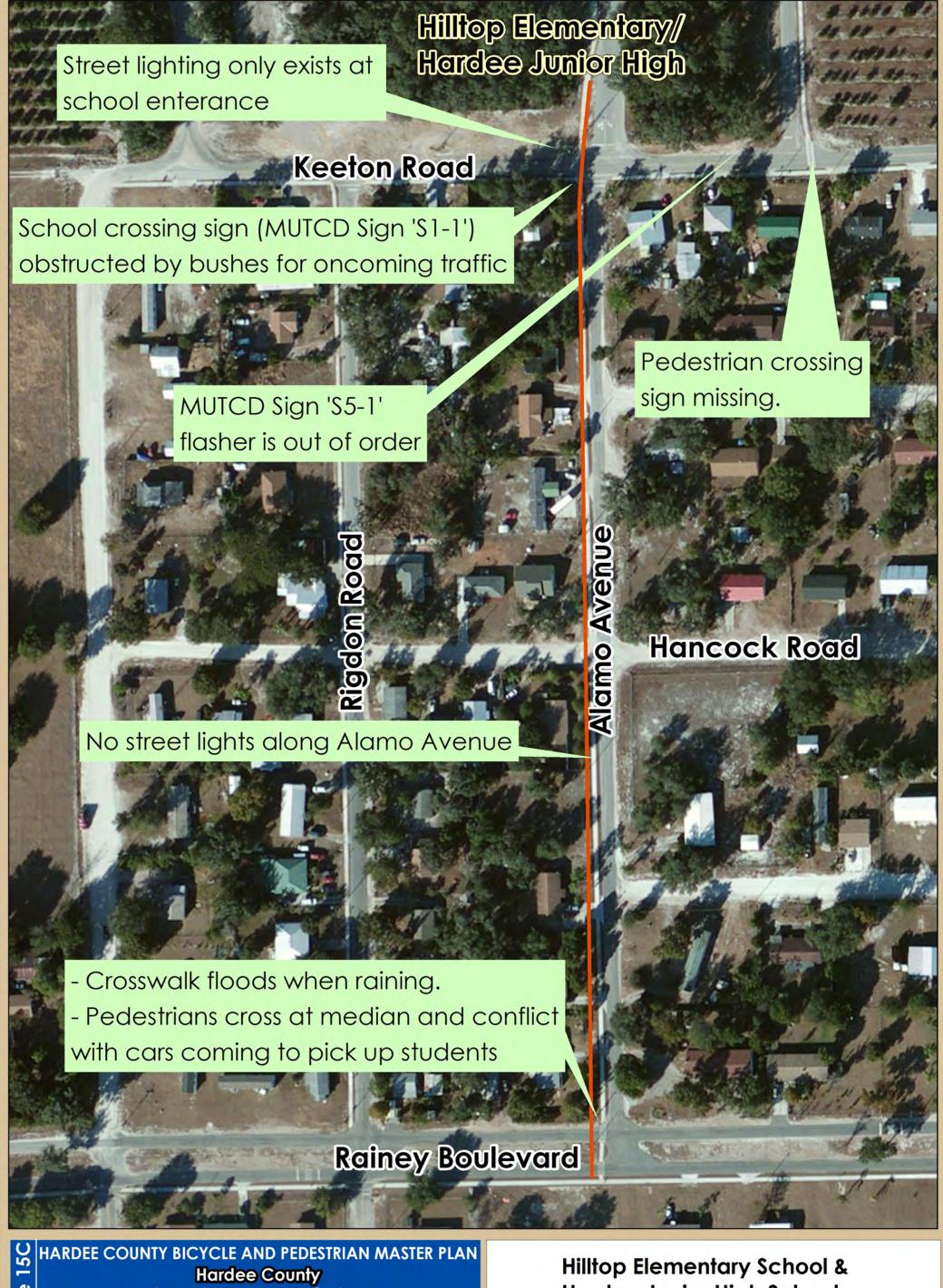


Figure 15C

School Area Safety & ADA Concerns

Hardee Junior High School

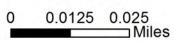
City of Wauchula

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LEGEND

Primary Pedestrian Traffic Movement





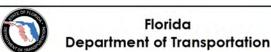
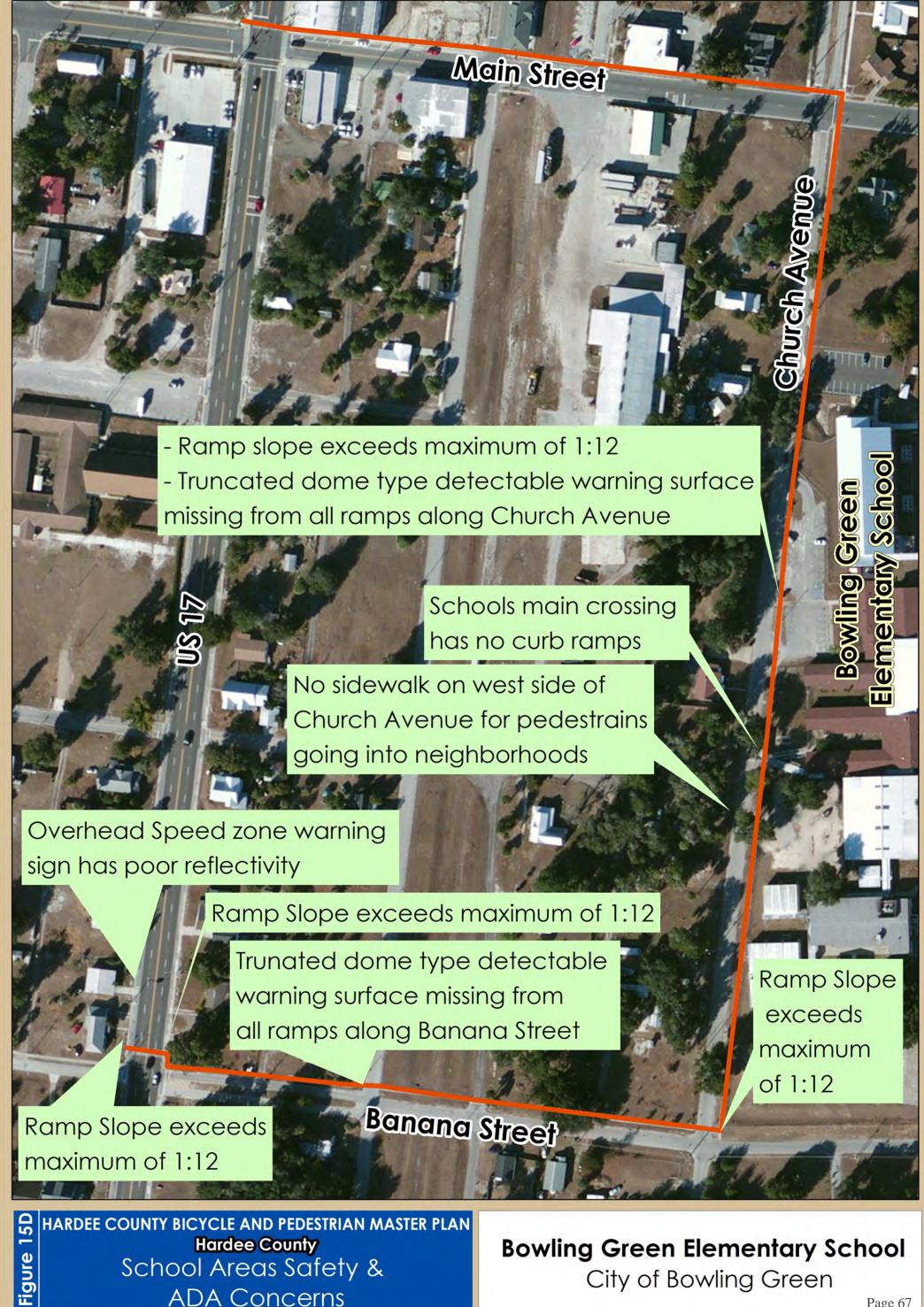


Table 6C-Hilltop Elementary/Middle School Safety and ADA Improvements

Location	Description	Potential Improvements Lead Respon Agency		Design Guidelines Reference
Rainey Boulvard at Alamo Avenue	Crosswalk Improvement	Adjust cross slope of Rainey Boulevard at Alamo Avenue to eleminate flooding across crosswalk	Hardee County	ADA 305.6
Alamo Avenue	Lighting	Add street lighting along Alamo Avenue for pedestrian traffic walking along roadway in the dark.	Hardee County	Engineering Judgement
Keeton Road	Lighting	Add Street lighting along Keeton Road for pedestrian traffic walking along roadway in the dark.	Hardee County	Engineering Judgement
Keeton Road at Alamo Avenue	School Crossing sign	School crossing sign needs to be relocated due to sight obstruction.	Hardee County	MUTCD 1A.04
Keeton Road	Replace Flasher	Repair MUTCD S5-1 yellow flashing signal	Hardee County	Design Standard Index No. 17344
Keeton Road at Harris Road	Install School Crossing signs	Install sign panel MUTCD W16-7PL on both school crossing signs	Hardee County	Design Standard Index No. 17344



ADA Concerns

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LEGEND

Primary Pedestrian Traffic Movement



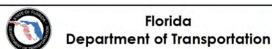
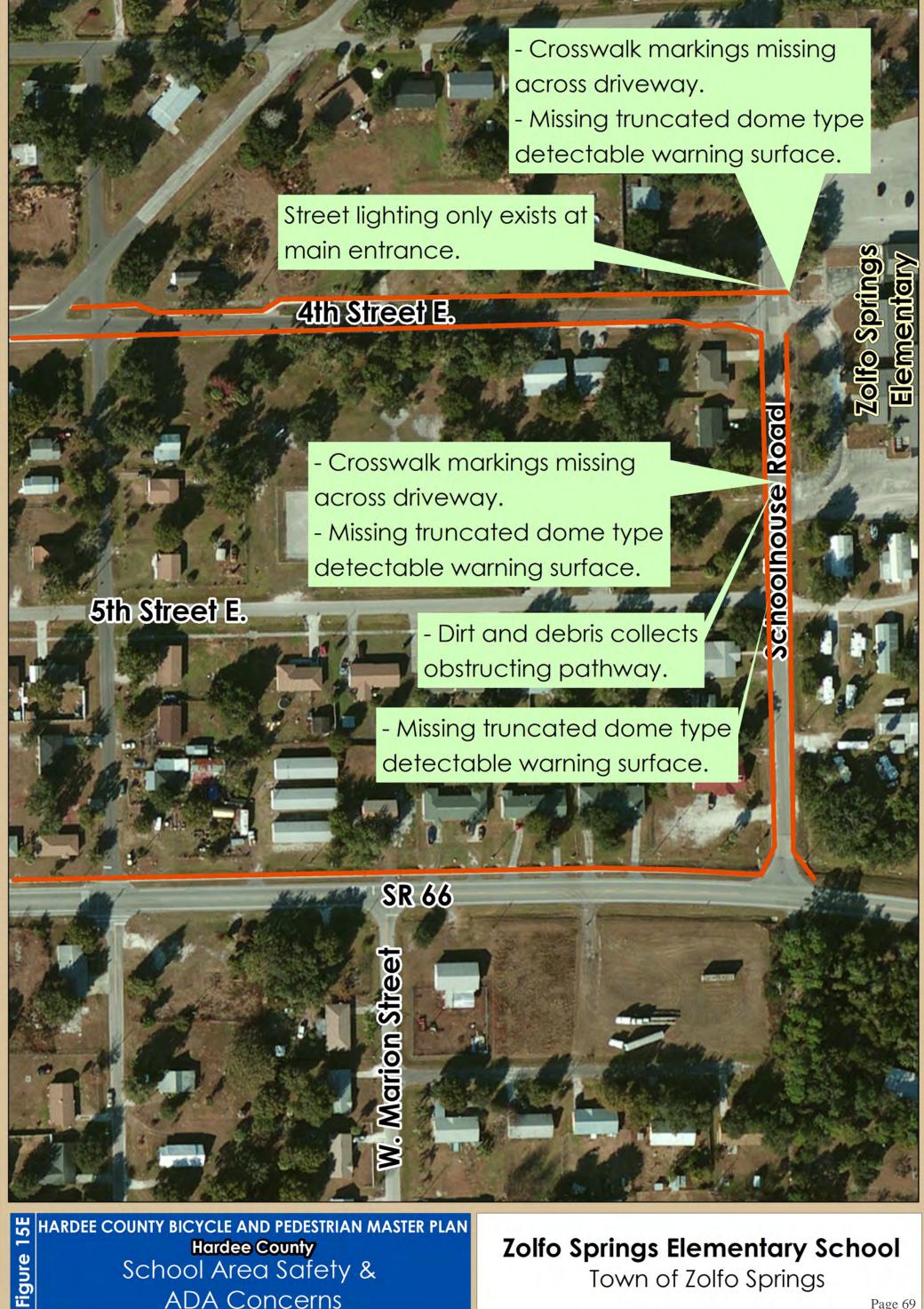


Table 6D-Bowling Green Elementary School Safety and ADA Improvements

Location	Description	Potential Improvements	Lead Responsible Agency	Design Guidelines Reference
US 17 at Banana Street	Ramp Adjust pedestrian ramp slope to 1:12 for both crosswalk ramps.		FDOT District 1	ADA 405.2
	Detectable Warning Surface Install truncated dome type detecable warning surfaces (where missing) at all curb ramp locations		FDOT District 1	ADA 705
Cl. 1.4	Ramp Adjust pedestrian ramp slop to 1:12 for curb ramp in the NE corner.		City of Bowling Green	ADA 405.2
Church Avenue at Banana Street	Detectable Warning Surface	Install truncated dome type detecable warning surfaces (where missing) at all curb ramp locations	City of Bowling Green	ADA 705
Church Avenue at Bowling Green Elementary Entrance	Ramp Add curb cut ramp at School entrance for pedestrians crossing Church Avenue		City of Bowling Green	Engineering Judgement
	Detectable Warning Surface	Install truncated dome type detecable warning surfaces (where missing) at all curb ramp locations	City of Bowling Green	ADA 705
Chrurch Avenue at Bowling Green Elementary	Ramp	Ramp Adjust pedestrian ramp slop to 1:12 for curb ramp.		ADA 405.2
	Detectable Warning Surface	Install truncated dome type detecable warning surfaces (where missing) at all curb ramp locations	City of Bowling Green	ADA 705



School Area Safety & **ADA Concerns**

Town of Zolfo Springs

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LEGEND

Primary Pedestrian Traffic Movement







Table 6E-Zolfo Springs Elementary Safety and ADA Improvements

Location	Description	Potential Improvements	Lead Responsible Agency	Design Guidelines Reference
Schoohouse Road at Zolfo Springs Elementary	Crosswalk	Crosswalk Install crosswalk markings across both driveway entrances at Zolfo Springs elementary.		MUTCD 3B.18
	Detectable Warning Surface Install truncated dome type detecable warning surfaces (where missing) at all curb ramp locations		Town of Zolfo Springs	ADA 705
Schoohouse Road at Zolfo Springs Elementary	Clear path obstruction	, ,		ADA 305.6
	Detectable Warning Surface	Install truncated dome type detecable warning surfaces (where missing) at all curb ramp locations	Town of Zolfo Springs	ADA 705
Schoolhouse Road	Street Lighting	Add Street lighting from SR 66 to 4th Street.	Town of Zolfo Springs	Engineering Judgement
	Detectable Warning Surface	Install truncated dome type detecable warning surfaces (where missing) at all curb ramp locations	Town of Zolfo Springs	ADA 705

Bicycle Lane Improvements

Bicycle lane recommendations are based on principles and guidelines set forth in the Federal Highway Administration (FHWA) report FHWA-RD-92-07 and the FDOT Plans Preparation Manual. The purpose of these recommendations is to accommodate and support existing bicyclists, and to encourage and increase bicycle use. There are different types of cyclists using the roadway with different levels of experience, and therefore it is useful to classify these groups. The following "design cyclists" are based on the FHWA-RD-92-07 classification system for bicycle users.

Group A—Advanced Bicyclists. These are experienced riders who can operate under most traffic conditions. They comprise the majority of the current users of collector and arterial streets and are best served by the following:

- Direct access to destinations usually via the existing street and highway system.
- The opportunity to operate at maximum speed with minimum delays
- Sufficient operating space on the roadway or shoulder to reduce the need for either the bicyclist or the motor vehicle operator to change position when passing.

Group B—Basic Bicyclists. These are casual or new adult and teenage riders who are less confident of their ability to operate in traffic without special provisions for bicycles. Some will develop greater skills and progress to the advanced level, but there will always be many millions of basic bicyclists. They prefer:

- Comfortable access to destinations, preferably by a direct route, using either low-speed, low traffic-volume streets or designated bicycle facilities.
- Well-defined separation of bicycles and motor vehicles on arterial and collector streets (bicycle lanes or shoulders) or separate bike paths.

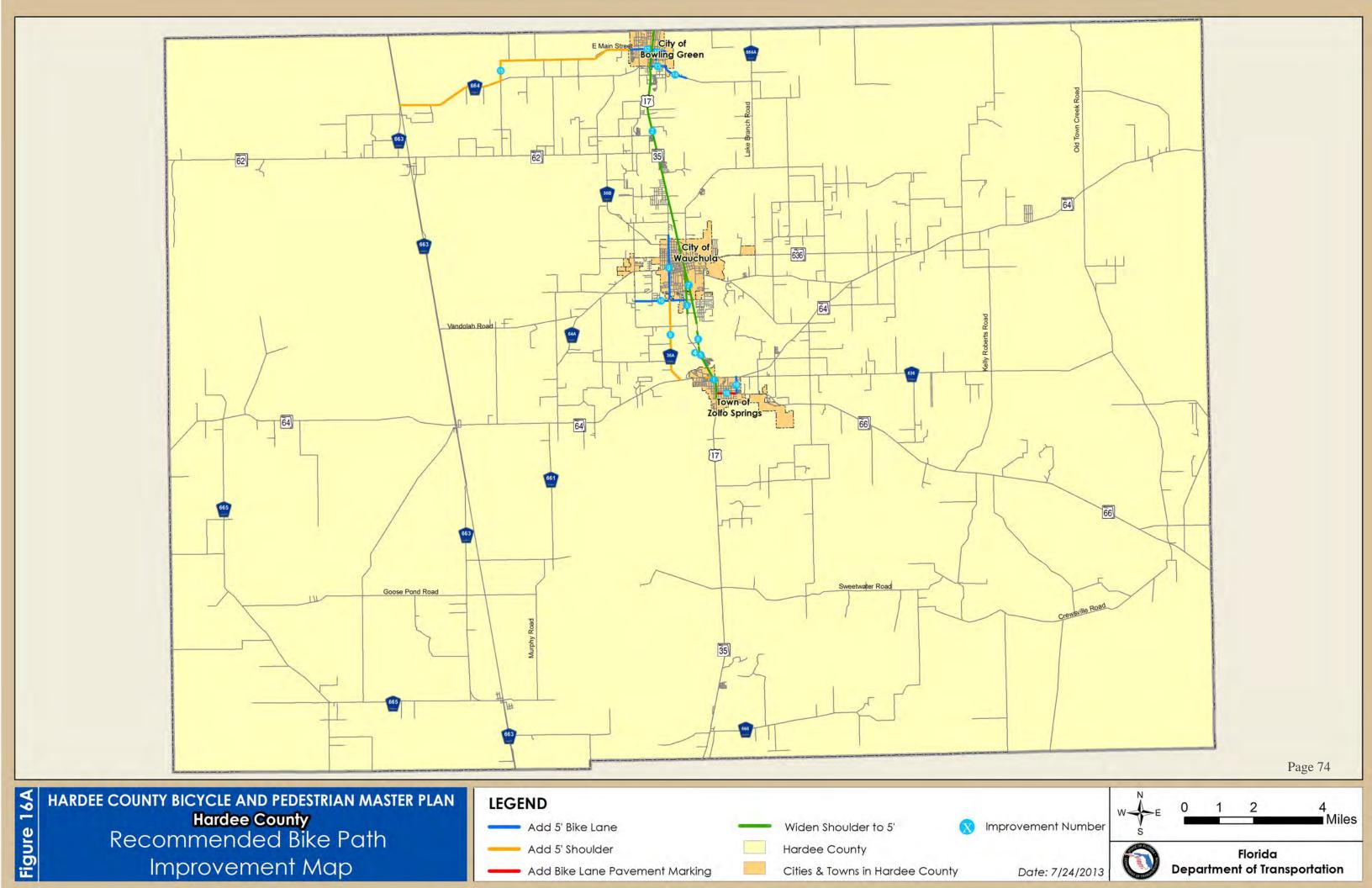
Group C—Children: These are pre-teen riders whose roadway use is initially monitored by parents. Eventually they are accorded independent access to the system. They and their parents prefer the following:

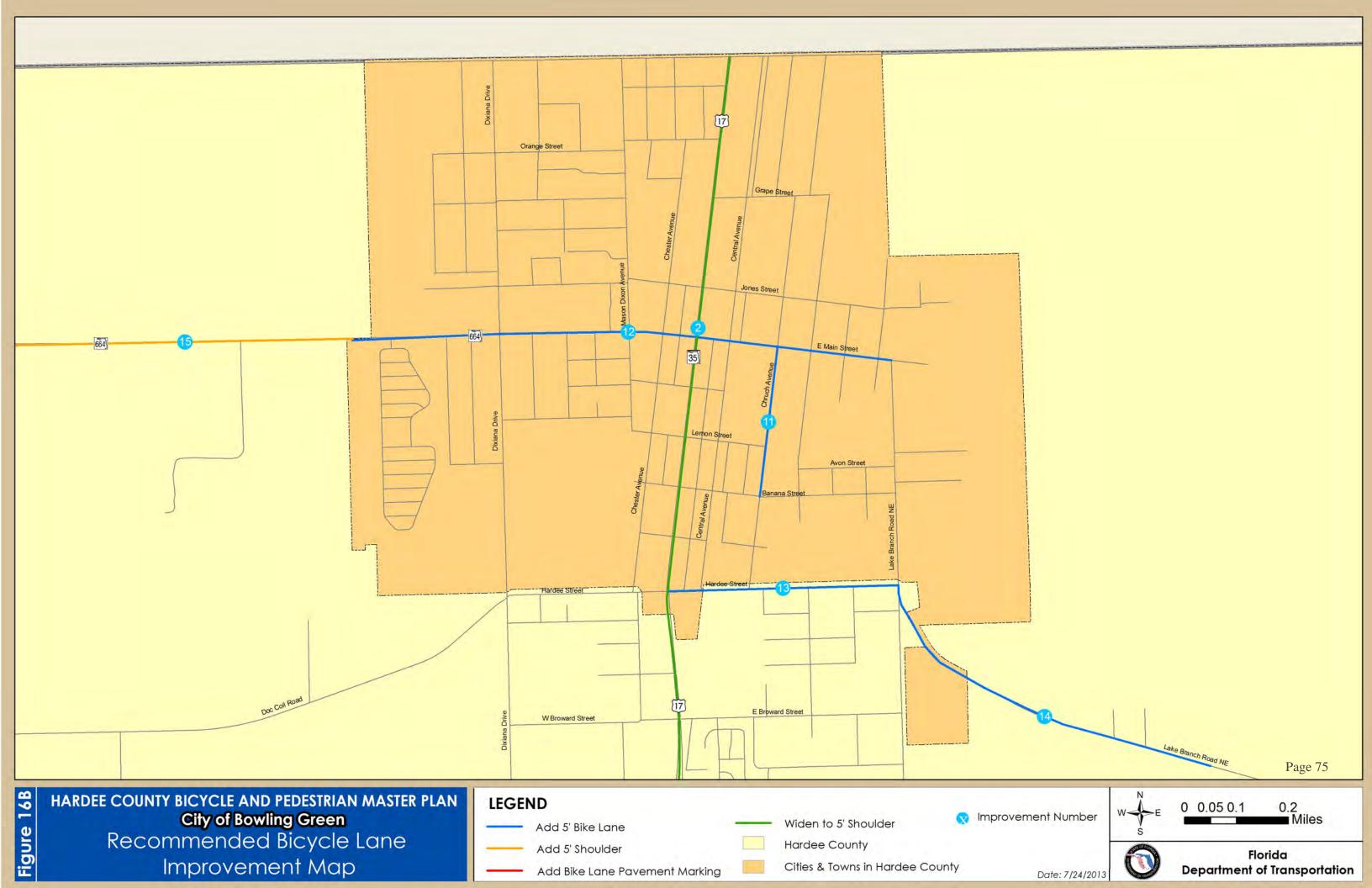
- Access to key destinations surrounding residential areas, including schools, recreation facilities, shopping, or other residential areas.
- Residential streets with low motor vehicle speed limits and volumes.
- Well-defined separation of bicycles and motor vehicles on arterial and collector streets or separate bike paths.

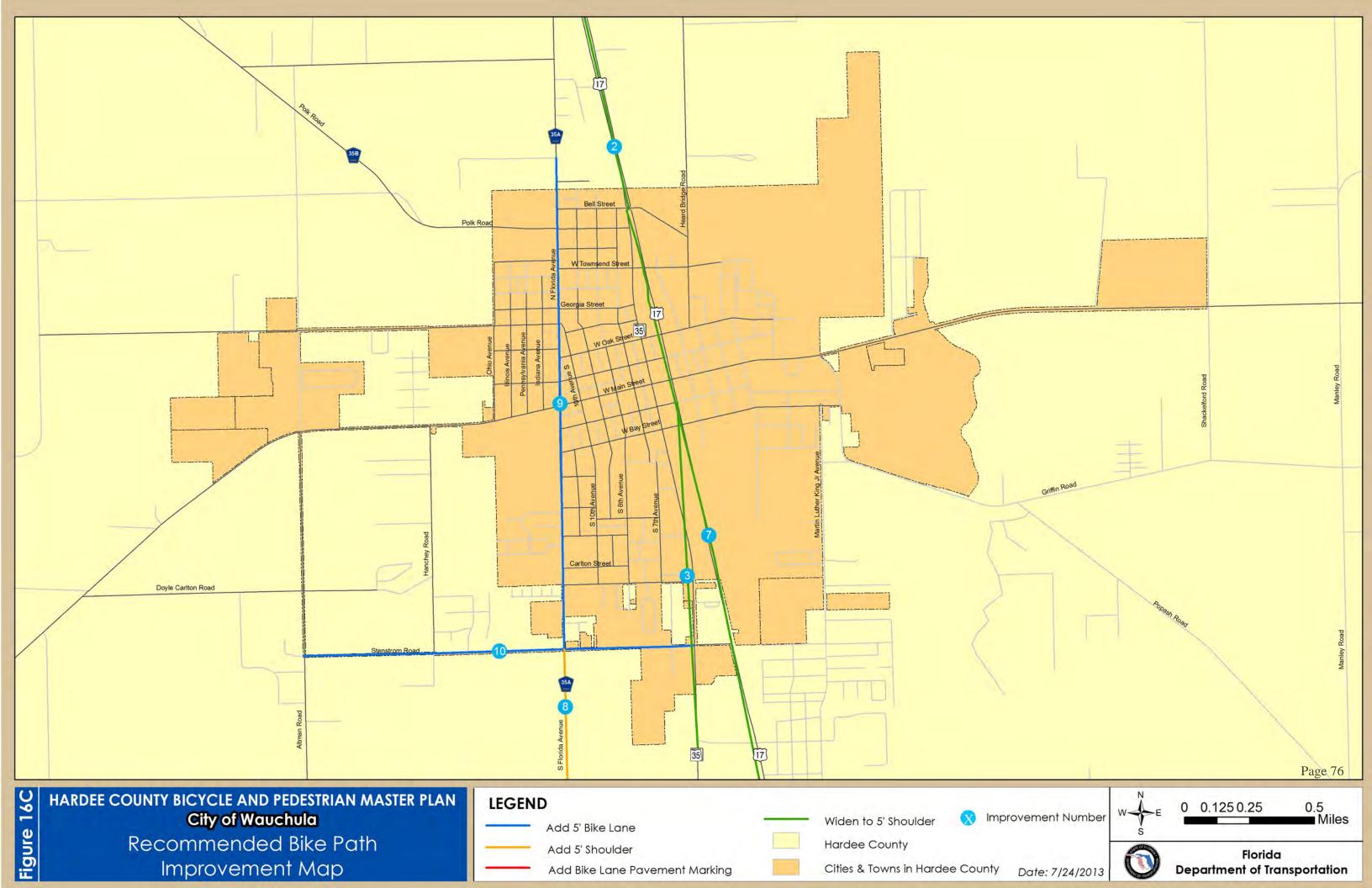
A field review of existing bicycle facilities showed very limited bicycle use within Hardee County. The field observations were conducted during the period of 7:00 AM to 5:00 PM. The majority of bicycle trips were children going to and from local schools (group C riders). Therefore, these recommendations focused on providing designated bicycle facilities to accommodate existing and future group B and C bicyclists in order to enhance ridership. This is accomplished by identifying existing bicycle facilities, evaluating the accessibility of surrounding destinations, bicycle facility continuity, and route attractiveness. Table 7 lists the recommended bicycle lane and bike path improvements, and these suggested improvements are depicted in Figures 16A through 16D.

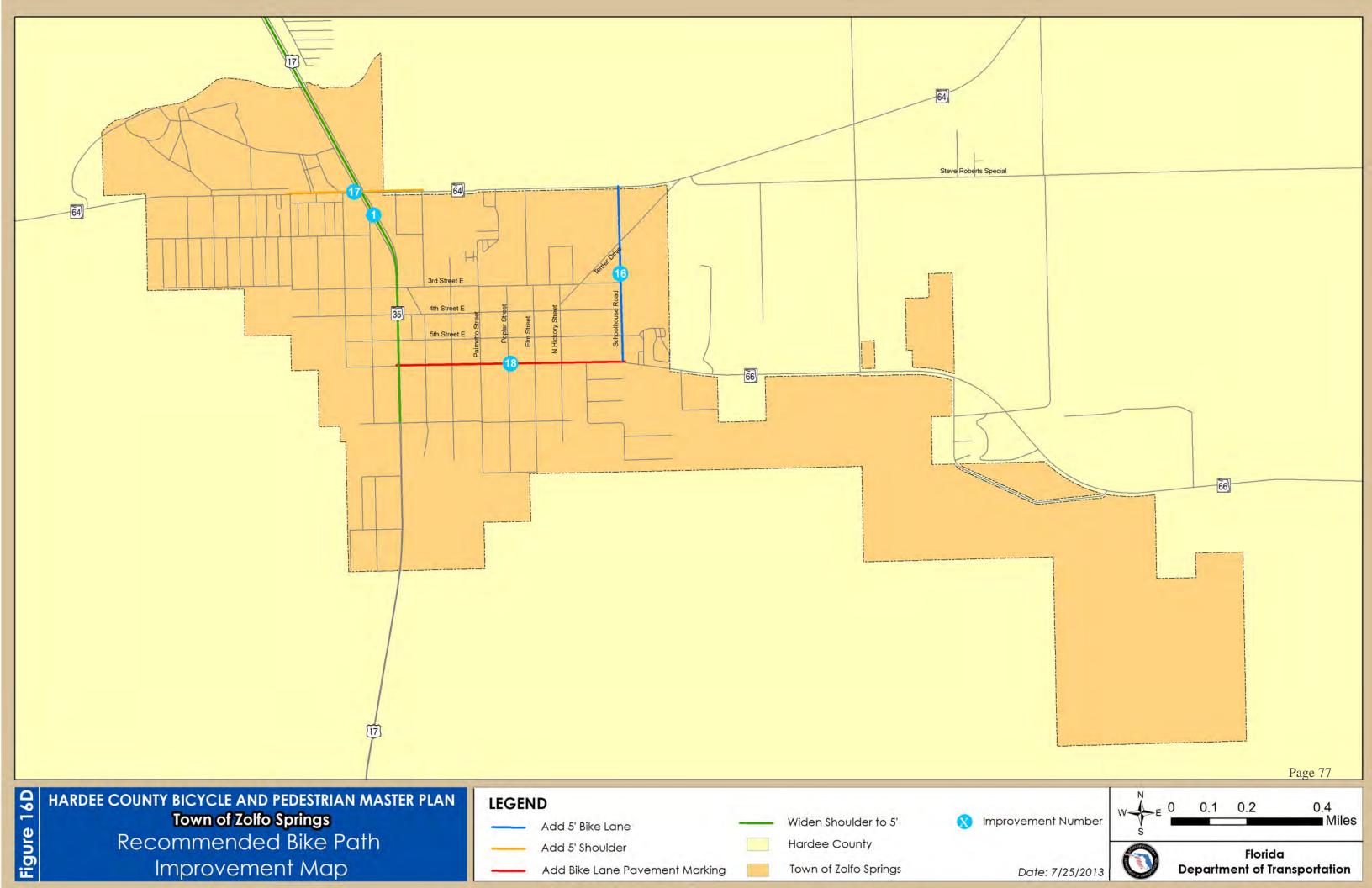
Table 7: Recommended Bicycle Lane Improvements

Improvement Number	Location	Begin	End	Description	Potential improvements	Lead Responsible Agency	Bike Group Served	Explanation	Figure Number
1	US 17	MP. 10.503	MP. 11.753	Widen Shoulder	Extend outside shoulder north and south along US 17 to make it five (5) feet.	FDOT District 1	Group A		16D
2	US17	MP. 15.292	MP. 21.500	Widen Shoulder	Extend outside shoulder north and south along US 17 to make it five (5) feet.	FDOT District 1	Group A		16B/16C
3	US 17 SB	MP. 0.776	MP. 2.164	Widen Shoulder	Extend outside shoulder north and south along US 17 to make it five (5) feet.	FDOT District 1	Group A	i. High Speed and High Volume Roadway.	16C
4	US 17 SB	MP. 3.313	MP. 3.539	Widen Shoulder	Extend outside shoulder north and south along US 17 to make it five (5) feet.	FDOT District 1	Group A	ii. Alternative to CR 35A as a connection from the Town of Zolfo Springs to Wauchula.	16A
5	US 17 NB	MP. 0.000	MP. 0.364	Widen Shoulder	Extend outside shoulder north and south along US 17 to make it five (5) feet.	FDOT District 1	Group A	iii. Groups B and C not served due to the high volume and high speed of US 17	16A
6	US 17 NB	MP. 0.488	MP. 0.860	Widen Shoulder	Extend outside shoulder north and south along US 17 to make it five (5) feet.	FDOT District 1	Group A		16A
7	US 17 NB	MP. 1.142	MP. 3.468	Widen Shoulder	Extend outside shoulder north and south along US 17 to make it five (5) feet.	FDOT District 1	Group A		16C
8	CR 35A	SR 64	Stenstrom Road	Add 5' Shoulder	Add five (5) foot outside shoulder along both sides CR 35A.	Hardee County	Group A	i. Low volume roadway ii. Alternative connection from Town of Zolfo Springs to Wauchula for bicyclist.	16C
9	CR 35A	Stenstrom Road	Grimes Road	Add 5' Bike Lane	Add five (5) foot bike line with pavement markings and bike lane designation signage.	Hardee County	Group B/C	i. Low speed roadway ii. Connects North Wauchula Elementary, Wauchula, Elementary to residential neighborhoods	16C
10	Stenstrom Road	Altman Road	US 17 SB	Add 5' Bike Lane	Add five (5) foot bike line with pavement markings and bike lane designation signage.	City of Wauchula	Group B/C	i. Low speed roadway ii. Connects Hardee Senior and Hardee Recreation Fields to residential neighborhoods	16C
11	Chruch Avenue	Banana Steet	CR 664	Add 5' Bike Lane	Add five (5) foot bike line with pavement markings and bike lane designation signage.	City of Bowling Green	Group B/C	i. Low speed and low volume roadway ii. Connects Bowling Green Elementary to residential neighborhoods	16B
12	CR 664	Bowling Green City Limit	Lake Branch Road	Add 5' Bike Lane	Add five (5) foot bike line with pavement markings and bike lane designation signage.	Hardee County	Group B/C	i. Low speed and low volume roadway ii. Connects Bowling Green Elementary to residential neighborhoods	16B
13	Hardee Street	US 17	CR 664 A	Add 5' Bike Lane	Add five (5) foot bike line with pavement markings and bike lane designation signage.	City of Bowling Green	Group B/C	i. Low speed and low volume roadway ii. Connects US 17 to Paynes Creek State Park	16B
14	CR 664A	Hardee Steet	Park Entrance Road	Add 5' Bike Lane	Add five (5) foot bike line with pavement markings and bike lane designation signage.	Hardee County	Group B/C	i. Low speed and low volume roadway ii. Connects US 17 to Paynes Creek State Park	16B
15	CR 664	CR 663	Bowling Green City limit	Add 5' Shoulder	Add five (5) foot shoulder to the outside along CR 664.	Hardee County	Group A	A. Low volume roadway B. Connects City of Bowling Green to Hardee Lakes	16B
16	School House Road	SR 66	SR 64	Add 5' Bike Lane	Add five (5) foot bike line with pavement markings and bike lane designation signage.	Town of Zolfo Springs	Group B/C	i. Low speed and low volume roadway ii. Connects Zolfo Sprins Elementary with residential neighborhoods	16D
17	SR 64	MP. 16.414	MP. 16.674	Add 5' Shoulder	Add five (5) foot shoulder to the outside along SR 64.	FDOT District 1	Group B/C	i. Connects Pioneer Park with residential neighborhoods.	16D
18	SR 66	MP. 0.000	MP. 0.594	Add Bike Lane Pavement	Add five (5) foot bike line with pavement markings and bike lane designation signage.	FDOT District 1	Group A	i. Connects Zolfo Springs elementary and Pioneer Academy to resedential neighborhoods	16D







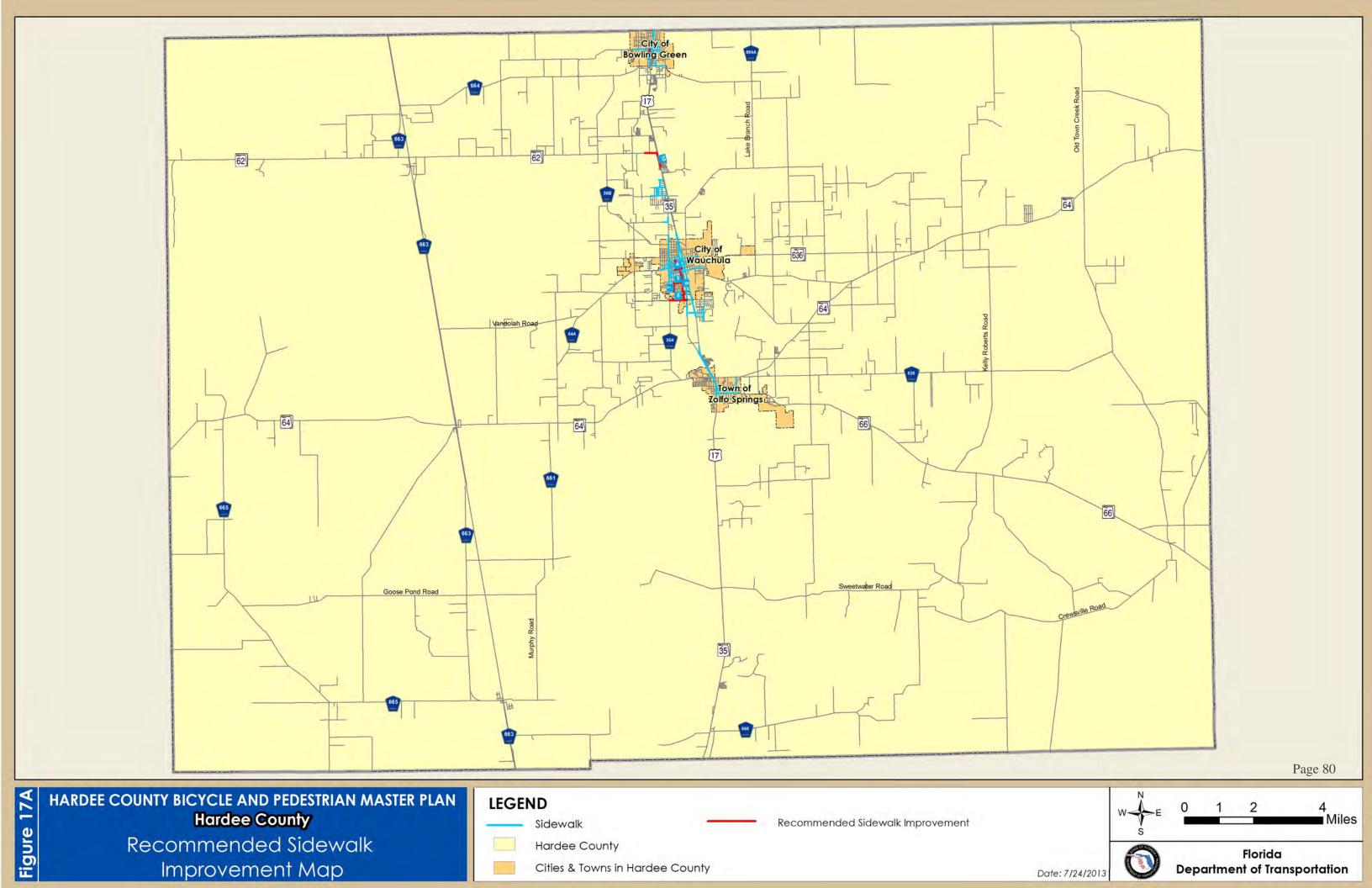


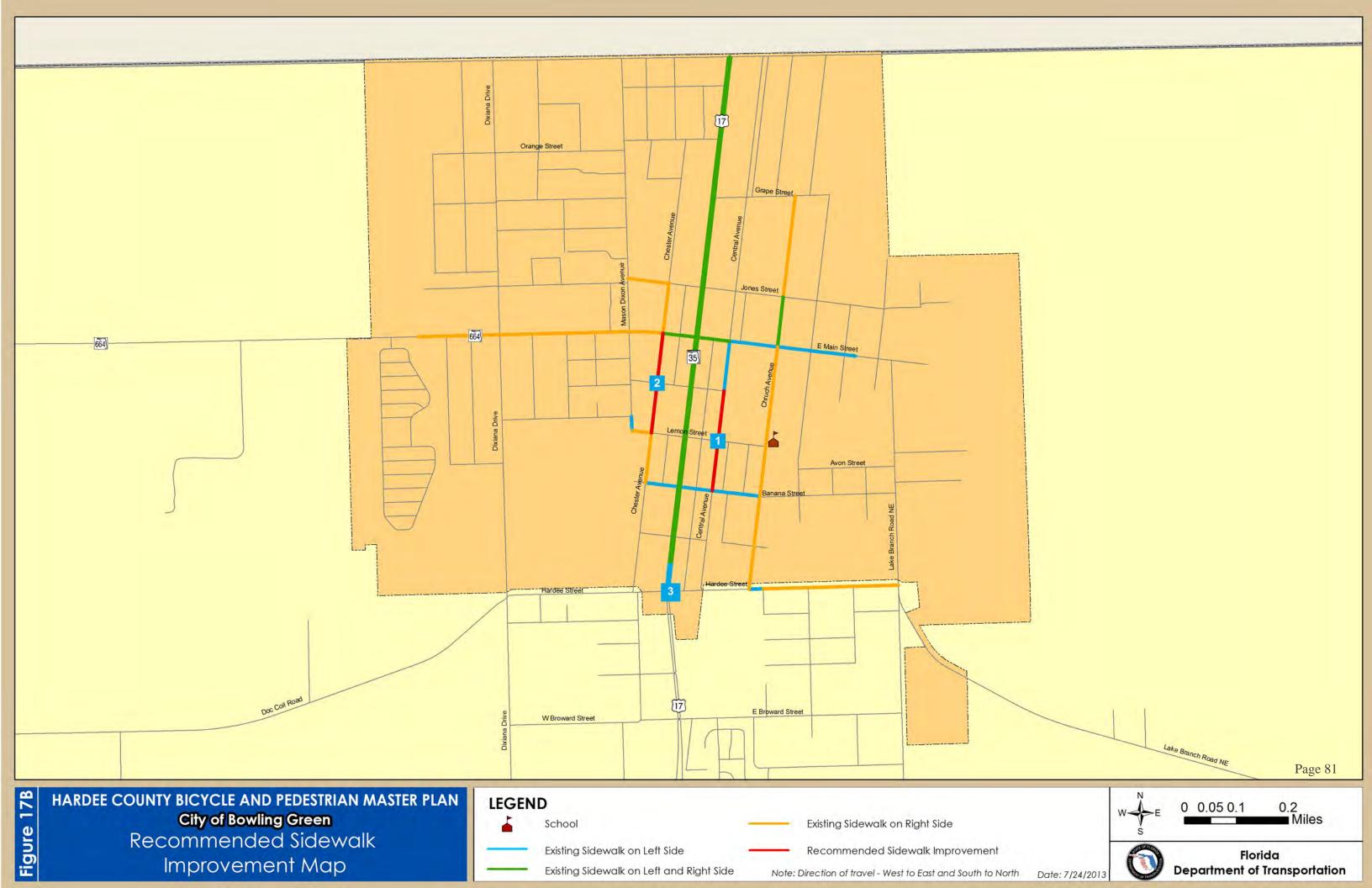
Pedestrian Sidewalk Improvements

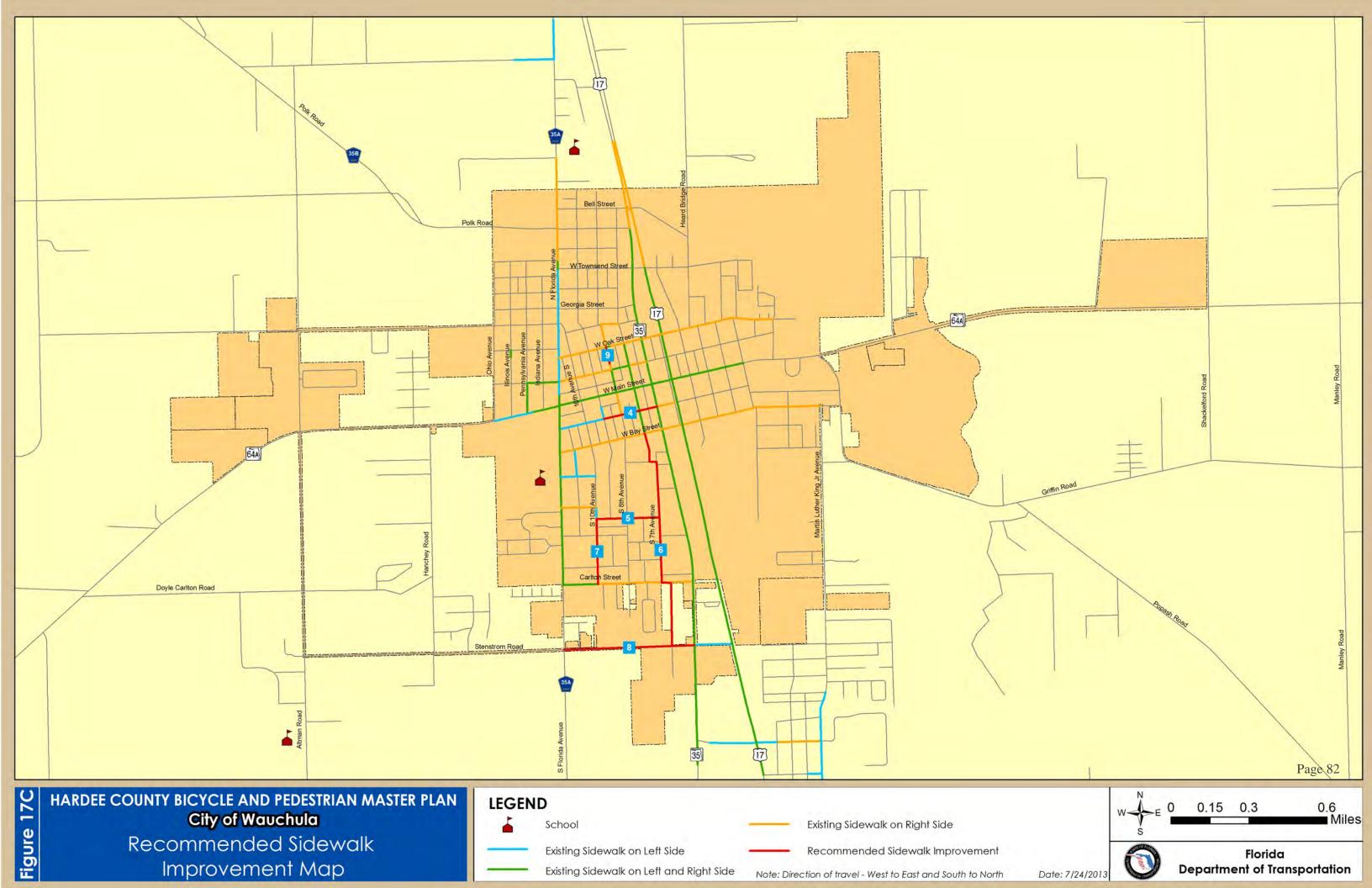
The purpose of these recommendations is to accommodate and support existing pedestrians, and to identify where to create connections between existing and planned sidewalks where necessary to complete the pedestrian network. Table 8 lists the recommended sidewalk improvements and are illustrated in Figures 17A through 17C. These recommendations address the existing deficiencies in the pedestrian network that were identified using the GIS geodatabase developed for this project, numerous field visits, and engineering judgment.

Table 8: Recommended Sidewalk Improvements

Improvement Number	Location	Begin	End	Description	Recommended Improvement	Lead Responsible Agency	Explanation	Figure Number
1	Central Avenue	Pineapple Street	Banana Street	Sidewalk	Extend the sidewalk on west side of Central Avenue between Pineapple Street and Banana Street.	City of Bowling Green	Provides north -south pedestrian path parallel to US 17 for the residential communites on the east side of US 17.	
2	Chester Avenue	Main Street (CR 664)	Lemon Street	Sidewalk	Extend the sidewalk on east side of Chester Avenue between Main Street and Lemon Street.	City of Bowling Green	Provides north -south pedestrian path parallel to US 17 for the residential communites on the west side of US 17.	17B
3	US 17 at Hardee Street	-	-	Signalized Intersection	Condut Signal Warrant Study at US 17 at Hardee Street.	FDOT District l	This intersection is near resedential neighborhoods and two pedestrian fatalities occurred near the intersection attempting to cross US 17.	17B
4	W. Orange Avenue	9th Avenue	US 17	Sidewalk	Extend the sidewalk on the north side of W. Orange Street between 9th Avenue and US 17.	City of Wauchula	Many public service facilities are located along this corridor.	17A/17C
5	Melendy Street	10th Avenue	7th Avenue	Sidewalk	Construct sidewalk on the south side of Melendy Street between 10th Avenue to 7th Avenue.	City of Wauchula	This improvement would provide an east-west travel path for residential communites between Bay Street and Carlton Street.	17A/17C
6	7th Avenue	Stenstrom Street	Bay Street	Sidewalk	Construct sidewalk on the west side of 7th Avenue between Carlton Street to Bay Street.	City of Wauchula	7th street is runs north-south between Bay Street and Carlton Street. There are retail attractors along this segment and would be a safe route for predestrains to use instead of US 17.	17C
7	10th Avenue	Carlton Street	Melendy Street	Sidewalk	Extend the sidewalk on the west side of 10th Avenue between Carlton street to Melendy Street.	City of Wauchula	This improvement would provide a north-south connector for students of the wauchula Elementary School.	17A/17C
8	Stenstrom Road	Florida Avenue (CR 35A)	US 17	Sidewalk	Construct sidewalk on the north side of Stenstrom Road between Florida Avenue to US 17	City of Wauchula	Stenstrom Road is major access route for the Sunrise communtiy (residential and habilitation services for people with a wide range of intellectual and physical disabilities) and Florida Hospital Wauchula.	17A/17C
9	8th Avenue	Palmetto Street	Oak Street	Sidewalk	Extend the sidewalk on east and west sides of 8th Avenue between Palmetto Street to Oak Street	City of Wauchula	This improvmeent recommended to provide access the Oak Street park.	17A/17C
10	SR 62	County Manor Apartments	Hilltop Elementary School	Sidewalk	Construct a Sidewalk 5'on SR 62 and US 17	FDOT District l	This improvement would allow travel path for Students of Hilltop Elementary/Hardee Junior High School residing in the County Manor Apartment community	17A







Recommended Policies

The Goals and Policies in the currently adopted Comprehensive Plans of Hardee County, the Cities of Bowling Green and Wauchula, and the Town of Zolfo Springs are very supportive of developing a safe bicycle/pedestrian-friendly environment.

In addition to the list of bicycle lane and sidewalk improvements identified in the previous sections, the following general action items are recommended:

- 1) Design sidewalks that are enjoyable to walk along and that acknowledge their multifunctional purposes. Provide landscaped sidewalk buffers and urban design features, especially in the areas of high pedestrian activity, in order to encourage walking. Improve the street-level experience for pedestrians, including the addition of appropriate landscaping and trees to provide shade and enhance streetscape appearance. This includes amenities such as tree wells, pedestrian seating, and waste containers.
- 2) Implement programs that encourage walking and using bicycles. Currently there are no educational awareness programs adopted by Hardee County, the Cities of Bowling Green and Wauchula, the Town of Zolfo Springs, or the Hardee County School Board. The goals for the walking and bicycle awareness programs should reflect its benefits and contribution to the social cohesion of the community.
- 3) Provide at least one event annually that promotes the bicycle/pedestrian safety, such as a "Walk or Bike to School Day".
- 4) Develop educational materials and promote the bicycle/pedestrian awareness in close collaboration with Hardee County School Board and local law enforcement agencies.
- 5) Continually improve bicycling and walking comfort and safety through design, operations and maintenance including development of facilities to attract use by new bicyclists.
- 6) Ensure that the transportation system is accessible to people with physical disabilities and that an ADA transition is completed to identify any existing or potential obstacles to access, develop a plan to remove those obstacles, and identify responsible parties.

- 7) Ensure the provision of high quality, flexible and secure bicycle parking at all destinations and ensure that bicycle parking is considered when parks, schools, and other public facilities are planned.
- 8) Provide incentives for existing businesses and other entities to add secure bicycle parking facilities and pedestrian amenities.

Conclusion

This Master Plan recognizes the need for an integrated bicycle and pedestrian transportation network system to improve personal mobility and accessibility. The programmed sidewalk and bicycle lanes that will be constructed through roadway improvements projects will fill a portion of the identified gaps in the network system. The recommend list of sidewalk and bicycle lane projects are suggested to fill in the remaining gaps in the network system. The successful implementation of this Master Plan is dependent upon creating a quality environment that is conducive to these travel modes. The current Goals and Policies incorporated in the Land Development Codes and the respective Comprehensive Plans of Hardee County, the Cities of Bowling Green and Wauchula, and the Town of Zolfo Springs are written to be supportive of livable community design standards.

Hardee County should engage in cooperative efforts with the municipalities within the County and the Hardee County School Board to develop educational awareness program to educate the public about traffic laws, safe bicycle riding techniques, and pedestrian safety walking to schools. These programs should develop and implement public information campaigns in targeted areas with higher than statistical average crashes related to speeding (automobiles), and should develop and implement public information campaigns targeted to inform the public about the importance of yielding the right-of-way to pedestrians and emergency vehicles.