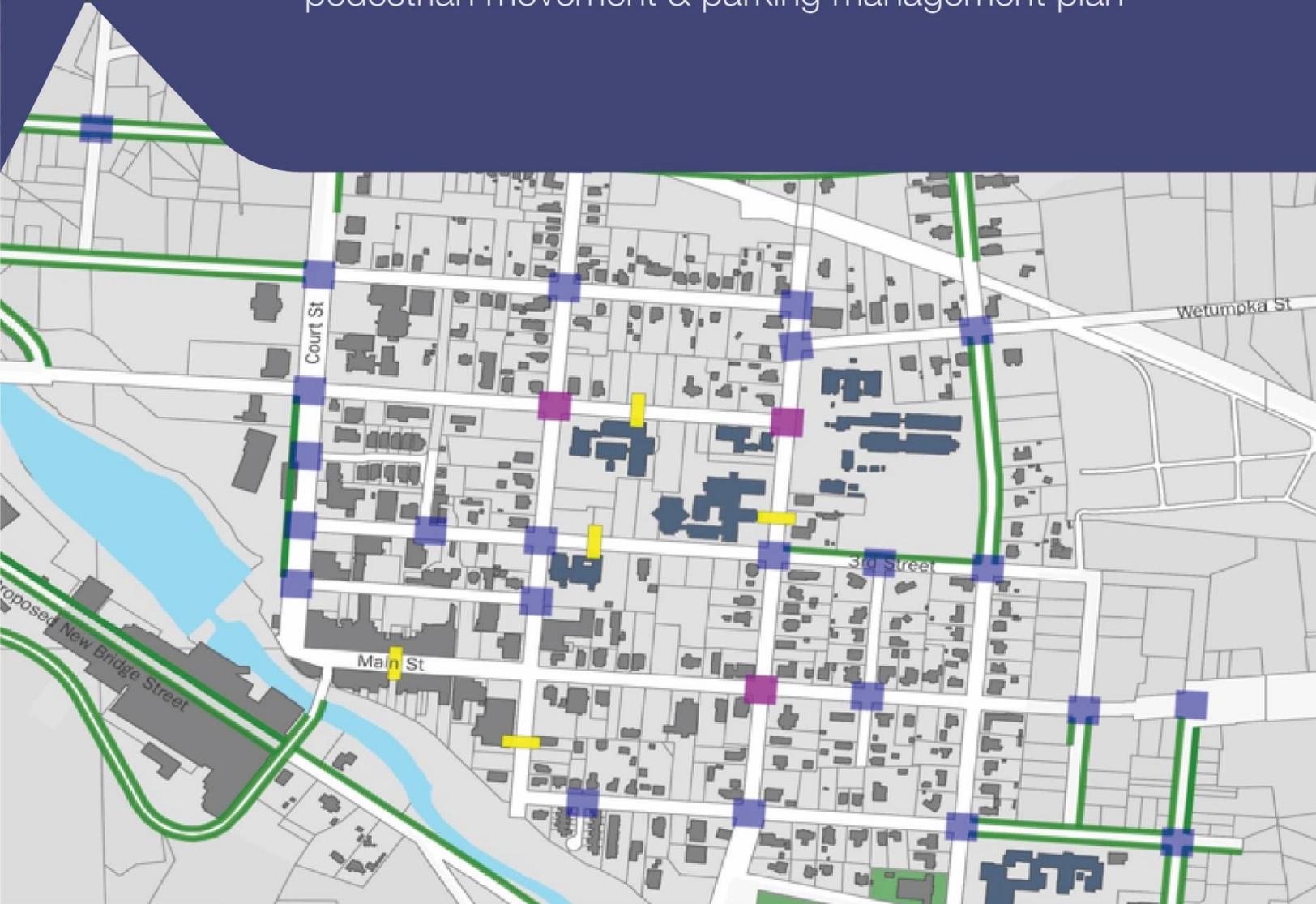


PRATTVILLE, AL

pedestrian movement & parking management plan



AUBURN UNIVERSITY MCP

sustainable transportation planning

cpln 5060 / 6060: spring 2017

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This project was a semester-long, multi-phase assignment completed by graduate & undergraduate students in tandem with city officials. Existing conditions, future connectivity, and culture and context all played roles in the plans and designs created by the class.

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Chapter 1 - Introduction

In recent years, the city of Prattville has seen a steady increase in population and tourism stemming from its close connection to the Montgomery metropolitan area and expansion of the recreational and commercial attractions within Prattville. This continued growth will necessitate expansion and improvement of Prattville's existing transportation network as outlined by their current comprehensive plan. The current plan, adopted in 2009, will potentially create an interconnected, multi-modal transportation network that accommodates new development. In conjunction with these changes, the city has shown an interest in improving pedestrian facilities, specifically in the downtown and historic areas near the creek.

The students of the Sustainable Transportation Planning class at Auburn University have worked together to create a transportation plan for the city of Prattville. This plan should improve pedestrian level of service (LOS) in the areas surrounding the downtown and historic districts. This includes making improvements to existing infrastructure and expanding the existing pedestrian and trail network.

Students of this class have worked in teams over the course of the Spring 2017 semester to prepare this transportation plan for Prattville. This project was conducted over four phases to address different aspects of the plan. The class created case studies on transportation projects in comparable cities, analyses of existing conditions of parking, potential trails systems, and pedestrian facilities, and this report detailing class proposals for transportation facilities improvement and alterations in Prattville's downtown area. A brief description of the methodology adopted by this class for preparing the plan is presented in the following section.

1.1 Methodology

This plan was prepared by students in the Auburn University Sustainable Transportation Planning class for the city of Prattville, Alabama. It was completed in three distinct tasks which consisted of student teams accomplishing different facets of the overall plan. The following sections outline those exact tasks as well as the general responsibilities of each student team.

1.2 Task 1: Case Studies

Students were divided into two-member teams and tasked with conducting a case study on cities comparable to Prattville in size and structure. The focus of these case studies was to identify possible solutions to Prattville's current parking management and pedestrian connectivity issues as requested by Prattville city officials. This helped students become familiar with different methods and policies enacted across the United States to better create a unique proposal for Prattville to build off of in the future.

1.3 Task 2: Existing Situation Analysis

To understand the current state of Prattville and what was needed to be completed in Task 3, students were divided into five groups to analyze different aspects of study area. The five groups and their tasks are:

- **GIS Maps, Connectivity, and Analysis** – A base map was created using GIS data provided by the city. This outlined the current street and pedestrian network, zoning, existing structure footprints, points of interests, and parking lot identification. In addition, the current pedestrian network was analyzed for connectivity issues and missing link identification.
- **Pedestrian Level of Service Analysis** – Working off the maps provided by Group 1 and information gathered onsite and from Google Earth, this group was tasked with determining the current pedestrian level of service of the study area using a simple

point system. Results were to identify subpar pedestrian level of service segments as well as overarching trends in network status.

- **Photo Documentation and Site Analysis** – Site trips were required to document pedestrian and parking facility existing conditions within the study area. This group was also responsible for identifying and documenting issues they personally observed in network connectivity, signage, facility design, and general pedestrian flow from major parking facilities to the Main Street/commercial corridor. Results were indexed for other groups to pull from and use in their analysis.
- **Parking Utilization Analysis** – Members were tasked with determining the current parking situation as per the zoning ordinance consisting of occupancy rates, car counts, circulation area, and supply/demand on weekdays/weekends, and events. This allowed the group to identify all parking facility locations, the current parking space count, square footage of all current parking facilities, and vacant/under-utilized parking areas.
- **Review of Plans and Projects** – All current policies and proposed projects regarding the study area were reviewed to identify any helpful information or shortcomings within the policies themselves. Members reviewed all relevant local and regional plans with a focus on the 2010 Prattville Comp Plan, City of Prattville’s Zoning Ordinance, the Montgomery MPO Bike and Pedestrian Plan, and the Alabama State Trail Plan.

Each group submitted an individual report showcasing their findings for the rest of the class to review. These results were then used to guide teams in the final task below.

1.4 Task 3: Plan Proposals and Policies

The class was divided into the following four teams: Pedestrian Connectivity Planning, Pedestrian Facility Design, Parking Policy, and Recreational Trails. The responsibilities for these groups can be summarized as the following:

- Develop goals and objectives for **Prattville’s pedestrian network** to improve the pedestrian level of service.
- Design **pedestrian and parking facilities that meet AASHTO and NACTO guidelines** as well as possible road diet improvements based on the planning group’s suggestions.
- Develop goals and objectives for **Prattville’s parking management** including possible pricing and enforcement strategies.
- Develop goals and objectives for **Prattville’s trails system** on a local and region scale regarding network connectivity.

Results were once again amassed into reports and presented to the rest of the class as well as Auburn Community Planning Department faculty members before being compiled into this final document.

1.5 Report Outline

This report presents the findings in five separate chapters as described below:

Chapter One serves as the introduction to the purpose and general methodology of this report. Prattville’s need for this plan and general background is covered as well as task/group breakdown used to complete this work.

Chapter Two covers the results of the pedestrian level of service analysis and the proposed planning suggestions to combat identified shortcomings. Each suggestion is justified to warrant its merit and categorized by its priority.

Chapter Three details design ideas and suggestions for road diets, intersection improvements, parking facilities, and pedestrian facility upgrades. Each suggestion is accompanied by graphics to convey the desired treatment easily and effectively.

Chapter Four covers current parking shortcomings and suggestions for improvement. This includes physical proposals as well as policy suggestions to improve study area parking practices and remedy the current idea of a parking shortage.

Chapter Five includes proposals for an improved local/regional trail network that would increase the current pedestrian network. Several site ideas and current trail improvements are listed.

Chapter 2: Pedestrian connectivity and safety

2.1 Background

The results showed that majority of street segments in the Prattville Historic District met PLOS rating of 'C' or above which is to be expected for most small cities. Only one street, 6th Street, received a PLOS rating of 'F' which was due to the complete lack of sidewalks as well as having an active rail line operating through the street segment. Pedestrian-scale lighting, sidewalk width, and marked crosswalks were the most common features lacking within the study area, preventing many segments from reaching a PLOS rating of 'B.'

The general trend showed a decrease in PLOS the farther from downtown and the block of churches located center of the Historic District. The Mill District currently averages a PLOS rating of 'E' due to its lack of facilities. Improvements are currently expected to be in the works, but the lack of pedestrian safety in crossing Bridge Street and navigating Maple Street was alarming. West Main Street running through the Downtown District had the highest score of any street segment in the study area, which was to be expected, and should be used as a model for future improvements.

Tichnor Street and the adjacent segment of South Court Street had the worse PLOS rating ('D') in the Downtown District, mainly due to the current state of the sidewalks—major disrepair and sidewalks being less than five feet in width on average. In addition, although Hunt's Ally exhibited exemplary pedestrian conditions on its East-West section, the lack of any facilities on its North-South section prevented it from scoring higher than a PLOS rating of 'C.' ADA requirements for sidewalk grades were not measured, but several fringe intersections did not comply with ADA access ramp standards.

2.2 Bicycle and Pedestrian Level-of-Service Performance Measures and Standards for Congestion Management Systems

BICYCLE			PEDESTRIAN		
CATEGORY	CRITERION	POINTS	CATEGORY	CRITERION	POINTS
BICYCLE FACILITY PROVIDED (Max Value = 10)	Outside Lane 3.66m (12')	0	PEDESTRIAN FACILITY PROVIDED (Max Value = 10)	Not Continuous or Non-existent	0
	Outside Lane >3.66m-4.27m (>12'-14')	5		Continuous on One Side	4
	Outside Lane >4.27m (>14')	6		Continuous on Both Sides	6
	Off-Street / Parallel Alternative Facility	4		Min. 1.53m (5') Wide & Barrier Free	2
			Sidewalk Width >1.53m (5') Off-Street / Parallel Alternative Facility	1	
				1	
CONFLICTS (Max Value = 4)	Driveways & Sidestreets	1	CONFLICTS (Max Value = 4)	Driveways & Sidestreets	1
	Barrier Free	0.5		Ped Signal Delay 40 Sec. or Less	0.5
	No On-Street Parking	1		Reduced Turn Conflict Implementation	0.5
	Medians Present	0.5		Crossing Width 18.3m (60') or Less	0.5
	Unrestricted Sight Distance Intersection Implementation	0.5		Posted Speed	0.5
			Medians Present	1	
SPEED DIFFERENTIAL (Max Value = 2)	>48 KPH (>30 MPH)	0	AMENITIES (Max Value = 2)	Buffer Not Less Than 1m (3.5')	1
	40-48 KPH (25-30 MPH)	1		Benches or Pedestrian Scale Lighting	0.5
	24-32 KPH (15-20 MPH)	2		Shade Trees	0.5
MOTOR VEHICLE LOS (Max Value = 2)	LOS = E, F, OR 6 or More Travel Lanes	0	MOTOR VEHICLE LOS (Max Value = 2)	LOS = E, F, OR 6 or More Travel Lanes	0
	LOS = D and < 6 Travel Lanes	1		LOS = D and < 6 Travel Lanes	1
	LOS = A, B, C, and < 6 Travel Lanes	2		LOS = A, B, C, and < 6 Travel Lanes	2
MAINTENANCE (Max Value = 2)	Major or Frequent Problems	-1	MAINTENANCE (Max Value = 2)	Major or Frequent Problems	-1
	Minor or Infrequent Problems	0		Minor or Infrequent Problems	0
	No Problems	2		No Problems	2
TDM / MULTI-MODAL (Max Value = 1)	No Support	0	TDM / MULTI-MODAL (Max Value = 1)	No Support	0
	Support Exists	1		Support Exists	1
CALCULATIONS	Segment Score ¹	21	CALCULATIONS	Segment Score ¹	21
	Segment Weight ²	1		Segment Weight ²	1
	Adjusted Segment Score ³	21		Adjusted Segment Score ³	21
	Corridor Score ⁴	21 = LOS A		Corridor Score ⁴	21 = LOS A

¹ Segment Score = sum of points in the six categories

² Segment Weight = segment length / corridor length

³ Adjusted Segment Score = Segment Score x Segment Weight

⁴ Corridor Score = sum of the Adjusted Segment Scores in the corridor

2.3 Grading scale

LOS A

Scores 21 and below but greater than 17 equal an LOS A rating. These roadways are highly pedestrian oriented and will tend to attract pedestrian trips. The roadways will be characterized by ample sidewalk space, pedestrian-friendly intersection designs, low- speed or low-volume motor-vehicle traffic, and plentiful amenities (e.g., shade, benches, and so forth). The roadway and sidewalk features will be designed at human scale for maximum pedestrian comfort. Roadways with this level of pedestrian accommodation may be expected in central-city, tourist, and college campus locations. Pedestrians can anticipate a low level of interaction with motor vehicles.

LOS B

Scores 17 and below but greater than 14 equal an LOS B rating. These roadways provide many pedestrian safety and comfort features that can attract pedestrian trips. These roadways will have many characteristics of a LOS A pedestrian facility, but there may be somewhat fewer amenities or pedestrian-friendly design elements. Pedestrians can anticipate a low to moderate level of interaction with motor vehicles.

LOS C

Scores 14 and below but greater than 11 equal an LOS C rating. These roadways are adequate for pedestrian use, but may not necessarily attract pedestrian trips. These roadways will provide a standard sidewalk, but will likely have some deficiencies in maintenance or intersection design, may be located on roadways with high-speed, high volume motor-vehicle traffic, or may provide a sidewalk on one side of the street only. Pedestrians can anticipate moderate interaction with motor vehicles on these roadways.

LOS D

Scores 11 and below but greater than 7 equal an LOS D rating. These roadways are adequate for pedestrian use, but will not attract pedestrian trips. These roadways will have more

frequent deficiencies in pedestrian safety and comfort features and are more likely to violate ADA requirements for width and clearance. Gaps in the sidewalk system may occur within this roadway corridor. Intersection crossings are likely to be more frequent and more difficult. Pedestrians can anticipate moderate to high levels of interaction with motor vehicles.

LOS E

Scores 7 and below but greater than 3 equal an LOS E rating. These roadways may have maintenance or intersection design, it may be located on roadways with high-speed, high-volume motor-vehicle traffic, or it may provide a sidewalk on one side of the street only. Pedestrians can anticipate moderate interaction with motor vehicles on these roadways. Scores 11 and below but greater than 7 equal an LOS D rating. These roadways are adequate for pedestrian use, but will not attract pedestrian trips. These roadways will have more frequent deficiencies in pedestrian safety and comfort features and are more likely to violate ADA requirements for width and clearance. Gaps in the sidewalk system may occur within this roadway corridor. Intersection crossings are likely to be more frequent and more difficult.

Pedestrians can anticipate moderate to high levels of interaction with motor vehicles. Scores 7 and below but greater than 3 equal an LOS E rating. These roadways are inadequate for pedestrian use. These roadways may or may not provide a pedestrian facility. Even where a sidewalk is provided these roadways will not meet ADA requirements and will have frequent deficiencies in sidewalk width, clearance, continuity, and intersection design. Roadways in this category that do not provide a pedestrian facility may be characterized as urban fringe, rural section roadways with moderate motor-vehicle traffic. Pedestrians can anticipate a high level of interaction with motor vehicles.

LOS F

Scores 3 and below equal, an LOS F rating. These roadways are inadequate for pedestrian use. These roadways do not provide any continuous pedestrian facilities and are

characterized by high levels of motor-vehicle use and automobile-oriented development. These roadways are designed primarily for high-volume motor-vehicle traffic with frequent turning conflicts.

2.4 Existing PLOS Conditions

Overall, results represented that most street segments in the Prattville Historic District met PLOS rating of 'C' or above which is to be expected for most small cities. In the entire historic district, only the 6th Street, received a PLOS rating of 'F' which was due to the complete lack of sidewalks as well as having an active rail line operating through the street segment. Pedestrian-scale lighting, sidewalk width, and marked crosswalks were the most common features lacking within the study area, preventing many segments from reaching a PLOS rating of 'B.'

The general trend showed a decrease in PLOS the farther from downtown and the block of churches located center of the Historic District. The Mill District currently averages a PLOS rating of 'E' due to the lack of facilities. It is understood that improvements are currently in the works, but the lack of pedestrian safety in crossing Bridge Street and navigating Maple Street was alarming. West Main St. running through the Downtown District had the highest score of any street segment in the study area, which was expected, and should be used as a model for future improvements. Tichnor Street and the adjacent segment of South Court Street had the worse PLOS rating ('D') in the Downtown District, mainly due to the current state of the sidewalks—major disrepair and sidewalks being less than five feet in width on average. In addition, although Hunt's Aly exhibited exemplary pedestrian conditions on its East-West section, the lack of any facilities on its North-South section prevented it from scoring higher than a PLOS rating of 'C.' ADA requirements for sidewalk grades were not measured.

2.5 Corridor Analysis of Historic District

Court St.

Segment	Description
1	N Court Street North of W 6 th Street
2	N Court Street between W 6 th Street and W 5 th Street
3	N Court Street between W 5 th Street and W 4 th Street
4	S Court Street between W 4 th Street and Hunt's Aly
5	S Court Street between Hunt's Aly and W 3 rd Street
6	S Court Street between W 3 rd Street and Tichnor Street
7	S Court Street between Tichnor Street and W Main Street

Segment	Description
1	W 6 th Street
2	W 5 th Street
3	W 4 th Street
4	Hunt's Aly East-West
5	Hunt's Aly North-South
6	W 3 rd Street
7	Tichnor Ave
8	W Main Street

Chestnut

St.

Segment	Description
1	N Chestnut Street North of W 6 th Street
2	N Chestnut Street between W 6 th Street and W 5 th Street
3	N Chestnut Street between W 5 th Street and W 4 th Street
4	S Chestnut Street between W 4 th Street and W 3 rd Street
5	S Chestnut Street between W 3 rd Street and Tichnor Street
6	S Chestnut Street between Tichnor Street and E Main Street
7	S Chestnut Street between E Main Street and 1 st Street

Segment	Description
1	Wetumpka Street
2	College Street between E 3 rd Street and E Main Street
3	College Street south of E Main Street
4	E 3 rd Street
5	E Main Street
6	1 st Street

Northington St.

Segment	Description
1	N Northington Street north of E 6 th Street
2	N Northington Street between E 6 th Street and Wetumpka Street
3	N Northington Street between Wetumpka Street and E 3 rd Street
4	S Northington Street between E 3 rd Street and E Main Street
5	S Northington Street between E Main Street and 1 st Street
6	S Northington Street between 1 st Street and Doster Street

All other Streets

Segment	Description
1	E 6 th Street
2	Wetumpka Street
3	E 3 rd Street
4	E Main Street
5	1 st Street
6	Pratt Street
7	Doster Street
8	S Washington Street south of 1 st Street
9	Maple Street
10	Bridge Street
11	Gin Shop Hill Road
12	W 4 th Street
13	Lower Kingston Road

Pedestrian LOS Calculator										
Segments in Corridor	7	Corridor Name	Court Street				Instructions: Type either "y" for yes or "n" for no if a category is met by a segment			
Corridor Length (Feet)	2522.9	Analysis Date	3/3/2017							
Pedestrian Facility Provided										
	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7	Segment 8	Segment 9	Segment 10
Non Continuous or Nonexistent	n	y	y	y	y	n	n			
Continuous on One Side	n	y	y	y	y	y	n			
Continuous on Both Sides	n	n	n	n	n	n	y			
Min 5' Wide and Barrier Free	n	y	y	y	y	n	n			
Sidewalk Width > 5'	n	n	n	n	n	n	n			
Off-Street/Parallel Alt Facility	n	y	y	n	n	y	y			
Conflicts										
Driveways & Sidestreets	n	y	y	y	y	y	y			
Ped Signal Delay 40 sec. or Less	n	n	n	n	n	n	n			
Reduced Turn Conflict Implementation	n	y	y	n	n	y	y			
Crossing Width 60' or Less	n	n	n	y	y	y	y			
Posted Speed	n	n	n	n	n	n	n			
Medians Present	n	y	y	n	n	n	n			
Amenities										
Buffer Not Less than 3.5'	n	n	n	n	n	n	n			
Benches or Pedestrian Scale Lighting	n	y	y	n	n	n	y			
Shade Trees	n	y	y	n	n	n	n			
Motor Veh LOS										
LOS = E, F or 6 or More Travel Lanes	n	n	n	n	n	n	n			
LOS = D or < 6 Travel Lanes	n	n	n	n	n	n	n			
LOS = A, B, C, and <6 Travel Lanes	y	y	y	y	y	y	y			
Maintenance										
Major or Frequent Problems	n	n	n	n	n	n	n			
Minor or Infrequent Problems	n	y	y	y	y	y	n			
No Problems	y	n	n	n	n	n	y			
TDM/Multimodal										
No Support	y	y	y	y	y	y	y			
Support Exists	n	n	n	n	n	n	n			
Additional Information										
Segment Length (Feet)	371.4	562.8	502.8	281.5	296.6	253.9	253.9			
Results										
Segment Weight	0.1472115	0.2230766	0.1992945	0.1115779	0.1175631	0.10063815	0.1006382	0	0	0
Segment Score	4	12.5	12.5	9.5	9.5	9	13	0	0	0
Segment LOS	E	C	C	D	D	D	C	F	F	F
Adjusted Segment Score	0.5888462	2.7884577	2.4911808	1.0599905	1.1168497	0.90574339	1.308296	0	0	0
Adjusted Corridor Score							10.25936422			
CORRIDOR LOS							D			

Pedestrian LOS Calculator										
Segments in Corridor	10	Corridor Name	Corridor 1 East-West Streets				Instructions: Type either "y" for yes or "n" for no if a category is met by a segment			
Corridor Length (Feet)	1000	Analysis Date								
Pedestrian Facility Provided										
	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7	Segment 8	Segment 9	Segment 10
Non Continuous or Nonexistent	y	n	n	n	n	y	n	n		
Continuous on One Side	n	n	n	n	n	n	n	n		
Continuous on Both Sides	n	y	y	y	n	y	y	y		
Min 5' Wide and Barrier Free	n	n	n	y	n	y	n	n		
Sidewalk Width > 5'	n	n	n	n	n	n	n	n		
Off-Street/Parallel Alt Facility	n	n	y	n	n	n	n	y		
Conflicts										
Driveways & Sidestreets	y	y	y	y	n	y	y	y		
Ped Signal Delay 40 sec. or Less	n	n	n	n	n	n	n	n		
Reduced Turn Conflict Implementation	n	n	y	n	n	y	n	y		
Crossing Width 60' or Less	n	y	y	y	y	y	y	y		
Posted Speed	n	n	n	n	n	n	n	n		
Medians Present	n	n	n	n	n	n	n	n		
Amenities										
Buffer Not Less than 3.5'	n	n	n	n	n	n	n	y		
Benches or Pedestrian Scale Lighting	n	y	y	n	n	n	n	y		
Shade Trees	n	y	n	n	n	y	n	n		
Motor Veh LOS										
LOS = E, F or 6 or More Travel Lanes	n	n	n	n	n	n	n	n		
LOS = D or < 6 Travel Lanes	n	n	n	n	n	n	n	n		
LOS = A, B, C, and <6 Travel Lanes	y	y	y	y	y	y	y	y		
Maintenance										
Major or Frequent Problems	y	n	n	n	y	n	n	n		
Minor or Infrequent Problems	n	n	n	n	n	y	y	n		
No Problems	n	y	y	y	n	n	n	y		
TDM/Multimodal										
No Support	y	y	y	y	y	y	y	y		
Support Exists	n	n	n	n	n	n	n	n		
Additional Information										
Segment Length (Feet)	303.2	936.89	917.6	424.57	129.79	890.07	886.04	846.22	100	100
Results										
Segment Weight	0.3032	0.93689	0.9176	0.42457	0.12979	0.89007	0.88604	0.84622	0.1	0.1
Segment Score	2	12.5	13.5	13.5	1.5	12.5	9.5	14.5	0	0
Segment LOS	F	C	C	C	F	C	D	B	F	F
Adjusted Segment Score	0.6064	11.711125	12.3876	5.731695	0.194685	11.125875	8.41738	12.27019	0	0

Pedestrian LOS Calculator											
Segments in Corridor	7	Corridor Name	Chestnut St					Instructions: Type either "y" for yes or "n" for no if a category is met by a segment			
Corridor Length (Feet)	2802	Analysis Date									
Pedestrian Facility Provided											
	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7	Segment 8	Segment 9	Segment 10	
Non Continuous or Nonexistent	y	n	n	n	n	n	n				
Continuous on One Side	n	n	n	n	n	n	n				
Continuous on Both Sides	n	y	y	y	y	y	y				
Min 5' Wide and Barrier Free	n	n	n	n	n	y	n				
Sidewalk Width > 5'	n	n	n	n	n	y	n				
Off-Street/Parallel Alt Facility	n	n	n	n	n	n	n				
Conflicts											
Driveways & Sidestreets	n	y	y	y	y	y	y				
Ped Signal Delay 40 sec. or Less	n	n	n	n	n	n	n				
Reduced Turn Conflict Implementation	n	n	n	n	n	y	y				
Crossing Width 60' or Less	y	y	y	y	y	y	y				
Posted Speed	y	y	y	y	y	y	y				
Medians Present	n	n	n	n	n	n	n				
Amenities											
Buffer Not Less than 3.5'	n	y	y	y	y	n	y				
Benches or Pedestrian Scale Lighting	n	n	n	n	n	y	y				
Shade Trees	n	y	y	y	y	n	y				
Motor Veh LOS											
LOS = E, F or 6 or More Travel Lanes	n	n	n	n	n	n	n				
LOS = D or < 6 Travel Lanes	n	n	n	n	n	n	n				
LOS = A, B, C, and <6 Travel Lanes	y	y	y	y	y	y	y				
Maintenance											
Major or Frequent Problems	y	n	n	n	n	n	n				
Minor or Infrequent Problems	y	n	n	n	y	y	y				
No Problems	n	y	y	y	n	n	n				
TDM/Multimodal											
No Support	y	y	y	y	y	y	y				
Support Exists	n	n	n	n	n	n	n				
Additional Information											
Segment Length (Feet)	58	558	506	582	262	315	534				
Results											
Segment Weight	0.0206995	0.1991435	0.1805853	0.2077088	0.0935046	0.1124197	0.1905782	0	0	0	
Segment Score	2	13.5	13.5	13.5	11.5	14	12.5	0	0	0	
Segment LOS	F	C	C	C	C	C	C	F	F	F	
Adjusted Segment Score	0.041399	2.6884368	2.4379015	2.8040685	1.0753034	1.5738758	2.382227	0	0	0	
Adjusted Corridor Score							13.00321199				
CORRIDOR LOS							C				

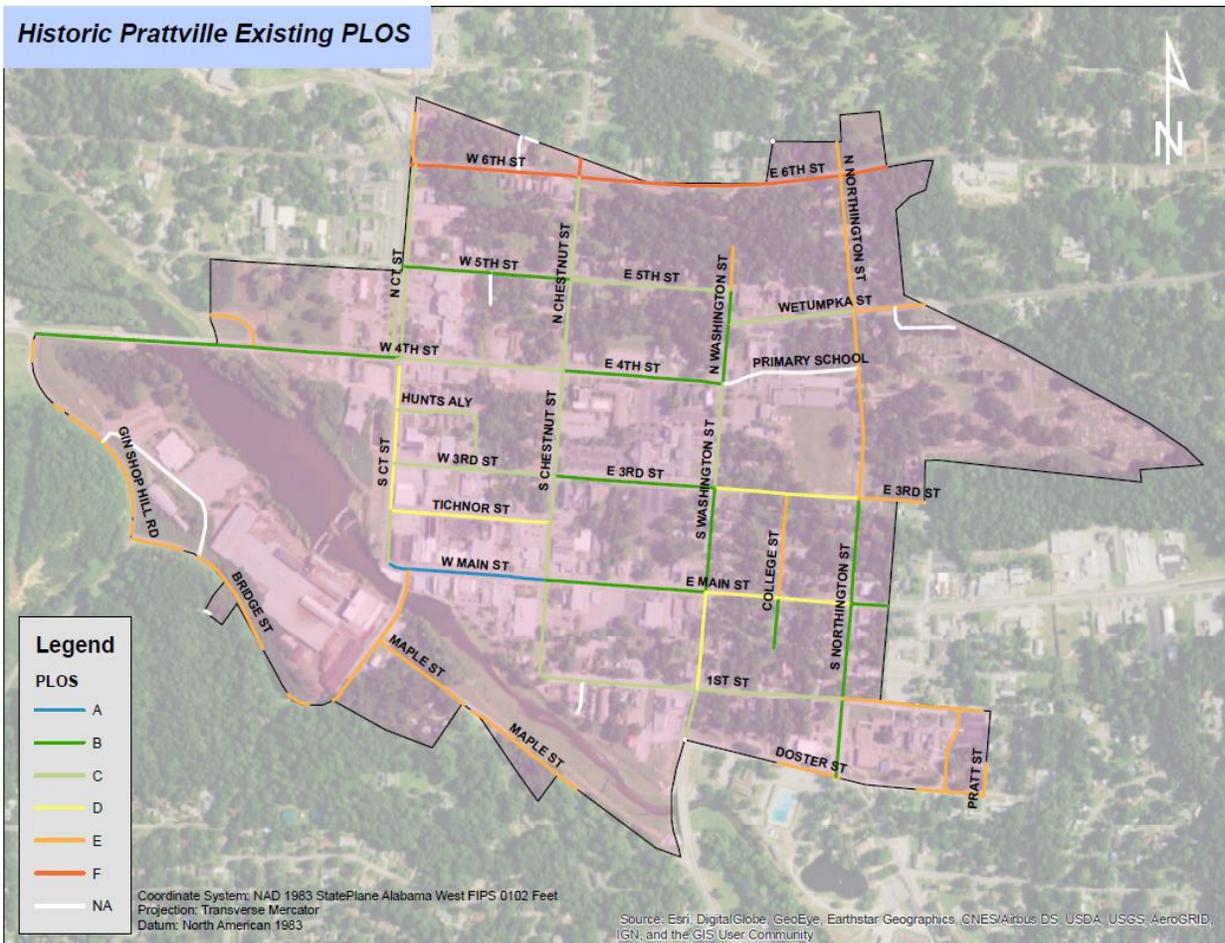
Pedestrian LOS Calculator											
Segments in Corridor	10	Corridor Name	Corridor 3 East-West Streets				Instructions: Type either "y" for yes or "n" for no if a category is met by a segment				
Corridor Length (Feet)	1000	Analysis Date									
Pedestrian Facility Provided											
	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7	Segment 8	Segment 9	Segment 10	
Non Continuous or Nonexistent	n	y	n	y	y	n					
Continuous on One Side	n	n	n	n	n	n					
Continuous on Both Sides	y	n	y	n	y	y					
Min 5' Wide and Barrier Free	y	n	y	n	n	y					
Sidewalk Width > 5'	n	n	n	n	y	n					
Off-Street/Parallel Alt Facility	n	n	n	n	n	n					
Conflicts											
Driveways & Sidestreets	y	y	y	y	y	y					
Ped Signal Delay 40 sec. or Less	n	n	n	n	n	n					
Reduced Turn Conflict Implementation	n	n	n	n	y	y					
Crossing Width 60' or Less	y	y	y	y	y	y					
Posted Speed	y	y	y	n	n	y					
Medians Present	n	n	n	n	n	n					
Amenities											
Buffer Not Less than 3.5'	y	n	y	n	n	y					
Benches or Pedestrian Scale Lighting	n	n	n	y	n	n					
Shade Trees	n	n	y	y	y	y					
Motor Veh LOS											
LOS = E, F or 6 or More Travel Lanes	n	n	n	n	n	n					
LOS = D or < 6 Travel Lanes	n	n	n	n	n	n					
LOS = A, B, C, and <6 Travel Lanes	y	y	y	y	y	y					
Maintenance											
Major or Frequent Problems	n	n	n	y	y	n					
Minor or Infrequent Problems	y	n	n	n	n	y					
No Problems	n	y	y	n	n	n					
TDM/Multimodal											
No Support	y	y	y	y	y	y					
Support Exists	n	n	n	n	n	n					
Additional Information											
Segment Length (Feet)	689	577	305	640	500	100	100	100	100	100	
Results											
Segment Weight	0.689	0.577	0.305	0.64	0.5	0.1	0.1	0.1	0.1	0.1	
Segment Score	13	6	15.5	3.5	10.5	14	0	0	0	0	
Segment LOS	C	E	B	E	D	C	F	F	F	F	
Adjusted Segment Score	8.957	3.462	4.7275	2.24	5.25	1.4	0	0	0	0	

Pedestrian LOS Calculator										
Segments in Corridor	10	Corridor Name	Northington Street				Instructions: Type either "y" for yes or "n" for no if a category is met by a segment			
Corridor Length (Feet)	1000	Analysis Date								
Pedestrian Facility Provided										
	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7	Segment 8	Segment 9	Segment 10
Non Continuous or Nonexistent	Y	Y	Y	N	N	N				
Continuous on One Side	N	N	N	Y	Y	Y				
Continuous on Both Sides	N	N	N	Y	Y	Y				
Min 5' Wide and Barrier Free	N	N	N	Y	N	Y				
Sidewalk Width > 5'	N	N	N	Y	N	Y				
Off-Street/Parallel Alt Facility	N	Y	N	Y	Y	Y				
Conflicts										
Driveways & Sidestreets	Y	Y	Y	Y	Y	Y				
Ped Signal Delay 40 sec. or Less	N	N	N	N	N	N				
Reduced Turn Conflict Implementation	Y	Y	Y	Y	Y	Y				
Crossing Width 60' or Less	Y	Y	Y	Y	Y	Y				
Posted Speed	Y	N	Y	N	Y	N				
Medians Present	N	N	Y	Y	Y	Y				
Amenities										
Buffer Not Less than 3.5'	N	Y	N	Y	Y	N				
Benches or Pedestrian Scale Lighting	N	N	N	N	N	N				
Shade Trees	Y	Y	Y	Y	Y	N				
Motor Veh LOS										
LOS = E, F or 6 or More Travel Lanes	N	N	N	N	N	N				
LOS = D or < 6 Travel Lanes	N	N	N	N	N	N				
LOS = A, B, C, and <6 Travel Lanes	Y	Y	Y	Y	Y	Y				
Maintenance										
Major or Frequent Problems	N	Y	N	N	N	N				
Minor or Infrequent Problems	Y	N	Y	Y	Y	Y				
No Problems	N	N	N	N	N	N				
TDM/Multimodal										
No Support	Y	Y	Y	Y	Y	Y				
Support Exists	N	N	N	N	N	N				
Additional Information										
Segment Length (Feet)	100	100	100	100	100	100				
Results										
Segment Weight	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0
Segment Score	5	5.5	6	16.5	17	15	0	0	0	0
Segment LOS	E	E	E	B	B	B	F	F	F	F
Adjusted Segment Score	0.5	0.55	0.6	1.65	1.7	1.5	0	0	0	0
Adjusted Corridor Score							6.5			
CORRIDOR LOS							E			

Pedestrian LOS Calculator										
Segments in Corridor	10	Corridor Name	Corridor 4 Streets				Instructions: Type either "y" for yes or "n" for no if a category is met by a segment			
Corridor Length (Feet)	1000	Analysis Date								
Pedestrian Facility Provided										
	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7	Segment 8	Segment 9	Segment 10
Non Continuous or Nonexistent	y	y	y	n	y	y	y	n	y	y
Continuous on One Side	n	n	n	n	n	n	n	y	n	n
Continuous on Both Sides	n	n	n	y	n	n	n	y	n	n
Min 5' Wide and Barrier Free	n	n	n	y	n	n	n	n	n	n
Sidewalk Width > 5'	n	n	n	y	n	n	n	n	n	n
Off-Street/Parallel Alt Facility	n	n	n	y	n	n	y	y	n	n
Conflicts										
Driveways & Sidestreets	y	y	y	y	y	y	y	y	y	y
Ped Signal Delay 40 sec. or Less	n	n	n	n	n	n	n	n	n	n
Reduced Turn Conflict Implementation	y	n	y	y	y	n	y	n	y	y
Crossing Width 60' or Less	y	y	y	y	y	y	y	y	y	y
Posted Speed	y	y	n	n	n	y	n	n	y	y
Medians Present	n	n	n	n	y	n	y	y	n	y
Amenities										
Buffer Not Less than 3.5'	n	n	n	n	n	n	n	n	n	n
Benches or Pedestrian Scale Lighting	n	n	n	n	y	n	n	n	n	n
Shade Trees	y	y	y	y	y	y	y	y	y	y
Motor Veh LOS										
LOS = E, F or 6 or More Travel Lanes	n	n	n	n	n	n	n	n	n	n
LOS = D or < 6 Travel Lanes	n	n	n	n	n	n	n	n	n	n
LOS = A, B, C, and <6 Travel Lanes	y	y	y	y	y	y	y	y	y	y
Maintenance										
Major or Frequent Problems	y	y	y	n	y	y	y	y	y	y
Minor or Infrequent Problems	n	n	n	y	n	n	n	n	n	n
No Problems	n	n	n	n	n	n	n	n	n	n
TDM/Multimodal										
No Support	y	y	y	y	y	y	y	y	y	y
Support Exists	n	n	n	n	n	n	n	n	n	n
Additional Information										
Segment Length (Feet)	100	100	100	100	100	100	100	100	100	100
Results										
Segment Weight	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Segment Score	4	3.5	3.5	14.5	5	3.5	5.5	14	4	5
Segment LOS	E	E	E	B	E	E	E	C	E	E
Adjusted Segment Score	0.4	0.35	0.35	1.45	0.5	0.35	0.55	1.4	0.4	0.5

Pedestrian LOS Calculator

Segments in Corridor	10	Corridor Name	Corridor 4 Streets	Instructions: Type either "y" for yes or "n" for no if a category is met by a segment						
Corridor Length (Feet)	1000	Analysis Date								
Pedestrian Facility Provided										
	Segment 11	Segment 12	Segment 13							
Non Continuous or Nonexistent	y	n	y							
Continuous on One Side	n	y	n							
Continuous on Both Sides	n	y	n							
Min 5' Wide and Barrier Free	n	y	n							
Sidewalk Width > 5'	n	y	n							
Off-Street/Parallel Alt Facility	n	y	n							
Conflicts										
Driveways & Sidestreets	y	y	y							
Ped Signal Delay 40 sec. or Less	n	n	n							
Reduced Turn Conflict Implementation	y	y	y							
Crossing Width 60' or Less	y	y	y							
Posted Speed	y	y	n							
Medians Present	y	y	y							
Amenities										
Buffer Not Less than 3.5'	n	n	n							
Benches or Pedestrian Scale Lighting	n	n	n							
Shade Trees	y	y	y							
Motor Veh LOS										
LOS = E, F or 6 or More Travel Lanes	n	n	n							
LOS = D or < 6 Travel Lanes	n	n	n							
LOS = A, B, C, and <6 Travel Lanes	y	y	y							
Maintenance										
Major or Frequent Problems	y	n	y							
Minor or Infrequent Problems	n	y	y							
No Problems	n	n	n							
TDM/Multimodal										
No Support	y	y	y							
Support Exists	n	n	n							
Additional Information										
Segment Length (Feet)	100	100	100	100	100	100	100	100	100	100
Results										
Segment Weight	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Segment Score	5	16	4.5	0	0	0	0	0	0	0
Segment LOS	E	B	E	F	F	F	F	F	F	F
Adjusted Segment Score	0.5	1.6	0.45	0	0	0	0	0	0	0



2.6 Objectives and Goals

Walkable environment is a main characteristic of the built environment which can be termed as 'Walkability'. It is mainly used in characterizing the area or a route. The primary features of a walkable community are connectivity, legibility, convenience, safety, pleasantness, accessibility. The main policies affecting walkability are land use planning in the existing areas as well as new developments and the pedestrian infrastructure.

The urban form of Prattville being a historic district, can accommodate structural changes in the land use and the existing settlements and connectivity between locations like churches, schools and downtown. To create a walkable community, the downtown portion of Main Street must be connected to locations like churches, schools and the proposed mill revitalization across the creek. These areas draw a lot of people, so its connectivity is key. The main objectives of pedestrian connectivity and safety are creating a walkable

environment for the pedestrian and increasing the connectivity to the existing and the new developments in the historic district.

This photographic study will serve as part of a whole studio report and plan for pedestrian and parking management in Prattville, AL. Documentation of the existing pedestrian and roadway conditions in Prattville is important foundational data for developing a plan. The focus will be on pedestrian connectivity and movement between commercial and activity areas. Photographs give note to current conditions on streets, sidewalks, signage, roadway markings, and intersections. Possible conflict points, safety issues, and successful areas will be noted as examples to correct or to mimic.

2.7 Methodology

The existing conditions of pedestrian amenities and PLOS of the historic district in Prattville show that the overall PLOS of 'C'. The goal is to improve the overall PLOS of the historic district by improving the sidewalk network, crosswalks, pedestrian scale lighting, midblock crosswalks and street furniture. All these changes can be implemented with the new additions to the land use and zoning plans yearly in the comprehensive plans. Prioritizing the implementation of proposed interconnectivity within the network is the prime aspect. Based on the PLOS of historic district which was developed for Gainesville, FL incorporated factors such as the roadway LOS, width of the sidewalk, turn lane conflict implementation, existence of medians and on/off street parking etc. The next step would be providing the missing links to the existing systems to achieve a continuous network. The existing infrastructure of the pedestrian network with a PLOS of 'B' can be implied satisfactory and the roads with PLOS 'C' are of immediate priority to facilitate the pedestrian amenities to the PLOS 'B'.

The analysis followed the methodology presented in the Transportation Research Board (TRB) report "Bicycle and Pedestrian Level-of-Service Performance Measures and Standards for Congestion Management Systems." Overall, PLOS methodologies are limited in selection and Dixon's method provided the most streamlined system to categorize existing PLOS

without including pedestrian daily traffic counts. The method was developed for the City of Gainesville, Florida, and uses a 21point system to determine a roadway's PLOS rating from 'A' (the highest) to 'F' (the lowest). Level of service (LOS) 'A' is typically reserved for areas with little to no pedestrian interaction with motor vehicles (i.e. plazas, closed college campuses, etc.) while LOS 'F' refers to areas with no pedestrian facilities or prioritizes motor vehicle movement (i.e. limited access roadways, arterials, high density roadways, etc.). Detailed descriptions of each PLOS category can be found in Appendix B. Using this methodology, the PLOS for each roadway segment in the Prattville Historic District was found and recorded. Criteria requirement was met when the criteria in question was the DOMINANT attribute of the segment. Below detail the process's criteria. The current motor vehicle LOS was determined from the "Prattville Comprehensive Plan" section on transportation. If a street did not have a listed LOS, it was given a LOS rating of 'C' which is considered average and did not affect the PLOS score negatively. The Historic District was divided into four corridors for the group's analysis. Corridor one was Court Street and all roads west to their intersection at Chestnut. Corridor two Chestnut Street and all roads west to their intersection with either Washington or Northington Streets. Corridor three was Washington Street and all roads west to their intersection with Northington Street. Corridor four was Northington Street and all road segments forming the perimeter of the Historic District, this includes the Mill District. below visualizes this division of labor.

Each street was further divided into segments which consisted of the total length of the street between two intersections or existing boundary endings. For example, Segment One of Court Street was classified as the farthest northern point of the street within the study area to the intersection of North Court Street and West 6th Street. All conditions were determined through the Google Earth and recorded with an Excel program designed to streamline the methodology process. Results were classified using a North-South/East-West numbering system. PLOS results were then compiled into ArcGIS using the provided City of Prattville data to visualize the problematic areas identified during the

The team is to develop an inventory of photographs and observations at intersections, roads, and parking facilities. These notes shall be reported and connected to a map for comprehension and clarity. To collect the data, a team of four students traveled the historic district of Prattville by foot. Each student carried a field checklist (see below) of guided observations, which was developed before the field study. Items to be recorded on the checklist were chosen as a group based of previous photographic studies and important transportation analysis concepts. The checklist was completed for each block segment and intersection within the annotated historic district. Photographs were taken at each location using smartphones. The team completed the documentation from 11:30 am until 1:30 pm on Sunday, February 12, 2017.

2.8 Strategies and Proposals

The main areas of focus to implement the strategies / proposals / policies are including the changes in the comprehensive plan, design guidelines for the sidewalks, intersections, signage. The main proposal is to redesign the intersections to accommodate walkability and increase safety by having a complete network of sidewalks across the Historic District. Apart from the design strategies, the existing parking lots across the district, whose land use and zoning laws can be modified to accommodate changes in the future land use.

Chapter 3: Design Ideas and Solutions

3.1 Street Right of Way (ROW)

Signage and wayfinding are important parts of the success of any place, especially a downtown area. Ensuring roadway and pedestrian safety, efficient utilization of facilities, and continued patronage of the downtown area is at least partly dependent upon effective signage and wayfinding techniques.

1.) Typeface

Typeface choice is an important factor for ensuring wayfinding success because of issues such as legibility and visibility.

- o Should be sans-serif
- o Available in multiple weights
- o Good legibility
 - High “X-height”
 - Prominent letter distinctions (ascenders and descenders)

2.) Arrows

- o Should not cause confusion
 - Straight up arrow is for a straight direction or a change in level
 - Left and right should be orthogonal
 - Upward angled arrows can point to advance direction change, or level change
 - Downward angled arrows are only for level changes

3.) Colors

- o Chosen to be high contrast
- o Similar or adjacent colors used together should be avoided
- o Directly complementary colors are not the best combination, either
- o A light color should be used with a dark color
 - Middle spectrum colors are least clear (orange, pink, tan)
 - Contrasts of at least 70 hue difference are ideal
 - White to Black
 - White to Brown
 - Yellow to Black
 - Red to White

3.2 Lighting

Streetlights are a vital component of a streetscape. They provide light when necessary, serve as landmarks depending upon their size and position on a street, and they can

double as viable features for increasing a street's contribution to a green infrastructure system. Streetlights also significantly increase the visibility of pedestrians and other items that make up a complete street. Moreover, lighting can transform an area into a completely different space, thereby changing a bustling downtown full of commuters, school children, and local business owners into an area awake with the nightlife crowd. Lamp posts are a widely-used form of lighting in Prattville's downtown area.



Downtown Prattville's current lighting network is visually appealing and it provides additional decoration opportunities for holidays such as Christmas. A way of enhancing the existing lighting network would be to incorporate banners that are designed along the guidelines listed in the signage section of this document. These banners can be used to advertise local events and further add to the wayfinding system throughout the downtown and other parts of the city.

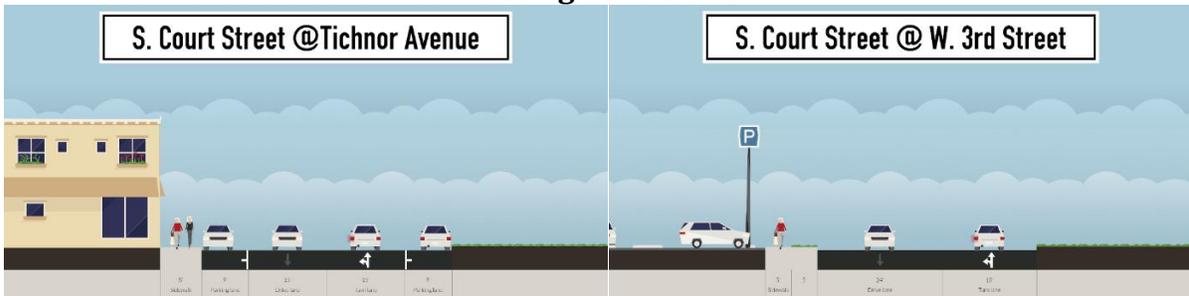


Current banner on a lamp post in the downtown (left) and a banner promoting the annual Winnetka Music Festival in Winnetka, Illinois.

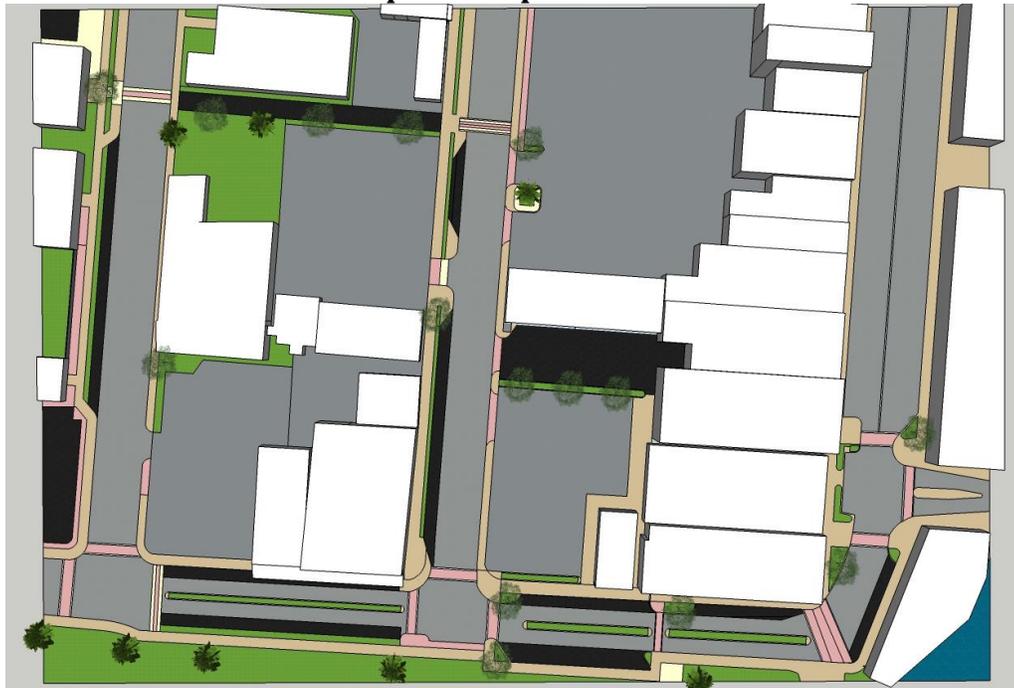
3.3 Streetscapes

One of the streetscapes that can be reconfigured to strengthen the pedestrian network throughout the downtown is Court Street. This corridor, the main access road following Main Street, provides a unique area for pedestrians to be able to congregate and enjoy beautiful scenery that the surrounding environment provides. Unfortunately, the potential for this area has not yet been fully realized. Existing conditions along this corridor include unsafe and broken sidewalk networks, minimal lighting, and a lack of shade and places for pedestrians to rest.

Existing Conditions



Proposed Improvements



Proposed plan view of W Main St., S. Court St., Tichnor Ave., and W. 3rd St



Aerial view of proposed enhancements to S. Court St., Tichnor Ave., and W. 3rd St.



Image of the implemented boulevard on South Court Street (left). Incorporating more trees and medians into the streetscape would decrease traffic speeds, allow for pedestrians to cross safely along raised crosswalks, and provide the street with a rejuvenated look for both visitors and residents.

3.4 Sidewalk Separation

The existing condition of the sidewalks downtown that are level with the roadway is undesirable and dangerous to pedestrians. These guidelines promote implementing changes to accommodate pedestrians and ensure their safety, while also meeting the needs of Prattville’s environment. It should be noted that these suggestions can also be applied to bicycle facilities in addition to the pedestrian facilities discussed in this plan.

Focus Areas for Sidewalk Separation:

- Curbs

- o The lack of curbs/raised sidewalk along much of S. Court St., W. 3rd St., W 4th St., and multiple other streets downtown pose a major risk to pedestrians and others utilizing the area
- o A physical separation or barrier of some kind needs to be implemented wherever possible to ensure the safety of pedestrians (and bicyclists)
 - raised curb and gutter, or another form of physical separation between the sidewalk and the roadway,
- ROW
 - o The right-of-way is the most viable area for making changes to pedestrian facilities, as well as any other transportation related facility, such as parking lots and bicycle facilities, etc.
 - o Using the right-of-way is one of the most efficient ways to manage stormwater runoff because “runoff can become a problem for communities in the form of downstream flooding and nonpoint source pollution, or it can become a resource providing moisture for neighborhood vegetation if captured close to the source.”ⁱ
- Stormwater Management
 - o In light of the stormwater management concerns in Prattville, specific practices can be implemented to support drainage while still providing raised sidewalks with curbs, or some kind of physical separation of the sidewalk from the roadway.

3.5 Specific Strategies for Facilitating Sidewalk Separation with Stormwater Management Practices (SMP):

- o Bollards

- Planter Boxes

Planter boxes are a good option as an interim design strategy for sidewalk separation, because they are movable, they continue to allow for uninterrupted stormwater flow and drainage, and they can add aesthetic value to a streetscape.



Planters separating bike lanes and sidewalks from the road



Street planters as separators for sidewalk and road

- Flow-through Planters

- o Curb cut inlets/gaps
- o Channels and Runnels



(Left) Sidewalk channels and stormwater planters in Portland, OR

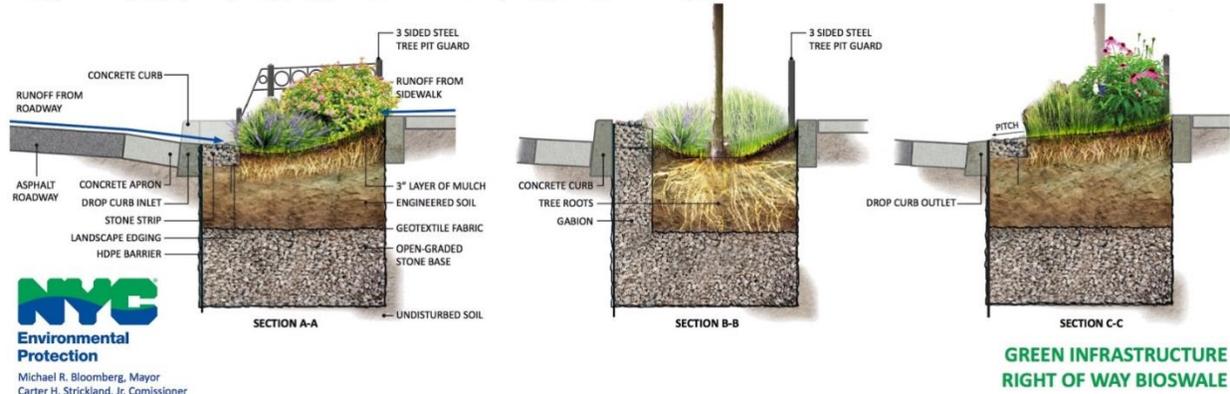
(Center) Curb cut inlets and rain garden in Nashville, TN

(Right) Parking lot rain garden and curb cut inlets

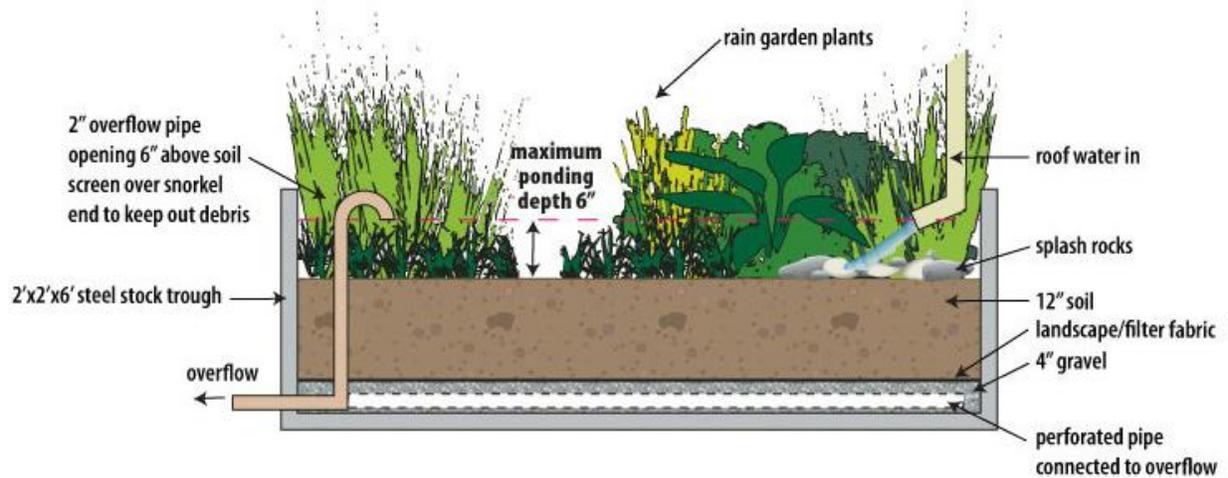
o Curbside Bioinfiltration/Bioretention

Bioswales

http://www.nyc.gov/html/dep/pdf/green_infrastructure/dep_rowb_renderings.pdf



Stormwater Planters



Stormwater Tree Trenches



Tree trench separators in Boulder, CO

Permeable paving materials and surfaces



“FilterPave” porous surfaces made of recycled glass

3.6 Secondary Recommendations

1.) Mill Apartment Connectivity

- o A traffic circle will be built for the new, high volume intersection
- o Pedestrian pathways will thread through the complex
- o An existing road will be blocked off and turned into a multi-use path

2.) Pedestrian Bridge to Mill Apartments

- o Engineering:
 - Suggest a span bridge to avoid engineering difficulties in the creek
 - Review the AASHTO Span Bridge Guide
- o Design:
 - An iron design with thick beams would visually match the dam and mill area well
 - A pedestrian bridge should be 12 feet wide
 - The bridge should be well lit on the floor and above
 - Can match the lighting used in the rest of the historic district
 - Sidewalk area should be wide enough for two pedestrians at least
 - A bike lane might be included
 - Benches could be placed to allow scenic rest stops



3.7 Intersections

- Intersections are defined as complex locations in a roadway, shared by multiple roads, vehicles, and pedestrians. Traffic flow, road performance, and capacity are all affected by the design of an intersection.
- Many issues exist in Prattville's intersections.
 - Lack of sidewalk
 - Lack of crosswalk
 - Too small sidewalk width
 - Too old traffic fixtures
 - Lack of traffic lines
 - Lack of traffic signals

3.8 Midblock Crossings

- Most important standard of criteria is to protect and highlight pedestrians
- 1.) Overhead signage and lighting is necessary
 - Flashing lights only if there is consistent pedestrian demand
 - Consideration if the Mill Apartments increase walking
 - Lights should be overhead and 3 feet before each side of the crosswalk
 - Signage is to be reflective and clear
 - A single sign greatly increases car likelihood to stop
 - A second sign increases stopping slightly more
 - 2.) Striping
 - 1 foot wide transverse white lines (reflective) should be perpendicular to the car traffic – bordering the crosswalk
 - Walking area could be striped (parallel to car traffic) for most visibility, but that is subjective to the visual language of the historic downtown
 - 3.) Walking surface
 - Entry points from the sidewalk should be level grade
 - This area has drainage issues that should be considered if the grade is to be raised
 - Entry points from the sidewalk should have a tactile indicator (ADA)
 - Minimum of 5 feet wide, unobstructed, and smooth walking surface
 - Decorative pavers can line the clear walking surface in 2 or 3 foot strips
 - 11-foot wide crossing in total
 - 4.) Medians
 - If the road is wider than 4 lanes, a median is helpful for pedestrian resting areas
 - 5.) Stop lines

- o Should be set back 30 feet ideally (20 to 50 feet range) from the crosswalk to prevent a multiple threat crash
 - Where the second lane of vehicles cannot see the pedestrian attempting to cross

6.) Parking

- o The parking on Main Street should stop farther from the crosswalk than it currently does, to allow for drivers to see waiting pedestrians
- o Pedestrians waiting on the inside corner side of the crosswalk may be hidden from view of drivers coming down Main Street by the corner building

3.9 Parking

As discussed in the Parking Management section of this plan and in the design guidelines above, the efficient use of existing parking areas is crucial to the well-being of the environment in Prattville and, therefore, the people in Prattville. Managing and mitigating stormwater runoff, the urban heat-island (UHI) effect, and traffic congestion can all be done using the management of existing parking areas as a method. This, along with the sustainable management of other related facilities like the ROW and the pedestrian and bicycle facilities therein, can significant contribute to the ecological, social, and economic health of Prattville.

Surfaces

The materials chosen for use in parking areas, as well as other ROW areas, can help, or hurt, in stormwater management, alleviation of the UHI effect, and erosion control among other things, as well as provide an aesthetically pleasing environment for citizens. Permeable surfaces and surfaces that incorporate vegetation or some type of greenery are most suitable for positive results regarding these goals.

1.) Permeable Paving Materials

- o Permeable stone pavers



<http://www.pavedrain.com/images/hp-photo12.jpg>

- o Pervious concrete
- o Pervious asphalt

2.) Drivable surfaces with vegetation

- o Grass pavers



[a] “AgriGrid” grass paver system is a permeable paving solution for parking lots

[b] “Turfstone” system of grass and stone pavers

[c] Another example of a grass grid paver system

3.) Other Vegetation

- o Flow-through Planter Boxes

(Right) Example of a type of typical flow-through planter box in a parking lotⁱⁱ



Space Efficiency

1.) Marked Parking Spaces

Marking the spaces in parking lots can result in increased efficiency of square footage in parking areas and increased parking capacity because of a decrease in the surface area used by each car once they are directed to a space rather than having to make their own “space.” Marking out parking spaces will also establish ADA compliance by ensuring that handicap accessible spaces are made available and not left up to the discretion of the average parker.

2.) Parking Area Signage and Wayfinding

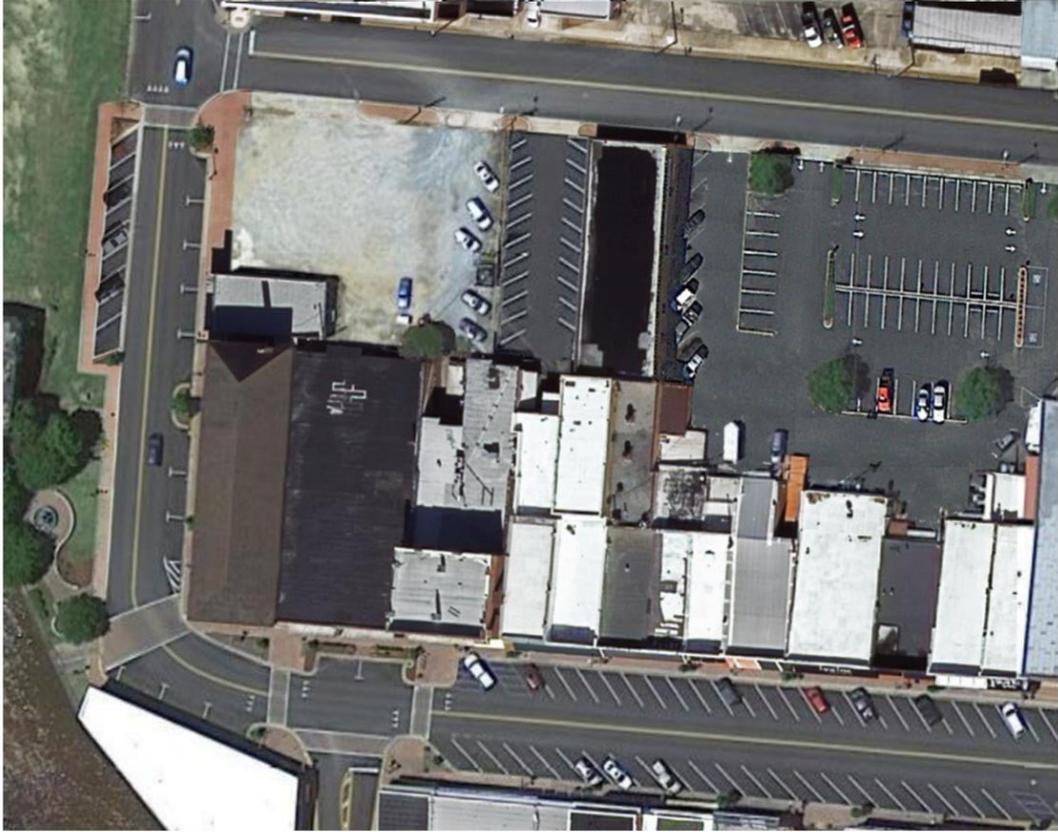
As noted in the Signage section above, signage and wayfinding can have a significant positive impact on the efficiency of parking areas and an increase in users because they will be aware of potential available parking spaces even when the first ones they see, for example, the on-street parking spaces, may be occupied.

3.) Increased connectivity

Increased connectivity between lots and between lots and destinations will encourage people to park in lots that they might have otherwise avoided. The following image is an example of an existing parking lot that is not marked with spaces and is disconnected from the adjacent parking lot, followed by a redesign of the area, which will be discussed in more detail in a later section.

S Court St at W Main & Tichnor

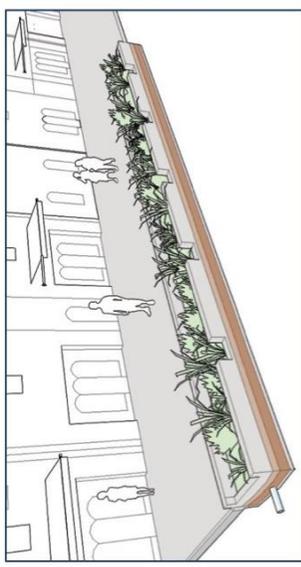
EXISTING



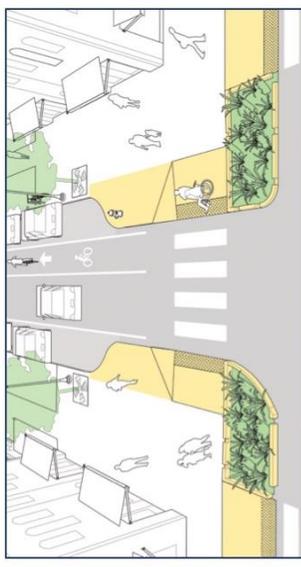
PROPOSED



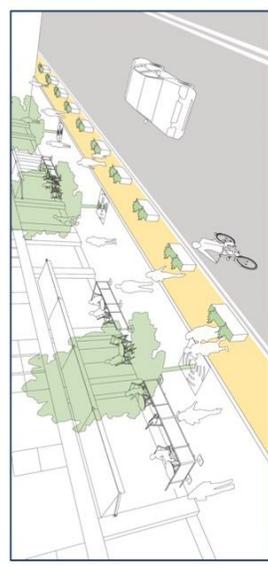
- GREEN INFRASTRUCTURE
- RAIN GARDENS & SWALES
- PERVIOUS SURFACES
- CURB CUTS/INLETS
- VEGETATION
- PLANTERS



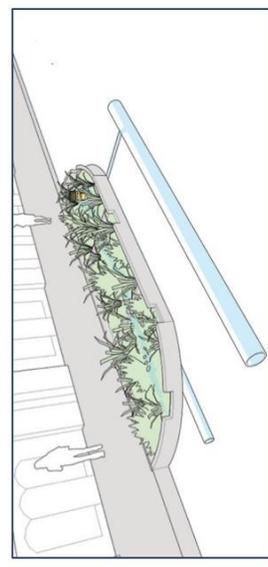
Pervious Planter Strips



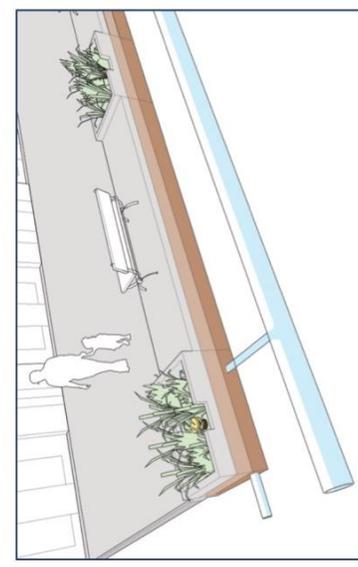
Curb Cuts/Inlets



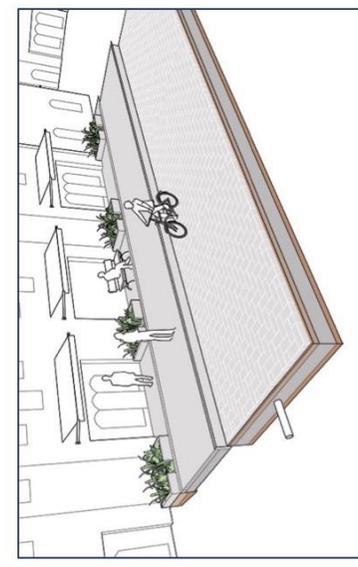
Planter Bollards



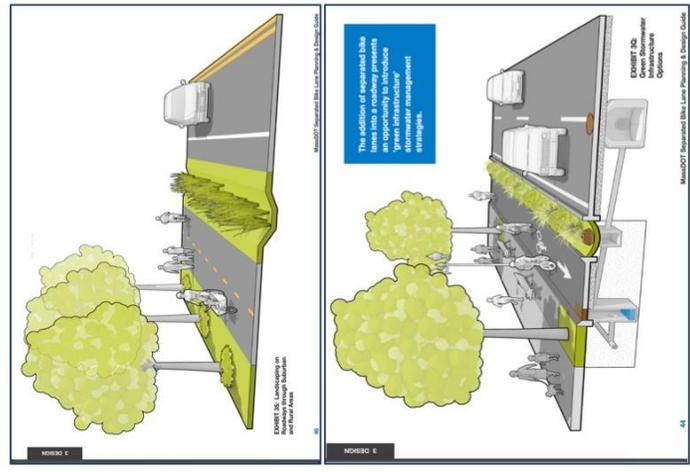
Bioswales



Flow-Through Planters



Pervious Paving



MassDOT Separated Bike Lane Planning & Design Guide
 CHAPTER 3
 Green Infrastructure
 Options
 44
 MassDOT Separated Bike Lane Planning & Design Guide
http://www.massdot.state.ma.us/Portals/8/docs/SBLG/Chapter3_GeneralDesign.pdf

NACTO Urban Street Design Guide
<https://nacto.org/publication/urban-street-design-guide/>
 Stormwater Management
<https://nacto.org/publication/urban-street-design-guide/street-design-elements/stormwater-management/>

Green Infrastructure Examples for Parking and Streets

Bioretention/Bioinfiltration

Rain gardens

Stormwater Planters/Bump-outs

Curbside Planters

Flow-through Planters

Stormwater Tree Trench

Swales: Wet and Dry

Berms

Channels/Runnels

Constructed wetland

Extended detention pond

Grass channel

Green roof

Permeable/ Pervious Paving

Rain Barrel/Cistern/Downspout disconnection

3.10 Designs

Street Sections



3.11 Intersection Details (existing and proposed):

1.) 3rd Street & S Chestnut Street:

- o Existing conditions
 - No crosswalks for pedestrians with a church on one side and a parking lot on the other side



- No traffic or stop lines for vehicles to identify their own positions
- No stop signs to control the traffic
- o Proposed design:
 - Add crosswalks
 - Add stop signs
 - Add traffic and stop lines

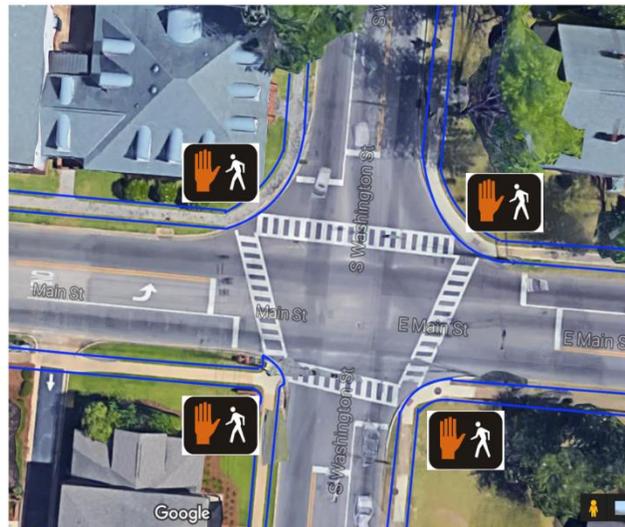
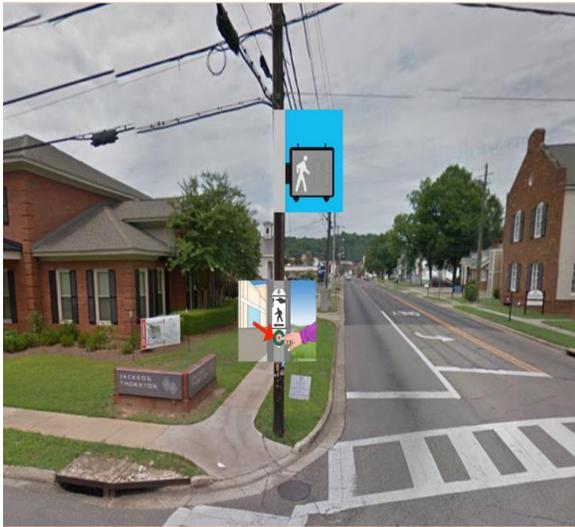


2.) Main Street and S Washington Street:

- o Existing conditions
 - Sidewalks are too narrow for pedestrians and bicycles
 - Lack of pedestrian signals while it's a main street with large volume of traffic



- o Proposed design:
 - Add pedestrian signals,
 - Widen sidewalks

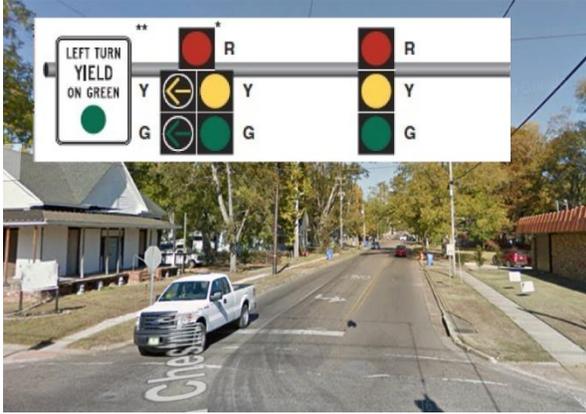


3.) 4th Street and Chestnut Street:

- o Existing conditions
 - Traffic signals appear to be too simple for a typical four-leg intersection
 - Crosswalks may be too fuzzy to be recognized for drivers



- Proposed design:
 - Update traffic signals,
 - Pave new crosswalks.



3.12 Pedestrian Facilities:

- Midblock crossing at S Court Street and W Main Street

This crosswalk poses a unique set of challenges because it is located on a curve in the road and because the area it is in is designed to carry or channel stormwater to the area adjacent to it on the creek side. Therefore, it must be designed with careful consideration, and while moving the crosswalk over a few yards might be beneficial, it is also beneficial to have it where it is for multiple reasons, one being that it can help slow down speeding drivers as they are coming around the curve, and another being that it is most likely a “desired path” of pedestrians, and would therefore likely be used by them regardless of whether there is a crosswalk present or not. Taking these conditions into consideration, the designs here include the crosswalk remaining where it is, and certain stormwater management techniques are supplied as solutions to the potential problem of drainage that a raised crosswalk might cause if not followed.

- Existing Conditions:
 - Pedestrians tend to cross at locations that may not be appropriately marked or are not visible, risking their safety and driver safety.
 - Drivers often travel down S Court Street with high speeds
 - The corner is almost 90 degrees, requiring quick slow down
 - Drivers may not be thinking of pedestrians

- Despite a paved (flat grade) existing crosswalk



- Proposed Design:
 - Protect pedestrians with an elevated crossing (speed table)
 - ADA clear 5' pathway, decorative side elements, elevated crossing, improved lighting and reflective graphics
 - Help to slow down drivers entering the downtown area
 - Incorporate drainage inlets or channels on either side of the crosswalk or through it, or drainage pipes under the crosswalk
 - Specifically, ensure that drainage inlets are at least provided on the “upstream side” of the raised crosswalk area, as per the standards laid out in the AASHTO Green Bookⁱⁱⁱ



Examples referenced by NACTO's *Urban Street Design Guide* of drainage inlets and drainage pipe incorporated into a curb ramp, as suggested in the FHWA's *Designing Sidewalks and Trails for Access* manual

Figure 4-26:
Built-up curb ramp with drainage inlets.

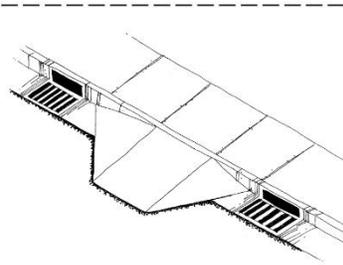
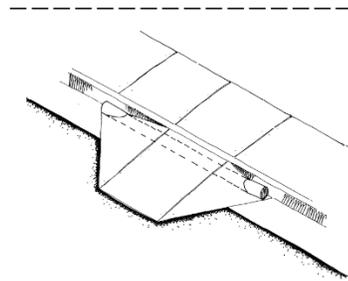


Figure 4-27:
Built-up curb ramp with a drainage pipe.



3.13 Parking Areas

The following figure is one scenario for a proposed parking design and the surrounding area incorporating the aforementioned green infrastructure and organizational elements:

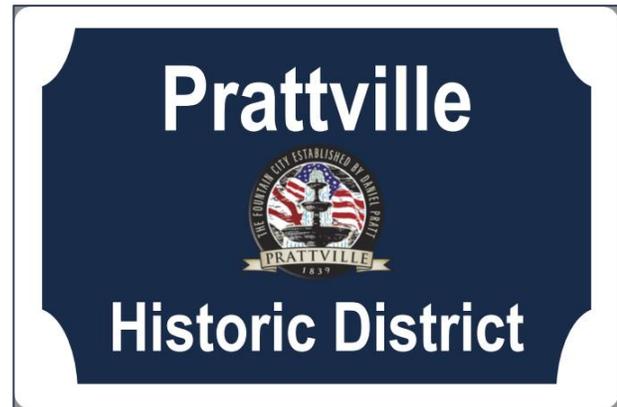


3.14 Signage and Markings

- Parking
 - Simple typeface and clear letter symbols indicate where parking is located
 - Maintains historic colors and city logo

- Historic downtown
 - Simple typeface is continued for main entry point, including colors and logo

 - Individual street signs are high contrast



3.15 Conclusion

Improvements

- Pedestrian Movement and Safety
- Connectivity
- Green Infrastructure and Stormwater Management
- Parking Area Efficiency
- Pedestrian and Motorist Wayfinding

Chapter 4: Parking Utilization Analysis

4.1 Introduction

This study was conducted to study to observe the parking utilization in parking lots near the churches, city buildings, on street parking along Main Street and in the downtown areas. This detailed study analyzes the current parking situation which consisted of occupancy rates, car counts, circulation area, and supply and demand on weekdays and weekends. Finally, recommendations are made to improve parking management in Prattville.

Prattville has ample parking to meet the demands of its residents but, these spaces are scattered and cannot be seen readily due to lack of signage and connectivity. It is also leading to aesthetic degradation. The main objective of this study is to address all these issues related to parking in the downtown area of Prattville by proposing various strategies leading to effective management of parking.

The downtown area of Prattville has many parking lots which remain underutilized due to restrictive parking despite their proximity to businesses and other stores. This is encouraging people to park on-street, or view on-street parking as the only option, despite the availability of off-street parking, and creating serious issues concerning the safety of pedestrians and bicyclists apart from parking on unmarked streets. There are many people visiting downtown for recreation at the creek and park their cars for a few hours. Apart from all the normal weekdays and weekends, many events take place in downtown for public. People are found to have a difficulty in locating parking lots within the proximity of events.

4.2 Goals

The goals of this study can be broadly defined as follows:

- Analyze the existing parking conditions of Prattville.
- Identify the areas, if any, with parking problems and the reasons behind it.
- Consider various alternatives for implementation to treat parking problems.
- Finalize strategies that are best suited to Prattville to improve parking, which include:
 - (i). Issues regarding connectivity between parking lots and destinations

- (ii). Providing information to drivers about the availability of various, more remote surface lots with plenty of available spaces
- (iii). Improving aesthetic appeal, as well as capacity and efficiency of the existing surface lots through various redesigning techniques

4.3 Methodology

Existing Conditions: Existing and Potential Parking Areas

As shown in Figure 1, a total of 90 lots were analyzed in terms of existing and potential parking space capacity. These 90 lots added up to a total of 1,347,201 square feet of existing and potential parking area, which is approximately 31 acres.

4.4 Results

The data and results from our research on parking areas is displayed on the following pages.

In Table 1, the parking space capacity is the estimated number of potential and existing parking spaces; this counts both marked and unmarked spaces. The parking lot identification (ID) number is the number assigned to each of the 90 parking lots shown in Figure 1. The map in Figure 2 shows the each of the lots with their respective ID numbers. These ID numbers were used to organize the lots by location, size, ownership, or other relevant characteristics.



Figure 1: Potential and Existing Parking Areas

Table 1: Existing Parking Lots and Potential Parking Areas

Lot #	Parking Lot ID #	Parking Lot Name	Area (Sq. Ft.)	Parking Space Capacity
1	1a	On Street S Court St	3,403.4	10
2	1a	On Street S Court St	1,487.1	5
3	1a	On Street S Court St	821.4	3
4	1a	On Street S Court St	1,481.8	5
5	1a	On Street S Court St	2,197.8	9
6	1b	On Street S Court St	1,184.2	3
7	1b	On Street W Main St	8,228.9	33
8	1b	On Street W Main St	6,962.9	28
9	1b	On Street W Main St	680.2	2
10	1b	On Street W Main St	1,741.5	8
11	1b	On Street W Main St	1,622.4	8
12	1b	On Street W Main St	1,128.7	5
13	1c	On Street City Hall S Chestnut St	4,934.7	21
14	2a	Creekwalk and City Hall Parking Lot 2	24,919.8	43
15	2b	City Hall Parking Lot 1	24,449.8	28
16	3	City Hall Police Car Lot	8,564.1	30
17	4a	Museum Parking Lot	17,298.9	47
18	4b	Doctor & Water Works Board Lot	23,902.1	50
19	4c	Pediatrics Lot	18,299.3	48
20	5	Bank Lot	43,945.0	68
21	6a	S Court St & Tichnor Corner Lot	14,370.2	45
				58

22	6b	Fox's Pizza Den Lot	4,523.1	20
23	7	Tichnor Extra & Hancock Employee Lot	41,072.7	62
24	8	Hancock Bank Customer Lot	17,730.6	23
25	9	Prattville Fire Department	8,786.7	22
26	10	Prattville Associated Grocers	13,427.6	29
27	11	Spiller Furniture Lot	6,289.2	14
28	12a	First Presbyterian Church Lot	13,575.1	19
29	12b	First Presbyterian Church Lot	14,453.7	30
30	12c	First Presbyterian Church Lot	15,653.2	30
31	13	County EMS Lot	13,222.7	25
32	14	GFAuto & Extra Hancock Employee Lot	17,088.9	38
33	15	Pasta Mill Lot	11,756.2	40
34	16a	Martin Courthouse Theater Lot	11,764.9	28
35	16b	Printing Shop Lot	2,544.4	8
36	17a	First Baptist Church Lot at E 3rd & S Chestnut	58,991.6	161
37	17b	First Baptist Church Lot	92,929.8	177
38	17c	First Baptist Church Lot	12,922.3	40
39	17d	First Baptist Church Lot	49,293.8	137
40	17e	First Baptist Church Lot	10,670.7	34
41	17f	On Street E 3rd St	175.9	1
42	17f	On Street E 3rd St	415.4	2
43	17f	On Street E 3rd St	530.3	2
44	17f	On Street E 3rd St	730.1	3
45	17f	On Street E 3rd St	3,402.8	9

46	18a	First United Methodist Church Lot	30,325.6	62
47	18b	First United Methodist Lot	29,541.7	81
48	18c	First United Methodist Lot	53,683.9	50
49	19	St. Mark's Episcopal Church	7,669.3	28
50	20	S Washington St School Lot	44,092.5	84
51	21	Board Of Education Lot	7,254.3	12
52	22	Sheriff's Office Lot	21,586.8	44
53	23a	On Street W 4th St	757.0	3
54	23a	On Street W 4th St	2,599.7	11
55	23b	On Street N Court St Courthouse	5,932.5	31
56	23b	On Street N Court St Courthouse	2,609.6	8
57	23b	On Street N Court St Courthouse	2,362.9	12
58	23c	On Street N Court St Probate Court	1,782.2	6
59	23c	On Street N Court St Probate Court	3,442.2	15
60	24	Court House Lot	31,769.4	64
61	25a	Chamber of Commerce Lot	19,304.0	47
62	25b	County Admin Building Lot	48,301.1	104
63	26a	DHR Lot	35,408.3	90
64	26b	Health Dept Lot	42,709.4	84
65	27a	N Court St County Registrars Lot	11,273.7	29
66	27a	N Court St County Probate Lot	2,265.5	7
67	27a	N Court St County Registrars Lot	13,091.0	28
68	27b	N Court St County Fleet Car Lot	8,416.4	16
69	28	City Arts Lot	74,729.3	280

70	29a	S Court St Law Office Lot	6,483.8	20
71	29b	Fire Station Lot	1,324.8	4
72	30	Hunts Alley Lot	3,385.9	10
73	31a	Sign Master On Street Lot	1,357.8	7
74	31b	AICC On Street Lot	1,844.1	10
75	32	Gravel Lot Across Bridge	12,373.1	40
76	33a	E Main St Auto Lots	6,972.9	10
77	33b	E Main St Auto Lots	7,837.1	20
78	33c	Main St Lot	12,689.3	12
79	34a	E Main Law Office Lot	2,926.9	8
80	34b	Court Referral Lot	4,990.5	12
81	34c	Real Estate Lot	8,064.3	22
82	35	Wedding Floral Shop Lot	17,823.7	25
83	36	Jackson Thornton Lot	12,417.9	22
84	37	Dog Days Lot	2,276.8	8
85	38a	Bakery Cafe Lot	5,454.1	15
86	38b	Bakery Cafe Lot	7,854.1	26
87	39	Gas Station Lot	12,035.5	16
88	40	Supply Store Lot	18,781.6	40
89	41	BBQ Lot	45,760.9	150
90	42	Library Lots	20,061.1	55

TOTALS			1,347,201	3,181
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Figure 2: Potential and Existing Parking Areas and Identification Numbers

This study focused on the utilization of parking spaces on both weekdays and weekends. Therefore, a typical Sunday and Thursday were selected to collect the parking counts. Both the on-street and off-street marked parking lots that were relevant to the study were identified and counted. Most unmarked parking lots were not taken into consideration, except for a few next to the churches and two main lots in the downtown center that are

unmarked but frequently used. The number of occupied spaces were counted twice on both Sunday and Thursday at a 2-hour interval.

Counts were taken at 11:45 AM on Sunday mainly focusing on the availability of parking for people attending prayers in all churches within the downtown area. This is the peak time for parking at churches. Apart from the parking lots near churches, all the on-street and off-street parking were counted in downtown area. The counts were taken only once as there were negligible cars in the church lots, and there was no significant change in other parking lots.

Table 2: Parking Counts on Weekends

Parking Lot Name	Area (Square Feet)	Parking Spaces	Parking Spaces Sum	<u>Sunday, 2/26/2017 Parking Study:</u>		
				11:45 AM - 12:45 PM		
				Vacant	Occupied	% Occupancy
On Street S Court St	3,403.36	10	32	15	17	53%
On Street S Court St	1,487.12	5				
On Street S Court St	821.44	3				
On Street S Court St	1,481.81	5				
On Street S Court St	2,197.85	9				
On Street S Court St	1,184.15	3		3	0	0%
On Street W Main St	8,228.88	33		21	12	36%
On Street W Main St	6,962.92	28		22	6	21%
On Street W Main St	680.24	2		2	0	0%

On Street W Main St	1,741.53	8		8	0	0%
On Street W Main St	1,622.41	8		8	0	0%
On Street W Main St	1,128.74	5		5	0	0%
On Street City Hall S Chestnut St	4,934.69	21		20	1	5%
Creekwalk & Main St Shops Lot	24,919.76	43		40	3	7%
City Hall Parking Lot	24,449.83	28		28	0	0%
Museum Parking Lot	17,298.87	47		43	4	9%
Water Works Board Lot	23,902.13	50	98	93 - 98	0 - 5	0-5%
Pediatrics Lot	18,299.31	48				
S Court St & Tichnor Corner Lot	14,370.22	45		39	6	13%
Fox's Pizza Den Lot	4,523.07	20		20	0	0%
Tichnor Extra & Hancock Emp. Lot	41,072.66	62		53	9	15%
Hancock Bank Customer Lot	17,730.58	23		22	1	4%
Prattville Fire Department	8,786.70	22		14	8	36%
Prattville Associated Grocers	13,427.61	29		14	15	52%
Spiller Furniture Lot	6,289.24	14		1	13	93%
First Presbyterian Church Lot	13,575.14	19		2	17	89%

First Presbyterian Church Lot	14,453.71	30		22	8	27%
First Presbyterian Church Lot	15,653.24	30		24	6	20%
Pasta Mill Lot	11,756.23	40		12	28	70%
First Baptist Church Lot	58,991.58	161		15 - 35	125 - 145	80-90%
First Baptist Church Lot	92,929.77	177		15 - 30	145 - 160	80-90%
First Baptist Church Lot	12,922.26	40		5 - 10	30 - 35	80-90%
First Baptist Church Lot	10,670.72	34		34	0	0%
First United Methodist Lot	30,325.65	62		5 - 10	50 - 55	80-90%
First United Methodist Lot	29,541.68	81		78	3	4%
St. Mark's Episcopal Church	7,669.32	28		28	0	0%
S Washington St School Lot	44,092.51	84		0	0	0%

Similarly, counts were taken once, at 12:30 PM, and again at 2:30 PM, on Thursday to represent the weekday parking activity. A peak is observed at 12:30 PM in the downtown area, most likely because many people come around that time for lunch, shopping, etc. The counts were as follows:

Table 3: Parking Counts on Weekdays

Parking Lot Name	Area (Square Feet)	Parking Spaces Sum	Parking Spaces	Thursday, 3/2/2017 Parking Study					
				12:30 - 1:30			2:30-3:30		
				Vacant	Occupied	% Occupancy	Vacant	Occupied	% Occupancy
On Street S Court St	3,403.36	32.00	10	3	7	70%	9	1	10%
On Street S Court St	1,487.12		5	2	3	60%	5	0	0%
On Street S Court St	821.44		3	1	7	88%	4	4	50%
On Street S Court St	1,481.81		5						
On Street S Court St	2,197.85		9	1	8	89%	7	2	22%
On Street S Court St	1,184.15		3	2	1	33%	0	3	100%
On Street W Main St	8,228.88		33	0	33	100%	9	24	73%
On Street W Main St	6,962.92		28	0	28	100%	15	13	46%
On Street W Main St	680.24		2	0	2	100%	1	1	50%
On Street W Main St	1,741.53		8	0	8	100%	2	6	75%
On Street W Main St	1,622.41		8	5	3	38%	5	3	38%
On Street W Main St	1,128.74		5	5	0	0%	5	0	0%
On Street City Hall-S Chestnut	4,934.69		21	16	5	24%	17	4	19%
Creekwalk & Main St Shops Lot	24,919.76		43	28	15	35%	28	15	35%
City Hall Parking Lot	24,449.83		28	17	11	39%	12	16	57%

Museum Parking Lot	17,298.87		47	24	23	49%	29	18	38%
Water Works Board Lot	23,902.13	98.00	50	88 - 98	0 - 10	0-10%	88 - 98	0 - 10	0-10%
Pediatrics Lot	18,299.31		48						
S Court St & Tichnor Corner Lot	14,370.22		45				42	3	7%
Fox's Pizza Den Lot	4,523.07		20				17	3	15%
Tichnor Extra & Hancock Emp. Lot	41,072.66		62	25	37	60%	29	33	53%
Hancock Bank Customer Lot	17,730.58		23	19	4	17%	18	5	22%
Prattville Fire Department	8,786.70		22	10	12	55%	10	12	55%
Prattville Associated Grocers	13,427.61		29	15	14	48%	25	4	14%
Spiller Furniture Lot	6,289.24		14	7	7	50%	12	2	14%
First Presbyterian Church Lot	13,575.14		19	16	3	16%	17	2	11%
First Presbyterian Church Lot	14,453.71		30	0	0	0	0	0	0
First Presbyterian Church Lot	15,653.24		30	0	0	0	0	0	0
G F Auto & Extra Hancock Employee Lot	17,088.86		38	15	23	61%	21	17	45%

Pasta Mill Lot	11,756.23		40	19	21	53%			
Martin Courthouse Theater Lot	11,764.86	36.00	28	32	4	11%	32	4	11%
Printing Shop Lot	2,544.44		8						
First Baptist Church Lot	58,991.58		161	0	0	0	0	0	0
First Baptist Church Lot	92,929.77		177	0	0	0	0	0	0
First Baptist Church Lot	12,922.26		40	0	0	0	0	0	0
First Baptist Church Lot	49,293.76		137	0	0	0	0	0	0
First United Methodist Lot	30,325.65		62	0	0	0	0	0	0
First United Methodist Lot	29,541.68		81	0	0	0	0	0	0
St. Mark's Episcopal Church	7,669.32		28	0	0	0	0	0	0
S Washington St School Lot	44,092.51		84	0	0	0	0	0	0

4.5 Key Findings:

On Weekends:

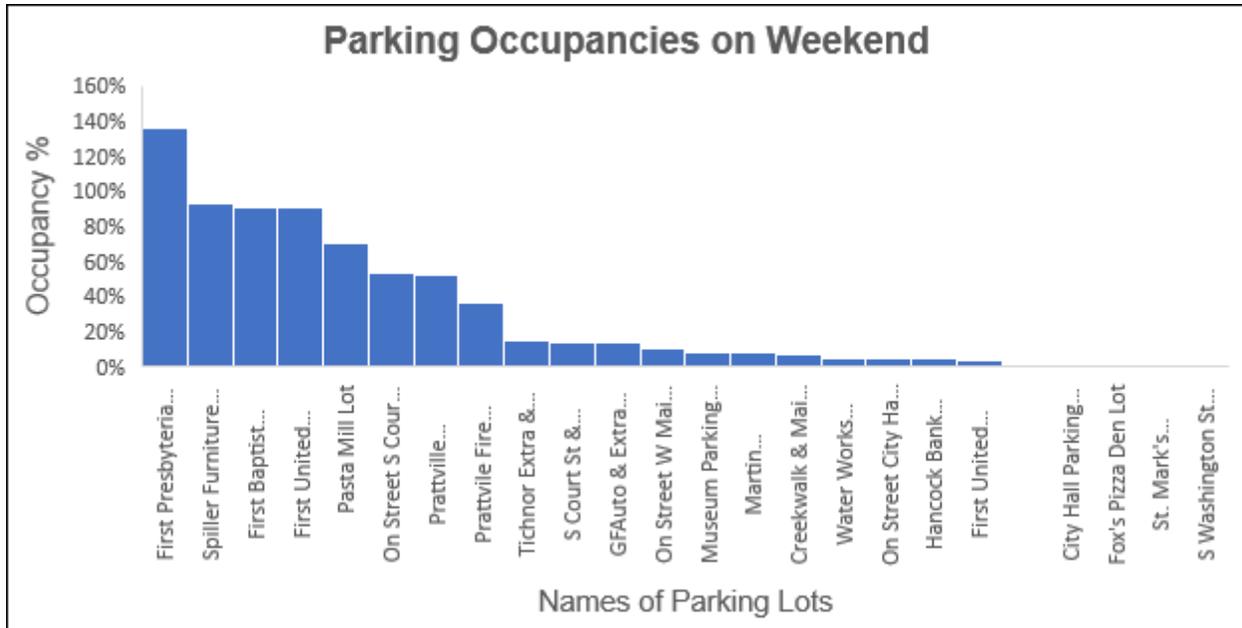


Figure 3: *Parking Occupancies on Weekend*

The highest occupancy of 93% shown by Spillers Furniture lot belongs to the Presbyterian Church. Overall, parking lots belonging to churches had 80% to 90% occupancy during the peak period while the parking lot at Pasta Pizzeria had the next highest occupancy of 70%. This occupancy can be attributed to the number of people coming over for lunch and recreation at the creek on weekends. Similarly, S Court St and Prattville Associated Grocers store had the occupancies of 53% and 52% owing to the presence of restaurants and retail stores. Even though there are other parking spaces accounted for study, their occupancies were very low ranging from 20% to 30%. The parking lot at School has 0% occupancy since it was a Sunday.



Figure 4 Parking Lot Occupancy from 11:45-12:45 on a Sunday

On Weekdays:

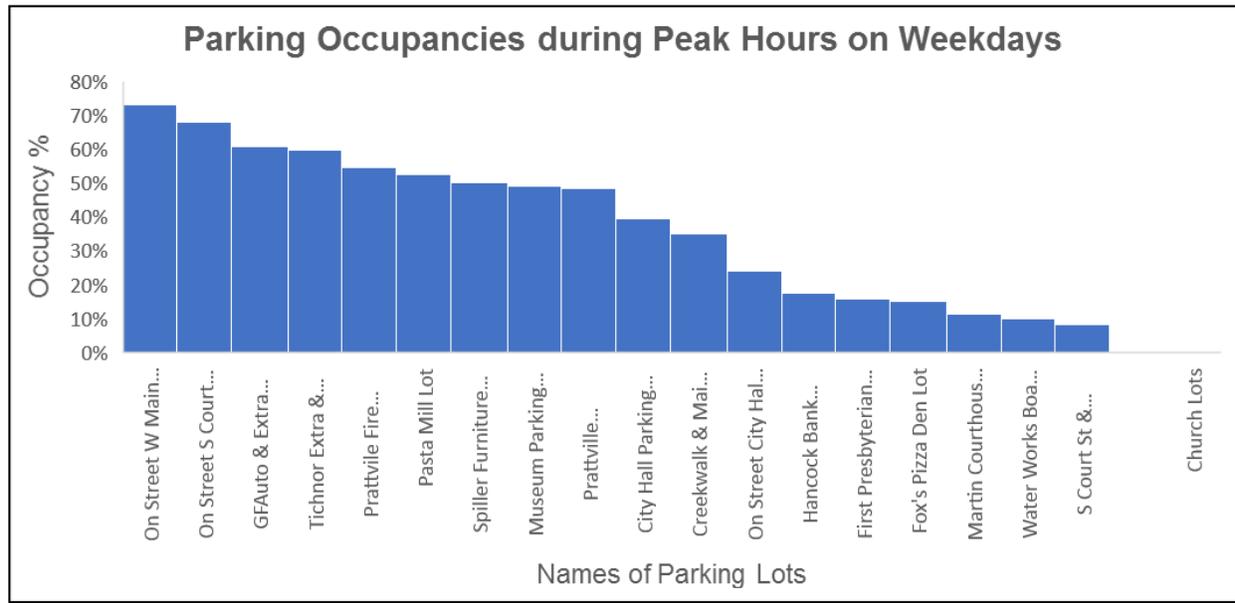


Figure 5: *Paring Occupancies During Peak Hours on Weekdays*

The peak time period was in the afternoon at 12:30 PM when people go for lunch in downtown area. On-Street parking spaces on W Main St were totally occupied in the peak period with a 100% occupancy except for two areas. Hence, their average occupancy was 73%. Similar to weekends, S Court St had the next highest occupancy of about 90% when individual parking areas were considered. On average, the occupancy was approximately 68%. The Hancock employee lots which remained empty on Sunday had a 61% occupancy on weekday which is obvious since it was a working day. The Grocer's store had a 48% occupancy. Parking lots at City Hall and Creek had 35% and 39% occupancies due to the employees and recreation respectively. All the other parking lots were occupied in the range of 15%-30% except at churches which had 0% occupancy.



Figure 6: Parking Lot Occupancy from 12:30-1:30 on a Thursday

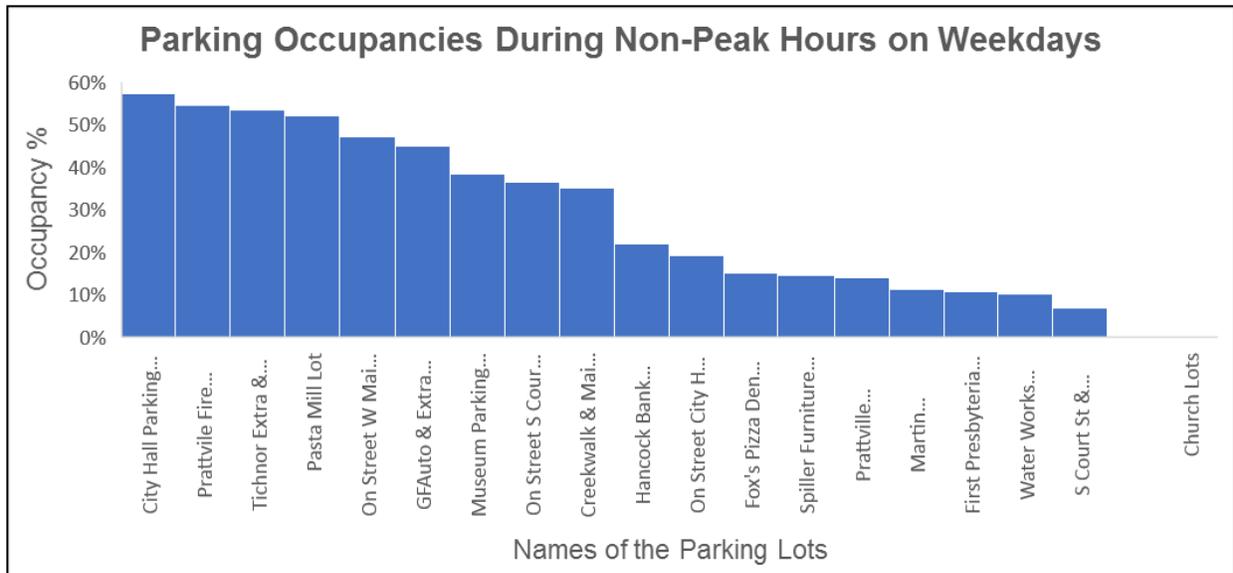


Figure 7: *Parking Occupancies During Non-Peak Hours on Weekdays*

The highest occupancy for the parking lot behind City Hall was 57% and was during the non-peak hours. This was followed by the Hancock employee parking lot with an occupancy of around 53%. The average on-street parking on S Court St and W Main St were 36% and 47% respectively. Parking lots at Creekwalk and Museum had occupancies around 38% which might be attributed to recreation. All the other parking lots were occupied in the range of 15%-22% which had 0% occupancy.



Figure 8: Parking Lot Occupancy from 2:30-3:30 on a Thursday

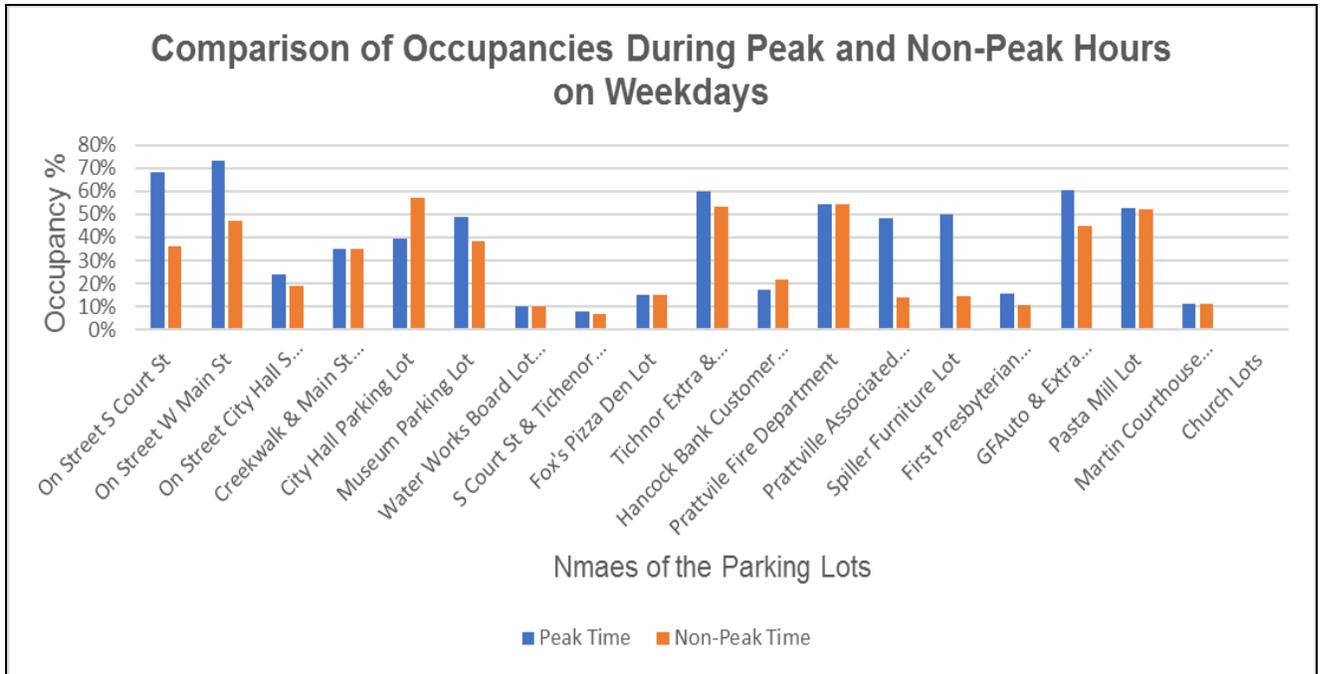


Figure 9 Comparison of Occupancies During Peak and Non-Peak Hours on Weekdays

When the peak and non-peak occupancies are compared, a huge variation can be seen in the on-street parking which covers the downtown area. A significant difference in occupancies can also be seen in the Prattville Associated Grocers store and Spiller Furniture Lot where parking in peak time is significantly higher than that in non-peak hours. It is interesting to note that parking in City Hall parking lot is higher in non-peak hours than in peak hours though its reason is unknown.

A similar study was conducted on parking in 2008. Even though the parking lots studied in 2008 were fewer than the current study, they can be used to understand the variations in occupancies. When the parking supply and occupancies in peak time are compared, the results are as follows:

Table 4 : Comparison of Occupancies in 2008 and 2017

Parking Lot Name	2008 %Occupancy	2017 %Occupancy
On Street S Court St and W Main St	71%	72%
On Street City Hall S Chestnut St	38%	24%
Creekwalk & Main St Shops Lot	30%	35%
City Hall Parking Lot	46%	39%
Museum Parking Lot	66%	49%
Tichnor Extra & Hancock Employee Lot	50%	60%
Hancock Bank Customer Lot	13%	17%
Prattville Fire Department	77%	55%
Prattville Associated Grocers	38%	48%
GFAuto & Extra Hancock Employee Lot	89%	61%

Table 5: Comparison of Total Average Occupancies in 2008 and 2017

Parking Area Name	2008 Total Average Occupancies	2017 Total Average Occupancies
On Street S Court St & W Main St	52%	58%
On Street City Hall S Chestnut St	51%	16%
Creekwalk & Main St Shops Lot	34%	26%
City Hall Parking Lot	51%	32%
Museum Parking Lot	74%	32%
Tichnor Extra & Hancock Employee Lot	55%	42%
Hancock Bank Customer Lot	22%	14%

Prattville Fire Department	83%	48%
Prattville Associated Grocers	48%	38%
GF Auto & Extra Hancock Employee Lot	80%	39%

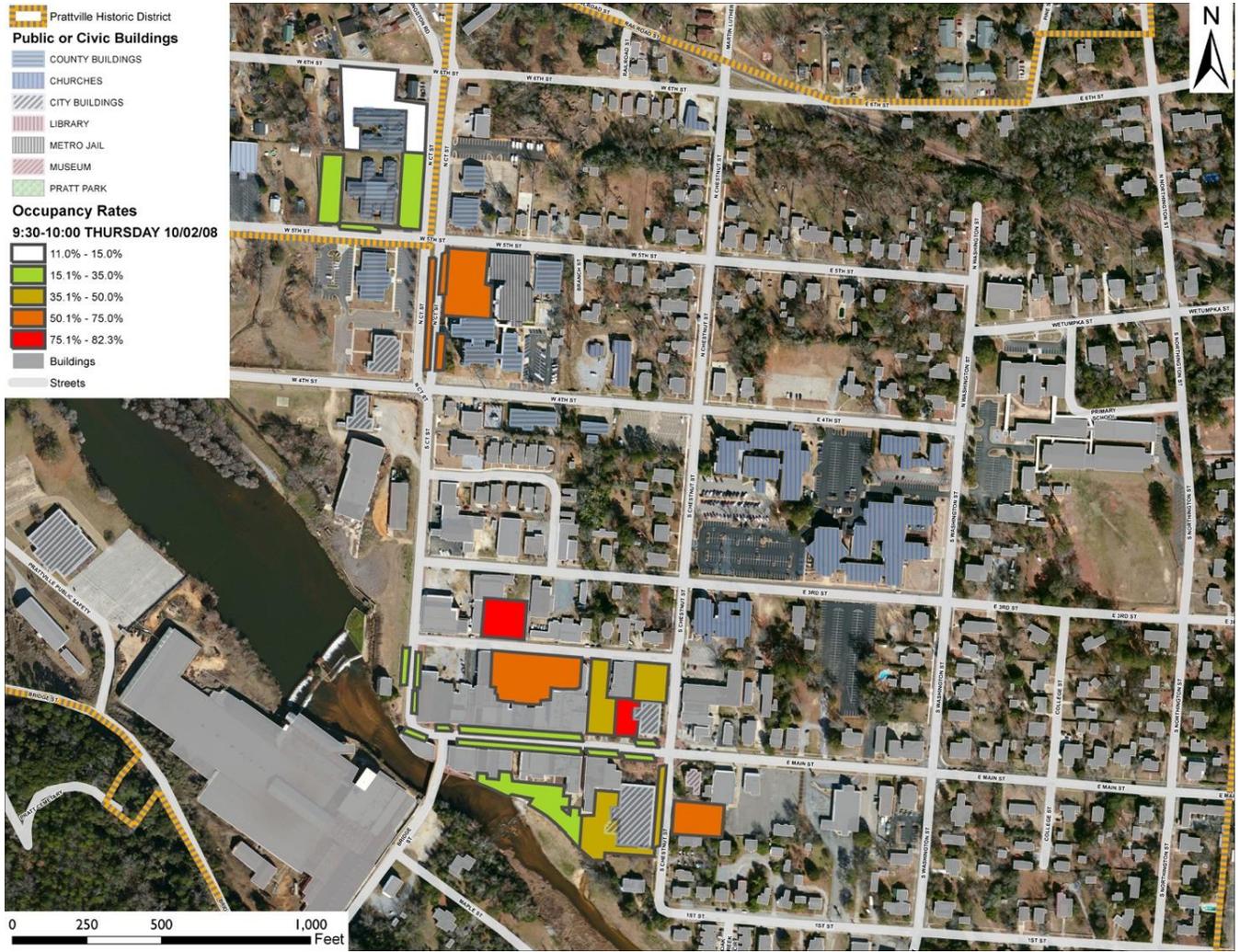


Figure 10: Thursday occupancy from 9:30-10:00 in the morning, in 2008.

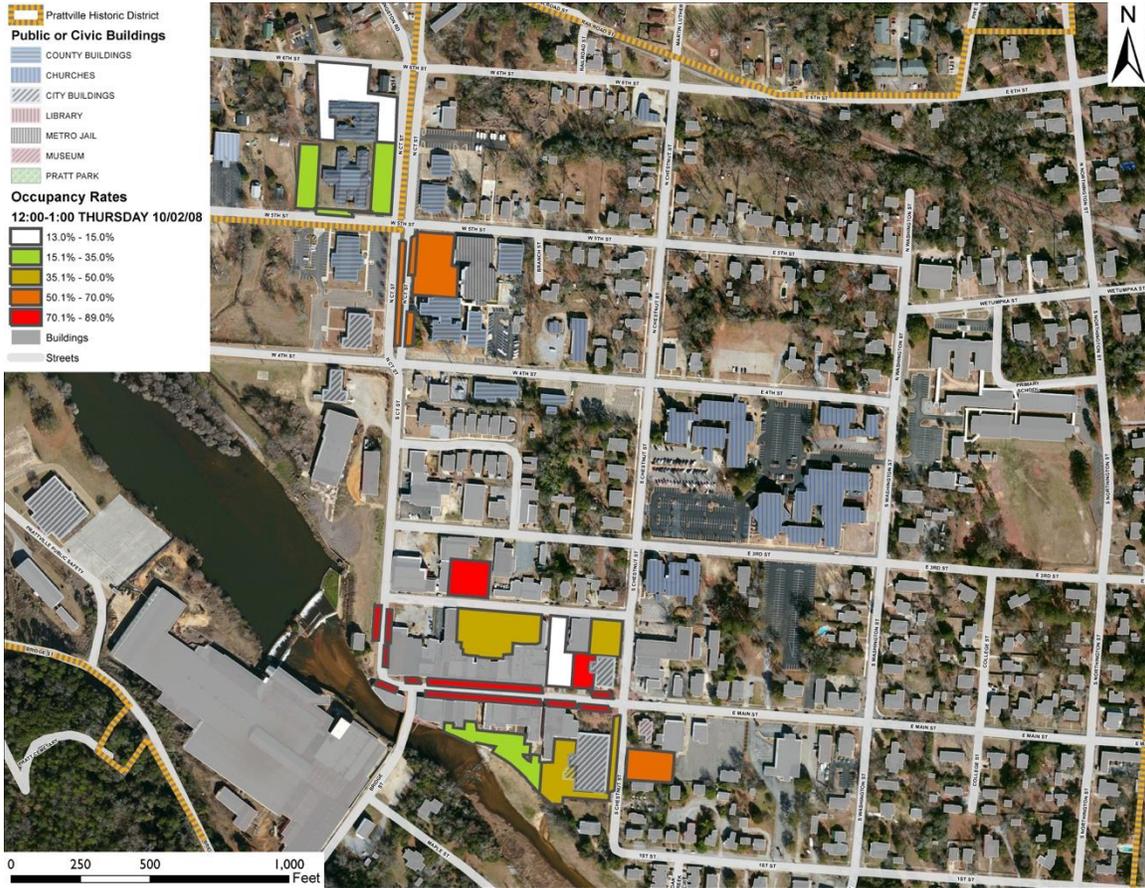


Figure 11: Thursday occupancy from 12:00-1:00 in the afternoon, in 2008

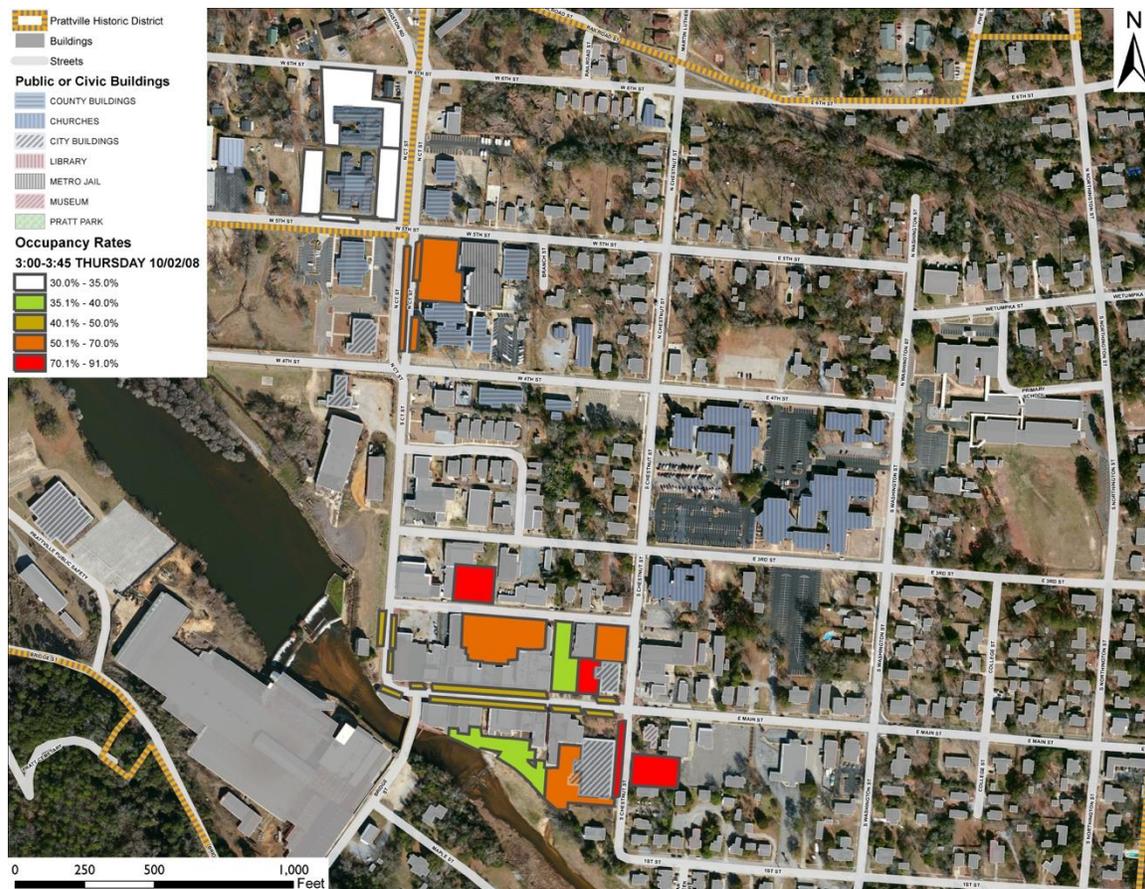


Figure 12: Thursday occupancy from 3:00-3:45 in the afternoon, in 2008

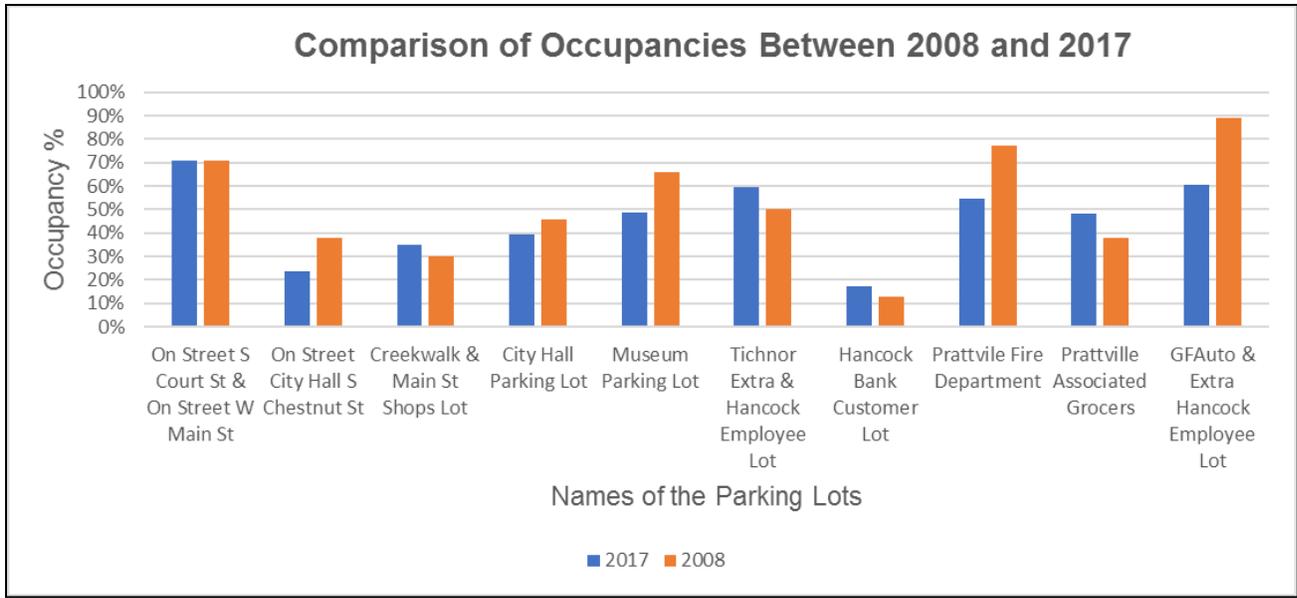


Figure 13 Comparison of Occupancies Between 2008 and 2017

It can be observed that the occupancy rates vary from 1% to 20% between 2008 and 2017. There is only 1% increase in on-street parking occupancy from 2008 to 2017. In many cases, occupancy was higher in 2008 than in 2017. This might be due to an increase in the number of parking lots which were absent in 2008 (since the parking lots in downtown area covered under study were very few).

4.6 Other Observations

Zoning Codes and Land Use:

After observing the city code, you can notice there is minimal detail on the amount of parking an establishment may have. However, under Article, Section 75, O-1 zoning requires Off-Street Parking of 200 square feet of parking for each 100 square feet of interior space for a one story, or per each 60 square feet for a two or three story building. After assessing the parking space utilization downtown, and specifically observing the Hancock Bank lot, with its insignificant occupancy levels of 15% - 55% in non-peak hours, we can tell that this proportion of parking to office space is too abundant for what the building actually needs, and that spaces like these can therefore contribute to shared parking.

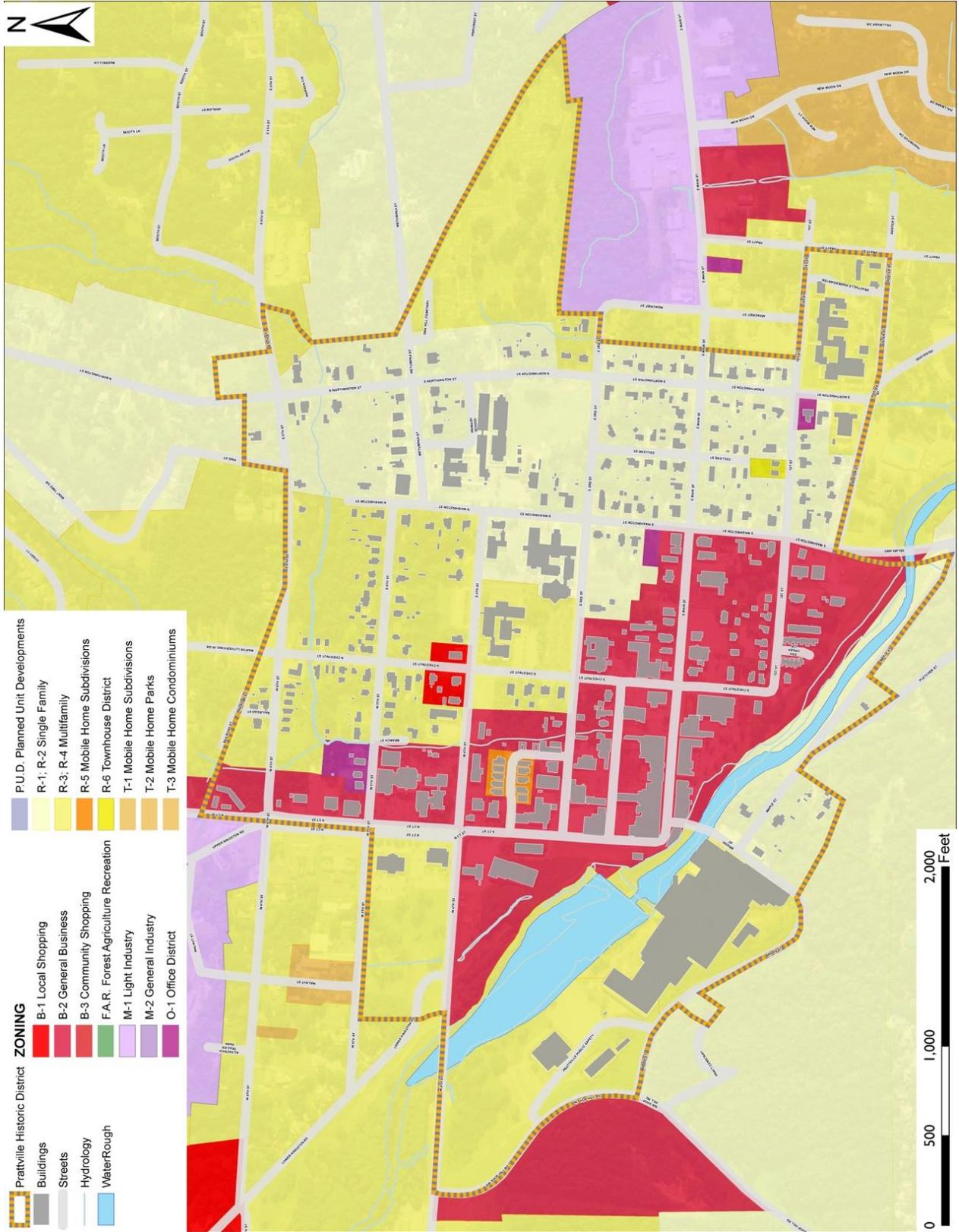


Figure 14: Zoning Districts in Downtown Prattville

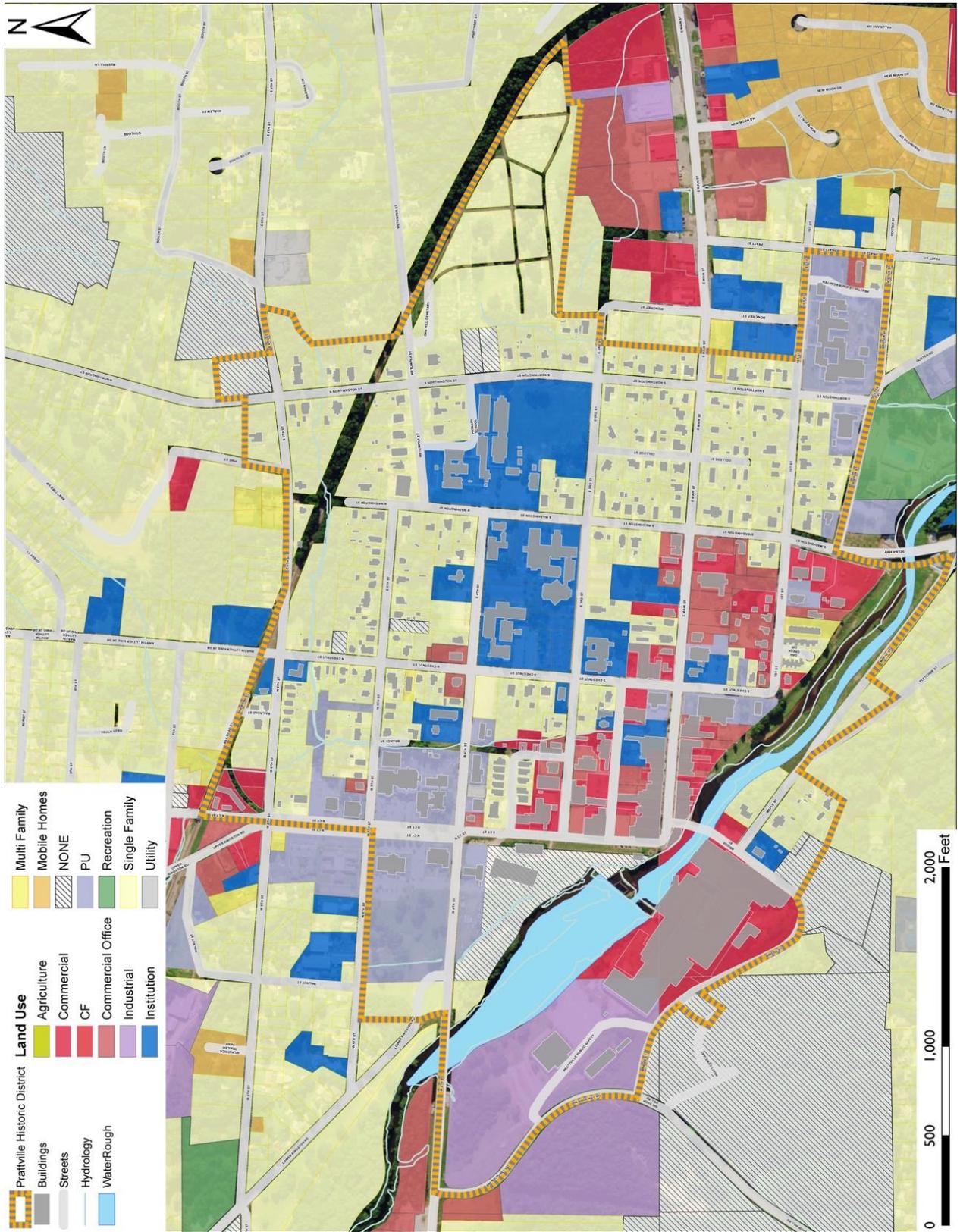


Figure 15: Land Use in Downtown Prattville

The downtown area had several spots that would benefit from the addition of crosswalks. Also, there was a lack of wayfinding and parking signage to help direct people to parking areas or help make them aware of available parking. The lack of wayfinding signage also applies to pedestrian connectivity, because there is a lack of signage for showing pedestrians where the most efficient routes from parking lots to destinations are. There are, however, several signs regarding restrictive parking policies, which is most likely negatively affecting the available parking capacities.



Figure 16:
(Left) Example of restrictive parking policy sign in the Tichnor extra parking lot behind the Main Street shops
(Right) Example of restrictive parking policy sign at the Martin Courthouse Theater parking lot

4.7 Conclusions

After clearly observing the parking trends in both the peak and non-peak hours on weekdays as well as weekends, the following conclusions are drawn:

- Based on the occupancies, there is no significant growth in parking demand from 2008 to 2017.
- Church Lots have around 90% occupancy on weekends (Sundays) which is almost 0% on weekdays.
- On-Street parking in the downtown area is around 50% on Weekends while it is only around 70% on weekdays.
- At any point of time, no parking lot is completely occupied and have average occupancies ranging from under 10% to 80%. Hence, we can conclude that the parking facilities in Prattville are under-utilized.
- From field observations, a lack of connectivity was noticed between many parking lots and streets. This results in an increase in the distance to be walked from a parking lot to a destination.

Therefore, it can be concluded that Prattville has adequate parking facilities which are still under-utilized.

4.8 Parking Management

Shared Parking:

Shared parking is an efficient way to serve people seeking access to multiple destinations especially in downtown areas (Litman, Parking Management Strategies, Evaluation and Planning, 2016). It provides an opportunity to park vehicles at a walkable distance from destinations instead of far public lots and on-street lots. It further reduces the necessity of numerous parking spaces to serve a single area of city.

The efficiency of shared parking was proved in various cities of Portland metropolitan area which required additional parking during events or for college students or for businesses

in the evenings etc. This reduced the costs required to provide additional parking spaces (Stein, et.al., 2010). However, shared parking requires agreement between the city and owners of a private parking lot. This is usually achieved by providing some incentives to the owners while taking care to avoid any inconvenience to the owners when they need the lot for their own use. For instance, an agreement between George Mason LLC and the City of Falls Church, VA provided 50 additional parking spaces for public on the condition of payment for trash removal and provision security by the City (Church, 2016).

The potential lots identified for shared parking in Prattville include 4 churches in downtown with containing 700 spaces approximately all of which remain empty on weekdays unless an event takes place in church. The Presbyterian church alone owns 338 spaces of these while the United Methodist Church owns 143 spaces. Similarly, Hancock Bank owns a surface lot with 62 spaces restricting the parking only to its employees. This lot has a maximum occupancy of about 60% on weekdays while it is only 15% on weekends. All these spaces are located only a block away from restaurants, groceries, stores etc.

Based on the field observations and results from parking utilization study, the following recommendations are made to improve the number of parking spaces available in downtown:

- A shared parking agreement between the city and Baptist church to let the use of two parking lots on E 3rd Street by public on weekdays.
- A shared parking agreement between the city and the United Methodist Church to let the use of two parking lots on S Chestnut Street by public on weekdays.
- A shared parking agreement between the city and Hancock bank to allow the public use of 25 spaces out of 62 spaces allocated for the employees.
- City shall provide security to all the properties in agreement and pay for their maintenance.
- Owners of parking lots shall be given rights to install signs restricting public parking in case of any events. For example, churches shall be given the right to restrict public parking when a wedding takes place.

Enforcement of Parking Price:

Parking price is a direct cost paid for utilizing a parking space. It is one of the efficient strategies to improve parking management (Litman, 2016). Enforcing a price encourages the drivers to find spaces which are less convenient or use alternate modes of transport. It leaves spaces which are the most convenient to people who are really in dire need of it (Institute, 2017).

Parking pricing is a potential strategy to apply in downtown of Prattville. This is because people visiting downtown tend to park on-street of W Main Street which is the most convenient spot. This is leaving all other parking lots underutilized. Moreover, due to the lack of any restrictions on the duration of parking, some of the residents do not find empty spaces to park on-street. Hence, implementation of pricing encourages drivers to find other spaces which are close to downtown and not being utilized efficiently. Moreover, a reduction in parking occupancies on-street makes the streets safer for pedestrians and bicyclists as they can be clearly seen by traffic.



Figure 17 W Main St parking in to Meter parking: \$0.50/hour

The following suggestions are made to enforce parking pricing based on the previous studies:

- Install parking meters on sections of W Main Street and S Court Street in downtown to collect a parking price of 50 cents for an hour.

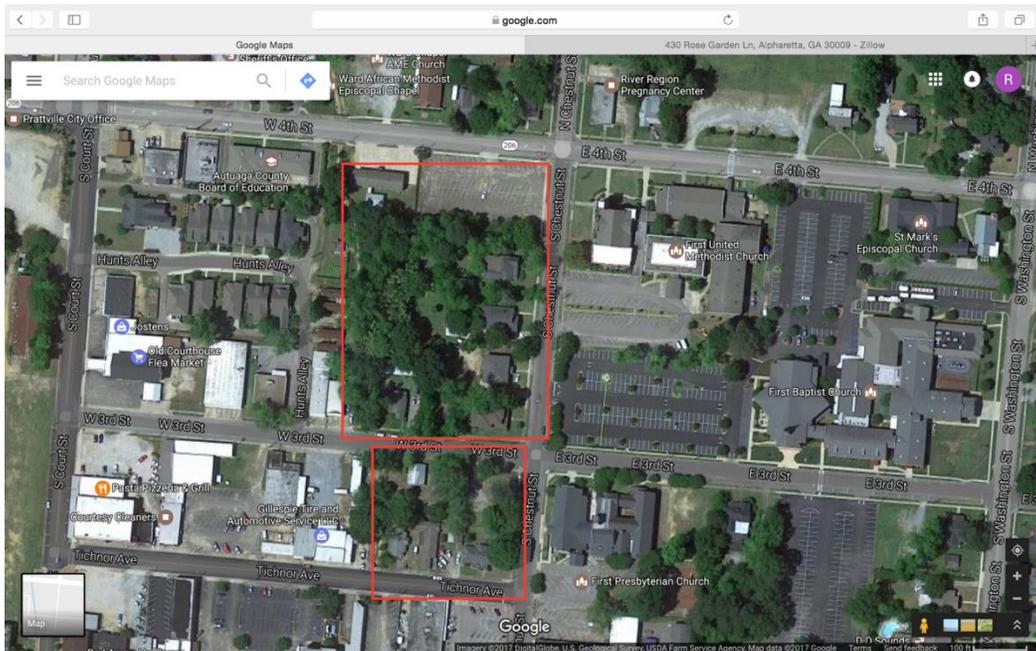
- Enforce a maximum parking duration of 2 hours at these spaces. This is because people visiting for dinner or any other works spend usually 2 hours in downtown while those visiting for recreation spend longer hours. Restraining parking duration encourages people staying for longer periods of time to find less immediately convenient spaces.

4.9 Redevelopment Proposal

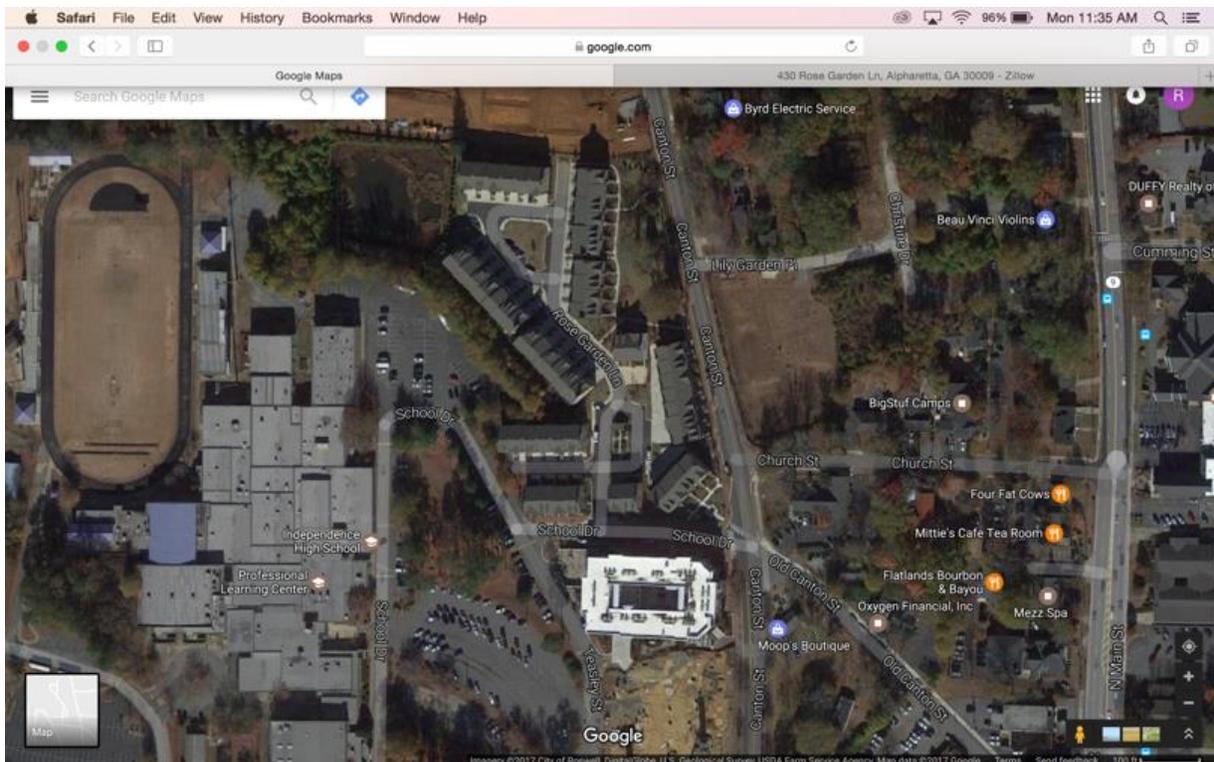
Downtowns across the nation are renowned for their vitality, walkability, and, in larger metropolitans, their access to transit options. The first two are very intertwined: if you create a mixed-use urban environment, it will create a want, and a need, to walk. The typical urban streetscape is usually fronted by buildings that are often abutting the sidewalk, and you will often find parallel parking spots on the street in front of said buildings. The sidewalks avoid excessive curb cuts and are also wide enough to accommodate two, or sometimes more, people walking side by side.

Prattville does not constitute the main downtown district for its metropolitan area, the Montgomery metropolitan statistical area (MSA); that would be Montgomery's downtown. However, Prattville, like many suburban areas with historic downtown districts, is investing in its downtown and wants to promote more downtown growth. For this proposal, we are comparing the redevelopment area in question to the downtown redevelopment of Alpharetta, Georgia, a large, affluent suburb on the north-side of Atlanta's metropolitan area. Alpharetta's downtown is very similar in size to Prattville's, and it is also a historic area. Their development plan has called for new apartments, condos, and townhouses in the city center as well as mixed-use development. This was one of the first steps the city took to slow down the city's pattern of sprawl and revitalize its historic center.

Area in Question: Chestnut Street from Tichnor Avenue to 4th Street, back to Hunt's Alley and commercial establishments on Tichnor.



Here is the site of the Alpharetta Development:



(Google Maps)

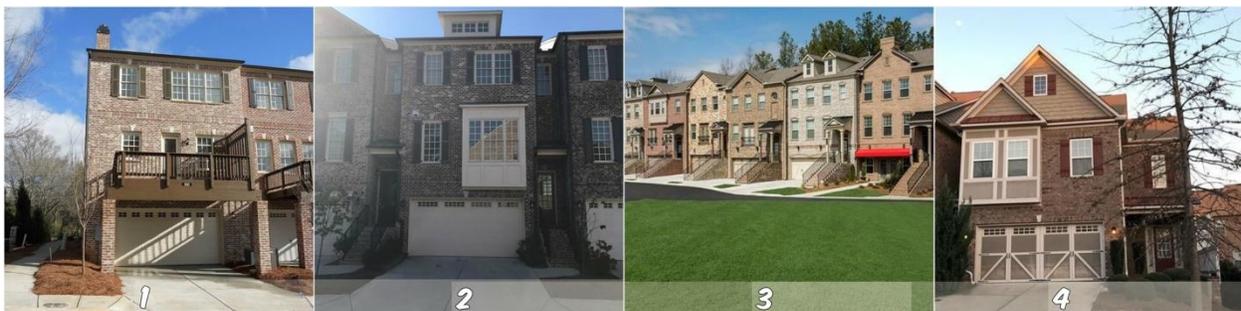
Specifically, the development of the townhome community named “The Georgian” which was constructed in 2014. The development replaced approximately 6 historic homes dating from around 1915 to 1930. While it still has some characteristics of a traditional suburban development, it incorporated ideas that promote a walkable lifestyle. On Canton Street, the main street that runs north-south just east of the development, has new, wide sidewalks, no garages facing Canton Street, and new parallel parking spots. Below are some images of the streetscape along Canton Street.





(Google Maps)

As shown, there are only stoops and front entrances to these townhomes. This type of development would be very appropriate for Prattville given the three to four story height limit. These townhomes also have an increased equity compared to their counterparts further removed from the downtown area because being located downtown or in an area with a mix of uses, amenities, and historic character increases value. Below is a chart comparing four properties: two in the downtown, and two in further removed locations.



Housing Option	Price	Size	Year Built	Distance from Downtown
1	\$3,200/month	2,500 ft ²	2014	0 miles

2	\$422,722	2,391 ft ²	2014	0 miles
3	\$381,154	2,536 ft ²	2017	1 mile
4	\$289,900	2,396 ft ²	2008	4 miles

(Zillow.com)

As you can see, the properties downtown are valued much higher than their competitors in further out locations, even if they are newer developments of the same size or larger.

How can this be applied to Prattville?

The first step needed to accomplish this redevelopment would be to rezone the area in question to R-6, Townhouse District. The city, or developer, would need to improve and potentially widen the current sidewalks. To a lesser extent some curb-cuts would need to be removed, and new street parking would need to be painted. The development could have two phases, on the north and south sides of 3rd street, and have an entrance to the garages off of 3rd street that way only one curb cut would be needed on each side of 3rd street for multiple residents. The portion south of 3rd street but between Chestnut and Tichnor could also take form as a mixed used space for a two or three story apartment building with commercial space and parking on the first floor. This is modeled after “Teasley Place” a 24-unit, 4 story building with commercial on its bottom floor, it is located less than a block from “The Georgian” and currently has three-bedroom condos going for almost 1.2 million dollars.

Why should Prattville pursue this type of redevelopment plan?

Increased property tax revenue

Increased population in the downtown area

Potentially revitalizing a broader area of downtown

More downtown pedestrian traffic, meaning less personal vehicle traffic

4.10 Existing Parking Policies

Referenced from “Prattville, Alabama-Code of Ordinances”, several parking policies and ordinances have already been issued to the city, which include parking to conform to markings and signs, parking policy of trucks and tractors, and the parking regulation of trucks loading with certain capacity of flammable liquids.

Parking to conform to markings and signs, as demonstrated in the “Prattville, Alabama-Code of Ordinances”, is a regulation to limit public parking on marked parking spaces, which are owned or operated by specified persons or properties. These spots are usually marked with yellow paint or by sign. Only the vehicles with authorized decal have the right to park in these spots.

The parking policy of trucks and tractors listed in the ordinance indicates that trucks, tractors, trailers, or any tractor-trailer combinations with more than one and a half tons are forbidden to park on any streets or in any areas that are zoned R-1, R-2, R-3 or R-4 in the city, except for loading or unloading purpose.

There is another regulation for a parking safety issue, which is that trucks, trailers, or any other heavy vehicles loading with 100 gallons of flammable liquids are prohibited from parking in the city except while loading or unloading. The flammable liquid types include, but are not limited to, kerosene, gasoline, diesel fuel, propane, and butane, whose flashpoints are below 70 degrees Fahrenheit. If those trucks do not have a loading or unloading purpose to park, written permission should first be issued from the fire department.

4.11 Modifications in Parking Policy

Policy Improvement to Implement Shared Parking and Parking Pricing:

In order to update the parking policy and implement the proposal, how the spaces in downtown area are used shall be analyzed. The way to do this is by conducting a forecast based on the levels of parking demand to satisfy different parking goals at different time slots, such as weekday peaks, evening peaks, and weekend peaks. The following figure shows

an example of peak parking demand for different land use types, which tells us that parking can be shared efficiently between land uses at their various individual peaks.

Peak Parking Demand:

Weekday Peaks	Evening Peaks	Weekend Peaks
Banks	Auditoriums	Religious institutions
Schools	Bars and dance halls	Parks
Distribution facilities	Residents	Shops
Factories	Meeting halls	
Medical clinics	Restaurants	
Offices	Cinemas	

Source: Modified from the original version from Victoria Transport Policy Institute

Although shared parking requires a consensus by the parties involved and takes time to proceed, it has benefits for developers and governments, as well as citizens, who are arguably the main reason for the vast majority of parking lots. Recording and analyzing how parking spaces are used one way to implement shared parking in Prattville.

The implementing agency of parking pricing would be the local Prattville city or county government and individual businesses and property owners. Implementation of parking pricing should be based on objectives. As a parking management policy, prices for the most convenient parking spaces should be higher than other locations.

Advantages of Making Improvement on Policies:

With the policies on weight limitation of heavy vehicles as well as safety consideration on trucks carrying flammable liquid not changing, shared parking policy and parking pricing policy were added to the “Parking to Conform Markings and Signs” ordinance.

By updating the parking policy to implement shared parking, the benefits include alleviation of traffic congestion; improving the efficiency of the existing parking infrastructure; avoiding

excessive and unnecessary development of impervious surface area in a place with stormwater management and drainage issues; avoiding an increase in the urban heat-island (UHI) effect to which unshaded, impervious parking lots greatly contribute; and eliminating the burden on developers and planners to build more parking spaces for high-demand parking lots.

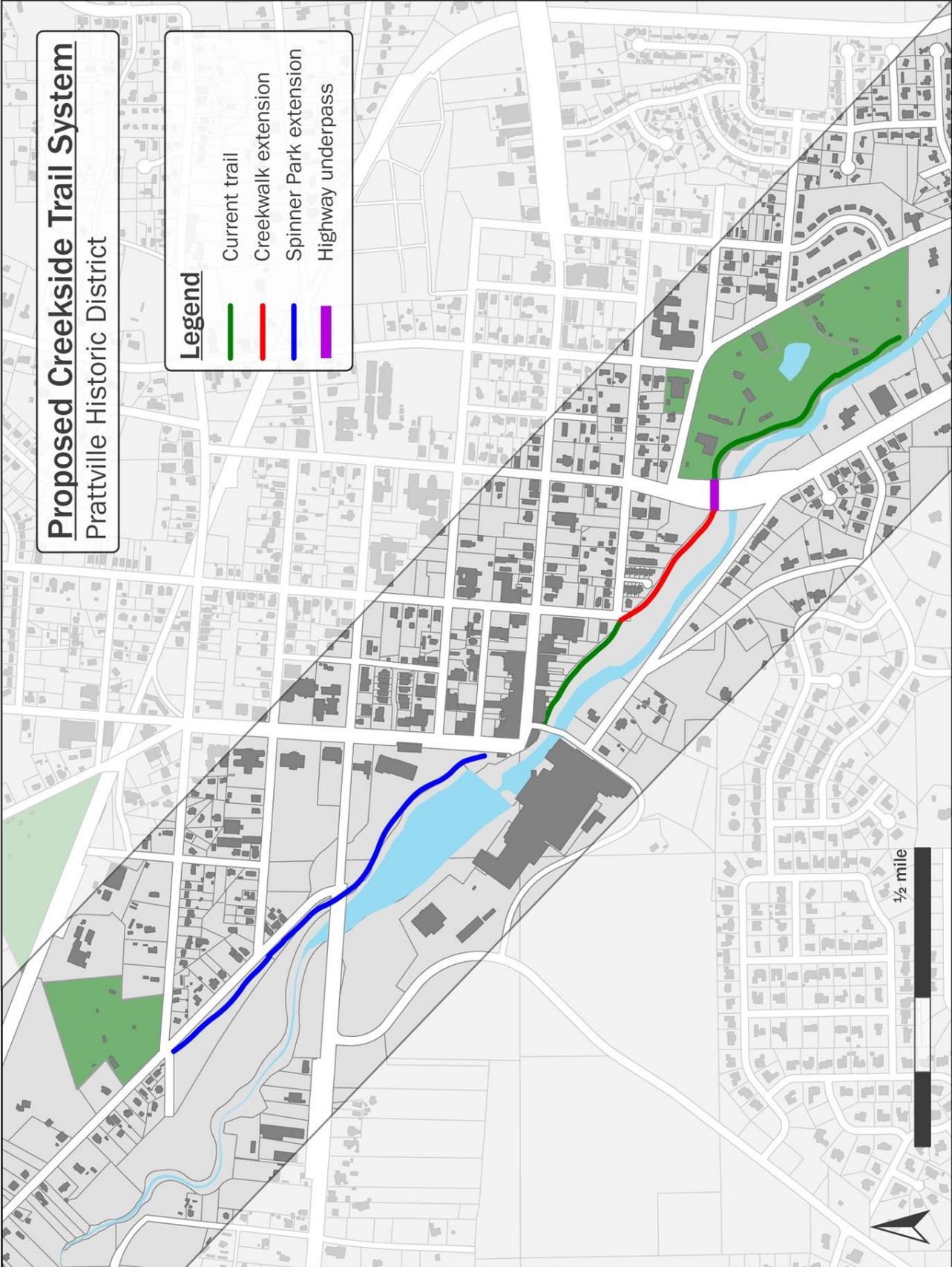
By updating policies to implement parking pricing, the benefits include reduction of the traffic volume in downtown area, increased parking spot turn-over rates, improving the parking space utilization in the downtown area, and generating a source of revenue for the government, which can be used for maintenance of parking facilities and roadways, as well as funding for special projects or programs.

Chapter 5: Recreational Trails

5.1 Introduction

Downtown Prattville is home to two walking trails, both situated along Autauga Creek. The Creekwalk, which runs from Bridge Street to City Hall, is a major amenity for downtown. Kayakers and canoers use this area to paddle the Autauga Creek Blueway, and the walking path offers a nice opportunity for pedestrians to take in the scenery and relax. Further to the southeast, the Pratt Park Walking Trail runs along Autauga Creek from the Selma Highway to the south end of the park. These two trails are separated by a gap of less than a quarter mile. By connecting these trails and extending the Creekwalk north to Spinner Park, Prattville could create a high quality urban trail system in their downtown area. This interconnected system would potentially yield extensive economic, social, and environmental benefits for Prattville and its citizens.

The Pratt Park trail currently connects Prattville's public library, community center, senior center, and Pratt Park itself. However, if pedestrians want to continue past the Selma Highway, they are forced to travel up Washington Street and around to City Hall, where the trail picks up on the Creekwalk. Though the off-trail distance is short, the disconnection discourages its usage, leading many to simply drive from one place to the next. By linking these trails together, it would allow locals to take scenic walks through historic Prattville instead of having to take their cars. Creation of this new trail connection would bring monumental change to downtown accessibility, connecting businesses, restaurants, and offices to the previously mentioned civic amenities while also improving access to scenic Autauga Creek.



5.2 Current Issues

A major obstacle to creating this new connection will be how the trail crosses the Selma Highway. By underpassing the bridge, pedestrians and cyclists will not have to cross this busy road, greatly improving safety. However, bridge underpasses present their own challenges; though they are inherently safer than crossing a heavily-trafficked highway, underpasses can feel dark, foreboding, and unsafe, which discourages use. The Selma Highway underpass must be designed with clear sightlines, and should be lit underneath to increase visibility. If the underpass feels unsafe, pedestrians will avoid it, opting instead to jaywalk across the road. Both Montgomery and Birmingham have recently used colored LED lighting to activate underpasses and tunnels. Many avoided these areas and considered them to be seamy eyesores; now, they are not only well-used, they are considered attractions themselves. However, bright, high-colored lights may not be the best option for Autauga Creek; a more organic solution could activate this space without detracting from the natural beauty the trail seeks to showcase.



Current signage gives information on Canoe Trail but does not include wayfinding for pedestrians.

An essential part of this new, cohesive trail system will be improved signage and wayfinding. Currently, almost all signage found on the trail is dedicated to information about the canoe trail. Though useful, this offers pedestrians little information for wayfinding. New signage should be installed that informs users where they are going, and what amenities they can find there. Informational markers can be added, telling the history of the area and providing detail on the

flora and fauna found around Autauga Creek. Additionally, attractive mile markers should be installed each quarter mile, since the trail will draw many fitness users from the surrounding community.

5.3 Proposal

Though much of the downtown Creekwalk trail is poured concrete, the Pratt Park trail is mostly made up of low-quality red gravel with a plank barrier. This is not sufficient for runners or cyclists, especially when the trail is wet. Replacing this with a concrete or asphalt surface would improve usability, though this creates stormwater issues in an area already troubled with them. Porous concrete or asphalt treatments could help mitigate this. Alternatively, a pervious rubber path, made from recycled tires, could minimize stormwater runoff while providing a more forgiving surface for walkers and runners. Upgrading to a more permanent surface offers greater functionality and durability, plus reduced maintenance costs from gravel wash-outs.

While connecting the downtown Creekwalk with the Pratt Park trail should be the priority in Prattville’s trail development, the extension of this trail northward should be included in a second leg of development. By extending the trail along Autauga Creek, through Heritage Park and up Lower Kingston Road, the city can create a park-to-park greenway axis, connecting Spinner Park in the north with Autauga Creek, downtown, and Pratt Park. At nearly two miles in length, this trail will allow cyclists and pedestrians unprecedented access and amenity, and will be a major draw for downtown Prattville. By giving trail users a variety of destinations, it encourages exponentially more use than the current disconnected system, which offers few true “destinations” for users. With the construction of hundreds of new apartments in the old gin shop, improving connectivity downtown and accommodating pedestrians in an inviting way will become more important than ever. Expanding and improving the trails along Autauga Creek will be a major contribution to these priorities.



Current Creekwalk surface of concrete and brick



Current trail surfacing, which is insufficient in wet conditions.
