

MIDTOWN AREA TRANSPORTATION PLAN

Phase 1 – Evaluation of Transportation Improvement Alternatives

Prepared for:

Capital Region Transportation Planning Agency

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INTRODUCTION

Purpose of Study

The Midtown area in Tallahassee Florida is a thriving community consisting of a mix of land uses that include: residential, business, parks, and restaurants. The traffic using the area includes commuters traveling to and from work and home, those attracted to the amenities (restaurants, businesses, shops and parks) in Midtown and those that live and work in the area. The purpose of Phase 1 of the Midtown Area Transportation Plan was to analyze traffic trends and patterns throughout the Midtown area, identify network deficiencies in the Midtown area, and evaluate potential transportation improvement alternatives to move forward to the next phase for further study and stakeholder review and comment.

Study Area

The study area is bounded to the north by E Bradford Road, to the south by E Virginia Street, to the east by N Gadsden Street, and to the west by N Bronough Street. **FIGURE 1** shows the map of the study area.

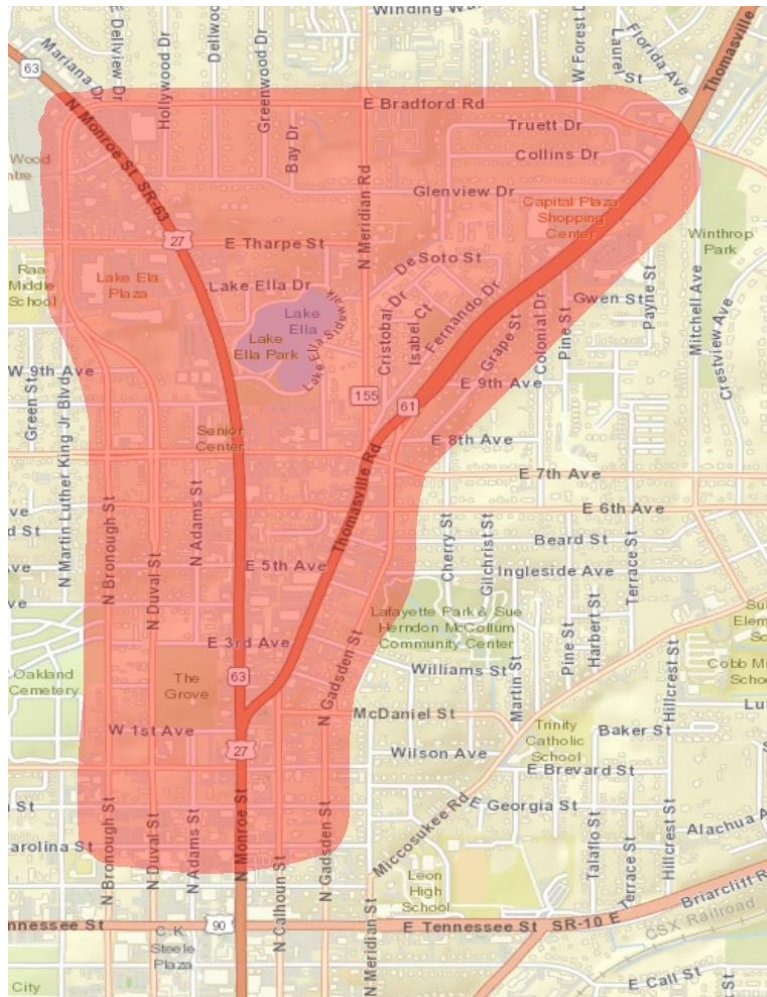


FIGURE 1. STUDY AREA

Data Collection

Review of previous studies within the area was the initial step of Phase 1. The studies reviewed include:

- Blueprint's Midtown Placemaking
- Tallahassee/Leon County Planning Department's Midtown Action Plan
- FDOT District 3 Safety Office's SR 61/Thomasville Road Pedestrian/Bicycle Arterial Safety Study
- FDOT District 3 Safety Office's SR 61/Thomasville Road Supplemental Safety Study

In addition, data was collected from the City of Tallahassee (signal timings, turning movement volumes, and Synchro model), Tallahassee/Leon County Planning Department (sidewalk network shapefiles), FDOT (roadway information), and crash data. To better understand the travel patterns through the Midtown area Origin and Destination (OD) Data via Bluetooth was collected.

Throughout Phase 1 CRTPA, Blueprint, City of Tallahassee/Leon County Planning Department, City of Tallahassee, Leon County and the Florida Department of Transportation were provided updates and opportunity to provide feedback.

EXISTING CONDITIONS

The main corridors that traverse the Midtown area are N Gadsden Street, Thomasville Road, N Meridian Road, and N Monroe Street in the north-south direction. In the east-west direction, the main thoroughfares include Bradford Road, Tharpe Street, 7th Avenue, and 6th Avenue. Existing travel patterns and intersection levels of service were analyzed to provide a basis of transportation need and potential Alternative improvements in the Midtown area.

Existing Travel Patterns

To better understand the travel patterns through and to the Midtown area Origin and Destination (OD) Data was collected via Bluetooth information. Bluetooth data was collected anonymously by device media access control (MAC) addresses as they passed into or through the signal range of Bluetooth collection units placed strategically in and around the Midtown area of Tallahassee. Records were not otherwise associated with the owner of the vehicle or device detected by the collection units. Data was collected specifically for quantitative analysis of travel patterns in the area.

Origin-destination (O-D) data was collected for the two-week period from April 29, 2017 to May 12, 2017. The locations of the Bluetooth collection units are shown in **FIGURE 2**. Approximately five percent more trips were recorded in Week 1 (April 29 to May 5) than were recorded in Week 2 (May 6 to May 12). During Week 1, the state legislature and the local universities were still in session, which may have contributed to the difference between the two weeks.

The Bluetooth collection units that recorded the most trips as origins and/or as destinations include US 27/N Monroe Street south of Thomasville Road, on US 27/N Monroe Street north of W Bradford Road, and on Thomasville Road north of E Bradford Road/Betton Road. Together, those three locations account for 42.3 percent of trip origins and for 45.7 percent of trip destinations, with a considerable amount of interaction between them. These results prove consistent with the corresponding traffic data indicating that US 27/N Monroe Street and Thomasville Road are the highest traffic volume roadways within the study area. Travel patterns through Midtown from the Bluetooth data collection are summarized in **FIGURES 3** through **FIGURE 6**.

Additional details of the Bluetooth data collection effort and Analysis is provided in **APPENDIX A**. From this data, it can be concluded that:

- There are multiple routes through Midtown and the decision to utilize routes depends on the origin/destination of the traveler.
- The largest portion of traffic using Midtown as a destination in the AM peak hour originates from the north.
- The largest portion of traffic using Midtown as a destination in the Midday Peak originates from the south or downtown Tallahassee
- The largest portion of traffic using Midtown as a destination in the PM peak hour originates from the south or downtown Tallahassee

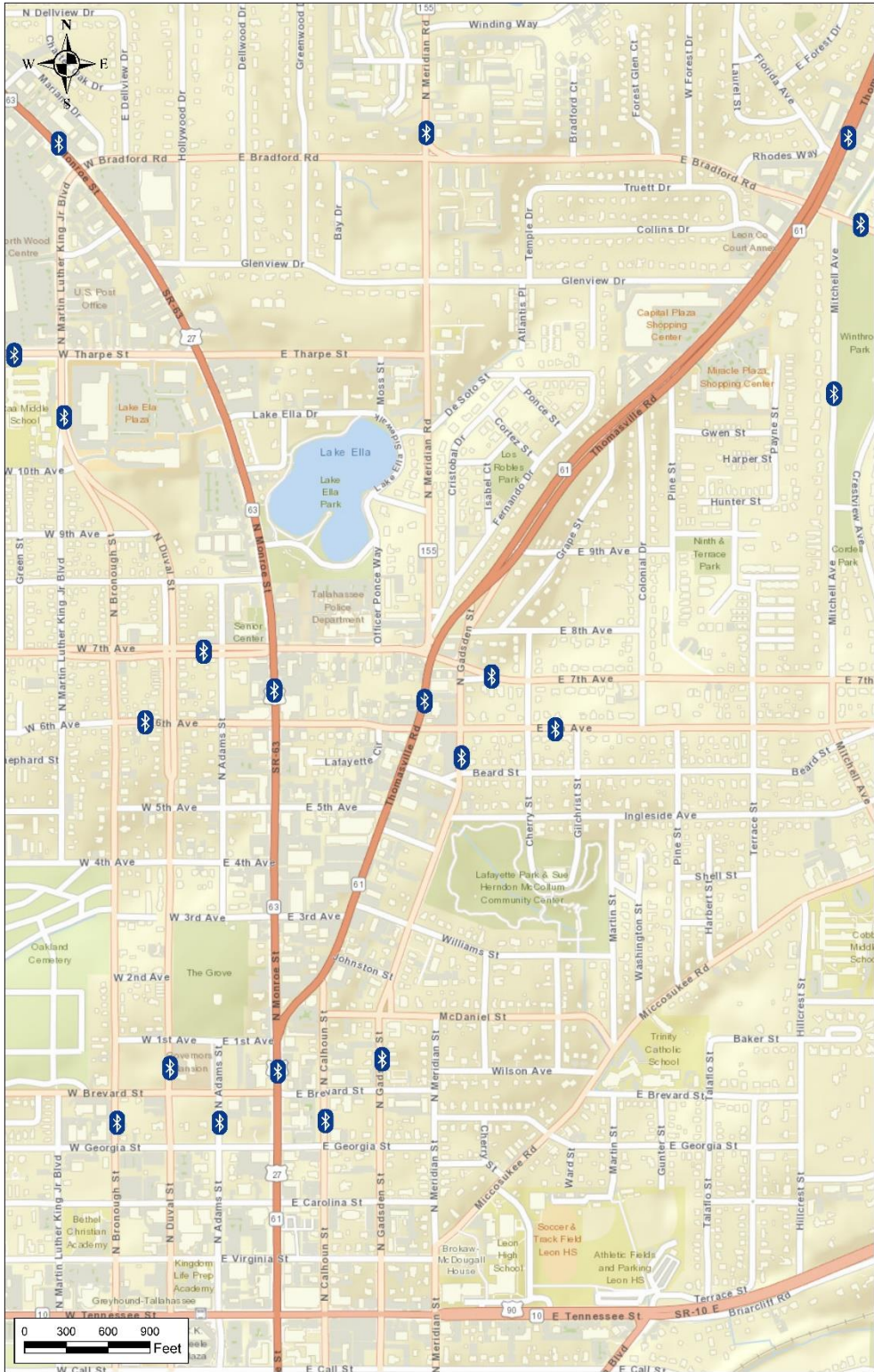


FIGURE 2. BLUETOOTH COLLECTION UNIT LOCATIONS

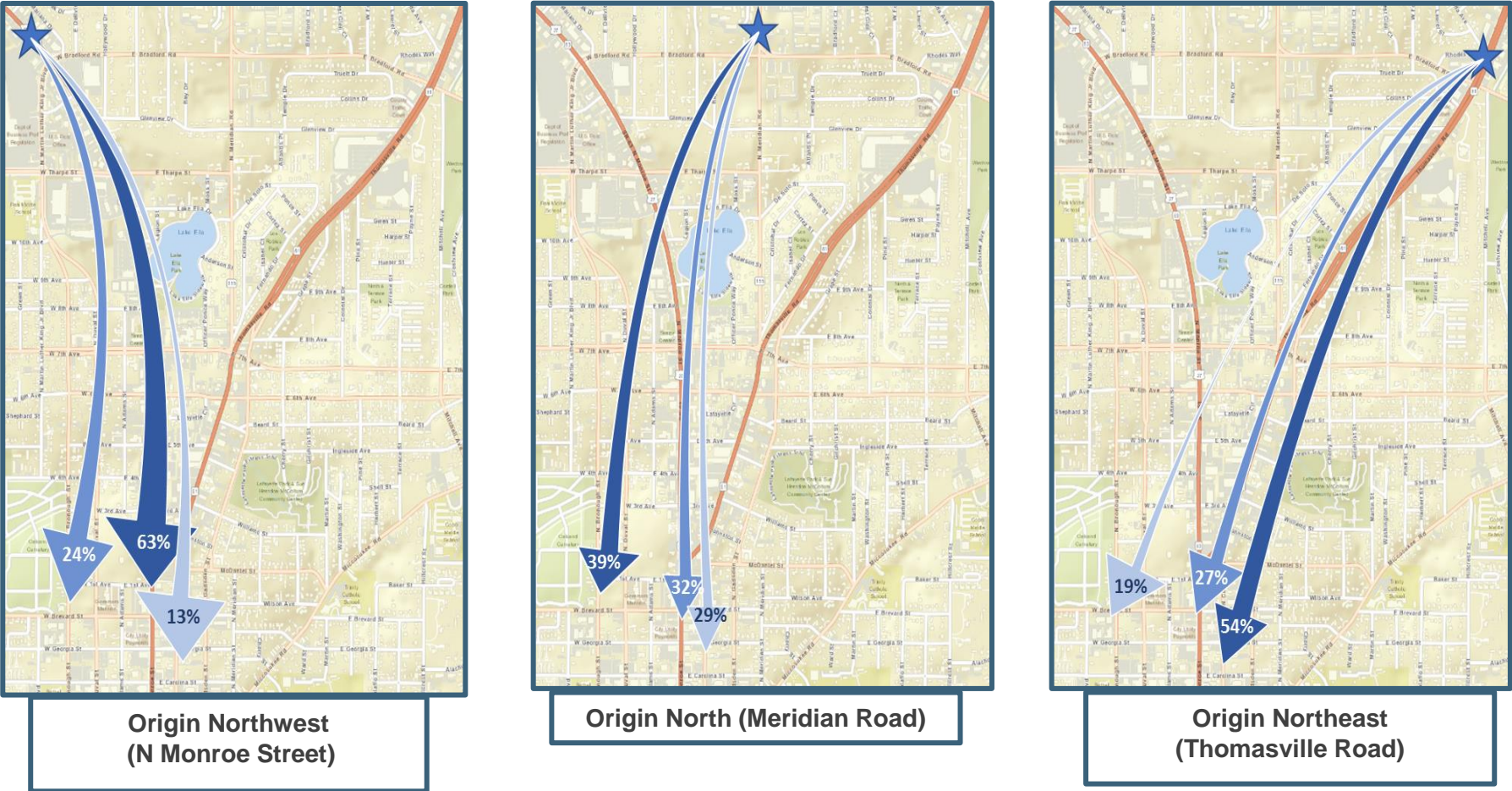


FIGURE 3. TRAFFIC TRAVELING THOUGH MIDTOWN: AM PEAK TRAFFIC PATTERNS (WEEKDAY)

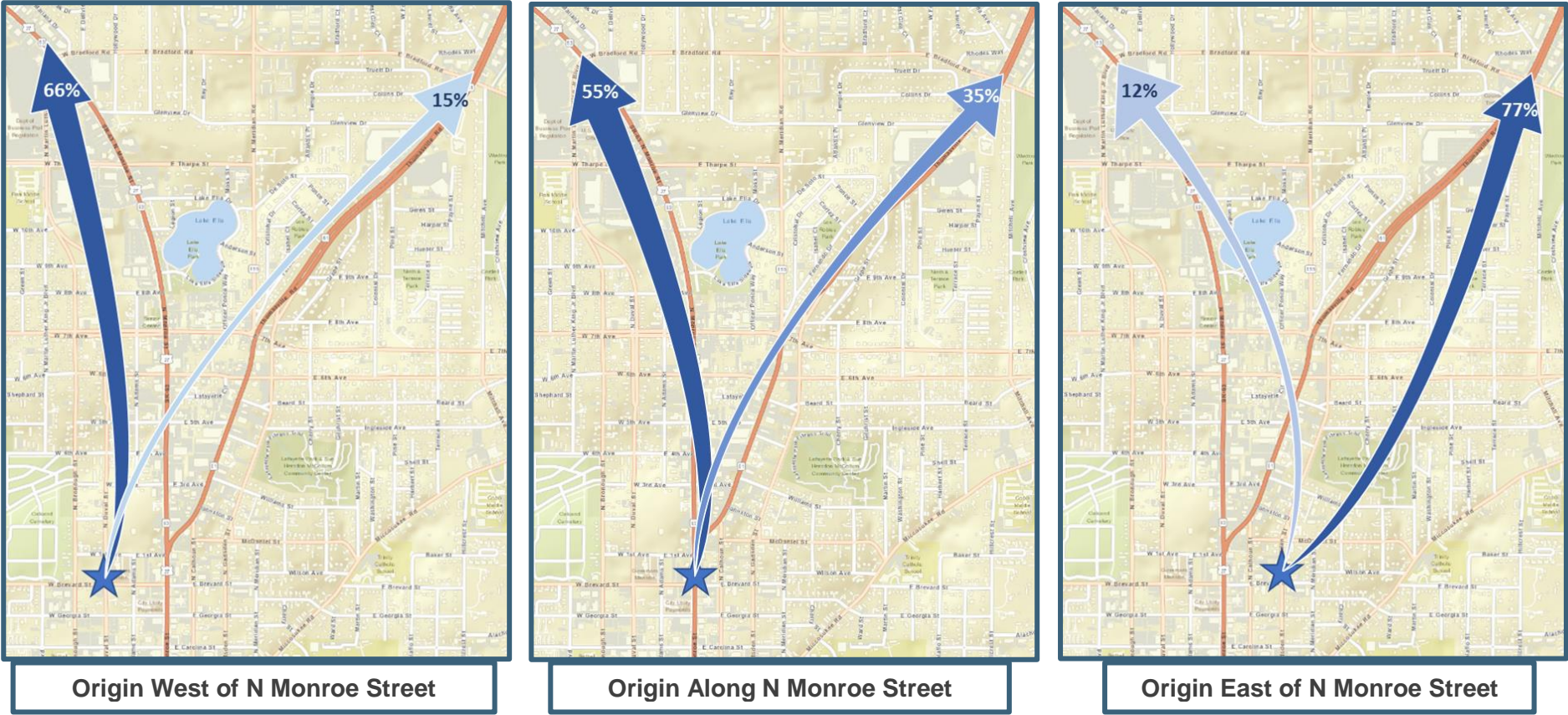
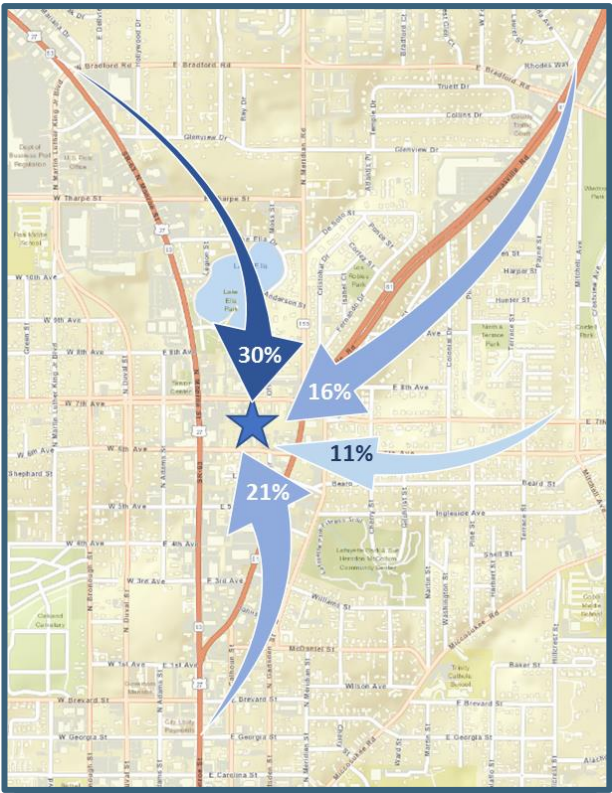
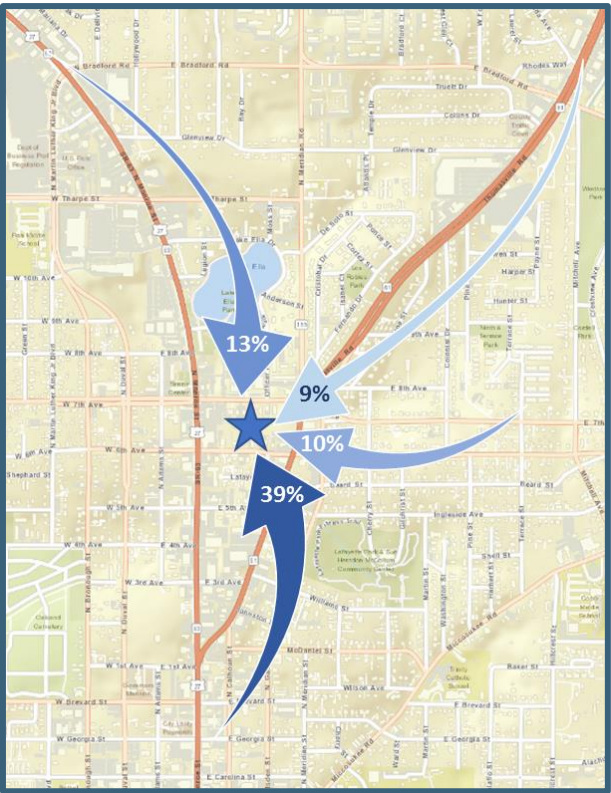


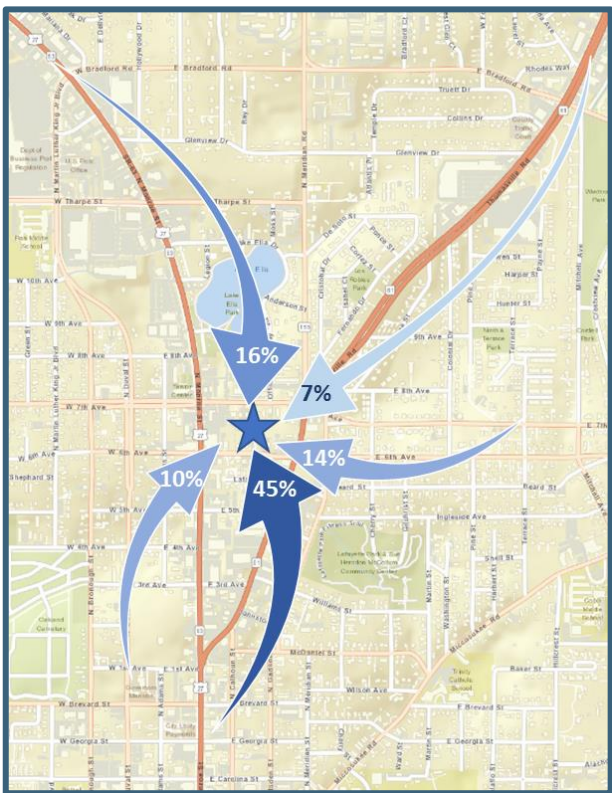
FIGURE 4. TRAFFIC TRAVELING THROUGH MIDTOWN: PM PEAK TRAFFIC PATTERNS (WEEKDAY)



AM Peak Traffic Patterns



Midday Peak Traffic Patterns



PM Peak Traffic Patterns

FIGURE 5. TRAFFIC TRAVELING TO MIDTOWN AS A DESTINATION (WEEKDAY)

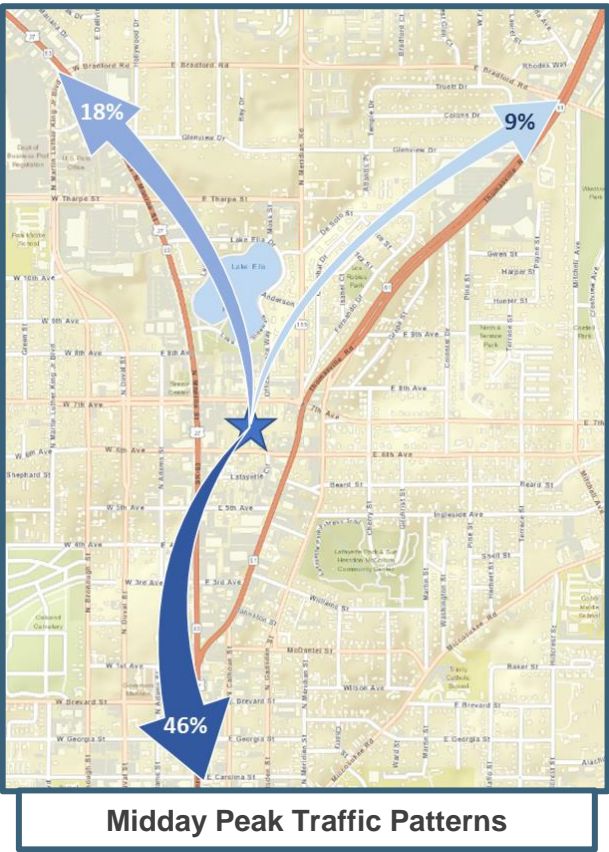


FIGURE 6. TRAFFIC TRAVELING FROM MIDTOWN AS A ORIGIN (WEEKDAY)

Signalized Intersection Analysis

There are six existing signalized intersections that were analyzed using Synchro as part of this Phase 1 Midtown Study. **APPENDIX B** provides the model outputs. The signalized intersections are:

- Thomasville Road and E Bradford Road
- Thomasville Road and 7th Avenue
- Thomasville Road and 6th Avenue
- N Monroe Street and E Bradford Road
- N Monroe Street and 7th Avenue
- N Monroe Street and 6th Avenue

The analysis shows that travel patterns are more concentrated in the AM peak period than that of the PM peak period and provided the basis for what traffic would be shifted as alternative improvements are analyzed. In this area more congestion is experienced in the AM peak hour versus the PM peak hour. The AM and PM existing delay, level of service (LOS), and volume to capacity ratio (V/C) for the signalized intersections are shown in **TABLE 1**.

TABLE 1. EXISTING INTERSECTION OPERATIONS

Intersections	AM Existing			PM Existing		
	Delay (sec)	LOS	V/C	Delay (sec)	LOS	V/C
Monroe Street and 7 th Avenue	75.9	E	1.04	34.8	C	0.89
Monroe Street and 6 th Avenue	13.0	B	0.75	22.7	C	0.85
Thomasville Road and 7 th Avenue	40.6	D	0.95	28.4	C	0.93
Thomasville Road and 6 th Avenue	114.3	F	1.04	35.6	D	0.95
Gadsden Street and 7 th Avenue	36.0	D	0.26	28.5	C	0.87
Gadsden Street and 6 th Avenue	49.8	D	0.31	18.4	B	0.79

The intersections of Monroe Street and 7th Avenue along with Thomasville Road and 6th Avenue show significant delay in the AM peak period; therefore, existing improvements are needed. For the Phase 1 alternative analyses the AM peak period was used because it provides the worst-case scenario for alternative testing and comparison.

ALTERNATIVES

The nine (9) transportation improvement alternatives analyzed as part of this initial phase are:

- Realignment of intersection Beard Street and N Gadsden Street
- Sidewalk connectivity throughout the area
- N Gadsden Street corridor improvements from 6th Avenue to Thomasville Road
- Placemaking and complete street improvements along Thomasville Road
- Convert Thomasville Road from N Gadsden Street to 6th Avenue to one-way southbound
- Convert Thomasville Road from N Gadsden Street to N Monroe Street to one-way southbound
- Roundabout at the intersection of Thomasville Road, Meridian Road, and N Gadsden Street
- Roundabout at the intersection of Thomasville Road, Meridian Road, and N Gadsden Street, plus remove N Gadsden Street to Meridian Road right turn movement.
- Convert 6th and 7th Avenue to bi-directional roadways

Consideration was also given to Blueprint’s placemaking initiatives and the Midtown Action Plan that was developed by the Tallahassee-Leon County Planning Department.

The criteria used to analyze the alternatives were:

- Does the alternative either maintain an acceptable LOS or improve the LOS, when compared to the existing condition?
- Does the alternative enhance the area by providing a uniqueness or “sense of place” that sets it apart from the surrounding area?
- Does the alternative include a traffic calming component?
- Does the alternative improve access to the Midtown area along with improving access to businesses and amenities within the Midtown area?
- Does the alternative provide opportunities for enhancements of bikes and pedestrians, and transit facilities?
- What is the level of for additional right of way (ROW) that could be required?

The listed alternatives are not intended to be mutually exclusive and may be grouped to provide a more comprehensive improvement. In addition, the improvement alternatives were ranked for relative planning level cost of “low”, “medium”, and “high”. A matrix was created to provide summary and comparison of how well each alternative meets the criteria outlined.

Realignment of intersection Beard Street and N Gadsden Street

The existing intersection is offset and contains a horizontal and vertical curve. The goal is to improve the connectivity east west. A concept sketch of the realignment is shown in **FIGURE 7** and is contained in the attached presentation in **APPENDIX C**. The realignment maintains or improves the LOS, improves circulation and connectivity through the Midtown area, provides an opportunity for multi modal enhancements, and is relatively low in cost.



FIGURE 7. BEARD STREET AND GADSDEN STREET REALIGNMENT CONCEPT

Sidewalk Connectivity

A large data set was obtained from the Tallahassee-Leon County Planning Department that was used to identify locations of sidewalks throughout the Midtown area. Gaps were identified in the network including:

- Thomasville Road from 7th Avenue to Colonial Drive on the west side.
- 3rd Avenue from N Monroe Street to Thomasville Road
- 5th Avenue from N Monroe Street to Thomasville Road (only on one side of the roadway)
- Meridian Road from Midtown to Lake Ella Area
- N Gadsden Street from 6th Avenue to Thomasville Road.

Improving the gaps within the sidewalk system through Midtown would improve the circulation and connectivity through the area. It is understood that there are planned sidewalk improvement projects in the Midtown area that are being considered as part of the public involvement phase for the Midtown Area Transportation Plan. A map showing missing sidewalk infrastructure is shown in **APPENDIX D**.

North Gadsden Street Corridor Improvements from 6th Avenue to Thomasville Road

Sidewalks do not currently exist on the east side of N Gadsden Street between 6th Avenue and 8th Avenue. With regards to west side of N Gadsden Street, sidewalks are also missing with the exception of the Brass Tap frontage. To limit the right of way impact, the east travel lane on N Gadsden Street could be removed to construct a sidewalk. This alternative is ranked medium in relative cost. The presentation in **APPENDIX C** shows the segments containing gaps.

Placemaking and Complete Streets

Placemaking and complete streets are not new concepts to the region. Complete Streets refers to the concept that a roadway is for all users (vehicles, pedestrians, bicyclists, motorists, and transit riders). All users (modes and ages) should be considered as part of a roadway plans and design with the understanding that the safety of all users is priority. The goal of this alternative is to identify if there are opportunities to incorporate or enhance other modes infrastructure safely to the Midtown area with the goal of improving access to amenities and provide safety in the area. Placemaking is used to set areas apart from their surroundings, establishing a sense of place for the community. Some examples of complete streets design and placemaking in the surrounding area include Franklin Boulevard, FAMU Way, and Gaines Street. These three facilities provide different examples of multi-modal roadways. For the Midtown area, the next phase will provide opportunity for the community and users of Midtown to provide input to shape the types of facilities desired in Midtown. Placemaking and Complete Streets is relatively medium in estimated cost. The presentation in **APPENDIX C** shows photos of these placemaking and complete streets in the Tallahassee community.

One-way Southbound of Thomasville Road from N Gadsden Street to Monroe Street

Currently Thomasville Road is a bi-directional roadway. To the east of Thomasville Road is N. Gadsden Street, which serves as a parallel north-bound one-way roadway. To the west is Monroe Street, which operates bi-directionally. This alternative identifies Thomasville Road as one-way from N Gadsden Street to N Monroe Street. To understand the effects of this change, northbound traffic was shifted from Thomasville Road to N Gadsden Street and the intersections in the area were re-analyzed. **FIGURE 8** shows the concept of this alternative.



FIGURE 8. ONE-WAY SOUTHBOUND THOMASVILLE ROAD FROM N GADSDEN STREET TO MONROE STREET

As a result of this change to a one-way Southbound Thomasville Road, intersection delays throughout the corridors decreased; and overall there was an improvement to the network and intersection delay as shown in **TABLE 2**. This alternative assumes two lanes southbound on Thomasville Road from 7th Avenue to Monroe Street. This alternative improves the LOS through the corridor, provides an opportunity for sense of place/placemaking improvements including opportunity for multi modal enhancements, and is relatively low in cost. It is recommended that additional features be included to ensure friction is provided along the roadway to reduce speeds and provide traffic calming.

TABLE 2. ONE-WAY THOMASVILLE ROAD FROM N GADSDEN STREET TO MONROE STREET

Intersections	AM Existing			AM Modified			Percent Change
	Delay (sec)	LOS	V/C	Delay (sec)	LOS	V/C	Delay
Monroe Street and 7th Avenue	75.9	E	1.04	73.2	E	1.04	-4%
Monroe Street and 6th Avenue	13	B	0.75	12.4	B	0.74	-5%
Thomasville Road and 7th Avenue	40.6	D	0.95	33	C	0.95	-19%
Thomasville Road and 6th Avenue	114.3	F	1.04	26.1	C	0.71	-77%
Gadsden Street and 7th Avenue	36	D	0.26	28.4	C	0.39	-21%
Gadsden Street and 6th Avenue	49.8	D	0.31	29.4	C	0.44	-41%

One-way Southbound of Thomasville Road from N Gadsden Street to 6th Avenue

This option assumes Thomasville Road as one-way partly through Midtown from N Gadsden Street to 6th Avenue. To understand the effects of this change, existing northbound traffic was shifted from Thomasville Road to N Gadsden Street along 6th Avenue and the intersections in the area were re-analysis. Traffic is likely to move to N Gadsden Street prior to reaching 6th Avenue, but this provided a worst-case scenario to compare to the existing conditions. **FIGURE 9** shows this alternative concept.



FIGURE 9. ONE-WAY SOUTHBOUND OF THOMASVILLE ROAD FROM N GADSDEN STREET TO 6TH AVENUE

TABLE 3 shows the existing intersection operations and the operations for this one-way Alternative. Like the one-way alternative from N Gadsden Street to Monroe Street this alternative improves the LOS, provides an opportunity for sense of place/placemaking improvements including opportunity for multi

modal enhancements, and is relative low in cost. The difference in this alternative compared to the previous one-way option is the segment of one way is only between N Gadsden Street and 6th Avenue.

TABLE 3. ONE-WAY THOMASVILLE ROAD FROM N GADSDEN STREET TO 6TH AVENUE

Intersections	AM Existing			AM Modified			Percent Change
	<i>Delay (sec)</i>	<i>LOS</i>	<i>V/C</i>	<i>Delay(sec)</i>	<i>LOS</i>	<i>V/C</i>	<i>Delay</i>
Monroe Street and 7th Avenue	75.9	E	1.04	69.5	E	1.04	-8%
Monroe Street and 6th Avenue	13	B	0.75	12.7	B	0.75	-2%
Thomasville Road and 7th Avenue	40.6	D	0.95	32.9	C	0.95	-19%
Thomasville Road and 6th Avenue	114.3	F	1.04	23.9	C	0.72	-79%
Gadsden Street and 7th Avenue	36	D	0.26	30.7	C	0.39	-15%
Gadsden Street and 6th Avenue	49.8	D	0.31	20.8	C	0.58	-58%

Thomasville Road, Meridian Road, and N Gadsden Street Roundabout (includes all existing movements)

An analysis was conducted by Florida Department of Transportation in 2016 that evaluated intersection operations of this complex location with the implementation of a roundabout. The analysis, associated with the SR 61/Thomasville Road (from US 27/Monroe Street to Betton Road/Bradford Road) Safety Study found that the intersection does not operate at an acceptable LOS and therefore a roundabout was not recommended. This alternative does not improve or maintain the LOS and limits the opportunity for multi-modal enhancements. It does provide an opportunity for sense of place and traffic calming. It would require a large amount of right of way and would be relatively high in cost.

Thomasville Road, Meridian Road, and N Gadsden Street Roundabout (Eliminating the N Gadsden Street to Meridian Road Movement)

This alternative also includes a roundabout at the intersection of Thomasville Road, Meridian Road, and N Gadsden Street but removes the significant right-turn movement from N Gadsden Street to Meridian Road. For this option, the right-turn traffic is forced to travel north and either turn and travel southbound on Thomasville Road to turn right at the roundabout or they navigate to a different access point to the north. Although this makes the intersection operate at an acceptable LOS it provides a less than ideal scenario with the limitation of accessing Meridian Road. Furthermore, FDOT Safety Study Proposes to close the access point directly north of the intersection which would force traffic further north limiting northbound traffic from accessing Meridian Road. In addition, the topography in the area must be considered as part of the initial evaluation. The grade change along N Gadsden Street is extreme as it has a grade change of 34 feet over 1/8th of a mile. Due to this grade change the westbound approach has sight-line issues which could have potential implications for an area with high levels of pedestrians. The constructability and maintenance of traffic for a roundabout was also considered. This is especially challenging because the intersection either must be closed during construction with traffic detours or the area is over built to provide traffic bypass lanes during construction.

6th and 7th Avenue Bi-Directional Roadway

6th and 7th Avenue are currently parallel one-way roadways. 7th Avenue carries traffic westbound while 6th Avenue carries traffic eastbound. This alternative assumes both roads becoming bi-directional. To understand the effects of this alternative a percentage of westbound and eastbound traffic was shifted along 6th and 7th Avenue and the area intersections were re-analyzed. Existing traffic patterns established using OD data was used to help determine the appropriate amount of traffic to shift for this analysis.

Results of analyzing this alternative showed an adverse impact on the surrounding intersections and therefore this alternative was not recommended to move forward to the next phase. The results of the analysis are shown in **TABLE 4** below.

TABLE 4. 6TH AND 7TH AVENUE BI-DIRECTIONAL ROADWAY ANALYSIS

Intersections	AM Existing			AM Modified			Percent Change
	<i>Delay (sec)</i>	<i>LOS</i>	<i>V/C</i>	<i>Delay (sec)</i>	<i>LOS</i>	<i>V/C</i>	<i>Delay</i>
Monroe Street and 7th Avenue	75.9	E	1.04	211	F	1.58	178%
Monroe Street and 6th Avenue	13	B	0.75	60.5	E	0.94	365%
Thomasville Road and 7th Avenue	40.6	D	0.95	150	F	1.52	269%
Thomasville Road and 6th Avenue	114.3	F	1.04	75.4	E	1.07	-34%
Gadsden Street and 7th Avenue	36	D	0.26	29.4	C	0.78	-18%
Gadsden Street and 6th Avenue	49.8	D	0.31	36.2	D	0.75	-27%

Committee and CRTPA Action

The alternatives were presented to the Transportation Advisory Committee (TAC) and Citizens Multimodal Advisory Committee (CMAC) on February 6, 2018. Both committees voted to approve the analysis and for it to move forward to the CRTPA Board for approval. The analysis was presented to the CRTPA Board on February 20, 2018.

The matrix that was created to provide a summary and comparison of how well each alternative meets the analysis criteria is shown in **FIGURE 10**. The CRTPA Board agreed to remove the roundabout alternatives and the 6th and 7th Avenue bi-directional alternatives from moving to the next phase because operationally they do not work. Furthermore, the Board approved moving the remaining alternatives to the next phase. These alternatives, identified as follows, will allow the public an opportunity to provide feedback:

- Realignment of intersection Beard Street and N Gadsden Street
- Sidewalk connectivity throughout the area
- N Gadsden Street corridor improvements from 6th Avenue to Thomasville Road
- Placemaking and complete street improvements along Thomasville Road
- Convert Thomasville Road from N Gadsden Street to 6th Avenue to one-way southbound
- Convert Thomasville Road from N Gadsden Street to N Monroe Street to one-way southbound

Midtown Traffic Study: Potential Improvement Options for Future Study

The matrix below depicts how each alternative performs based on multiple qualitative and quantitative criteria. The alternatives are being evaluated to determine which may be viable to move forward for future, more detailed consideration. The criteria include:

- ✓ Maintain/Improve LOS: Does the alternative either maintain acceptable LOS or improve the LOS, when compared with the existing?
 - ✓ Sense of Place: Does the alternative enhance the area by providing a uniqueness that sets it apart from the surrounding area?
 - ✓ Traffic Calming: Does the alternative include a traffic calming component?
 - ✓ Improves circulation/connectivity: Does the alternative improve access to the Midtown area along with improving access to businesses and amenities within the Midtown area?
 - ✓ Opportunity for multi-modal enhancement: Does the alternative provide opportunity for enhancements of bikes and pedestrians, and transit facilities?
 - ✓ Potential Need for Additional ROW: What is the estimated need for additional ROW that could be required?
- ✗ Indicates that there is a negative impact.

Alternatives	Maintain/Improve LOS	Opportunity for Sense of Place improvements	Traffic Calming	Improves Circulation/Connectivity	Opportunity for Multi Modal Enhancement	Potential ROW Needs		Relative Cost	Additional Comments
						None/Minor	Major		
Beard St and North Gadsden St Realignment	✓	-	-	✓	✓	✓	-	Low	Realignment could occur within the existing ROW. Coordination with adjacent landowner needed (parking lot in NW quadrant). Aligning the intersection would improve the operations. It would also make it easier to travel along the roadways, improving connectivity and circulation through midtown.
Sidewalk Connectivity	✓	-	-	✓	✓	✓	-	Med	Identification of key gaps.
North Gadsden St Corridor improvements from 6 th Ave to Thomasville Rd	-	-	✓	-	✓	✓	-	Med	Construct sidewalks along entire corridor on both sides of roadway and implement a road diet.
Placemaking/Complete Streets	✓	✓	✓	-	✓	✓	-	Med	Creates a sense of place and traffic calming. Could be done with existing geometry but access management would need to be evaluated on a driveway by driveway basis. Parallel facilities could handle diverted traffic that may occur with reduced speeds. Additional midblock pedestrian crossings are possible.
One-way southbound of Thomasville Rd from N Gadsden St to 6 th Ave	✓	✓	*-	✗	✓	✓	-	Low	Improves LOS. Access to businesses could be negatively impacted. *Recommended that additional features be included to ensure friction is provided along the roadway to reduce speeds and provide traffic calming.
One-way southbound of Thomasville Rd from N Gadsden St to N Monroe St	✓	✓	*-	✗	✓	✓	-	Low	Improves LOS. Access to businesses could be negatively impacted. *Recommended that additional features be included to ensure friction is provided along the roadway to reduce speeds and provide traffic calming.
Thomasville, Meridian and N Gadsden Roundabout (includes all existing movements)	✗	✓	✓	-	✗	-	✓	High	FDOT Safety study includes this potential roundabout. Operationally this does not work. Additional concerns with grade change and extensive ROW needed. A roundabout would provide a unique characteristic to the midtown area.
Thomasville, Meridian and N Gadsden Roundabout (No Gadsden to Meridian movement)	✓	✓	✓	✗	✗	-	✓	High	The operations of the roundabout could work if the movement from 7 th Ave to Meridian would be removed. Additional concerns with grade change and extensive ROW needed. A roundabout would provide a unique characteristic to the midtown area.
6 th and 7 th Ave Bi-Directional Roadways	✗	-	✓	✓	-	✓	-	Low	LOS is degraded and it creates additional conflict points at the intersections. One-way roads do not contain the same amount of friction as a bi-directional roadway. This friction acts as a traffic calming measure by reducing the comfort level of the drivers, increasing their awareness and reducing their speed. Making the road bi-directional would provide improved connectivity and circulation to the driveways along those roadways.

Figure 10. Alternatives Matrix

SUMMARY

The purpose of Phase 1 of the Midtown Area Transportation Plan was to analyze traffic trends and patterns throughout the Midtown area, identify network deficiencies in the Midtown area, and evaluate potential transportation improvement alternatives to move forward to the next phase for further study and stakeholder review and comment.

The analysis found that three of the alternatives will not move forward to the next phase of the project because operationally they do not work. The three alternatives not moving forward to the next phase are:

- Roundabout at the intersection of Thomasville Road, Meridian Road, and N Gadsden Street
- Roundabout at the intersection of Thomasville Road, Meridian Road, and N Gadsden Street, plus remove N Gadsden Street to Meridian Road right turn movement.
- Convert 6th and 7th Avenue to bi-directional roadways

The CRTPA Board concluded that the other alternatives are to move forward for further evaluation and to receive stakeholder feedback in the next phase. These alternatives are:

- Realignment of intersection Beard Street and N Gadsden Street
- Sidewalk connectivity throughout the area
- N Gadsden Street corridor improvements from 6th Avenue to Thomasville Road
- Placemaking and complete street improvements along Thomasville Road
- Convert Thomasville Road from N Gadsden Street to 6th Avenue to one-way southbound
- Convert Thomasville Road from N Gadsden Street to N Monroe Street to one-way southbound

APPENDICES

Appendix A: Bluetooth Data Analysis

Midtown Traffic Operations Study

Bluetooth Data Analysis

Bluetooth data presented in the following was collected anonymously by device media access control (MAC) addresses as they passed into or through the signal range of Bluetooth collection units placed strategically in and around the Midtown area of Tallahassee. Records are not otherwise associated with the owner of the vehicle or device detected by the collection units. Data was collected specifically for quantitative analysis of travel patterns in the area.

Areawide Summary

The following graphs and tables summarize the origin-destination (O-D) data collected for the two-week period from April 29, 2017 to May 12, 2017. Only those Bluetooth devices that were detected by two or more collection units were quantified as trips in the data; MAC addresses that were only recorded at one device were not considered part of a *trip*. Additionally, this data was filtered to only record trips with a duration of 45 minutes or less. The locations of the Bluetooth collection units are displayed in **Figure 1**.

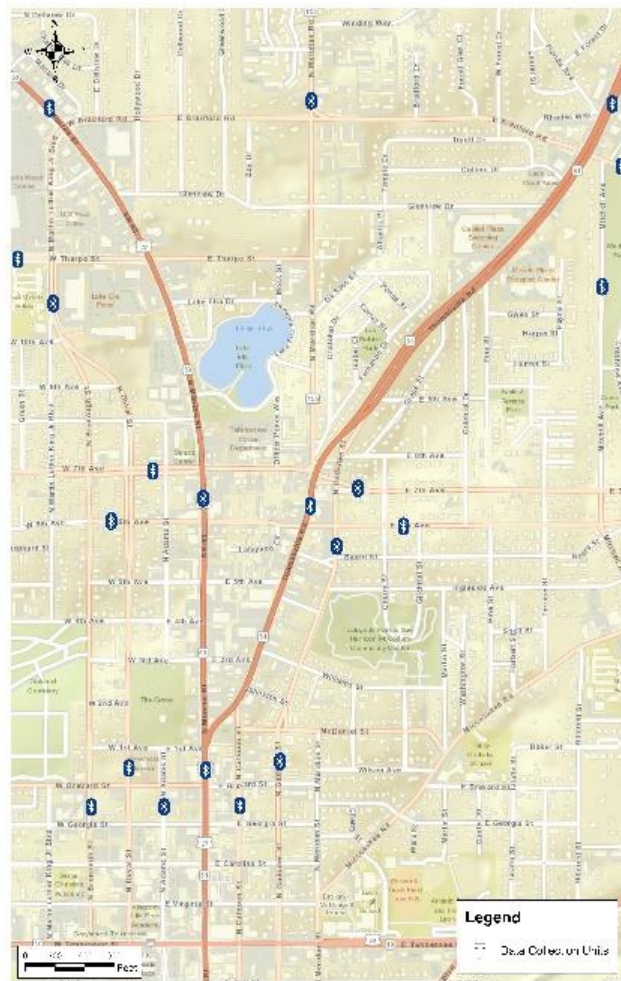


Figure 1. Bluetooth Locations

References to *origins* and *destinations* are not intended to indicate that a trip began or ended specifically at the collection of any Bluetooth collection unit, but rather that the first and last recorded locations of a given trip were at that collection unit. The actual origins and destinations of trips are unknown.

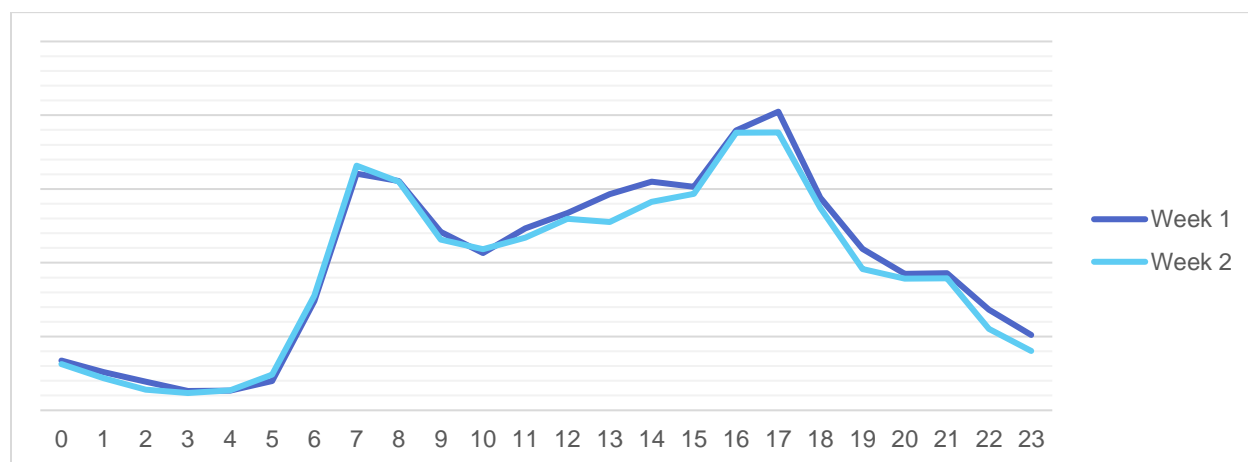


Figure 2: Hourly Trip Records

Approximately five percent more trips were recorded in Week 1 (April 29 to May 5) than were recorded in Week 2 (May 6 to May 12). **Figure 2** indicates that the small difference includes mostly trips recorded during the midday period and the PM peak period. During Week 1, the state legislature and the local universities were still in session, which may have contributed to the difference between the two weeks.

Although the number of trips recorded for each day of the week were slightly higher in Week 1 than in Week 2, the difference varied throughout the week, as seen in **Figure 3**. Weekend (Friday, Saturday, Sunday) trip records generally varied more than weekday records: Saturday and Sunday were approximately seven percent higher in Week 1 and Friday was approximately ten percent higher. The weekday variations, in contrast, were generally smaller: Monday was less than one percent higher, Tuesday was approximately seven percent higher, and Wednesday and Thursday were approximately three percent higher.

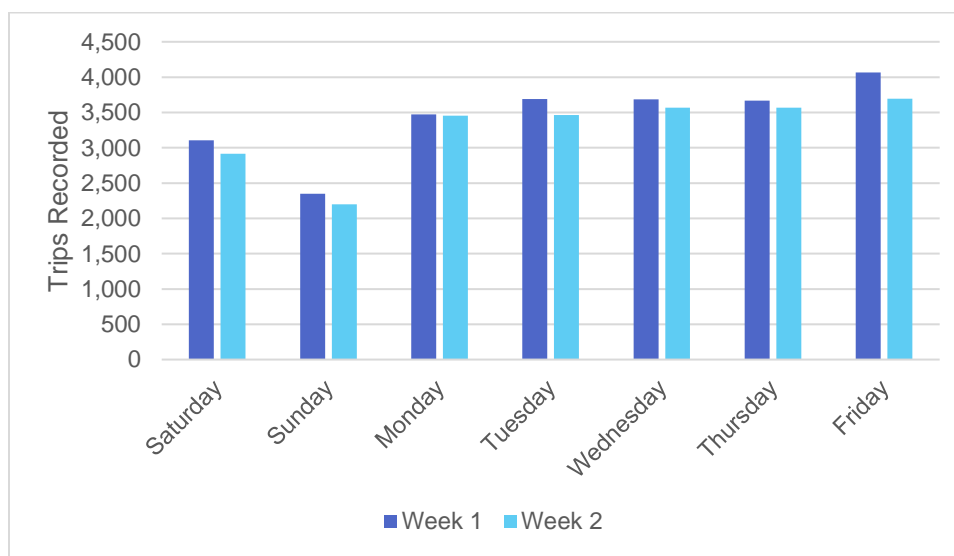


Figure 3: Weekday Trip Records

In both weeks, Friday was the day of the week with the most records overall and Sunday was the day with the fewest records; the number of trips recorded on Fridays was approximately 70 percent higher than the number recorded on Sundays. There was much less variation among the weekdays from Monday to Thursday, which were all within five percent of the average number of weekday trips during both weeks.

AM Peak Conditions

As evident from **Figure 2**, the peak condition of trips in the morning occurs between 7:00 and 9:00 AM. During the two-week study period, 13.6 percent of overall trip records were recorded during that time. Among the AM peak condition trip records, four of the top five most common origins were:

- US 27/N Monroe Street north of W Bradford Road,
- Thomasville Road north of E Bradford Road/Betton Road,
- W Tharpe Street west of Martin Luther King Jr Boulevard, and
- N Meridian Road north of E Bradford Road.

Those four locations, which account for 52.6 percent of all AM peak trip origins, were among the northernmost Bluetooth collection unit locations; thus, a high percentage of the AM peak trips were southbound, consistent with the expectation that AM peak trips are primarily headed toward downtown Tallahassee, south of the Midtown study area. Further validating this assertion, three of the top five most common destinations were:

- US 27/N Monroe Street south of Thomasville Road,
- N Bronough Street south of W Brevard Street, and
- N Calhoun Street south of E Brevard Street.

These three locations, which account for 38.7 percent of all AM peak trip destinations, are among the southernmost Bluetooth collection unit locations, and N Bronough Street and N Calhoun Street are both one-way facilities serving only southbound traffic. The most common origin-destination pairs were:

- US 27/N Monroe Street north of W Bradford Road to US 27/N Monroe Street south of Thomasville Road,
- Thomasville Road north of E Bradford Road/Betton Road to N Calhoun Street south of E Brevard Street,
- US 27/N Monroe Street south of Thomasville Road to US 27/N Monroe Street north of W Bradford Road, and
- US 27/N Monroe Street north of W Bradford Road to N Bronough Street south of W Brevard Street.

Just one of the four most common origin-destination pairs (US 27/N Monroe Street south of Thomasville Road to US 27/N Monroe Street north of W Bradford Road) is not a southbound trip record. The other three account for 16.5 percent of all AM peak condition trip records.

Midday Peak Conditions

The midday peak is less clear from **Figure 2**, because the number of trips recorded hourly generally increases from 10:00 AM through the evening peak. For the purpose of this analysis, the midday peak period is considered 1:00 PM to 3:00 PM. These two hours saw the greatest discrepancy between Week 1 and Week 2, at about 12 percent.

During the two-week study period, 12.2 percent of overall trip records were recorded during the midday peak period. Among the midday peak condition trip records, the most common origins were:

- US 27/N Monroe Street south of Thomasville Road,
- US 27/N Monroe Street north of W Bradford Road,

- Thomasville Road north of E Bradford Road/Betton Road,
- W Tharpe Street west of Martin Luther King Jr Boulevard, and
- North Duval Street north of W Brevard Street.

Those five locations, which account for 58.2 percent of midday peak trip origins, are dispersed throughout the study area. Locations 2, 3, and 21 are in the northern portion, while locations 36 and 38 are in the southern portion. North Duval Street is a one-way northbound facility. Three of the most common origins (2, 21, and 38) were among the most common destinations, along with:

- N Bronough Street south of W Brevard Street (12) and
- Betton Road east of Thomasville Road (45).

Together, these five locations account for 59.9 percent of all trip destinations during the midday peak conditions. N Bronough Street is a southbound one-way facility. These common destinations are similarly dispersed throughout the study area, with locations 2, 21, and 45 in the northern portion of the study area and locations 12 and 38 in the southern portion.

The most common origin-destination pair was US 27/N Monroe Street south of Thomasville Road (38) and US 27/N Monroe Street north of W Bradford Road (21). Northbound trips (38 to 21) accounted for 7.9 percent of midday peak trip records and southbound trips (21 to 38) accounted for 6.0 percent. The next most common trip was from US 27/N Monroe Street south of Thomasville Road (38) to Thomasville Road north of E Bradford Road/Betton Road (2), which accounted for 3.9 percent of recorded trips during the midday peak.

PM Peak Conditions

As evident from **Figure 2**, the evening peak condition occurs between 4:00 PM and 6:00 PM. During the two-week study period, 16.4 percent of overall trips were recorded during that period. Among the PM peak condition trip records, three of the top five most common origins were:

- US 27/N Monroe Street south of Thomasville Road (38),
- N Duval Street north of W Brevard Street (36), and
- N Gadsden Street north of E Brevard Street (7).

These three locations, which account for 36.9 percent of all PM peak trip origins, were among the southernmost Bluetooth collection unit locations, and N Duval Street and N Gadsden Street are both one-way facilities serving only northbound traffic. Four of the top five PM peak destinations were:

- US 27/N Monroe Street north of W Bradford Road (21),
- Thomasville Road north of E Bradford Road/Betton Road (2),
- W Tharpe Street west of Martin Luther King Jr Boulevard (3), and
- N Meridian Road north of E Bradford Road (27).

These four locations, which account for 48.9 percent of all PM peak destinations, are among the northernmost Bluetooth collection unit locations, further indicating that a large percentage of PM peak hour trips are generally northbound. This trend is consistent with the expectation that PM peak trips are primarily headed away from downtown Tallahassee, south of the study area.

High Volume Locations

The Bluetooth collection units that recorded the most trips as origins and/or as destinations are summarized in **Table 1**. The top three locations for both trip origins and trip destinations are on US 27/N Monroe Street south of Thomasville Road (38), on US 27/N Monroe Street north of W Bradford Road (21), and on Thomasville Road north of E Bradford Road/Betton Road (2). Together, those three locations account for 42.3 percent of trip origins and for 45.7 percent of trip destinations, with a considerable amount of interaction among them. These results prove consistent with the

corresponding traffic data indicating that US 27/N Monroe Street and Thomasville Road are the highest traffic volume roadways within the study area.

Table 1: Top 5 Trip Origins and Destinations




















Origin Location	Trip Records as Origin	% of Overall Trip Records
US 27/N Monroe Street South of Thomasville Road	7,993	17.0%
US 27/N Monroe Street North of W Bradford Road	7,630	16.3%
Thomasville Road North of E Bradford Road	4,233	9.0%
W Tharpe Street West of Martin Luther King Jr Blvd	3,843	8.2%
North Duval Street North of W Brevard Street	3,790	8.1%
Destination Location	Trip Records as Destination	% of Overall Trip Records
US 27/N Monroe Street North of W Bradford Road	8,390	17.9%
US 27/N Monroe Street South of Thomasville Road	7,374	15.7%
Thomasville Road North of E Bradford Road	5,647	12.0%
North Bronough Street South of W Brevard Street	3,329	7.1%
Betton Road East of Thomasville Road	3,114	6.6%

Appendix B: Synchro Analysis

HCM Signalized Intersection Capacity Analysis

223: Monroe St & 7th Ave

04/13/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	0	26	376	713	129	15	520	0	0	1488	24
Future Volume (vph)	24	0	26	376	713	129	15	520	0	0	1488	24
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	6.0		6.0	6.1	6.1		6.6	6.3			6.3	
Lane Util. Factor	1.00		1.00	0.91	0.91		1.00	0.95			0.95	
Frt	1.00		0.85	1.00	0.98		1.00	1.00			1.00	
Flt Protected	0.95		1.00	0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1599		1488	1513	3091		1662	3228			3252	
Flt Permitted	0.95		1.00	0.95	1.00		0.05	1.00			1.00	
Satd. Flow (perm)	1599		1488	1513	3091		89	3228			3252	
Peak-hour factor, PHF	0.44	1.00	0.84	0.93	0.94	0.89	0.75	0.82	1.00	1.00	0.92	0.75
Adj. Flow (vph)	55	0	31	404	759	145	20	634	0	0	1617	32
RTOR Reduction (vph)	0	0	30	0	10	0	0	0	0	0	1	0
Lane Group Flow (vph)	55	0	1	364	934	0	20	634	0	0	1648	0
Heavy Vehicles (%)	4%	0%	0%	0%	0%	3%	0%	3%	0%	0%	2%	0%
Turn Type	Prot		Perm	Split	NA		pm+pt	NA			NA	
Protected Phases	3			4	4		5	2			6	
Permitted Phases			3				2					
Actuated Green, G (s)	6.0		6.0	36.9	36.9		82.7	82.7			72.3	
Effective Green, g (s)	6.0		6.0	36.9	36.9		82.7	82.7			72.3	
Actuated g/C Ratio	0.04		0.04	0.26	0.26		0.57	0.57			0.50	
Clearance Time (s)	6.0		6.0	6.1	6.1		6.6	6.3			6.3	
Vehicle Extension (s)	3.0		3.0	4.0	4.0		3.0	4.0			4.0	
Lane Grp Cap (vph)	66		62	387	792		92	1853			1632	
v/s Ratio Prot	c0.03			0.24	c0.30		0.01	c0.20			c0.51	
v/s Ratio Perm			0.00				0.12					
v/c Ratio	0.83		0.02	0.94	1.18		0.22	0.34			1.01	
Uniform Delay, d1	68.5		66.2	52.5	53.5		29.4	16.2			35.9	
Progression Factor	1.07		1.00	0.91	0.92		1.80	1.44			1.00	
Incremental Delay, d2	56.5		0.1	21.2	88.6		1.1	0.5			24.7	
Delay (s)	129.6		66.3	69.1	137.9		53.9	23.9			60.6	
Level of Service	F		E	E	F		D	C			E	
Approach Delay (s)		106.8			118.8			24.8			60.6	
Approach LOS		F			F			C			E	

















Intersection Summary

HCM 2000 Control Delay	75.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	144.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	89.3%	ICU Level of Service	E
Analysis Period (min)	15		
Description: TMC Date: 02/18/2016			
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

225: Monroe St & 6th Ave

04/13/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	184	31	0	0	0	0	530	18	401	1492	0
Future Volume (vph)	19	184	31	0	0	0	0	530	18	401	1492	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		6.0						6.0		6.0	6.0	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frt		0.98						0.99		1.00	1.00	
Flt Protected		1.00						1.00		0.95	1.00	
Satd. Flow (prot)		3213						3234		1646	3292	
Flt Permitted		1.00						1.00		0.34	1.00	
Satd. Flow (perm)		3213						3234		587	3292	
Peak-hour factor, PHF	0.79	0.77	0.67	1.00	1.00	1.00	1.00	0.83	0.64	0.90	0.92	1.00
Adj. Flow (vph)	24	239	46	0	0	0	0	639	28	446	1622	0
RTOR Reduction (vph)	0	10	0	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	299	0	0	0	0	0	665	0	446	1622	0
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	2%	6%	1%	1%	0%
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4									6		
Actuated Green, G (s)		19.0						87.0		113.0	113.0	
Effective Green, g (s)		19.0						87.0		113.0	113.0	
Actuated g/C Ratio		0.13						0.60		0.78	0.78	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Vehicle Extension (s)		4.0						5.0		4.0	5.0	
Lane Grp Cap (vph)		423						1953		607	2583	
v/s Ratio Prot								0.21		c0.10	0.49	
v/s Ratio Perm		0.09								c0.47		
v/c Ratio		0.71						0.34		0.73	0.63	
Uniform Delay, d1		59.8						14.2		6.5	6.6	
Progression Factor		1.00						0.80		1.07	0.65	
Incremental Delay, d2		5.7						0.5		1.6	0.4	
Delay (s)		65.5						11.9		8.5	4.7	
Level of Service		E						B		A	A	
Approach Delay (s)		65.5			0.0			11.9			5.5	
Approach LOS		E			A			B			A	
Intersection Summary												
HCM 2000 Control Delay		13.0										
HCM 2000 Volume to Capacity ratio		0.75										
Actuated Cycle Length (s)		144.0								18.0		
Intersection Capacity Utilization		62.8%										
Analysis Period (min)		15										
Description: TMC Date: 02/18/2016												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

210: SR 61 (Thomasville Rd) & 7th Ave & Meridian Rd

04/16/2018



Movement	WBL	WBT	WBR	NBT	SBT	SBR	SBR2	SER2
Lane Configurations		↔↔	↔	↔	↔	↔		↔
Traffic Volume (vph)	107	410	231	337	967	686	50	316
Future Volume (vph)	107	410	231	337	967	686	50	316
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		6.0	6.0	6.3	6.3	6.3		4.0
Lane Util. Factor		0.95	1.00	1.00	1.00	1.00		1.00
Frt		1.00	0.85	1.00	1.00	0.85		0.86
Flt Protected		0.99	1.00	1.00	1.00	1.00		1.00
Satd. Flow (prot)		3264	1488	1699	1733	1488		1514
Flt Permitted		0.99	1.00	1.00	1.00	1.00		1.00
Satd. Flow (perm)		3264	1488	1699	1733	1488		1514
Peak-hour factor, PHF	0.85	0.89	0.78	0.91	0.95	0.80	1.00	1.00
Adj. Flow (vph)	126	461	296	370	1018	858	50	316
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	587	296	370	1018	908	0	316
Heavy Vehicles (%)	0%	1%	0%	3%	1%	0%	0%	0%
Turn Type	Perm	NA	Perm	NA	NA	Perm		Free
Protected Phases		8		2	6			
Permitted Phases	8		8			6		Free
Actuated Green, G (s)		28.0	28.0	103.7	88.7	88.7		144.0
Effective Green, g (s)		28.0	28.0	103.7	88.7	88.7		144.0
Actuated g/C Ratio		0.19	0.19	0.72	0.62	0.62		1.00
Clearance Time (s)		6.0	6.0	6.3	6.3	6.3		
Vehicle Extension (s)		5.5	5.5	4.0	4.0	4.0		
Lane Grp Cap (vph)		634	289	1223	1067	916		1514
v/s Ratio Prot				c0.22	0.59			
v/s Ratio Perm		0.18	c0.20			c0.61		0.21
v/c Ratio		0.93	1.02	0.30	0.95	0.99		0.21
Uniform Delay, d1		57.0	58.0	7.2	25.8	27.3		0.0
Progression Factor		0.35	0.35	0.57	1.00	1.00		1.00
Incremental Delay, d2		18.6	55.8	0.5	18.5	27.7		0.3
Delay (s)		38.5	76.2	4.6	44.2	55.0		0.3
Level of Service		D	E	A	D	D		A
Approach Delay (s)		51.1		4.6	49.3			
Approach LOS		D		A	D			

Intersection Summary

HCM 2000 Control Delay	40.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	144.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	100.0%	ICU Level of Service	F
Analysis Period (min)	15		


Description: TMC Collected 12/01/2015

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

250: SR 61 (Thomasville Rd) & 6th Ave

04/13/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔						↔		↔	↔	
Traffic Volume (vph)	44	476	162	0	0	0	0	290	47	49	1056	0
Future Volume (vph)	44	476	162	0	0	0	0	290	47	49	1056	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		5.7						6.0		5.4	6.0	
Lane Util. Factor		0.95						1.00		1.00	1.00	
Frt		0.96						0.98		1.00	1.00	
Flt Protected		1.00						1.00		0.95	1.00	
Satd. Flow (prot)		3136						1639		1630	1733	
Flt Permitted		1.00						1.00		0.47	1.00	
Satd. Flow (perm)		3136						1639		810	1733	
Peak-hour factor, PHF	0.62	0.82	0.59	1.00	1.00	1.00	1.00	0.93	0.83	0.59	0.96	1.00
Adj. Flow (vph)	71	580	275	0	0	0	0	312	57	83	1100	0
RTOR Reduction (vph)	0	32	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	894	0	0	0	0	0	365	0	83	1100	0
Heavy Vehicles (%)	0%	1%	1%	0%	0%	0%	0%	5%	2%	2%	1%	0%
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4									6		
Actuated Green, G (s)		27.3						92.9		105.0	105.0	
Effective Green, g (s)		27.3						92.9		105.0	105.0	
Actuated g/C Ratio		0.19						0.65		0.73	0.73	
Clearance Time (s)		5.7						6.0		5.4	6.0	
Vehicle Extension (s)		5.0						5.0		2.2	5.0	
Lane Grp Cap (vph)		594						1057		628	1263	
v/s Ratio Prot								0.22		0.01	c0.63	
v/s Ratio Perm		0.28								0.09		
v/c Ratio		1.50						0.35		0.13	0.87	
Uniform Delay, d1		58.4						11.7		6.2	14.5	
Progression Factor		0.98						0.63		0.41	0.38	
Incremental Delay, d2		234.9						0.9		0.0	3.0	
Delay (s)		292.2						8.2		2.5	8.5	
Level of Service		F						A		A	A	
Approach Delay (s)		292.2			0.0			8.2			8.1	
Approach LOS		F			A			A			A	

Intersection Summary

HCM 2000 Control Delay	114.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	144.0	Sum of lost time (s)	17.1
Intersection Capacity Utilization	91.4%	ICU Level of Service	F
Analysis Period (min)	15		

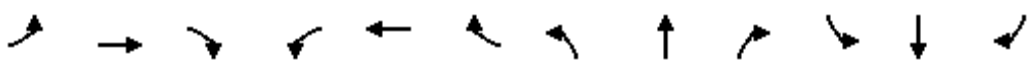
Description: TMC Collected 12/01/2015

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

138: Gadsden St & 7th Ave


04/13/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑↑		↑↑	↑↑				
Traffic Volume (vph)	0	0	0	0	593	30	171	215	0	0	0	0
Future Volume (vph)	0	0	0	0	593	30	171	215	0	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)					6.0		6.0	6.0				
Lane Util. Factor					0.91		0.97	0.95				
Frt					0.99		1.00	1.00				
Flt Protected					1.00		0.95	1.00				
Satd. Flow (prot)					4672		3162	3260				
Flt Permitted					1.00		0.95	1.00				
Satd. Flow (perm)					4672		3162	3260				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	0.86	0.70	0.89	0.84	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	690	43	192	256	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	5	0	14	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	728	0	178	256	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	1%	7%	2%	2%	0%	0%	0%	0%
Turn Type					NA		Perm	NA				
Protected Phases					8			2				
Permitted Phases							2					
Actuated Green, G (s)					29.6		102.4	102.4				
Effective Green, g (s)					29.6		102.4	102.4				
Actuated g/C Ratio					0.21		0.71	0.71				
Clearance Time (s)					6.0		6.0	6.0				
Vehicle Extension (s)					4.0		4.0	4.0				
Lane Grp Cap (vph)					960		2248	2318				
v/s Ratio Prot					c0.16			c0.08				
v/s Ratio Perm							0.06					
v/c Ratio					0.76		0.08	0.11				
Uniform Delay, d1					53.8		6.4	6.5				
Progression Factor					1.00		0.01	0.20				
Incremental Delay, d2					3.7		0.1	0.1				
Delay (s)					57.5		0.2	1.4				
Level of Service					E		A	A				
Approach Delay (s)		0.0			57.5			0.9			0.0	
Approach LOS		A			E			A			A	
Intersection Summary												
HCM 2000 Control Delay			36.0				HCM 2000 Level of Service				D	
HCM 2000 Volume to Capacity ratio			0.26									
Actuated Cycle Length (s)			144.0				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			62.6%				ICU Level of Service			B		
Analysis Period (min)			15									
Description: TMC Date: 12/1/2015												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis





















139: Gadsden St & 6th Ave

04/13/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔						↔↔↔				
Traffic Volume (vph)	10	550	0	0	0	0	0	389	19	0	0	0
Future Volume (vph)	10	550	0	0	0	0	0	389	19	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		6.0						6.0				
Lane Util. Factor		0.95						0.91				
Frt		1.00						0.99				
Flt Protected		1.00						1.00				
Satd. Flow (prot)		3319						4687				
Flt Permitted		1.00						1.00				
Satd. Flow (perm)		3319						4687				
Peak-hour factor, PHF	0.42	0.89	1.00	1.00	1.00	1.00	1.00	0.90	0.64	1.00	1.00	1.00
Adj. Flow (vph)	24	618	0	0	0	0	0	432	30	0	0	0
RTOR Reduction (vph)	0	17	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	625	0	0	0	0	0	462	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%
Turn Type	Perm	NA						NA				
Protected Phases		4						2				
Permitted Phases	4											
Actuated Green, G (s)		37.4						94.6				
Effective Green, g (s)		37.4						94.6				
Actuated g/C Ratio		0.26						0.66				
Clearance Time (s)		6.0						6.0				
Vehicle Extension (s)		5.0						4.0				
Lane Grp Cap (vph)		862						3079				
v/s Ratio Prot								c0.10				
v/s Ratio Perm		0.19										
v/c Ratio		0.73						0.15				
Uniform Delay, d1		48.6						9.4				
Progression Factor		1.61						1.00				
Incremental Delay, d2		0.3						0.1				
Delay (s)		78.8						9.5				
Level of Service		E						A				
Approach Delay (s)		78.8			0.0			9.5			0.0	
Approach LOS		E			A			A			A	
Intersection Summary												
HCM 2000 Control Delay		49.8						HCM 2000 Level of Service		D		
HCM 2000 Volume to Capacity ratio		0.31										
Actuated Cycle Length (s)		144.0						Sum of lost time (s)		12.0		
Intersection Capacity Utilization		35.7%						ICU Level of Service		A		
Analysis Period (min)		15										
Description: TMC Date: 12/1/2015												
c Critical Lane Group												













Lanes, Volumes, Timings
223: Monroe St & 7th Ave

06/28/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	0	38	174	427	342	14	1261	0	0	1184	24
Future Volume (vph)	49	0	38	174	427	342	14	1261	0	0	1184	24
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		150	0		0	100		0	0		0
Storage Lanes	1		1	1		0	1		0	0		0
Taper Length (ft)	0			0			50			0		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.934						0.996	
Flt Protected	0.950			0.950	0.999		0.950					
Satd. Flow (prot)	1630	0	1488	1498	2955	0	1662	3292	0	0	3280	0
Flt Permitted	0.950			0.950	0.999		0.069					
Satd. Flow (perm)	1630	0	1488	1498	2955	0	121	3292	0	0	3280	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			116		47							2
Link Speed (mph)		25			30			35			35	
Link Distance (ft)		737			1134			533			2191	
Travel Time (s)		20.1			25.8			10.4			42.7	
Peak Hour Factor	0.77	1.00	0.86	0.89	0.96	0.93	0.58	0.96	1.00	1.00	0.93	0.75
Heavy Vehicles (%)	2%	0%	0%	1%	1%	0%	0%	1%	0%	0%	1%	0%
Adj. Flow (vph)	64	0	44	196	445	368	24	1314	0	0	1273	32
Shared Lane Traffic (%)				10%								
Lane Group Flow (vph)	64	0	44	176	833	0	24	1314	0	0	1305	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		42			12			12			12	
Link Offset(ft)		6			-6			0			0	
Crosswalk Width(ft)		25			25			35			25	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1		1	1	1		1	1			1	
Detector Template			SideStreet	SideStreet								
Leading Detector (ft)	40		40	40	40		40	156			156	
Trailing Detector (ft)	0		0	0	0		0	150			150	
Detector 1 Position(ft)	0		0	0	0		0	150			150	
Detector 1 Size(ft)	40		40	40	40		40	6			6	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0		0.0	0.0			0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0		0.0	0.0			0.0	
Detector 1 Delay (s)	8.0		8.0	0.0	0.0		4.0	0.0			0.0	
Turn Type	Prot		Perm	Split	NA		pm+pt	NA			NA	
Protected Phases	3			4	4		5	2			6	
Permitted Phases			3				2					
Detector Phase	3		3	4	4		5	2			6	
Switch Phase												
Minimum Initial (s)	4.0		4.0	8.0	8.0		4.0	10.0			10.0	
Minimum Split (s)	10.0		10.0	32.1	32.1		10.6	27.3			34.3	

Lanes, Volumes, Timings
223: Monroe St & 7th Ave

06/28/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	13.0		13.0	54.0	54.0		13.0	83.0			70.0	
Total Split (%)	8.7%		8.7%	36.0%	36.0%		8.7%	55.3%			46.7%	
Maximum Green (s)	7.0		7.0	47.9	47.9		6.4	76.7			63.7	
Yellow Time (s)	3.8		3.8	3.7	3.7		4.3	4.3			4.0	
All-Red Time (s)	2.2		2.2	2.4	2.4		2.3	2.0			2.3	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	6.0		6.0	6.1	6.1		6.6	6.3			6.3	
Lead/Lag	Lead		Lead	Lag	Lag		Lead				Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0		3.0	4.0	4.0		3.0	4.0			4.0	
Recall Mode	None		None	None	None		None	C-Max			C-Max	
Walk Time (s)				5.0	5.0			7.0			6.0	
Flash Dont Walk (s)				21.0	21.0			14.0			22.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effect Green (s)	7.0		7.0	45.7	45.7		78.6	78.9			71.1	
Actuated g/C Ratio	0.05		0.05	0.30	0.30		0.52	0.53			0.47	
v/c Ratio	0.84		0.24	0.39	0.89		0.19	0.76			0.84	
Control Delay	135.4		9.7	28.1	35.2		7.0	19.8			41.9	
Queue Delay	0.0		0.0	0.0	0.0		0.0	4.9			0.0	
Total Delay	135.4		9.7	28.1	35.2		7.0	24.7			41.9	
LOS	F		A	C	D		A	C			D	
Approach Delay		84.2			34.0			24.4			41.9	
Approach LOS		F			C			C			D	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 126 (84%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 34.8

Intersection LOS: C

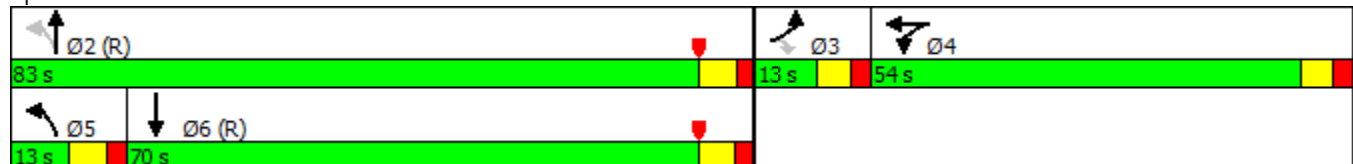
Intersection Capacity Utilization 75.2%

ICU Level of Service D

Analysis Period (min) 15

















Description: TMC Date: 02/18/2016

Splits and Phases: 223: Monroe St & 7th Ave




Lanes, Volumes, Timings
225: Monroe St & 6th Ave

06/28/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	269	18	0	0	0	0	1251	78	303	1078	0
Future Volume (vph)	23	269	18	0	0	0	0	1251	78	303	1078	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	0		0	115		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	0			0			0			50		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.988						0.989				
Flt Protected		0.995								0.950		
Satd. Flow (prot)	0	3269	0	0	0	0	0	3258	0	1662	3292	0
Flt Permitted		0.995								0.108		
Satd. Flow (perm)	0	3269	0	0	0	0	0	3258	0	189	3292	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5						9				
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		614			1012			609			533	
Travel Time (s)		16.7			27.6			11.9			10.4	
Peak Hour Factor	0.72	0.92	0.64	1.00	1.00	1.00	1.00	0.97	0.75	0.97	0.97	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Adj. Flow (vph)	32	292	28	0	0	0	0	1290	104	312	1111	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	352	0	0	0	0	0	1394	0	312	1111	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		22			16			18			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1						1		1	1	
Detector Template	LeSideStreet									Left		
Leading Detector (ft)	20	40						156		40	156	
Trailing Detector (ft)	0	0						150		0	150	
Detector 1 Position(ft)	0	0						150		0	150	
Detector 1 Size(ft)	20	40						6		40	6	
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0		0.0	0.0	
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4									6		
Detector Phase	4	4						2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0						10.0		7.0	10.0	
Minimum Split (s)	28.0	28.0						20.0		13.0	19.0	

Lanes, Volumes, Timings
225: Monroe St & 6th Ave

06/28/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	28.0	28.0						90.0		32.0	122.0	
Total Split (%)	18.7%	18.7%						60.0%		21.3%	81.3%	
Maximum Green (s)	22.0	22.0						84.0		26.0	116.0	
Yellow Time (s)	3.7	3.7						4.0		4.0	4.0	
All-Red Time (s)	2.3	2.3						2.0		2.0	2.0	
Lost Time Adjust (s)		0.0						0.0		0.0	0.0	
Total Lost Time (s)		6.0						6.0		6.0	6.0	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0						5.0		4.0	5.0	
Recall Mode	None	None						C-Max		None	C-Max	
Walk Time (s)	5.0	5.0						7.0			7.0	
Flash Dont Walk (s)	17.0	17.0						7.0			5.0	
Pedestrian Calls (#/hr)	0	0						0			0	
Act Effect Green (s)		20.5						89.2		117.5	117.5	
Actuated g/C Ratio		0.14						0.59		0.78	0.78	
v/c Ratio		0.78						0.72		0.85	0.43	
Control Delay		74.2						10.3		46.4	10.7	
Queue Delay		0.0						3.0		0.0	0.8	
Total Delay		74.2						13.3		46.4	11.5	
LOS		E						B		D	B	
Approach Delay		74.2						13.3			19.2	
Approach LOS		E						B			B	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 101 (67%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 22.7

Intersection LOS: C

Intersection Capacity Utilization 82.9%

ICU Level of Service E

Analysis Period (min) 15

Description: TMC Date: 02/18/2016

Splits and Phases: 225: Monroe St & 6th Ave

 Ø1	 Ø2 (R)	 Ø4
32 s	90 s	28 s
 Ø6 (R)		
122 s		

Lanes, Volumes, Timings

210: SR 61 (Thomasville Rd) & 7th Ave & Meridian Rd

06/28/2018



Lane Group	WBL	WBT	WBR	WBR2	NBT	SBT	SBR	SER2	Ø5
Lane Configurations		↔↔	↔		↑	↑	↔	↔	
Traffic Volume (vph)	81	772	0	421	800	697	227	0	
Future Volume (vph)	81	772	0	421	800	697	227	0	
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	
Frt			0.850				0.850		
Flt Protected		0.994							
Satd. Flow (prot)	0	3305	1488	0	1750	1750	1488	1750	
Flt Permitted		0.994							
Satd. Flow (perm)	0	3305	1488	0	1750	1750	1488	1750	
Right Turn on Red				No				Yes	
Satd. Flow (RTOR)									
Link Speed (mph)		30			25	25			
Link Distance (ft)		223			549	566			
Travel Time (s)		5.1			15.0	15.4			
Peak Hour Factor	0.78	0.97	0.94	0.94	0.94	0.90	0.96	1.00	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	
Adj. Flow (vph)	104	796	0	448	851	774	236	0	
Shared Lane Traffic (%)									
Lane Group Flow (vph)	0	900	448	0	851	774	236	0	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	Right	Right	Left	Left	Right	Right	
Median Width(ft)		0			12	0			
Link Offset(ft)		0			0	0			
Crosswalk Width(ft)		20			32	36			
Two way Left Turn Lane					Yes				
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	
Turning Speed (mph)	15		9	9			15	9	
Number of Detectors	1	1	1		1	1	1	1	
Detector Template	Left	Minor	Right		Thru	Thru	Right	Right	
Leading Detector (ft)	20	20	20		56	56	20	20	
Trailing Detector (ft)	0	0	0		50	50	0	0	
Detector 1 Position(ft)	0	0	0		50	50	0	0	
Detector 1 Size(ft)	20	20	20		6	6	20	20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel									
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Turn Type	Perm	NA	Perm		NA	NA	Perm	Free	
Protected Phases		8			2	6			5
Permitted Phases	8		8				6	Free	
Detector Phase	8	8	8		2	6	6		
Switch Phase									
Minimum Initial (s)	9.0	9.0	9.0		12.0	6.0	6.0		4.0
Minimum Split (s)	20.0	20.0	20.0		29.3	12.3	12.3		15.0
Total Split (s)	55.0	55.0	55.0		95.0	80.0	80.0		15.0
Total Split (%)	36.7%	36.7%	36.7%		63.3%	53.3%	53.3%		10%
Maximum Green (s)	49.0	49.0	49.0		88.7	73.7	73.7		10.0

Lanes, Volumes, Timings

210: SR 61 (Thomasville Rd) & 7th Ave & Meridian Rd

06/28/2018



Lane Group	WBL	WBT	WBR	WBR2	NBT	SBT	SBR	SER2	Ø5
Yellow Time (s)	3.7	3.7	3.7		3.4	3.4	3.4		3.0
All-Red Time (s)	2.3	2.3	2.3		2.9	2.9	2.9		2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0		
Total Lost Time (s)		6.0	6.0		6.3	6.3	6.3		
Lead/Lag						Lag	Lag		Lead
Lead-Lag Optimize?						Yes	Yes		Yes
Vehicle Extension (s)	5.5	5.5	5.5		4.0	4.0	4.0		1.0
Recall Mode	None	None	None		C-Max	C-Max	C-Max		None
Walk Time (s)	5.0	5.0	5.0		6.0				5.0
Flash Dont Walk (s)	9.0	9.0	9.0		17.0				5.0
Pedestrian Calls (#/hr)	0	0	0		0				0
Act Effect Green (s)		48.8	48.8		88.9	88.9	88.9		
Actuated g/C Ratio		0.33	0.33		0.59	0.59	0.59		
v/c Ratio		0.84	0.93		0.82	0.75	0.27		
Control Delay		25.8	44.0		15.1	28.0	15.8		
Queue Delay		5.2	5.2		3.3	0.0	0.0		
Total Delay		30.9	49.2		18.5	28.0	15.8		
LOS		C	D		B	C	B		
Approach Delay		37.0			18.5	25.2			
Approach LOS		D			B	C			

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 124 (83%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 28.4

Intersection LOS: C

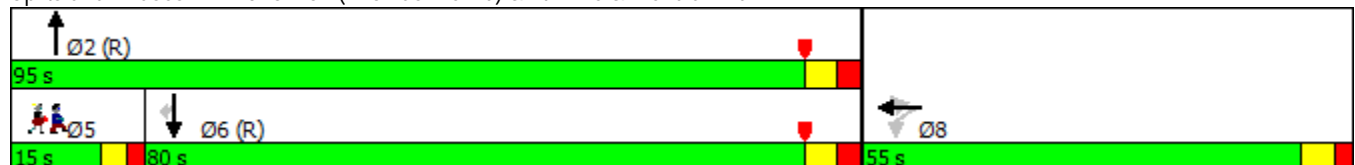
Intersection Capacity Utilization 84.3%

ICU Level of Service E

Analysis Period (min) 15

















Description: TMC Collected 12/01/2015

Splits and Phases: 210: SR 61 (Thomasville Rd) & 7th Ave & Meridian Rd




Lanes, Volumes, Timings
250: SR 61 (Thomasville Rd) & 6th Ave

06/28/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	529	59	0	0	0	0	643	42	93	706	0
Future Volume (vph)	185	529	59	0	0	0	0	643	42	93	706	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	0		0	105		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	50			50			50			100		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.987						0.989				
Flt Protected		0.988								0.950		
Satd. Flow (prot)	0	3242	0	0	0	0	0	1728	0	1662	1733	0
Flt Permitted		0.988								0.135		
Satd. Flow (perm)	0	3242	0	0	0	0	0	1728	0	236	1733	0
Right Turn on Red			Yes			No			Yes			No
Satd. Flow (RTOR)		6						4				
Link Speed (mph)		30			35			25			25	
Link Distance (ft)		1012			320			1732			549	
Travel Time (s)		23.0			6.2			47.2			15.0	
Peak Hour Factor	0.84	0.86	0.78	1.00	1.00	1.00	1.00	0.89	0.66	0.78	0.92	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	1%	0%
Adj. Flow (vph)	220	615	76	0	0	0	0	722	64	119	767	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	911	0	0	0	0	0	786	0	119	767	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		-12			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1						1		1	1	
Detector Template	Left	Minor						Thru		Left	Thru	
Leading Detector (ft)	20	20						56		20	56	
Trailing Detector (ft)	0	0						50		0	50	
Detector 1 Position(ft)	0	0						50		0	50	
Detector 1 Size(ft)	20	20						6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0		0.0	0.0	
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4									6		
Detector Phase	4	4						2		1	6	
Switch Phase												
Minimum Initial (s)	9.0	9.0						10.0		4.0	10.0	
Minimum Split (s)	16.7	16.7						22.0		9.4	18.0	

Lanes, Volumes, Timings
250: SR 61 (Thomasville Rd) & 6th Ave

06/28/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	50.0	50.0						82.0		18.0	100.0	
Total Split (%)	33.3%	33.3%						54.7%		12.0%	66.7%	
Maximum Green (s)	44.3	44.3						76.0		12.6	94.0	
Yellow Time (s)	3.7	3.7						3.4		3.4	3.4	
All-Red Time (s)	2.0	2.0						2.6		2.0	2.6	
Lost Time Adjust (s)		0.0						0.0		0.0	0.0	
Total Lost Time (s)		5.7						6.0		5.4	6.0	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0						5.0		2.2	5.0	
Recall Mode	None	None						C-Max		None	C-Max	
Walk Time (s)	5.0	5.0						6.0			7.0	
Flash Dont Walk (s)	6.0	6.0						10.0			5.0	
Pedestrian Calls (#/hr)	0	0						0			0	
Act Effect Green (s)		44.2						79.7		94.7	94.1	
Actuated g/C Ratio		0.29						0.53		0.63	0.63	
v/c Ratio		0.95						0.85		0.51	0.71	
Control Delay		61.2						27.8		19.6	13.3	
Queue Delay		0.3						1.3		0.0	0.5	
Total Delay		61.5						29.1		19.6	13.8	
LOS		E						C		B	B	
Approach Delay		61.5						29.1			14.6	
Approach LOS		E						C			B	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 111 (74%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 35.6

Intersection LOS: D

Intersection Capacity Utilization 83.1%

ICU Level of Service E

Analysis Period (min) 15




















Description: TMC Collected 12/01/2015

Splits and Phases: 250: SR 61 (Thomasville Rd) & 6th Ave




Lanes, Volumes, Timings
138: Gadsen St & 7th Ave

06/28/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					  		 	 				
Traffic Volume (vph)	0	0	0	0	923	70	358	969	0	0	0	0
Future Volume (vph)	0	0	0	0	923	70	358	969	0	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	480		0	0		290	0		0
Storage Lanes	0		0	1		0	2		1	0		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.91	0.91	0.97	0.95	1.00	1.00	1.00	1.00
Frt					0.988							
Flt Protected							0.950					
Satd. Flow (prot)	0	0	0	0	4677	0	3225	3325	0	0	0	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	0	0	4677	0	3225	3325	0	0	0	0
Right Turn on Red			Yes			Yes	Yes		Yes			Yes
Satd. Flow (RTOR)					9		22					
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		223			762			457			423	
Travel Time (s)		5.1			17.3			10.4			9.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	0.95	0.83	0.95	0.95	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	0	0	0	972	84	377	1020	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1056	0	377	1020	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			24			24	
Link Offset(ft)		0			0			-18			36	
Crosswalk Width(ft)		16			24			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors					1		1	1				
Detector Template					Minor		Left	Thru				
Leading Detector (ft)					20		20	56				
Trailing Detector (ft)					0		0	50				
Detector 1 Position(ft)					0		0	50				
Detector 1 Size(ft)					20		20	6				
Detector 1 Type					Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)					0.0		0.0	0.0				
Detector 1 Queue (s)					0.0		0.0	0.0				
Detector 1 Delay (s)					0.0		0.0	0.0				
Turn Type					NA		Perm	NA				
Protected Phases					8			2				
Permitted Phases							2					
Detector Phase					8		2	2				
Switch Phase												
Minimum Initial (s)					7.0		15.0	15.0				
Minimum Split (s)					22.0		27.0	27.0				

Lanes, Volumes, Timings
138: Gadsen St & 7th Ave

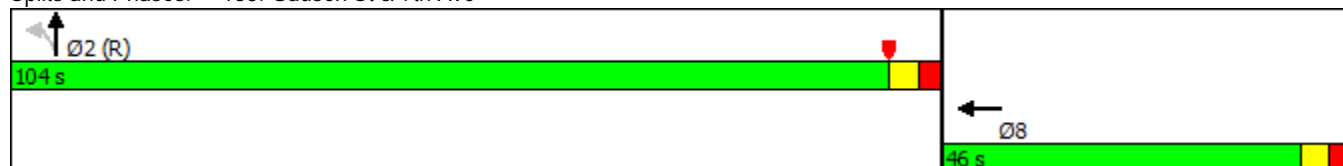
06/28/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)					46.0		104.0	104.0				
Total Split (%)					30.7%		69.3%	69.3%				
Maximum Green (s)					40.0		98.0	98.0				
Yellow Time (s)					3.1		3.4	3.4				
All-Red Time (s)					2.9		2.6	2.6				
Lost Time Adjust (s)					0.0		0.0	0.0				
Total Lost Time (s)					6.0		6.0	6.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)					4.0		4.0	4.0				
Recall Mode					Ped		C-Max	C-Max				
Walk Time (s)					6.0		6.0	6.0				
Flash Dont Walk (s)					10.0		15.0	15.0				
Pedestrian Calls (#/hr)					0		0	0				
Act Effect Green (s)					38.8		99.2	99.2				
Actuated g/C Ratio					0.26		0.66	0.66				
v/c Ratio					0.87		0.18	0.46				
Control Delay					61.4		1.8	3.0				
Queue Delay					1.1		0.0	0.0				
Total Delay					62.5		1.8	3.0				
LOS					E		A	A				
Approach Delay					62.5			2.7				
Approach LOS					E			A				

Intersection Summary















Area Type:	Other
Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 127 (85%), Referenced to phase 2:NBTL, Start of Yellow	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 28.5	Intersection LOS: C
Intersection Capacity Utilization 108.5%	ICU Level of Service G
Analysis Period (min) 15	
Description: TMC Date: 12/1/2015	

Splits and Phases: 138: Gadsen St & 7th Ave















Lanes, Volumes, Timings
139: Gadsen St & 6th Ave

06/28/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	590	0	0	0	0	0	1214	39	0	0	0
Future Volume (vph)	88	590	0	0	0	0	0	1214	39	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	1.00	1.00
Fr t								0.993				
Flt Protected		0.993										
Satd. Flow (prot)	0	3302	0	0	0	0	0	4744	0	0	0	0
Flt Permitted		0.993										
Satd. Flow (perm)	0	3302	0	0	0	0	0	4744	0	0	0	0
Right Turn on Red	Yes		Yes			Yes			No			Yes
Satd. Flow (RTOR)		22										
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		320			2662			358			457	
Travel Time (s)		7.3			60.5			8.1			10.4	
Peak Hour Factor	0.79	0.86	1.00	1.00	1.00	1.00	1.00	0.93	0.65	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	111	686	0	0	0	0	0	1305	60	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	797	0	0	0	0	0	1365	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		-12			12			-24			24	
Crosswalk Width(ft)		32			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1						1				
Detector Template	Left	Minor						Thru				
Leading Detector (ft)	20	20						56				
Trailing Detector (ft)	0	0						50				
Detector 1 Position(ft)	0	0						50				
Detector 1 Size(ft)	20	20						6				
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0				
Detector 1 Queue (s)	0.0	0.0						0.0				
Detector 1 Delay (s)	0.0	0.0						0.0				
Turn Type	Perm	NA						NA				
Protected Phases		4						2				
Permitted Phases	4											
Detector Phase	4	4						2				
Switch Phase												
Minimum Initial (s)	12.0	12.0						7.0				
Minimum Split (s)	20.0	20.0						20.0				
Total Split (s)	63.0	63.0						87.0				
Total Split (%)	42.0%	42.0%						58.0%				
Maximum Green (s)	57.0	57.0						81.0				

Lanes, Volumes, Timings
139: Gadsen St & 6th Ave

06/28/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	3.3	3.3						3.3				
All-Red Time (s)	2.7	2.7						2.7				
Lost Time Adjust (s)		0.0						0.0				
Total Lost Time (s)		6.0						6.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0						4.0				
Recall Mode	Ped	Ped						C-Max				
Walk Time (s)	7.0	7.0						7.0				
Flash Dont Walk (s)	7.0	7.0						7.0				
Pedestrian Calls (#/hr)	0	0						0				
Act Effect Green (s)		45.2						92.8				
Actuated g/C Ratio		0.30						0.62				
v/c Ratio		0.79						0.47				
Control Delay		20.4						16.6				
Queue Delay		1.1						0.0				
Total Delay		21.5						16.6				
LOS		C						B				
Approach Delay		21.5						16.6				
Approach LOS		C						B				

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 116 (77%), Referenced to phase 2:NBT, Start of Yellow

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 18.4

Intersection LOS: B

Intersection Capacity Utilization 60.1%

ICU Level of Service B

Analysis Period (min) 15

Description: TMC Date: 12/1/2015





















Splits and Phases: 139: Gadsen St & 6th Ave



HCM Signalized Intersection Capacity Analysis

223: Monroe St & 7th Ave

04/13/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	131	26	295	562	95	15	520	13	278	1608	24
Future Volume (vph)	24	131	26	295	562	95	15	520	13	278	1608	24
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		6.0	6.0		6.1		6.6	6.3			6.3	
Lane Util. Factor		1.00	1.00		0.95		1.00	0.95			0.95	
Frt		1.00	0.85		0.98		1.00	1.00			1.00	
Flt Protected		0.99	1.00		0.98		0.95	1.00			0.99	
Satd. Flow (prot)		1704	1488		3213		1662	3220			3240	
Flt Permitted		0.25	1.00		0.74		0.05	1.00			0.73	
Satd. Flow (perm)		429	1488		2424		85	3220			2392	
Peak-hour factor, PHF	0.44	1.00	0.84	0.93	0.94	0.89	0.75	0.82	1.00	1.00	0.92	0.75
Adj. Flow (vph)	55	131	31	317	598	107	20	634	13	278	1748	32
RTOR Reduction (vph)	0	0	21	0	5	0	0	1	0	0	1	0
Lane Group Flow (vph)	0	186	10	0	1017	0	20	646	0	0	2057	0
Heavy Vehicles (%)	4%	0%	0%	0%	0%	3%	0%	3%	0%	0%	2%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8		8	4			2			6		
Actuated Green, G (s)		47.0	47.0		46.9		84.7	84.7			75.7	
Effective Green, g (s)		47.0	47.0		46.9		84.7	84.7			75.7	
Actuated g/C Ratio		0.33	0.33		0.33		0.59	0.59			0.53	
Clearance Time (s)		6.0	6.0		6.1		6.6	6.3			6.3	
Vehicle Extension (s)		3.0	3.0		4.0		3.0	4.0			4.0	
Lane Grp Cap (vph)		140	485		789		76	1893			1257	
v/s Ratio Prot							0.00	c0.20				
v/s Ratio Perm		c0.43	0.01		0.42		0.15				c0.86	
v/c Ratio		1.33	0.02		1.29		0.26	0.34			1.64	
Uniform Delay, d1		48.5	32.9		48.6		33.9	15.3			34.1	
Progression Factor		1.11	1.00		1.00		0.50	0.65			1.07	
Incremental Delay, d2		188.6	0.0		135.8		1.7	0.4			289.5	
Delay (s)		242.6	32.9		184.4		18.5	10.4			326.0	
Level of Service		F	C		F		B	B			F	
Approach Delay (s)		212.7			184.4			10.6			326.0	
Approach LOS		F			F			B			F	


Intersection Summary

HCM 2000 Control Delay	230.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.58		
Actuated Cycle Length (s)	144.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	132.9%	ICU Level of Service	H
Analysis Period (min)	15		
Description: TMC Date: 02/18/2016			
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

225: Monroe St & 6th Ave

04/13/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕		↗	↕	
Traffic Volume (vph)	19	56	31	143	272	46	0	543	5	120	1492	0
Future Volume (vph)	19	56	31	143	272	46	0	543	5	120	1492	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		6.0			4.0			6.0		6.0	6.0	
Lane Util. Factor		1.00			1.00			0.95		1.00	0.95	
Frt		0.96			0.99			1.00		1.00	1.00	
Flt Protected		0.99			0.98			1.00		0.95	1.00	
Satd. Flow (prot)		1652			1700			3252		1646	3292	
Flt Permitted		0.87			0.82			1.00		0.30	1.00	
Satd. Flow (perm)		1448			1418			3252		527	3292	
Peak-hour factor, PHF	0.79	0.77	0.67	1.00	1.00	1.00	1.00	0.83	0.64	0.90	0.92	1.00
Adj. Flow (vph)	24	73	46	143	272	46	0	654	8	133	1622	0
RTOR Reduction (vph)	0	13	0	0	3	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	130	0	0	458	0	0	661	0	133	1622	0
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	2%	6%	1%	1%	0%
Turn Type	Perm	NA		Perm	NA			NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8						6		
Actuated Green, G (s)		47.6			49.6			69.0		84.4	84.4	
Effective Green, g (s)		47.6			49.6			69.0		84.4	84.4	
Actuated g/C Ratio		0.33			0.34			0.48		0.59	0.59	
Clearance Time (s)		6.0			4.0			6.0		6.0	6.0	
Vehicle Extension (s)		4.0			3.0			5.0		4.0	5.0	
Lane Grp Cap (vph)		478			488			1558		381	1929	
v/s Ratio Prot								0.20		0.02	c0.49	
v/s Ratio Perm		0.09			c0.32					0.18		
v/c Ratio		0.27			0.94			0.42		0.35	0.84	
Uniform Delay, d1		35.5			45.7			24.5		14.8	24.3	
Progression Factor		1.00			1.09			0.72		1.56	1.31	
Incremental Delay, d2		0.4			14.2			0.8		0.1	0.4	
Delay (s)		35.9			63.9			18.5		23.1	32.4	
Level of Service		D			E			B		C	C	
Approach Delay (s)		35.9			63.9			18.5			31.7	
Approach LOS		D			E			B			C	
Intersection Summary												
HCM 2000 Control Delay			33.9									HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			144.0							18.0		
Intersection Capacity Utilization			86.9%									ICU Level of Service E
Analysis Period (min)			15									
Description: TMC Date: 02/18/2016												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

210: SR 61 (Thomasville Rd) & 7th Ave & Meridian Rd

04/13/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT	SBR	SBR2	SER2
Lane Configurations		↔			↔	↔	↑	↑	↔		↔
Traffic Volume (vph)	25	296	101	107	235	231	337	1252	401	50	316
Future Volume (vph)	25	296	101	107	235	231	337	1252	401	50	316
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0			6.0	6.0	6.3	6.3	6.3		4.0
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00	1.00		1.00
Frt		0.97			1.00	0.85	1.00	1.00	0.85		0.86
Flt Protected		1.00			0.98	1.00	1.00	1.00	1.00		1.00
Satd. Flow (prot)		1688			1711	1488	1699	1733	1488		1514
Flt Permitted		0.83			0.48	1.00	1.00	1.00	1.00		1.00
Satd. Flow (perm)		1412			842	1488	1699	1733	1488		1514
Peak-hour factor, PHF	1.00	1.00	1.00	0.85	0.89	0.78	0.91	0.95	0.80	1.00	1.00
Adj. Flow (vph)	25	296	101	126	264	296	370	1318	501	50	316
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	422	0	0	390	296	370	1318	551	0	316
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	3%	1%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	NA	NA	Perm		Free
Protected Phases		4			8		2	6			
Permitted Phases	4			8		8			6		Free
Actuated Green, G (s)		46.0			44.0	44.0	87.7	72.7	72.7		144.0
Effective Green, g (s)		46.0			44.0	44.0	87.7	72.7	72.7		144.0
Actuated g/C Ratio		0.32			0.31	0.31	0.61	0.50	0.50		1.00
Clearance Time (s)		4.0			6.0	6.0	6.3	6.3	6.3		
Vehicle Extension (s)		3.0			5.5	5.5	4.0	4.0	4.0		
Lane Grp Cap (vph)		451			257	454	1034	874	751		1514
v/s Ratio Prot							c0.22	c0.76			
v/s Ratio Perm		0.30			c0.46	0.20			0.37		0.21
v/c Ratio		0.94			1.52	0.65	0.36	1.51	0.73		0.21
Uniform Delay, d1		47.6			50.0	43.4	14.1	35.6	28.0		0.0
Progression Factor		0.95			0.55	0.52	0.93	1.00	1.00		1.00
Incremental Delay, d2		4.1			251.7	4.9	0.4	234.6	6.3		0.3
Delay (s)		49.2			279.0	27.4	13.5	270.2	34.3		0.3
Level of Service		D			F	C	B	F	C		A
Approach Delay (s)		49.2			170.4		13.5	200.7			
Approach LOS		D			F		B	F			

Intersection Summary

HCM 2000 Control Delay	141.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.43		
Actuated Cycle Length (s)	144.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	130.1%	ICU Level of Service	H
Analysis Period (min)	15		


Description: TMC Collected 12/01/2015

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

250: SR 61 (Thomasville Rd) & 6th Ave

04/13/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔		↔	↔	
Traffic Volume (vph)	11	127	43	0	136	0	34	290	47	49	1056	290
Future Volume (vph)	11	127	43	0	136	0	34	290	47	49	1056	290
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		5.7			4.0			6.0		5.4	6.0	
Lane Util. Factor		1.00			1.00			1.00		1.00	1.00	
Frt		0.96			1.00			0.98		1.00	0.97	
Flt Protected		1.00			1.00			1.00		0.95	1.00	
Satd. Flow (prot)		1658			1750			1641		1630	1682	
Flt Permitted		0.92			1.00			0.33		0.50	1.00	
Satd. Flow (perm)		1536			1750			544		850	1682	
Peak-hour factor, PHF	0.62	0.82	0.59	1.00	1.00	1.00	1.00	0.93	0.83	0.59	0.96	1.00
Adj. Flow (vph)	18	155	73	0	136	0	34	312	57	83	1100	290
RTOR Reduction (vph)	0	10	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	236	0	0	136	0	0	399	0	83	1390	0
Heavy Vehicles (%)	0%	1%	1%	0%	0%	0%	0%	5%	2%	2%	1%	0%
Turn Type	Perm	NA			NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		21.3			23.0			101.6		111.0	111.0	
Effective Green, g (s)		21.3			23.0			101.6		111.0	111.0	
Actuated g/C Ratio		0.15			0.16			0.71		0.77	0.77	
Clearance Time (s)		5.7			4.0			6.0		5.4	6.0	
Vehicle Extension (s)		5.0			3.0			5.0		2.2	5.0	
Lane Grp Cap (vph)		227			279			383		676	1296	
v/s Ratio Prot					0.08					0.00	c0.83	
v/s Ratio Perm		c0.15						0.73		0.09		
v/c Ratio		1.04			0.49			1.04		0.12	1.07	
Uniform Delay, d1		61.4			55.1			21.2		4.4	16.5	
Progression Factor		1.17			0.34			0.93		0.37	1.21	
Incremental Delay, d2		69.4			1.3			56.9		0.0	34.4	
Delay (s)		140.9			20.2			76.6		1.7	54.3	
Level of Service		F			C			E		A	D	
Approach Delay (s)		140.9			20.2			76.6			51.3	
Approach LOS		F			C			E			D	

Intersection Summary

HCM 2000 Control Delay	63.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	144.0	Sum of lost time (s)	17.1
Intersection Capacity Utilization	109.5%	ICU Level of Service	H
Analysis Period (min)	15		

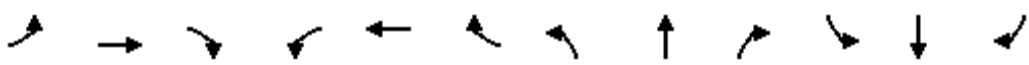
Description: TMC Collected 12/01/2015

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

138: Gadsden St & 7th Ave
















04/13/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖			↗		↖	↗				
Traffic Volume (vph)	0	296	0	0	382	20	171	215	20	0	0	0
Future Volume (vph)	0	296	0	0	382	20	171	215	20	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0			6.0		6.0	6.0				
Lane Util. Factor		1.00			0.95		0.97	0.95				
Frt		1.00			0.99		1.00	0.99				
Flt Protected		1.00			1.00		0.95	1.00				
Satd. Flow (prot)		1750			3250		3162	3229				
Flt Permitted		1.00			1.00		0.95	1.00				
Satd. Flow (perm)		1750			3250		3162	3229				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	0.86	0.70	0.89	0.84	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	296	0	0	444	29	192	256	20	0	0	0
RTOR Reduction (vph)	0	0	0	0	6	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	296	0	0	467	0	192	274	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	1%	7%	2%	2%	0%	0%	0%	0%
Turn Type		NA			NA		Perm	NA				
Protected Phases		4			8			2				
Permitted Phases	4						2					
Actuated Green, G (s)		31.3			29.3		102.7	102.7				
Effective Green, g (s)		31.3			29.3		102.7	102.7				
Actuated g/C Ratio		0.22			0.20		0.71	0.71				
Clearance Time (s)		4.0			6.0		6.0	6.0				
Vehicle Extension (s)		3.0			4.0		4.0	4.0				
Lane Grp Cap (vph)		380			661		2255	2302				
v/s Ratio Prot		c0.17			0.14			c0.08				
v/s Ratio Perm							0.06					
v/c Ratio		0.78			0.71		0.09	0.12				
Uniform Delay, d1		53.1			53.3		6.3	6.5				
Progression Factor		0.33			1.00		0.62	0.65				
Incremental Delay, d2		3.6			3.7		0.1	0.1				
Delay (s)		21.0			57.0		4.0	4.3				
Level of Service		C			E		A	A				
Approach Delay (s)		21.0			57.0			4.2			0.0	
Approach LOS		C			E			A			A	
Intersection Summary												
HCM 2000 Control Delay			28.4			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.28									
Actuated Cycle Length (s)			144.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			37.7%			ICU Level of Service			A			
Analysis Period (min)			15									
Description: TMC Date: 12/1/2015												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

139: Gadsden St & 6th Ave




















04/13/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	213	0	0	170	10	0	389	19	0	0	0
Future Volume (vph)	10	213	0	0	170	10	0	389	19	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		6.0			4.0			6.0				
Lane Util. Factor		1.00			1.00			0.91				
Frt		1.00			0.99			0.99				
Flt Protected		1.00			1.00			1.00				
Satd. Flow (prot)		1742			1737			4687				
Flt Permitted		0.93			1.00			1.00				
Satd. Flow (perm)		1625			1737			4687				
Peak-hour factor, PHF	0.42	0.89	1.00	1.00	1.00	1.00	1.00	0.90	0.64	1.00	1.00	1.00
Adj. Flow (vph)	24	239	0	0	170	10	0	432	30	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	263	0	0	178	0	0	462	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%
Turn Type	Perm	NA			NA			NA				
Protected Phases		4			8			2				
Permitted Phases	4											
Actuated Green, G (s)		31.0			33.0			101.0				
Effective Green, g (s)		31.0			33.0			101.0				
Actuated g/C Ratio		0.22			0.23			0.70				
Clearance Time (s)		6.0			4.0			6.0				
Vehicle Extension (s)		5.0			3.0			4.0				
Lane Grp Cap (vph)		349			398			3287				
v/s Ratio Prot					0.10			c0.10				
v/s Ratio Perm		c0.16										
v/c Ratio		0.75			0.45			0.14				
Uniform Delay, d1		52.9			47.7			7.1				
Progression Factor		1.31			1.00			1.00				
Incremental Delay, d2		6.5			0.8			0.1				
Delay (s)		76.0			48.5			7.2				
Level of Service		E			D			A				
Approach Delay (s)		76.0			48.5			7.2			0.0	
Approach LOS		E			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			35.4			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.28									
Actuated Cycle Length (s)			144.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			39.6%			ICU Level of Service			A			
Analysis Period (min)			15									
Description: TMC Date: 12/1/2015												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

223: Monroe St & 7th Ave

04/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	0	26	376	713	129	15	520	0	0	1488	24
Future Volume (vph)	24	0	26	376	713	129	15	520	0	0	1488	24
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	6.0		6.0	6.1	6.1		6.6	6.3			6.3	
Lane Util. Factor	1.00		1.00	0.91	0.91		1.00	0.95			0.95	
Frt	1.00		0.85	1.00	0.98		1.00	1.00			1.00	
Flt Protected	0.95		1.00	0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1599		1488	1513	3091		1662	3228			3252	
Flt Permitted	0.95		1.00	0.95	1.00		0.05	1.00			1.00	
Satd. Flow (perm)	1599		1488	1513	3091		95	3228			3252	
Peak-hour factor, PHF	0.44	1.00	0.84	0.93	0.94	0.89	0.75	0.82	1.00	1.00	0.92	0.75
Adj. Flow (vph)	55	0	31	404	759	145	20	634	0	0	1617	32
RTOR Reduction (vph)	0	0	30	0	10	0	0	0	0	0	1	0
Lane Group Flow (vph)	55	0	1	364	934	0	20	634	0	0	1648	0
Heavy Vehicles (%)	4%	0%	0%	0%	0%	3%	0%	3%	0%	0%	2%	0%
Turn Type	Prot		Perm	Split	NA		pm+pt	NA			NA	
Protected Phases	3			4	4		5	2			6	
Permitted Phases			3				2					
Actuated Green, G (s)	5.8		5.8	43.7	43.7		76.1	76.1			67.1	
Effective Green, g (s)	5.8		5.8	43.7	43.7		76.1	76.1			67.1	
Actuated g/C Ratio	0.04		0.04	0.30	0.30		0.53	0.53			0.47	
Clearance Time (s)	6.0		6.0	6.1	6.1		6.6	6.3			6.3	
Vehicle Extension (s)	3.0		3.0	4.0	4.0		3.0	4.0			4.0	
Lane Grp Cap (vph)	64		59	459	938		76	1705			1515	
v/s Ratio Prot	c0.03			0.24	c0.30		0.00	c0.20			c0.51	
v/s Ratio Perm			0.00				0.13					
v/c Ratio	0.86		0.02	0.79	1.00		0.26	0.37			1.09	
Uniform Delay, d1	68.7		66.4	46.0	50.1		33.3	19.9			38.5	
Progression Factor	1.07		1.00	1.06	1.07		2.16	1.66			1.00	
Incremental Delay, d2	64.6		0.1	6.0	21.6		1.8	0.6			50.9	
Delay (s)	138.0		66.5	54.8	75.2		73.8	33.6			89.4	
Level of Service	F		E	D	E		E	C			F	
Approach Delay (s)		112.3			69.5			34.8			89.4	
Approach LOS		F			E			C			F	

Intersection Summary

HCM 2000 Control Delay	73.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	144.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	89.3%	ICU Level of Service	E
Analysis Period (min)	15		

















Description: TMC Date: 02/18/2016

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

225: Monroe St & 6th Ave

04/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	184	31	0	0	0	0	530	18	401	1492	0
Future Volume (vph)	19	184	31	0	0	0	0	530	18	401	1492	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		6.0						6.0		6.0	6.0	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frt		0.98						0.99		1.00	1.00	
Flt Protected		1.00						1.00		0.95	1.00	
Satd. Flow (prot)		3213						3234		1646	3292	
Flt Permitted		1.00						1.00		0.33	1.00	
Satd. Flow (perm)		3213						3234		578	3292	
Peak-hour factor, PHF	0.79	0.77	0.67	1.00	1.00	1.00	1.00	0.83	0.64	0.90	0.92	1.00
Adj. Flow (vph)	24	239	46	0	0	0	0	639	28	446	1622	0
RTOR Reduction (vph)	0	10	0	0	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	299	0	0	0	0	0	666	0	446	1622	0
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	2%	6%	1%	1%	0%
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4									6		
Actuated Green, G (s)		19.5						83.9		112.5	112.5	
Effective Green, g (s)		19.5						83.9		112.5	112.5	
Actuated g/C Ratio		0.14						0.58		0.78	0.78	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Vehicle Extension (s)		4.0						5.0		4.0	5.0	
Lane Grp Cap (vph)		435						1884		619	2571	
v/s Ratio Prot								0.21		c0.11	0.49	
v/s Ratio Perm		0.09								c0.45		
v/c Ratio		0.69						0.35		0.72	0.63	
Uniform Delay, d1		59.3						15.8		6.8	6.8	
Progression Factor		1.00						0.67		1.00	0.59	
Incremental Delay, d2		4.8						0.5		1.3	0.4	
Delay (s)		64.2						11.0		8.2	4.4	
Level of Service		E						B		A	A	
Approach Delay (s)		64.2			0.0			11.0			5.2	
Approach LOS		E			A			B			A	
Intersection Summary												
HCM 2000 Control Delay		12.4										
HCM 2000 Volume to Capacity ratio		0.74										
Actuated Cycle Length (s)		144.0								18.0		
Intersection Capacity Utilization		62.8%										
Analysis Period (min)		15										
Description: TMC Date: 02/18/2016												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

210: SR 61 (Thomasville Rd) & 7th Ave & Meridian Rd

04/16/2018



Movement	WBL	WBT	WBR	SBT	SBR	SBR2	SER2
Lane Configurations		↑↑	↑	↑↑			↑
Traffic Volume (vph)	107	410	231	967	686	50	316
Future Volume (vph)	107	410	231	967	686	50	316
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		6.0	6.0	6.3			4.0
Lane Util. Factor		0.95	1.00	0.95			1.00
Frt		1.00	0.85	0.93			0.86
Flt Protected		0.99	1.00	1.00			1.00
Satd. Flow (prot)		3264	1488	3074			1514
Flt Permitted		0.99	1.00	1.00			1.00
Satd. Flow (perm)		3264	1488	3074			1514
Peak-hour factor, PHF	0.85	0.89	0.78	0.95	0.80	1.00	1.00
Adj. Flow (vph)	126	461	296	1018	858	50	316
RTOR Reduction (vph)	0	51	0	0	0	0	0
Lane Group Flow (vph)	0	536	296	1926	0	0	316
Heavy Vehicles (%)	0%	1%	0%	1%	0%	0%	0%
Turn Type	Perm	NA	Perm	NA			Free
Protected Phases		8		6			
Permitted Phases	8		8				Free
Actuated Green, G (s)		28.0	28.0	94.7			144.0
Effective Green, g (s)		28.0	28.0	94.7			144.0
Actuated g/C Ratio		0.19	0.19	0.66			1.00
Clearance Time (s)		6.0	6.0	6.3			
Vehicle Extension (s)		5.5	5.5	4.0			
Lane Grp Cap (vph)		634	289	2021			1514
v/s Ratio Prot				c0.63			
v/s Ratio Perm		0.16	c0.20				c0.21
v/c Ratio		0.85	1.02	0.95			0.21
Uniform Delay, d1		55.9	58.0	22.6			0.0
Progression Factor		0.24	0.32	1.00			1.00
Incremental Delay, d2		11.0	58.3	11.6			0.3
Delay (s)		24.3	77.0	34.3			0.3
Level of Service		C	E	C			A
Approach Delay (s)		42.0		34.3			
Approach LOS		D		C			

Intersection Summary

HCM 2000 Control Delay	33.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	144.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		


Description: TMC Collected 12/01/2015

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

250: SR 61 (Thomasville Rd) & 6th Ave















04/16/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑									↑↑	
Traffic Volume (vph)	0	520	162	0	0	0	0	0	0	49	1056	0
Future Volume (vph)	0	520	162	0	0	0	0	0	0	49	1056	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		5.7									6.0	
Lane Util. Factor		0.95									0.95	
Frt		0.95									1.00	
Flt Protected		1.00									1.00	
Satd. Flow (prot)		3143									3278	
Flt Permitted		1.00									1.00	
Satd. Flow (perm)		3143									3278	
Peak-hour factor, PHF	0.62	0.82	0.59	1.00	1.00	1.00	1.00	0.93	0.83	0.59	0.96	1.00
Adj. Flow (vph)	0	634	275	0	0	0	0	0	0	83	1100	0
RTOR Reduction (vph)	0	35	0	0	0	0	0	0	0	0	12	0
Lane Group Flow (vph)	0	874	0	0	0	0	0	0	0	0	1171	0
Heavy Vehicles (%)	0%	1%	1%	0%	0%	0%	0%	5%	2%	2%	1%	0%
Turn Type		NA								pm+pt	NA	
Protected Phases		4								1	6	
Permitted Phases										6		
Actuated Green, G (s)		39.2									59.7	
Effective Green, g (s)		39.2									59.7	
Actuated g/C Ratio		0.36									0.54	
Clearance Time (s)		5.7									6.0	
Vehicle Extension (s)		5.0									5.0	
Lane Grp Cap (vph)		1120									1779	
v/s Ratio Prot		c0.28									c0.36	
v/s Ratio Perm												
v/c Ratio		0.78									0.66	
Uniform Delay, d1		31.6									17.9	
Progression Factor		1.00									1.00	
Incremental Delay, d2		4.2									0.7	
Delay (s)		35.7									18.6	
Level of Service		D									B	
Approach Delay (s)		35.7			0.0			0.0			18.6	
Approach LOS		D			A			A			B	
Intersection Summary												
HCM 2000 Control Delay			26.1				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			110.0				Sum of lost time (s)			11.7		
Intersection Capacity Utilization			64.2%				ICU Level of Service			C		
Analysis Period (min)			15									
Description: TMC Collected 12/01/2015												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

139: Gadsden St & 6th Ave


04/16/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	465	0	0	0	0	0	726	19	0	0	0
Future Volume (vph)	100	465	0	0	0	0	0	726	19	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		6.0						6.0				
Lane Util. Factor		0.95						0.91				
Frt		1.00						0.99				
Flt Protected		0.98						1.00				
Satd. Flow (prot)		3274						4706				
Flt Permitted		0.98						1.00				
Satd. Flow (perm)		3274						4706				
Peak-hour factor, PHF	0.42	0.89	1.00	1.00	1.00	1.00	1.00	0.90	0.64	1.00	1.00	1.00
Adj. Flow (vph)	238	522	0	0	0	0	0	807	30	0	0	0
RTOR Reduction (vph)	0	16	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	744	0	0	0	0	0	837	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%
Turn Type	Perm	NA						NA				
Protected Phases		4						2				
Permitted Phases	4											
Actuated Green, G (s)		46.3						85.7				
Effective Green, g (s)		46.3						85.7				
Actuated g/C Ratio		0.32						0.60				
Clearance Time (s)		6.0						6.0				
Vehicle Extension (s)		5.0						4.0				
Lane Grp Cap (vph)		1052						2800				
v/s Ratio Prot								c0.18				
v/s Ratio Perm		0.23										
v/c Ratio		0.71						0.30				
Uniform Delay, d1		42.9						14.4				
Progression Factor		1.00						1.00				
Incremental Delay, d2		2.8						0.3				
Delay (s)		45.7						14.6				
Level of Service		D						B				
Approach Delay (s)		45.7			0.0			14.6			0.0	
Approach LOS		D			A			B			A	
Intersection Summary												
HCM 2000 Control Delay		29.4						HCM 2000 Level of Service		C		
HCM 2000 Volume to Capacity ratio		0.44										
Actuated Cycle Length (s)		144.0						Sum of lost time (s)		12.0		
Intersection Capacity Utilization		42.8%						ICU Level of Service		A		
Analysis Period (min)		15										
Description: TMC Date: 12/1/2015												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

138: Gadsden St/Gadsden St & 7th Ave

04/16/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑↑		↑↑	↑↑				
Traffic Volume (vph)	0	0	0	0	593	30	171	549	0	0	0	0
Future Volume (vph)	0	0	0	0	593	30	171	549	0	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)					6.0		6.0	6.0				
Lane Util. Factor					0.91		0.97	0.95				
Frt					0.99		1.00	1.00				
Flt Protected					1.00		0.95	1.00				
Satd. Flow (prot)					4672		3162	3260				
Flt Permitted					1.00		0.95	1.00				
Satd. Flow (perm)					4672		3162	3260				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	0.86	0.70	0.89	0.84	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	690	43	192	654	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	6	0	56	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	727	0	136	654	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	1%	7%	2%	2%	0%	0%	0%	0%
Turn Type					NA		Perm	NA				
Protected Phases					8			2				
Permitted Phases							2					
Actuated Green, G (s)					30.3		101.7	101.7				
Effective Green, g (s)					30.3		101.7	101.7				
Actuated g/C Ratio					0.21		0.71	0.71				
Clearance Time (s)					6.0		6.0	6.0				
Vehicle Extension (s)					4.0		4.0	4.0				
Lane Grp Cap (vph)					983		2233	2302				
v/s Ratio Prot					c0.16			c0.20				
v/s Ratio Perm							0.04					
v/c Ratio					0.74		0.06	0.28				
Uniform Delay, d1					53.2		6.5	7.8				
Progression Factor					1.00		0.21	0.62				
Incremental Delay, d2					3.1		0.1	0.3				
Delay (s)					56.3		1.4	5.1				
Level of Service					E		A	A				
Approach Delay (s)		0.0			56.3			4.3			0.0	
Approach LOS		A			E			A			A	
Intersection Summary												
HCM 2000 Control Delay			28.4				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.39									
Actuated Cycle Length (s)			144.0				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			73.9%				ICU Level of Service			D		
Analysis Period (min)			15									
Description: TMC Date: 12/1/2015												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

229: Monroe St & SR 61 (Thomasville Rd)

04/16/2018



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		W		W	W
Traffic Volume (vph)	247	1	552	0	0	1395
Future Volume (vph)	247	1	552	0	0	1395
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	7.4		7.0			7.0
Lane Util. Factor	1.00		0.95			0.95
Frt	1.00		1.00			1.00
Flt Protected	0.95		1.00			1.00
Satd. Flow (prot)	1572		3197			3292
Flt Permitted	0.95		1.00			1.00
Satd. Flow (perm)	1572		3197			3292
Peak-hour factor, PHF	0.89	0.25	0.94	0.90	1.00	0.85
Adj. Flow (vph)	278	4	587	0	0	1641
RTOR Reduction (vph)	1	0	0	0	0	0
Lane Group Flow (vph)	281	0	587	0	0	1641
Heavy Vehicles (%)	6%	0%	4%	3%	0%	1%
Turn Type	Prot		NA			NA
Protected Phases	8		2			6
Permitted Phases						
Actuated Green, G (s)	33.4		96.2			96.2
Effective Green, g (s)	33.4		96.2			96.2
Actuated g/C Ratio	0.23		0.67			0.67
Clearance Time (s)	7.4		7.0			7.0
Vehicle Extension (s)	5.0		8.0			8.0
Lane Grp Cap (vph)	364		2135			2199
v/s Ratio Prot	c0.18		0.18			c0.50
v/s Ratio Perm						
v/c Ratio	0.77		0.27			0.75
Uniform Delay, d1	51.7		9.7			15.8
Progression Factor	1.00		0.73			0.59
Incremental Delay, d2	11.3		0.3			2.2
Delay (s)	63.1		7.4			11.6
Level of Service	E		A			B
Approach Delay (s)	63.1		7.4			11.6
Approach LOS	E		A			B

Intersection Summary

HCM 2000 Control Delay	16.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	144.0	Sum of lost time (s)	14.4
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		




















Description: TMC Date: 12/01/2015

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

223: Monroe St & 7th Ave

04/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	0	26	376	713	129	15	520	0	0	1488	24
Future Volume (vph)	24	0	26	376	713	129	15	520	0	0	1488	24
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	6.0		6.0	6.1	6.1		6.6	6.3			6.3	
Lane Util. Factor	1.00		1.00	0.91	0.91		1.00	0.95			0.95	
Frt	1.00		0.85	1.00	0.98		1.00	1.00			1.00	
Flt Protected	0.95		1.00	0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1599		1488	1513	3091		1662	3228			3252	
Flt Permitted	0.95		1.00	0.95	1.00		0.05	1.00			1.00	
Satd. Flow (perm)	1599		1488	1513	3091		91	3228			3252	
Peak-hour factor, PHF	0.44	1.00	0.84	0.93	0.94	0.89	0.75	0.82	1.00	1.00	0.92	0.75
Adj. Flow (vph)	55	0	31	404	759	145	20	634	0	0	1617	32
RTOR Reduction (vph)	0	0	30	0	10	0	0	0	0	0	1	0
Lane Group Flow (vph)	55	0	1	364	934	0	20	634	0	0	1648	0
Heavy Vehicles (%)	4%	0%	0%	0%	0%	3%	0%	3%	0%	0%	2%	0%
Turn Type	Prot		Perm	Split	NA		pm+pt	NA			NA	
Protected Phases	3			4	4		5	2			6	
Permitted Phases			3				2					
Actuated Green, G (s)	5.0		5.0	41.1	41.1		79.5	79.5			70.5	
Effective Green, g (s)	5.0		5.0	41.1	41.1		79.5	79.5			70.5	
Actuated g/C Ratio	0.03		0.03	0.29	0.29		0.55	0.55			0.49	
Clearance Time (s)	6.0		6.0	6.1	6.1		6.6	6.3			6.3	
Vehicle Extension (s)	3.0		3.0	4.0	4.0		3.0	4.0			4.0	
Lane Grp Cap (vph)	55		51	431	882		76	1782			1592	
v/s Ratio Prot	c0.03			0.24	c0.30		0.00	c0.20			c0.51	
v/s Ratio Perm			0.00				0.14					
v/c Ratio	1.00		0.02	0.84	1.06		0.26	0.36			1.04	
Uniform Delay, d1	69.5		67.1	48.4	51.4		31.4	18.0			36.8	
Progression Factor	1.06		1.00	1.07	1.08		1.76	1.41			1.00	
Incremental Delay, d2	121.3		0.2	9.3	40.8		1.8	0.5			32.2	
Delay (s)	194.7		67.3	61.1	96.1		57.1	25.9			68.9	
Level of Service	F		E	E	F		E	C			E	
Approach Delay (s)		148.8			86.4			26.9			68.9	
Approach LOS		F			F			C			E	


Intersection Summary

HCM 2000 Control Delay	69.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	144.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	89.3%	ICU Level of Service	E
Analysis Period (min)	15		
Description: TMC Date: 02/18/2016			
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

225: Monroe St & 6th Ave

04/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔						↔↔		↔	↔↔	
Traffic Volume (vph)	19	184	31	0	0	0	0	530	18	401	1492	0
Future Volume (vph)	19	184	31	0	0	0	0	530	18	401	1492	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		6.0						6.0		6.0	6.0	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frt		0.98						0.99		1.00	1.00	
Flt Protected		1.00						1.00		0.95	1.00	
Satd. Flow (prot)		3213						3234		1646	3292	
Flt Permitted		1.00						1.00		0.34	1.00	
Satd. Flow (perm)		3213						3234		587	3292	
Peak-hour factor, PHF	0.79	0.77	0.67	1.00	1.00	1.00	1.00	0.83	0.64	0.90	0.92	1.00
Adj. Flow (vph)	24	239	46	0	0	0	0	639	28	446	1622	0
RTOR Reduction (vph)	0	10	0	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	299	0	0	0	0	0	665	0	446	1622	0
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	2%	6%	1%	1%	0%
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4									6		
Actuated Green, G (s)		19.0						87.0		113.0	113.0	
Effective Green, g (s)		19.0						87.0		113.0	113.0	
Actuated g/C Ratio		0.13						0.60		0.78	0.78	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Vehicle Extension (s)		4.0						5.0		4.0	5.0	
Lane Grp Cap (vph)		423						1953		607	2583	
v/s Ratio Prot								0.21		c0.10	0.49	
v/s Ratio Perm		0.09								c0.47		
v/c Ratio		0.71						0.34		0.73	0.63	
Uniform Delay, d1		59.8						14.2		6.5	6.6	
Progression Factor		1.00						0.80		1.08	0.56	
Incremental Delay, d2		5.7						0.5		1.6	0.4	
Delay (s)		65.5						11.9		8.5	4.1	
Level of Service		E						B		A	A	
Approach Delay (s)		65.5			0.0			11.9			5.0	
Approach LOS		E			A			B			A	
Intersection Summary												
HCM 2000 Control Delay		12.7										
HCM 2000 Volume to Capacity ratio		0.75										
Actuated Cycle Length (s)		144.0								18.0		
Intersection Capacity Utilization		62.8%										
Analysis Period (min)		15										
Description: TMC Date: 02/18/2016												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

210: SR 61 (Thomasville Rd) & 7th Ave & Meridian Rd

04/16/2018



Movement	WBL	WBT	WBR	SBT	SBR	SBR2	SER2
Lane Configurations		↑↑	↑	↑↑			↑
Traffic Volume (vph)	107	410	231	967	686	50	316
Future Volume (vph)	107	410	231	967	686	50	316
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		6.0	6.0	6.3			4.0
Lane Util. Factor		0.95	1.00	0.95			1.00
Frt		1.00	0.85	0.93			0.86
Flt Protected		0.99	1.00	1.00			1.00
Satd. Flow (prot)		3264	1488	3074			1514
Flt Permitted		0.99	1.00	1.00			1.00
Satd. Flow (perm)		3264	1488	3074			1514
Peak-hour factor, PHF	0.85	0.89	0.78	0.95	0.80	1.00	1.00
Adj. Flow (vph)	126	461	296	1018	858	50	316
RTOR Reduction (vph)	0	51	0	0	0	0	0
Lane Group Flow (vph)	0	536	296	1926	0	0	316
Heavy Vehicles (%)	0%	1%	0%	1%	0%	0%	0%
Turn Type	Perm	NA	Perm	NA			Free
Protected Phases		8		6			
Permitted Phases	8		8				Free
Actuated Green, G (s)		28.0	28.0	94.7			144.0
Effective Green, g (s)		28.0	28.0	94.7			144.0
Actuated g/C Ratio		0.19	0.19	0.66			1.00
Clearance Time (s)		6.0	6.0	6.3			
Vehicle Extension (s)		5.5	5.5	4.0			
Lane Grp Cap (vph)		634	289	2021			1514
v/s Ratio Prot				c0.63			
v/s Ratio Perm		0.16	c0.20				c0.21
v/c Ratio		0.85	1.02	0.95			0.21
Uniform Delay, d1		55.9	58.0	22.6			0.0
Progression Factor		0.23	0.32	1.00			1.00
Incremental Delay, d2		11.0	58.3	11.6			0.3
Delay (s)		23.8	76.6	34.3			0.3
Level of Service		C	E	C			A
Approach Delay (s)		41.5		34.3			
Approach LOS		D		C			

Intersection Summary

HCM 2000 Control Delay	32.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	144.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		

Description: TMC Collected 12/01/2015

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

250: SR 61 (Thomasville Rd) & 6th Ave


04/16/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑							↑↑		↑↑	
Traffic Volume (vph)	0	520	162	0	0	0	0	0	337	49	1056	0
Future Volume (vph)	0	520	162	0	0	0	0	0	337	49	1056	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		5.7							6.0		6.0	
Lane Util. Factor		0.95							0.88		0.95	
Frt		0.95							0.85		1.00	
Flt Protected		1.00							1.00		1.00	
Satd. Flow (prot)		3143							2567		3278	
Flt Permitted		1.00							1.00		1.00	
Satd. Flow (perm)		3143							2567		3278	
Peak-hour factor, PHF	0.62	0.82	0.59	1.00	1.00	1.00	1.00	0.93	0.83	0.59	0.96	1.00
Adj. Flow (vph)	0	634	275	0	0	0	0	0	406	83	1100	0
RTOR Reduction (vph)	0	38	0	0	0	0	0	0	143	0	9	0
Lane Group Flow (vph)	0	871	0	0	0	0	0	0	263	0	1174	0
Heavy Vehicles (%)	0%	1%	1%	0%	0%	0%	0%	5%	2%	2%	1%	0%
Turn Type		NA							Perm	pm+pt	NA	
Protected Phases		4								1	6	
Permitted Phases									2	6		
Actuated Green, G (s)		49.8							82.5		82.5	
Effective Green, g (s)		49.8							82.5		82.5	
Actuated g/C Ratio		0.35							0.57		0.57	
Clearance Time (s)		5.7							6.0		6.0	
Vehicle Extension (s)		5.0							5.0		5.0	
Lane Grp Cap (vph)		1086							1470		1878	
v/s Ratio Prot		c0.28										
v/s Ratio Perm									0.10		0.36	
v/c Ratio		0.80							0.18		0.63	
Uniform Delay, d1		42.6							14.6		20.5	
Progression Factor		1.08							0.38		0.46	
Incremental Delay, d2		4.5							0.3		0.2	
Delay (s)		50.7							5.8		9.5	
Level of Service		D							A		A	
Approach Delay (s)		50.7			0.0			5.8			9.5	
Approach LOS		D			A			A			A	
Intersection Summary												
HCM 2000 Control Delay			23.9									HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			144.0									Sum of lost time (s) 17.1
Intersection Capacity Utilization			82.0%									ICU Level of Service E
Analysis Period (min)			15									
Description: TMC Collected 12/01/2015												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

139: Gadsden St & 6th Ave


04/16/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑						↑↑↑				
Traffic Volume (vph)	344	550	0	0	0	0	0	389	19	0	0	0
Future Volume (vph)	344	550	0	0	0	0	0	389	19	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		6.0						6.0				
Lane Util. Factor		0.95						0.91				
Frt		1.00						0.99				
Flt Protected		0.97						1.00				
Satd. Flow (prot)		3233						4687				
Flt Permitted		0.97						1.00				
Satd. Flow (perm)		3233						4687				
Peak-hour factor, PHF	0.42	0.89	1.00	1.00	1.00	1.00	1.00	0.90	0.64	1.00	1.00	1.00
Adj. Flow (vph)	819	618	0	0	0	0	0	432	30	0	0	0
RTOR Reduction (vph)	0	26	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1411	0	0	0	0	0	462	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%
Turn Type	Perm	NA						NA				
Protected Phases		4						2				
Permitted Phases	4											
Actuated Green, G (s)		89.3						42.7				
Effective Green, g (s)		89.3						42.7				
Actuated g/C Ratio		0.62						0.30				
Clearance Time (s)		6.0						6.0				
Vehicle Extension (s)		5.0						4.0				
Lane Grp Cap (vph)		2004						1389				
v/s Ratio Prot								c0.10				
v/s Ratio Perm		0.44										
v/c Ratio		0.70						0.33				
Uniform Delay, d1		18.4						39.5				
Progression Factor		0.72						1.00				
Incremental Delay, d2		1.3						0.6				
Delay (s)		14.6						40.2				
Level of Service		B						D				
Approach Delay (s)		14.6			0.0			40.2			0.0	
Approach LOS		B			A			D			A	
Intersection Summary												
HCM 2000 Control Delay		20.8						HCM 2000 Level of Service		C		
HCM 2000 Volume to Capacity ratio		0.58										
Actuated Cycle Length (s)		144.0						Sum of lost time (s)		12.0		
Intersection Capacity Utilization		46.0%						ICU Level of Service		A		
Analysis Period (min)		15										
Description: TMC Date: 12/1/2015												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

138: Gadsden St/Gadsden St & 7th Ave

04/16/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑↑		↑↑	↑↑				
Traffic Volume (vph)	0	0	0	0	593	30	171	549	0	0	0	0
Future Volume (vph)	0	0	0	0	593	30	171	549	0	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)					6.0		6.0	6.0				
Lane Util. Factor					0.91		0.97	0.95				
Frt					0.99		1.00	1.00				
Flt Protected					1.00		0.95	1.00				
Satd. Flow (prot)					4672		3162	3260				
Flt Permitted					1.00		0.95	1.00				
Satd. Flow (perm)					4672		3162	3260				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	0.86	0.70	0.89	0.84	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	690	43	192	654	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	6	0	56	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	727	0	136	654	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	1%	7%	2%	2%	0%	0%	0%	0%
Turn Type					NA		Perm	NA				
Protected Phases					8			2				
Permitted Phases							2					
Actuated Green, G (s)					30.3		101.7	101.7				
Effective Green, g (s)					30.3		101.7	101.7				
Actuated g/C Ratio					0.21		0.71	0.71				
Clearance Time (s)					6.0		6.0	6.0				
Vehicle Extension (s)					4.0		4.0	4.0				
Lane Grp Cap (vph)					983		2233	2302				
v/s Ratio Prot					c0.16			c0.20				
v/s Ratio Perm							0.04					
v/c Ratio					0.74		0.06	0.28				
Uniform Delay, d1					53.2		6.5	7.8				
Progression Factor					1.00		1.71	0.96				
Incremental Delay, d2					3.1		0.0	0.3				
Delay (s)					56.3		11.1	7.7				
Level of Service					E		B	A				
Approach Delay (s)		0.0			56.3			8.5			0.0	
Approach LOS		A			E			A			A	
Intersection Summary												
HCM 2000 Control Delay			30.7				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.39									
Actuated Cycle Length (s)			144.0				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			77.1%				ICU Level of Service			D		
Analysis Period (min)			15									
Description: TMC Date: 12/1/2015												
c Critical Lane Group												

Appendix C: CRTPA Presentation



MIDTOWN AREA TRANSPORTATION PLAN

CRPTA BOARD BRIEFING

Kimley»Horn

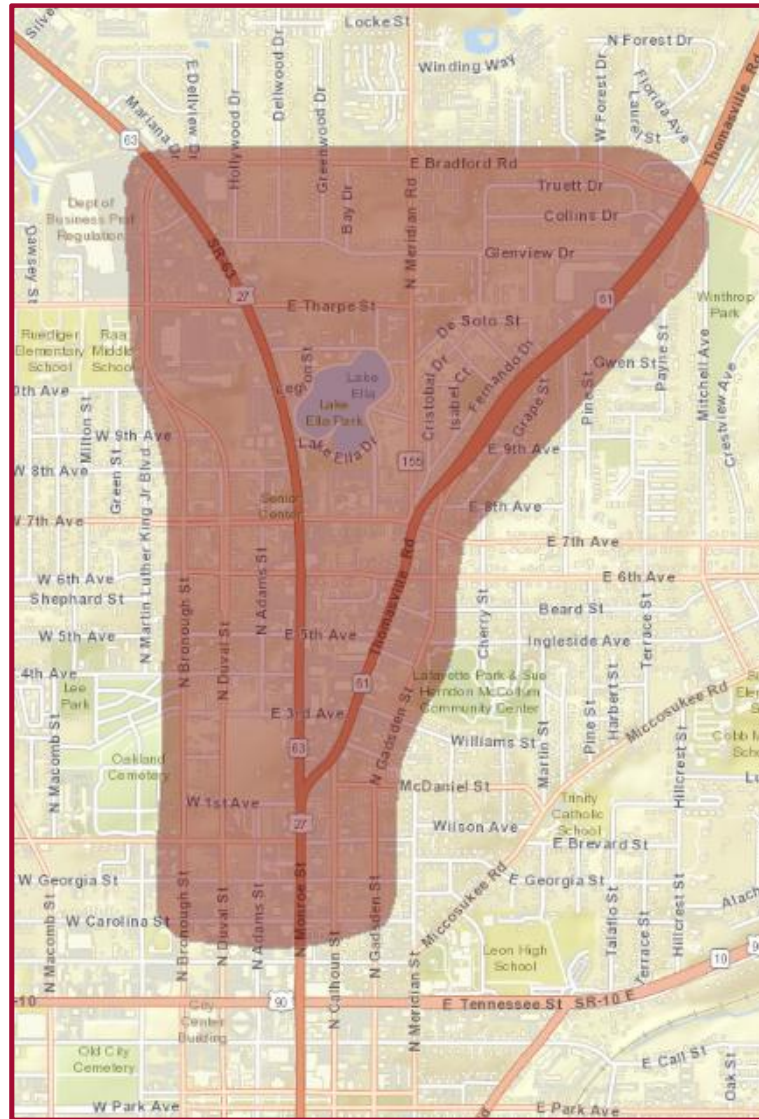
February 20, 2018



What We are Doing

- Analyzing traffic trends and patterns
 - Into, out of, and through the Midtown area
- Identifying network deficiencies in the Midtown area
- Evaluating potential transportation improvement alternatives
- Goal of Phase 1:
 - Obtain feedback from CRTPA committees and Board
 - Identify viable alternatives for further study and stakeholder review

Study Area



Review Previous Studies



- Blueprint
 - Midtown Placemaking
- Tallahassee/Leon County Planning Department
 - Midtown Action Plan
- FDOT District 3 Safety Office
 - SR 61/Thomasville Road Pedestrian/Bicyclist Arterial Safety Study
 - SR 61/Thomasville Road Supplemental Safety Study



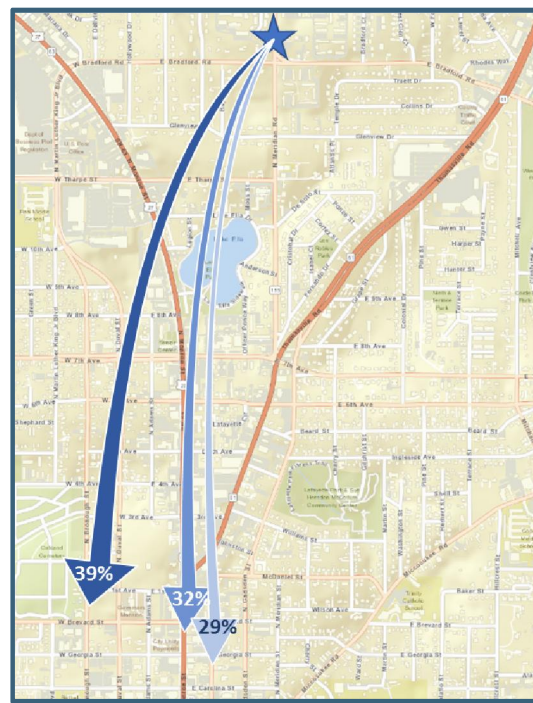
Data Collection

- Signal timings, turning movement volumes, etc. – City of Tallahassee
- Sidewalk Network – Tallahassee/Leon County Planning Department
- Roadway Information – FDOT
- Crash Data
- Origin-Destination (OD) Data

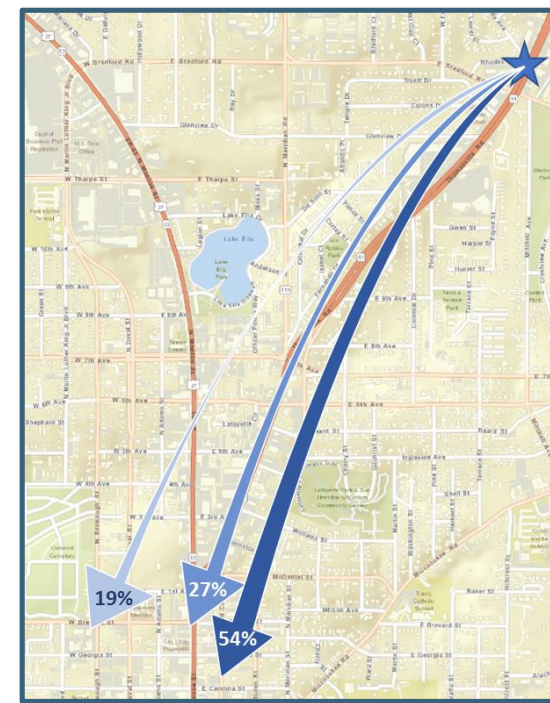
AM Peak Traffic Patterns (weekday)



**Origin Northwest
(N Monroe St)**



**Origin North
(Meridian Rd)**

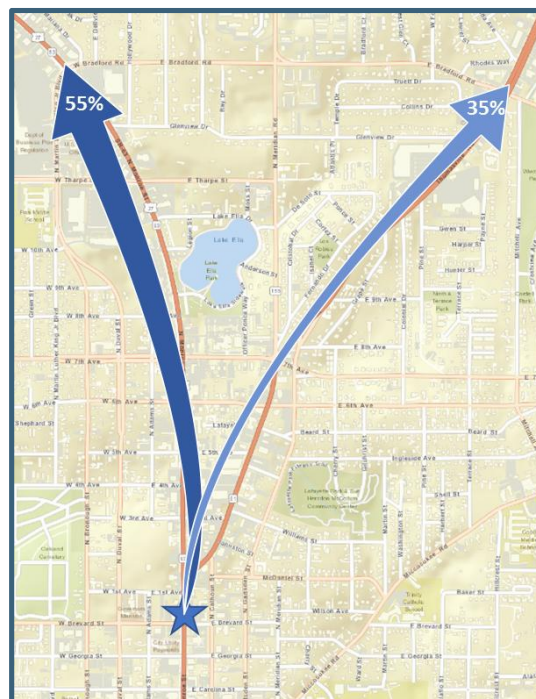


**Origin Northeast
(Thomasville Rd)**

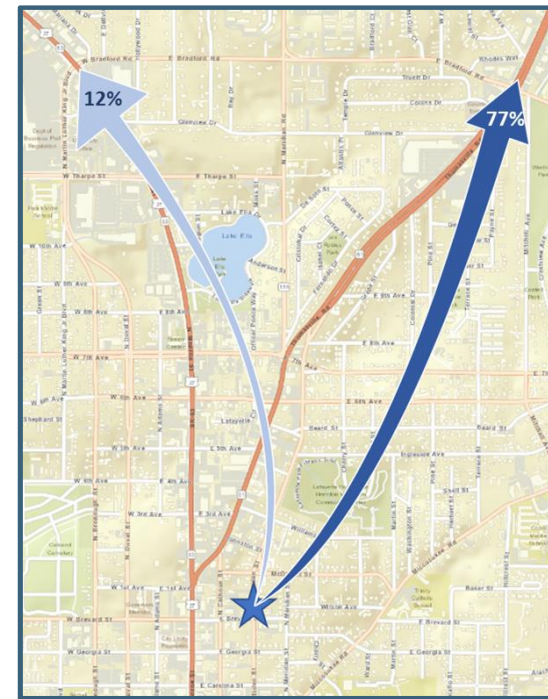
PM Peak Patterns (weekday)



**Origin West
of N Monroe St**

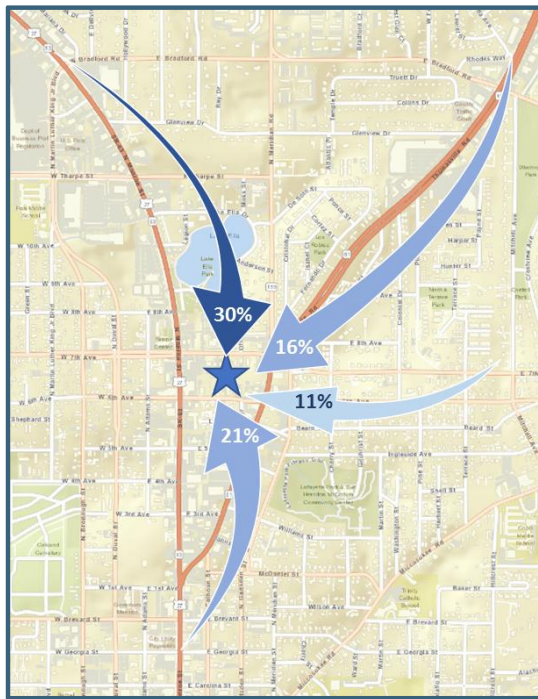


**Origin Along
N Monroe St**

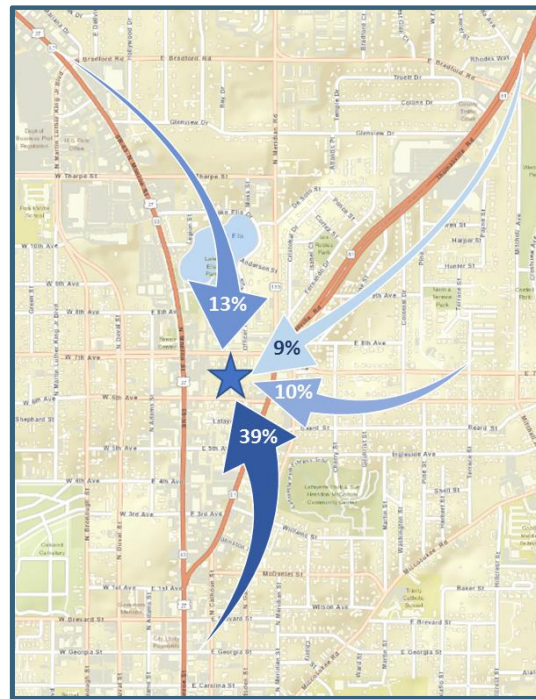


**Origin East
of N Monroe St**

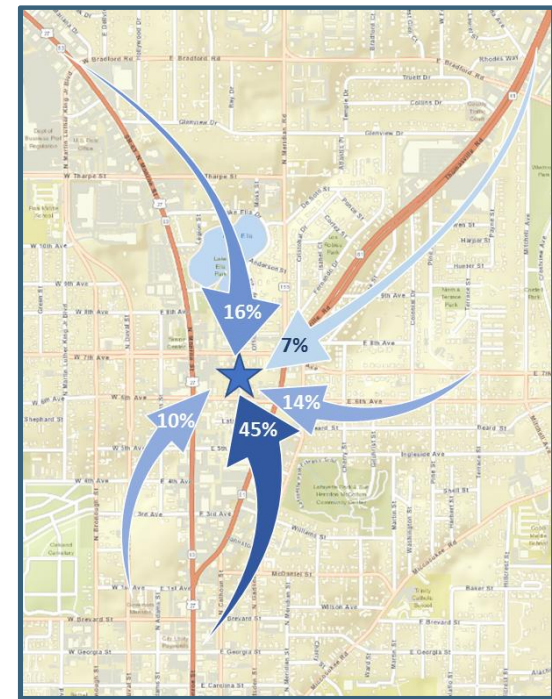
Midtown as a Destination (weekday)



**AM Peak Traffic
Patterns**

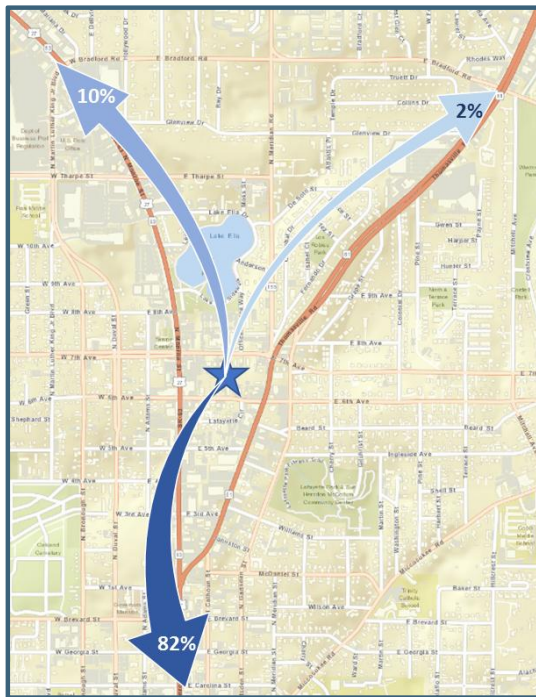


**Midday Peak Traffic
Patterns**

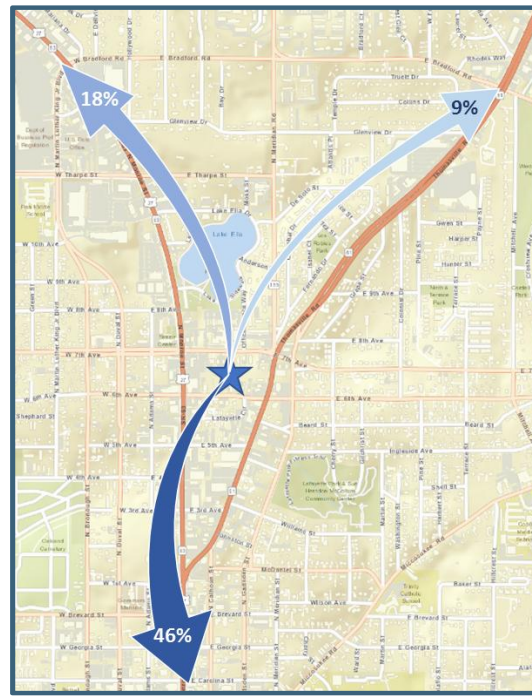


**PM Peak Traffic
Patterns**

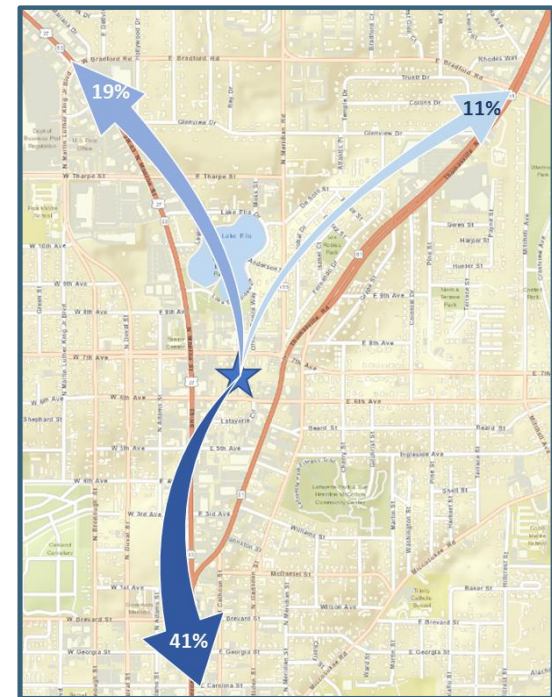
Midtown as a Origin (weekday)



**AM Peak Traffic
Patterns**



**Midday Peak Traffic
Patterns**



**PM Peak Traffic
Patterns**



Options Being Considered

- Beard St and North Gadsden St Realignment
- Sidewalk Connectivity
- North Gadsden St corridor improvements from 6th Ave to Thomasville Rd
- Placemaking/Complete Streets
- One-way southbound of Thomasville Rd from N Gadsden St to N Monroe St
- One-way southbound of Thomasville Rd from N Gadsden St to 6th Ave
- Thomasville, Meridian and N Gadsden Roundabout (includes all existing movements)
- Thomasville, Meridian and N Gadsden Roundabout (No Gadsden to Meridian movement)
- 6th and 7th Ave Bi-Directional Roadways

Midtown Traffic Study: Potential Improvement Options for Future Study

The matrix below depicts how each alternative performs based on multiple qualitative and quantitative criteria. The alternatives are being evaluated to determine which may be viable to move forward for future, more detailed consideration. The criteria include:

- ✓ **Maintain/Improve LOS:** Does the alternative either maintain acceptable LOS or improve the LOS, when compared with the existing?
- ✓ **Sense of Place:** Does the alternative enhance the area by providing a uniqueness that sets it apart from the surrounding area?
- ✓ **Traffic Calming:** Does the alternative include a traffic calming component?
- ✓ **Improves circulation/connectivity:** Does the alternative improve access to the Midtown area along with improving access to businesses and amenities within the Midtown area?
- ✓ **Opportunity for multi-modal enhancement:** Does the alternative provide opportunity for enhancements of bikes and pedestrians, and transit facilities?
- ✓ **Potential Need for Additional ROW:** What is the estimated need for additional ROW that could be required?
- ✗ **Indicates that there is a negative impact.**

[illegible]



Options Being Considered

- Beard St and North Gadsden St Realignment
- Sidewalk Connectivity
- North Gadsden St corridor improvements from 6th Ave to Thomasville Rd
- Placemaking/Complete Streets
- One-way southbound of Thomasville Rd from N Gadsden St to N Monroe St
- One-way southbound of Thomasville Rd from N Gadsden St to 6th Ave
- Thomasville, Meridian and N Gadsden Roundabout (includes all existing movements)
- Thomasville, Meridian and N Gadsden Roundabout (No Gadsden to Meridian movement)
- 6th and 7th Ave Bi-Directional Roadways

Realignment of Beard Street



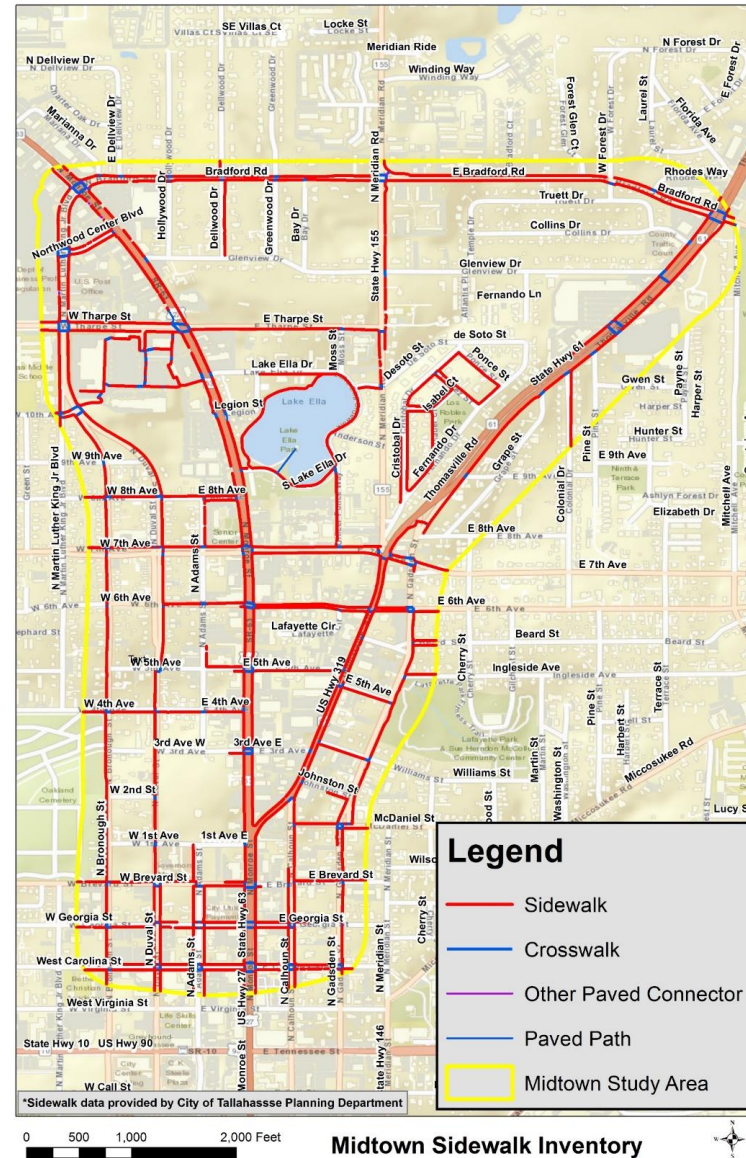
Realignment of Beard Street





Options Being Considered

- Beard St and North Gadsden St Realignment
- **Sidewalk Connectivity**
- North Gadsden St corridor improvements from 6th Ave to Thomasville Rd
- Placemaking/Complete Streets
- One-way southbound of Thomasville Rd from N Gadsden St to N Monroe St
- One-way southbound of Thomasville Rd from N Gadsden St to 6th Ave
- Thomasville, Meridian and N Gadsden Roundabout (includes all existing movements)
- Thomasville, Meridian and N Gadsden Roundabout (No Gadsden to Meridian movement)
- 6th and 7th Ave Bi-Directional Roadways



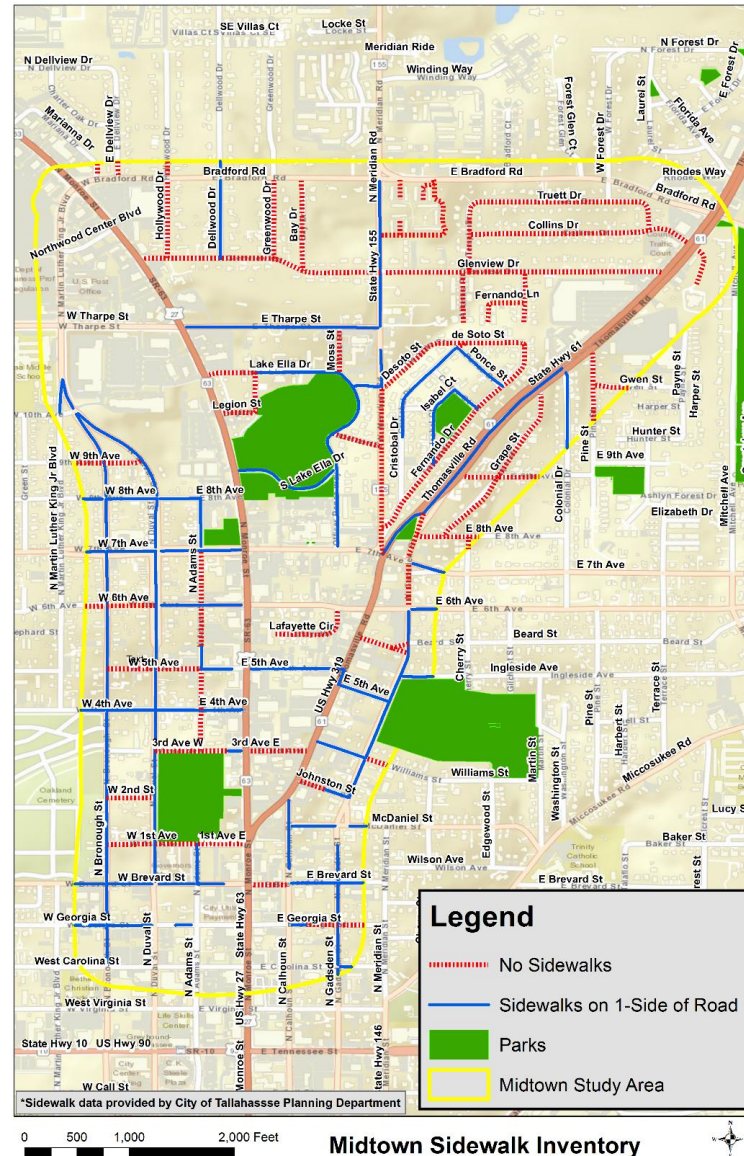
Key Gaps in Sidewalks

Thomasville Rd - Colonial Dr. to 7th Ave
(west side only)

3rd, 5th, 6th, 7th Avenue

Meridian Rd

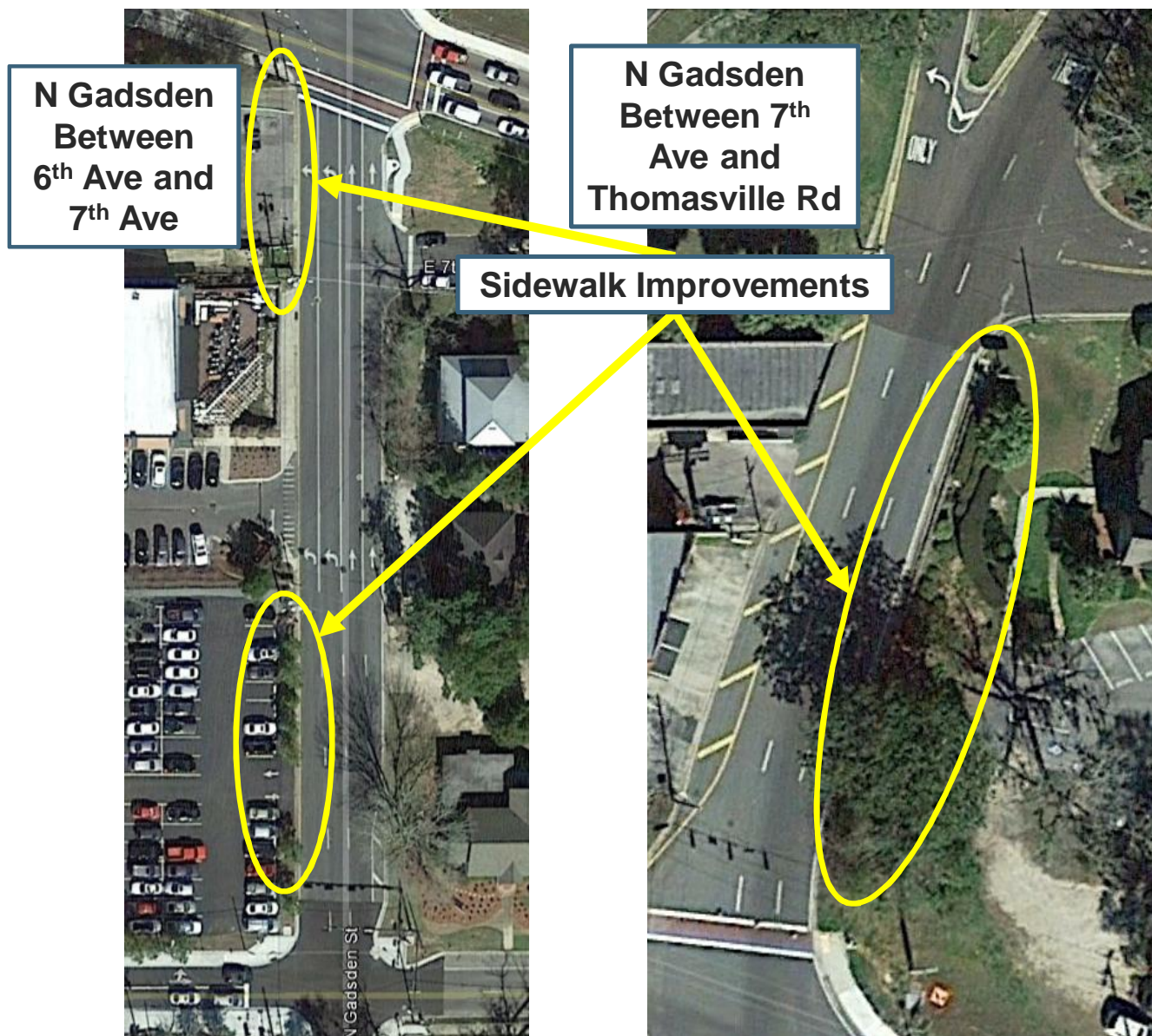
N Gadsden St





Options Being Considered

- Beard St and North Gadsden St Realignment
- Sidewalk Connectivity
- **North Gadsden St corridor improvements from 6th Ave to Thomasville Rd**
- Placemaking/Complete Streets
- One-way southbound of Thomasville Rd from N Gadsden St to N Monroe St
- One-way southbound of Thomasville Rd from N Gadsden St to 6th Ave
- Thomasville, Meridian and N Gadsden Roundabout (includes all existing movements)
- Thomasville, Meridian and N Gadsden Roundabout (No Gadsden to Meridian movement)
- 6th and 7th Ave Bi-Directional Roadways



**N Gadsden
Between
6th Ave and
7th Ave**



**N Gadsden
Between 7th
Ave and
Thomasville Rd**





Options Being Considered

- Beard St and North Gadsden St Realignment
- Sidewalk Connectivity
- North Gadsden St corridor improvements from 6th Ave to Thomasville Rd
- **Placemaking/Complete Streets**
- One-way southbound of Thomasville Rd from N Gadsden St to Monroe St
- One-way southbound of Thomasville Rd from N Gadsden St to 6th Ave
- Thomasville, Meridian and N Gadsden Roundabout (includes all existing movements)
- Thomasville, Meridian and N Gadsden Roundabout (No Gadsden to Meridian movement)
- 6th and 7th Ave Bi-Directional Roadways

Placemaking/Complete Streets



Franklin Blvd



FAMU Way



Gaines St



Options Being Considered

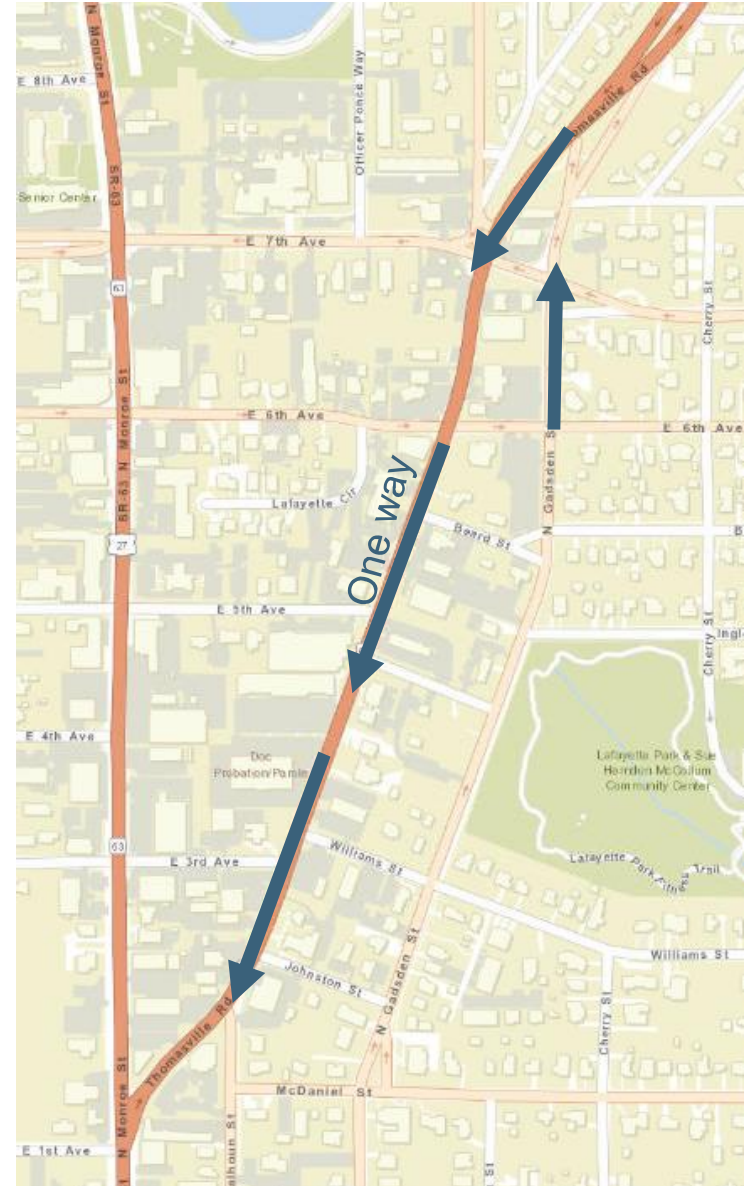
- Beard St and North Gadsden St Realignment
- Sidewalk Connectivity
- North Gadsden St corridor improvements from 6th Ave to Thomasville Rd
- Placemaking/Complete Streets
- **One-way southbound option of Thomasville Rd from N Gadsden St to Monroe St**
- One-way southbound option of Thomasville Rd from N Gadsden St to 6th Ave
- Thomasville, Meridian and N Gadsden Roundabout (includes all existing movements)
- Thomasville, Meridian and N Gadsden Roundabout (No Gadsden to Meridian movement)
- 6th and 7th Ave Bi-Directional Roadways



Southbound Thomasville South of 7th Ave



Southbound Thomasville at 6th Ave





Options Being Considered

- Beard St and North Gadsden St Realignment
- Sidewalk Connectivity
- North Gadsden St corridor improvements from 6th Ave to Thomasville Rd
- Placemaking/Complete Streets
- One-way southbound of Thomasville Rd from N Gadsden St to Monroe St
- **One-way southbound of Thomasville Rd from N Gadsden St to 6th Ave**
- Thomasville, Meridian and N Gadsden Roundabout (includes all existing movements)
- Thomasville, Meridian and N Gadsden Roundabout (No Gadsden to Meridian movement)
- 6th and 7th Ave Bi-Directional Roadways



Southbound Thomasville South of 7th Ave



Southbound Thomasville at 6th Ave

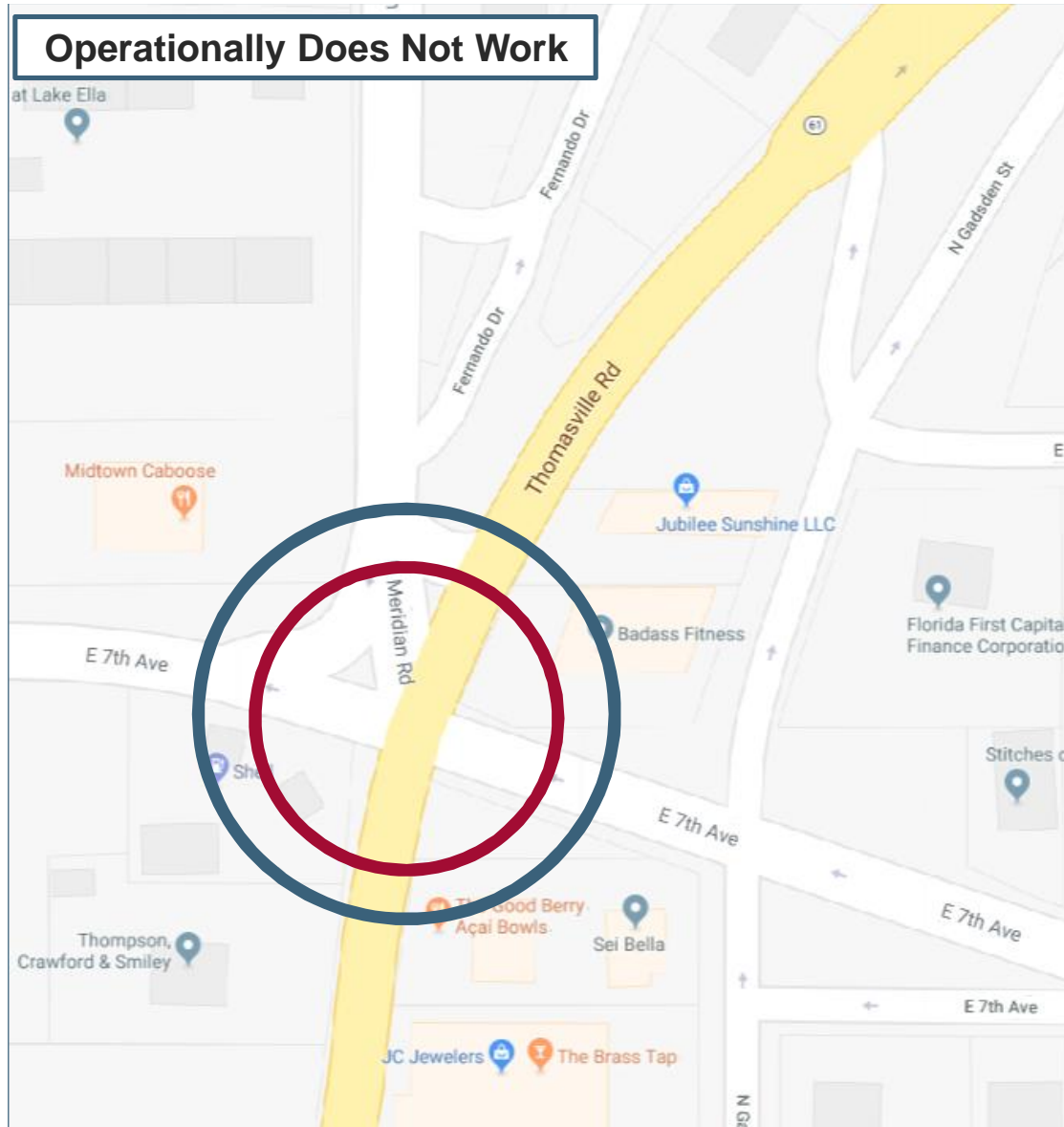




Options Being Considered

- Beard St and North Gadsden St Realignment
- Sidewalk Connectivity
- North Gadsden St corridor improvements from 6th Ave to Thomasville Rd
- Placemaking/Complete Streets
- One-way southbound of Thomasville Rd from N Gadsden St to Monroe St
- One-way southbound of Thomasville Rd from N Gadsden St to 6th Ave
- **Thomasville, Meridian and N Gadsden Roundabout (includes all existing movements)**
- Thomasville, Meridian and N Gadsden Roundabout (No Gadsden to Meridian movement)
- 6th and 7th Ave Bi-Directional Roadways

Operationally Does Not Work





Options Being Considered

- Beard St and North Gadsden St Realignment
- Sidewalk Connectivity
- North Gadsden St corridor improvements from 6th Ave to Thomasville Rd
- Placemaking/Complete Streets
- One-way southbound of Thomasville Rd from N Gadsden St to Monroe St
- One-way southbound of Thomasville Rd from N Gadsden St to 6th Ave
- Thomasville, Meridian and N Gadsden Roundabout (includes all existing movements)
- **Thomasville, Meridian and N Gadsden Roundabout (No Gadsden to Meridian movement)**
- 6th and 7th Ave Bi-Directional Roadways

Shift Movement

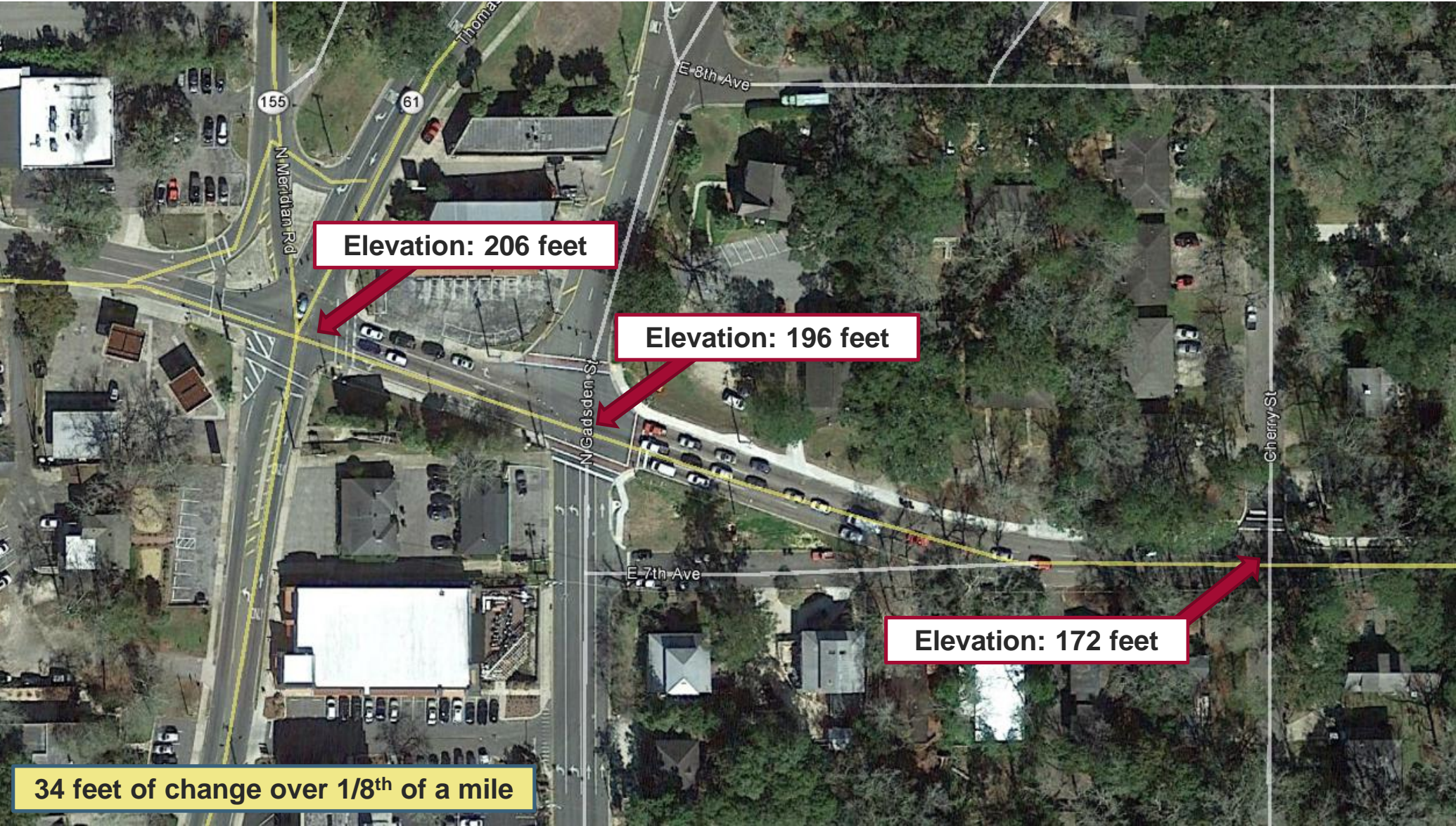
The map illustrates a proposed shift movement in downtown Meridian, MS. A yellow highlighted path runs north-south along Meridian Rd. Red arrows indicate a route starting from the intersection of E 7th Ave and Meridian Rd, heading north, turning right onto N 1st St, and then turning left back onto Meridian Rd. A blue circle highlights the intersection of E 7th Ave and Meridian Rd. Various businesses and landmarks are labeled on the map, including Midtown Caboose, Jubilee Sunshine, Badass Fitness, Florida First Capital Finance Corporation, Stitches of, Thompson, Crawford & Smiley, JC Jewelers, and The Brass Tap.



Roundabout Evaluation

- Maintenance of Traffic During Construction
- Pedestrian and Bicycle Compatibility
- Right of Way and Construction Costs
- Elevation Change along 7th Ave
- Existing Utilities







7th Ave approaching Gadsden St



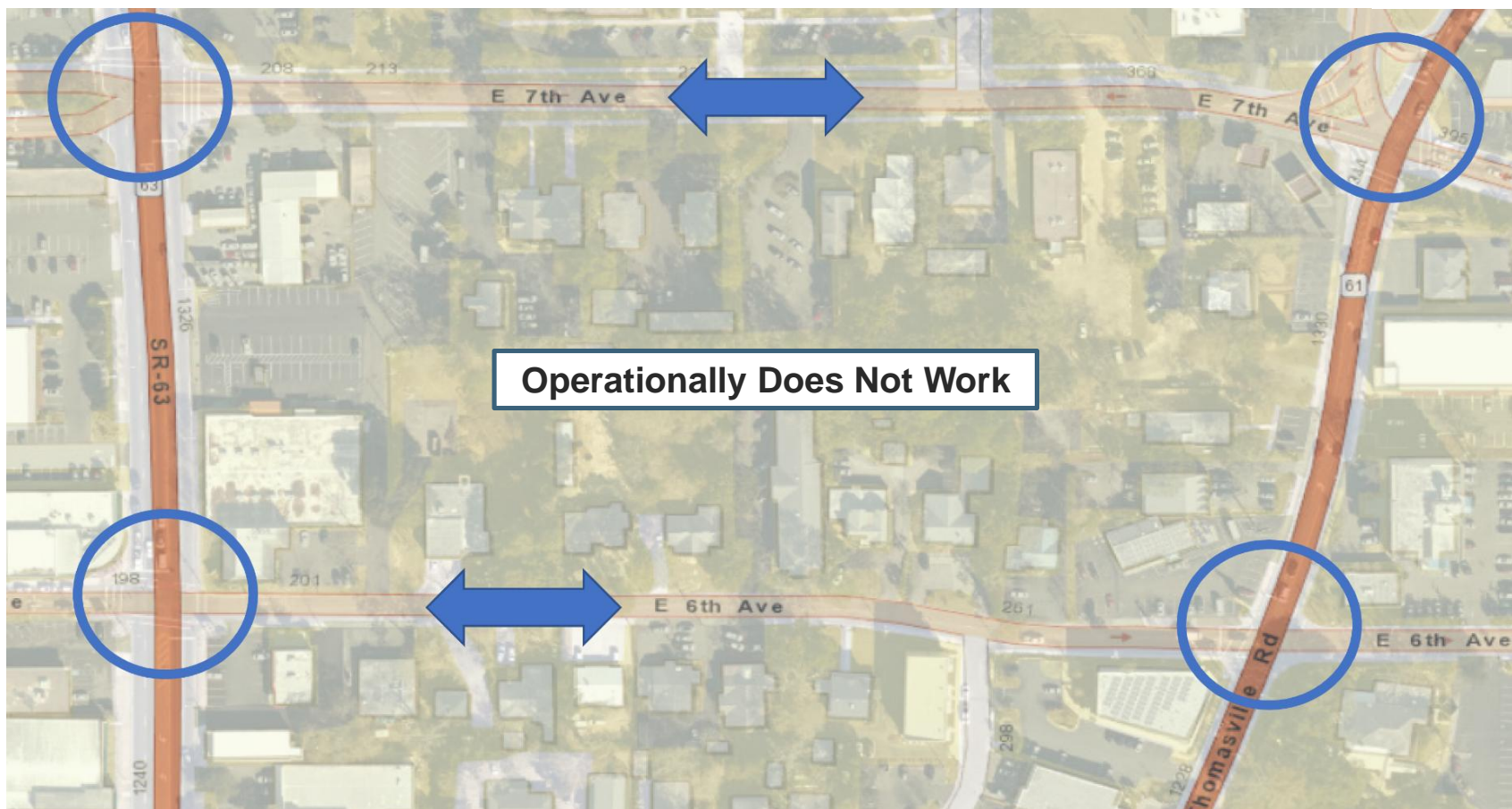
7th Ave approaching Thomasville Rd



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Midtown Traffic Study: Potential Improvement Options for Future Study

The matrix below depicts how each alternative performs based on multiple qualitative and quantitative criteria. The alternatives are being evaluated to determine which may be viable to move forward for future, more detailed consideration. The criteria include:

- ✓ Maintain/Improve LOS: Does the alternative either maintain acceptable LOS or improve the LOS, when compared with the existing?
- ✓ Sense of Place: Does the alternative enhance the area by providing a uniqueness that sets it apart from the surrounding area?
- ✓ Traffic Calming: Does the alternative include a traffic calming component?
- ✓ Improves circulation/connectivity: Does the alternative improve access to the Midtown area along with improving access to businesses and amenities within the Midtown area?
- ✓ Opportunity for multi-modal enhancement: Does the alternative provide opportunity for enhancements of bikes and pedestrians, and transit facilities?
- ✓ Potential Need for Additional ROW: What is the estimated need for additional ROW that could be required?

✗ Indicates that there is a negative impact.

Alternatives	Maintain/Improve LOS	Opportunity for Sense of Place improvements	Traffic Calming	Improves Circulation/Connectivity	Opportunity for Multi Modal Enhancement	Potential ROW Needs		Relative Cost	Additional Comments
						None/Minor	Major		
Beard St and North Gadsden St Realignment	✓	-	-	✓	✓	✓	-	Low	Realignment could occur within the existing ROW. Coordination with adjacent landowner needed (parking lot in NW quadrant). Aligning the intersection would improve the operations. It would also make it easier to travel along the roadways, improving connectivity and circulation through midtown.
Sidewalk Connectivity	✓	-	-	✓	✓	✓	-	Med	Identification of key gaps.
North Gadsden St Corridor improvements from 6 th Ave to Thomasville Rd	-	-	✓	-	✓	✓	-	Med	Construct sidewalks along entire corridor on both sides of roadway and implement a road diet.
Placemaking/Complete Streets	✓	✓	✓	-	✓	✓	-	Med	Creates a sense of place and traffic calming. Could be done with existing geometry but access management would need to be evaluated on a driveway by driveway basis. Parallel facilities could handle diverted traffic that may occur with reduced speeds. Additional midblock pedestrian crossings are possible.
One-way southbound of Thomasville Rd from N Gadsden St to 6 th Ave	✓	✓	*-	✗	✓	✓	-	Low	Improves LOS. Access to businesses could be negatively impacted. *Recommended that additional features be included to ensure friction is provided along the roadway to reduce speeds and provide traffic calming.
One-way southbound of Thomasville Rd from N Gadsden St to N Monroe St	✓	✓	*-	✗	✓	✓	-	Low	Improves LOS. Access to businesses could be negatively impacted. *Recommended that additional features be included to ensure friction is provided along the roadway to reduce speeds and provide traffic calming.
Thomasville, Meridian and N Gadsden Roundabout (includes all existing movements)	✗	✓	✓	-	✗	-	✓	High	FDOT Safety study includes this potential roundabout. Operationally this does not work. Additional concerns with grade change and extensive ROW needed. A roundabout would provide a unique characteristic to the midtown area.
Thomasville, Meridian and N Gadsden Roundabout (No Gadsden to Meridian movement)	✓	✓	✓	✗	✗	-	✓	High	The operations of the roundabout could work if the movement from 7 th Ave to Meridian would be removed. Additional concerns with grade change and extensive ROW needed. A roundabout would provide a unique characteristic to the midtown area.
6 th and 7 th Ave Bi-Directional Roadways	✗	-	✓	✓	-	✓	-	Low	LOS is degraded and it creates additional conflict points at the intersections. One-way roads do not contain the same amount of friction as a bi-directional roadway. This friction acts as a traffic calming measure by reducing the comfort level of the drivers, increasing their awareness and reducing their speed. Making the road bi-directional would provide improved connectivity and circulation to the driveways along those roadways.

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One-way southbound of Thomasville Rd from N Gadsden St to N Monroe St	✓	✓	*-	✗	✓	✓	-	Low	Improves LOS. Access to businesses could be negatively impacted. *Recommended that additional features be included to ensure friction is provided along the roadway to reduce speeds and provide traffic calming.
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Phase 2

- Public and Stakeholder Outreach
 - Midtown Merchants, Surrounding Neighborhoods, and others
- Refine alternatives evaluation and develop Midtown Transportation Plan
- Evaluations specific to other modes—pedestrian, bicycle, and transit facilities

Subsequent Phases

- Revise plan in response to other projects
- Develop phasing and implementation strategies
- Further development and design of alternatives



Questions/Discussion

Appendix D: Existing Sidewalk Map



*Sidewalk data provided by City of Tallahassee Planning Department

Legend

- No Sidewalks
- Sidewalks on 1-Side of Road
- Parks
- Midtown Study Area

0 500 1,000 2,000 Feet

Midtown Sidewalk Inventory

