

**FINAL REPORT: DRAFT  
US 27/Main Street Analysis - Havana, Florida  
January, 2020**

**Introduction**

US 27/Main Street is a four-lane divided Rural Principal Arterial that is the major north-south route through the Town of Havana. Entering Havana from the south, the facility transitions from a four-lane divided roadway to a four-lane undivided highway near SR 12/9<sup>th</sup> Avenue, approximately 45 feet wide. US 27 runs through the downtown area of Havana and transitions back to a divided facility near 5<sup>th</sup> Avenue. In the downtown area, there are narrow sidewalks, approximately 4 feet wide, and buildings located directly adjacent to the sidewalk on both sides of the facility. There are existing pedestrian crosswalks at the signalized intersections with 9<sup>th</sup> Avenue and 7<sup>th</sup> Avenue.

The Town of Havana is interested in identifying potential treatments within the downtown area between 9<sup>th</sup> Avenue and 5<sup>th</sup> Avenue to improve the pedestrian experience and manage traffic, as well as improving the aesthetics of the corridor in support of the overall goals of the Town.

**Data Collection**

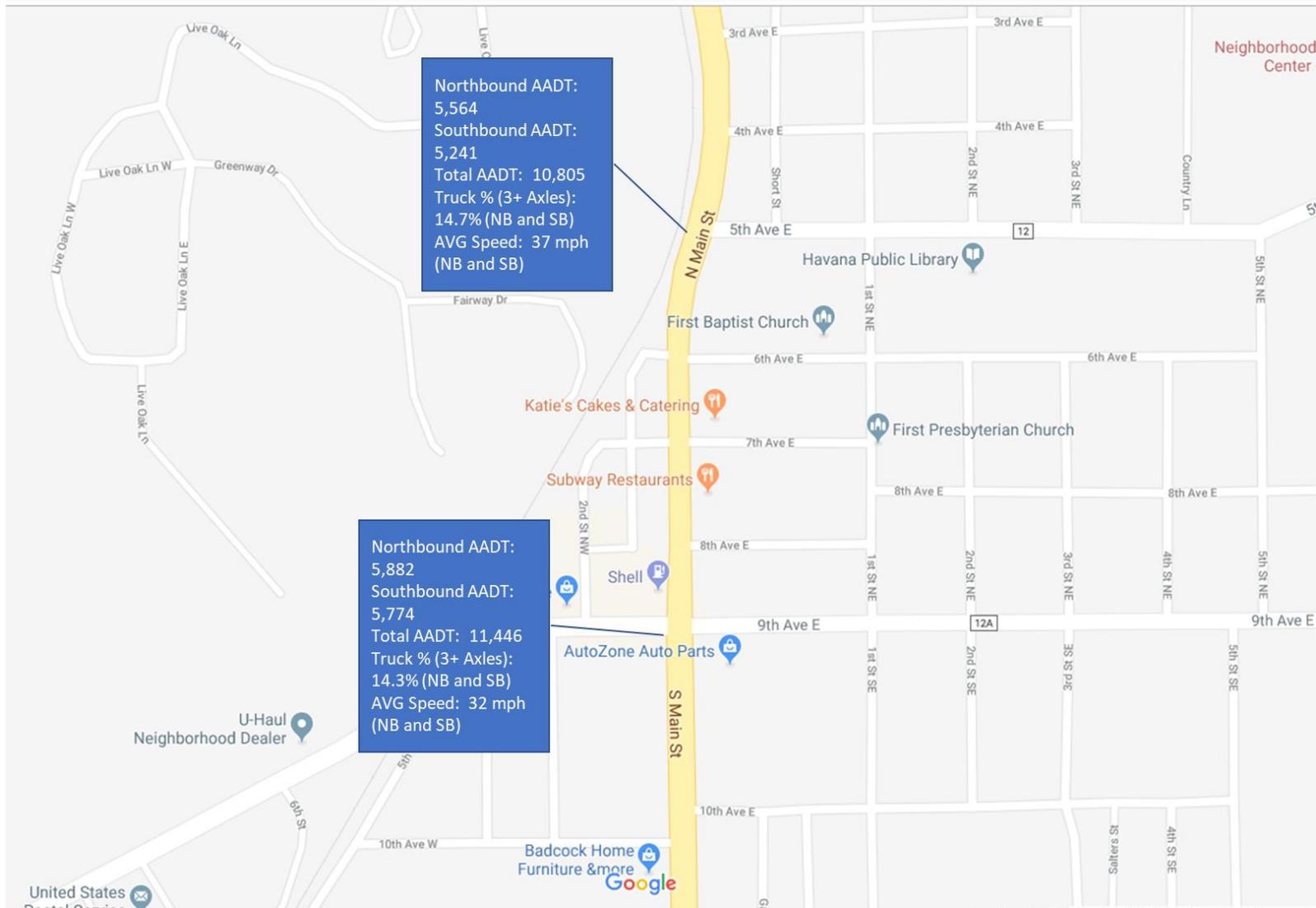
In order to analyze the feasibility for reducing the number of lanes to improve the pedestrian environment and enhance the character of the downtown, comprehensive traffic counts were taken. These counts were taken over a three-day period (Thursday, Friday, Saturday) on December 14 -16, 2018. Count locations included US 27/Main Street at 5<sup>th</sup> Avenue and US 27/Main Street at 9<sup>th</sup> Avenue. Due to heavy rains, the tubes at 9<sup>th</sup> Avenue were dislodged and were then replaced with counts taken on the next Thursday, Friday and Saturday (December 20-22). The traffic counts also included classification and speed, as well as turning movements at 7<sup>th</sup> Avenue. Table 1 and Figure 1 display the collected data.

*Table 1. Traffic Data*

<b>US 27/Main Street at 5<sup>th</sup> Avenue</b>				
<b>NB AADT*</b>	<b>SB AADT</b>	<b>Total AADT</b>	<b>Truck %</b>	<b>Avg Speed (NB and SB)</b>
5,564	5,241	10,805	14.7%	37 mph
<b>US 27/Main Street at 9<sup>th</sup> Avenue</b>				
5,882	5,774	11,446	14.3%	32 mph

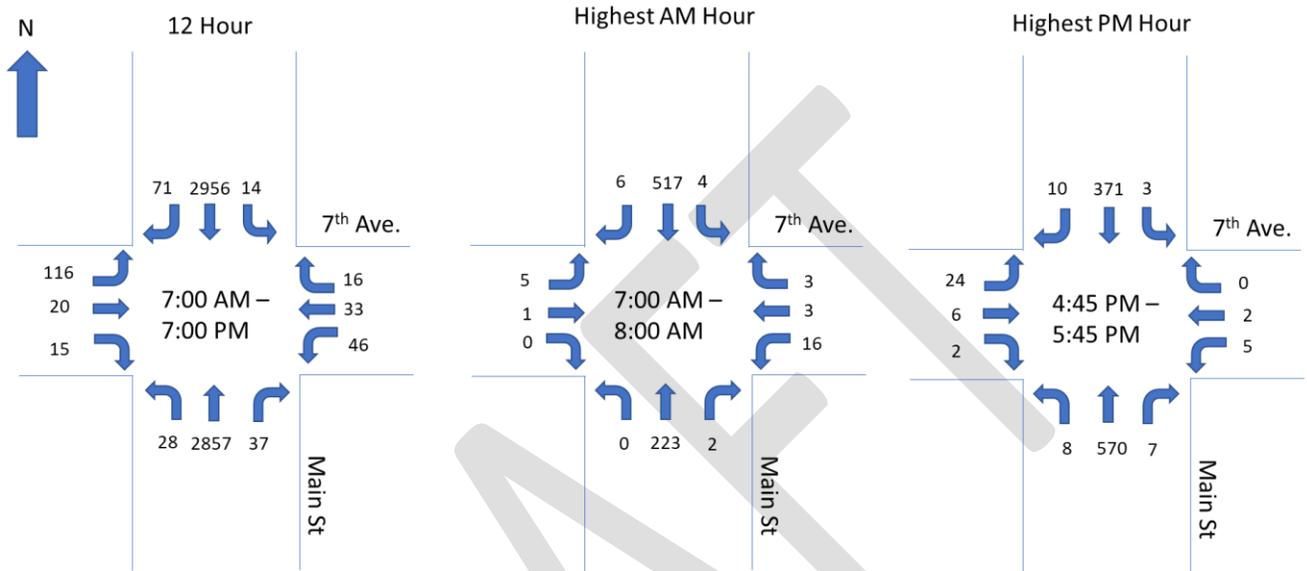
*\*AADT: Average Annual Daily Traffic*

Figure 1. Traffic Data



The turning movement counts at 7<sup>th</sup> Avenue were identified for the day of the highest traffic, which was December 14, 2018. The movements were collected for the 12-hour period from 7:00 am to 7:00 pm, the highest AM hour (7:00 am – 8:00 am) and the highest PM hour (4:45 pm – 5:45 pm). The highest movement in the 12-hour period was from eastbound 7<sup>th</sup> Avenue to northbound US 27/Main Street. Figure 2 displays the turning movements.

Figure 2. Turning Movement Counts



**Analysis**

The analysis was conducted using Synchro 10 to determine how the facility would function as a two-lane roadway with on street parking and if dedicated left turn lanes were warranted at 7<sup>th</sup> Avenue and US 27/Main Street. The analysis was based on the PM peak hour traffic collected on December 14<sup>th</sup>, again reflecting the highest traffic. The build configuration of two lanes in each direction from the analysis is shown in Figure 3.

Figure 3. Build Alternative



With a configuration of two lanes and no left turn lane at the intersection of 7<sup>th</sup> Street/US 27, the segment and the intersection operates at Level of Service (LOS) B. Various growth rates in traffic were applied for the year 2040 to determine when the Level of Service deteriorates with the two-lane configuration. The growth rate scenarios included an annual growth rate of 1% and an annual growth rate of 2%. The annual growth rate was then increased until the intersection operated at LOS D, which resulted in an annual growth rate of 4.8% needed to reach LOS D by 2040. The results for the growth rate analysis is shown in Table 2.

Table 2. Growth Rate and Intersection Level of Service

Year	Growth Rate	Level of Service
2018	N/A	B
2040	1%	B
2040	2%	B
2040	4.8%	D (Approaching E)

Crash data, from the Florida Integrated Report Exchange System (FIRES), from 2014 through 2018, was also reviewed for the study area. There was a total of 39 crashes within the study area during that period of time: 19 were located near or at the 9<sup>th</sup> Street/US 27 intersection; six at the 8<sup>th</sup> Street/US 27 intersection; seven at the 7<sup>th</sup> Street/US 27 intersection; two at the 6<sup>th</sup> Street/US 27 intersection; and two at the 5<sup>th</sup> Street/US 27 intersection. The primary cause for the 19 crashes at 9<sup>th</sup> and US 27/Main Street was identified as distracted driving.

### Additional Considerations

The Statewide Regional Evacuation Study Program was instituted in 2006 by the Florida Legislature in response to the hurricanes that struck the state in 2004 and 2005. Each of the planning regions within the state completed a Regional Evacuation Study in a consistent framework throughout the state. The Apalachee Regional Planning Council, which covers Gadsden County, completed its Regional Evacuation Study in 2010, and updated in 2015. As part of this effort, the regional network for the Apalachee region identified key roadways within the nine counties and includes US 27. Although Gadsden County is not included in the designated evacuation zones, US 27 is an important route providing access north in the case of an evacuation scenario and the need to maintain sufficient capacity is an important consideration.

### Conclusions

Based on the results of the analysis, the reduction from four lanes to two lanes will not adversely affect traffic flow. The roadway could be reconfigured as a two-lane facility with on-street parallel parking on each side, providing a buffer between the traffic and the sidewalk and improving the pedestrian environment with no additional sidewalk width. Coordination with the Town on the intent/desire to widen the sidewalks or install planting strips will provide insights into the preferred alternative. Research efforts for the Federal Highway Administration, as well as other organizations, have shown that wider lane widths typically result in higher speeds<sup>1</sup>, therefore lanes no wider than 12 feet are recommended.

<sup>1</sup> <https://www.fhwa.dot.gov/publications/research/safety/15030/009.cfm>  
<https://nacto.org>  
<https://www.transportation.gov/mission/health/Traffic-Calming-to-Slow-Vehicle-Speeds>

The alternatives described below were identified to meet the desire of the community to minimize any adverse effects from traffic on US 27 on the downtown Havana area.

***Alternative 1. 12' Lanes; No Additional Sidewalk Width***

- Total pavement: 45'
- 2 Lanes: 12' each direction / 24' total width
- On-street parking (parallel): 8' each side / 16' total
- Total pavement: 40'
- Remaining pavement: 5' for 2.5' buffer area/gutter

***Alternative 2. 11' Lanes; Wider Sidewalk and/or Planting Strip***

- Total pavement: 45'
- 2 Lanes: 11' each direction / 22' total width
- On-street parking (parallel): 8' each side / 16' total
- Total pavement: 38'
- Remaining pavement: 7' available for wider sidewalks and/or planting strips

***Alternative 3. 12' Lanes; No On-Street Parking; Wider Sidewalk and/or Planting Strip***

- Total pavement: 45'
- 2 Lanes: 12' each direction / 24' total width
- Remaining pavement: 21' available for gutters, wider sidewalks and planting strip / landscaping

However, with the need to maintain northbound capacity in an evacuation situation, an additional alternative was developed.

***Alternative 4. 12' Lanes (Two Northbound and One Southbound); No On-Street Parking; Wider Sidewalks and/or Planting Strip***

- Total pavement: 36'
- 3 Lanes: 12' each direction / 36' total width
- Remaining pavement: 9' available for gutters, wider sidewalks and/or planting strip/landscaping

**Recommendation**

Recognizing the need for maintaining the northbound capacity for evacuation purposes, as well as the community desire to improve the walkability of Main Street and minimize the impacts of US 27 on the downtown area, the recommended alternative is Alternative 4.