

OLF-8

TRANSPORTATION REPORT

May 2021



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Appendix A. Summary of Previous Plans

Appendix B. Traffic Counts

Appendix C. Traffic Analysis – Future Scenarios

1 INTRODUCTION

This report summarizes the transportation environment surrounding Naval Outlying Field Site 8 (OLF-8) in Escambia County, FL, 15 miles northwest of downtown Pensacola. OLF-8 is an approximately 600-acre parcel that sits just west of Interstate-10 (I-10) at the fringes of northwest Pensacola, within the Beulah community. The site is essentially a quadrant bounded on the north by Frank Reeder Road and to the south by 9-Mile Road (US-90). To the east it abuts the Navy Federal Credit Union property at Heritage Oaks Commercial Parks and to the west and north, across from 9-Mile road, it abuts several residential subdivisions, which themselves sit along Beulah Road (see Figure 1 for the site location).

An evaluation of existing transportation conditions is necessary to prepare for the anticipated growth in travel demand that will accompany the implementation of the OLF-8 Master Plan. This evaluation of existing transportation conditions includes a review of roadway and public transit networks, traffic, and bike and pedestrian conditions, and is informed by a review of plans and study documents (state, county, and local), a summary of which can be found in **Appendix A**.

Figure 1 Aerial view of OFL-8 site (center) and surrounding context

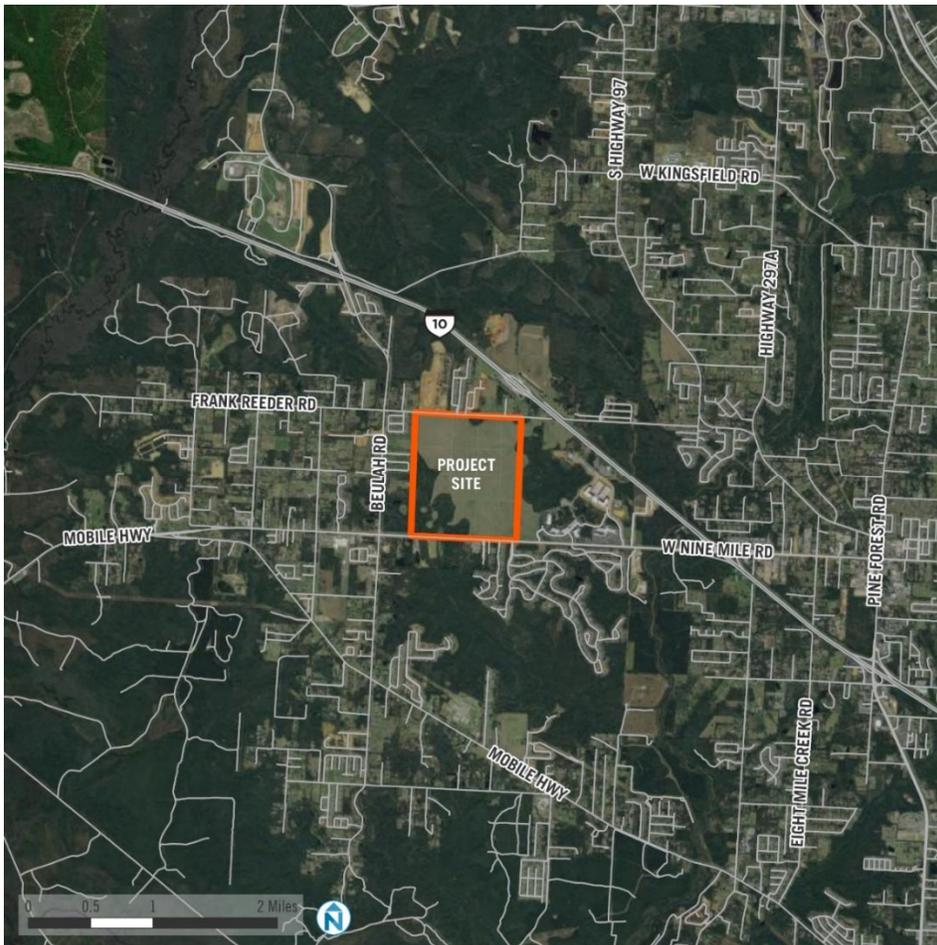


Image Source: Google Maps

2 EXISTING CONDITIONS

TRANSPORTATION NETWORKS

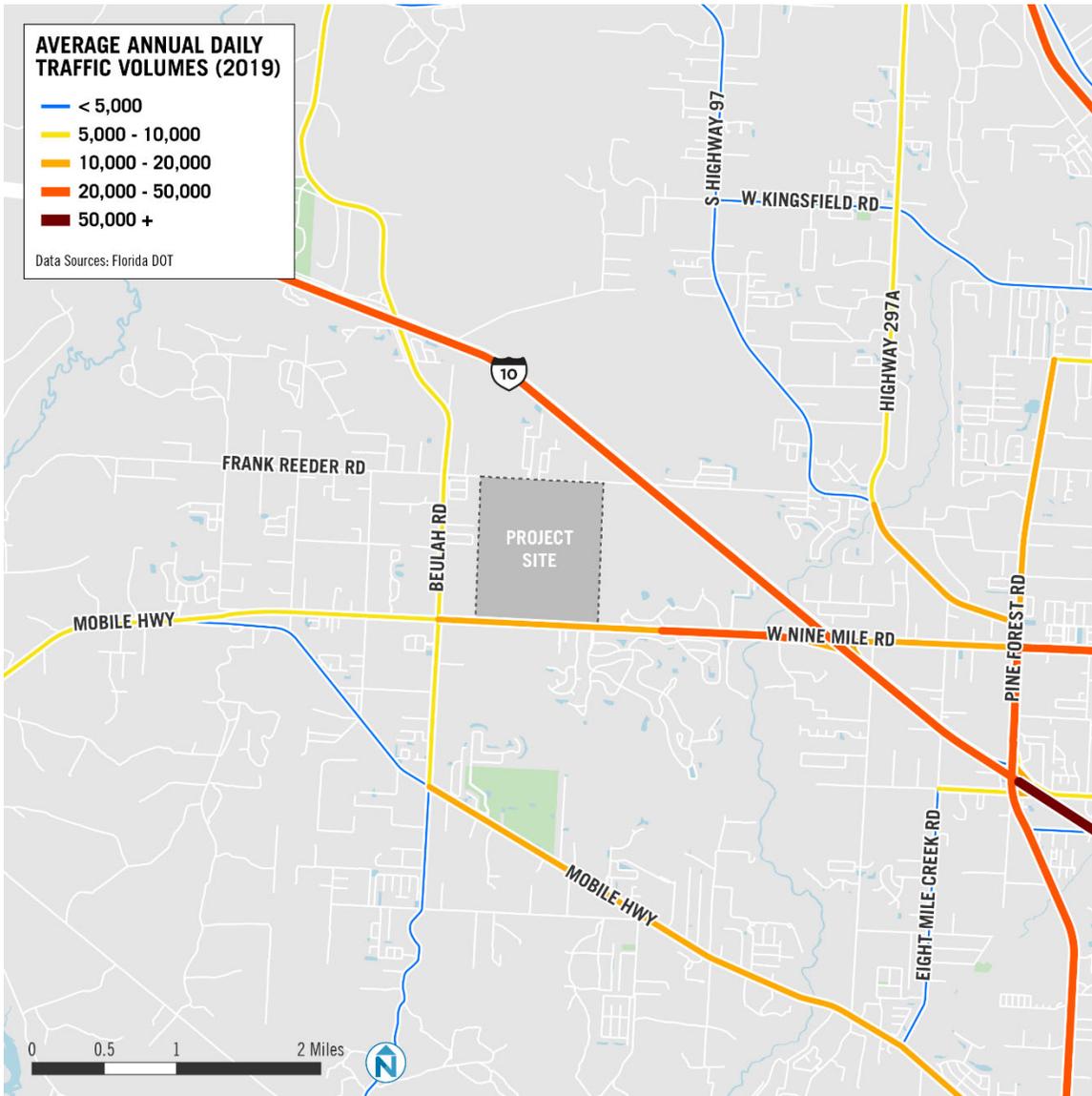
Vehicle Access Network

There are four primary roadways providing vehicular access to the OLF-8 site, two of which are directly adjacent and can provide direct access. The four roadways that make up the primary vehicular access to the site are as follows:

- **9-Mile Road** (State arterial) forms the southern border of the site and is the primary direct vehicular access road to the OLF-8 site, providing connectivity to I-10 and northern Pensacola to the east, and to the Mobile Highway to the west. Currently it is a two-lane arterial road that carries an average of 15,000 vehicles per day between Beulah Road and the access points to the Heritage Oaks Commerce Parks, and over 20,000 per day between the Heritage Oaks Commerce Parks and I-10, according to 2018 AADT of the Traffic report of the I-10/Beulah interchange. The segment between Beulah Road and Interstate-10 is currently being widened into a four-lane roadway.
- **Frank Reeder Road** (County collector road) forms the northern border of the site and is the secondary direct access road to the site, but its current design (and unstriped single-track roadway that does not cross Interstate-10) makes it less practical for access to the OLF-8 site.
- **Interstate-10** (State highway) a grade separated highway with two lanes per direction near the OLF-8 site, provides connectivity between the project area and the greater Pensacola area and carries an average of 32,000 vehicles per day
- **Beulah Road** (State collector road) a two-lane roadway, provides local north-south connectivity to the west of the site and carries an average of 5,800 to 6,400 vehicles per day.

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Figure 2 Vehicle Access Network – Average Daily Traffic Volumes (2019)



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All of the primary vehicle access roadways have signed speed limits of 45mph or above¹, but given the design speed of the roads, the actual speeds are likely much higher than those signed.

Figure 3 Vehicle Access Network –Signed Speed Limits

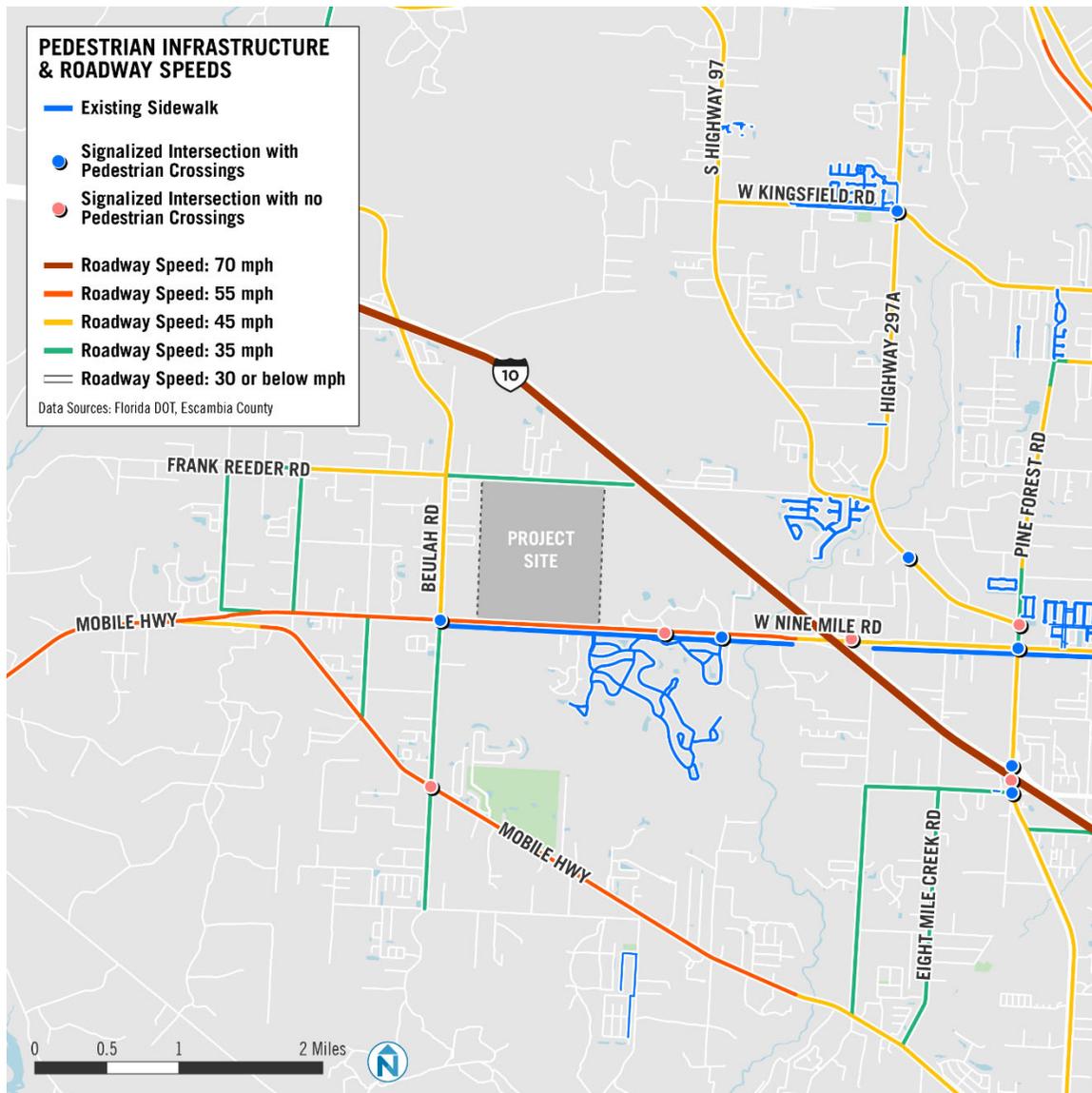


¹ The segment of Frank Reeder Road that connects to the site is technically unsigned, however the preceding segment

Pedestrian and Bike Network

The OLF-8 site is not safely or easily accessible by walking. There is no sidewalk access along most of the roads surrounding the site. There is a sidewalk along the site’s segment of 9-Mile Road, but it is on the south side of the road and there is no intersection or mid-block crossing at the likely site access point. It also does not connect to any other segment to the east or west, and connects only to a single residential sub-development. Further, along all connecting corridors traffic speeds are much higher than are comfortable for pedestrians, and the lack of land-use activity would leave pedestrians isolated, and the lack of trees or other cover would leave pedestrians exposed to the sun or other weather conditions. As a result, the existing pedestrian access to the site is poor.

Figure 4 Pedestrian Facility Access Network



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The OLF-8 site is similarly not safely or easily accessible by bicycle riding. A painted bike lane in the shoulder of 9-Mile Road provides limited bike connectivity to points along 9-Mile Road but does not connect to a wider bicycle network, and the lack of protection from multiple lanes of high-speed vehicle traffic makes this bike lane relatively unsafe for people on bikes.

Figure 5 Bicycle Facility Access Network



Transit

ECAT, the public transit provider in Pensacola, does not provide transit service to the project area. The nearest transit service is approximately four miles, 45 to 60 minutes away by foot. See Route 47 in Figure 6.

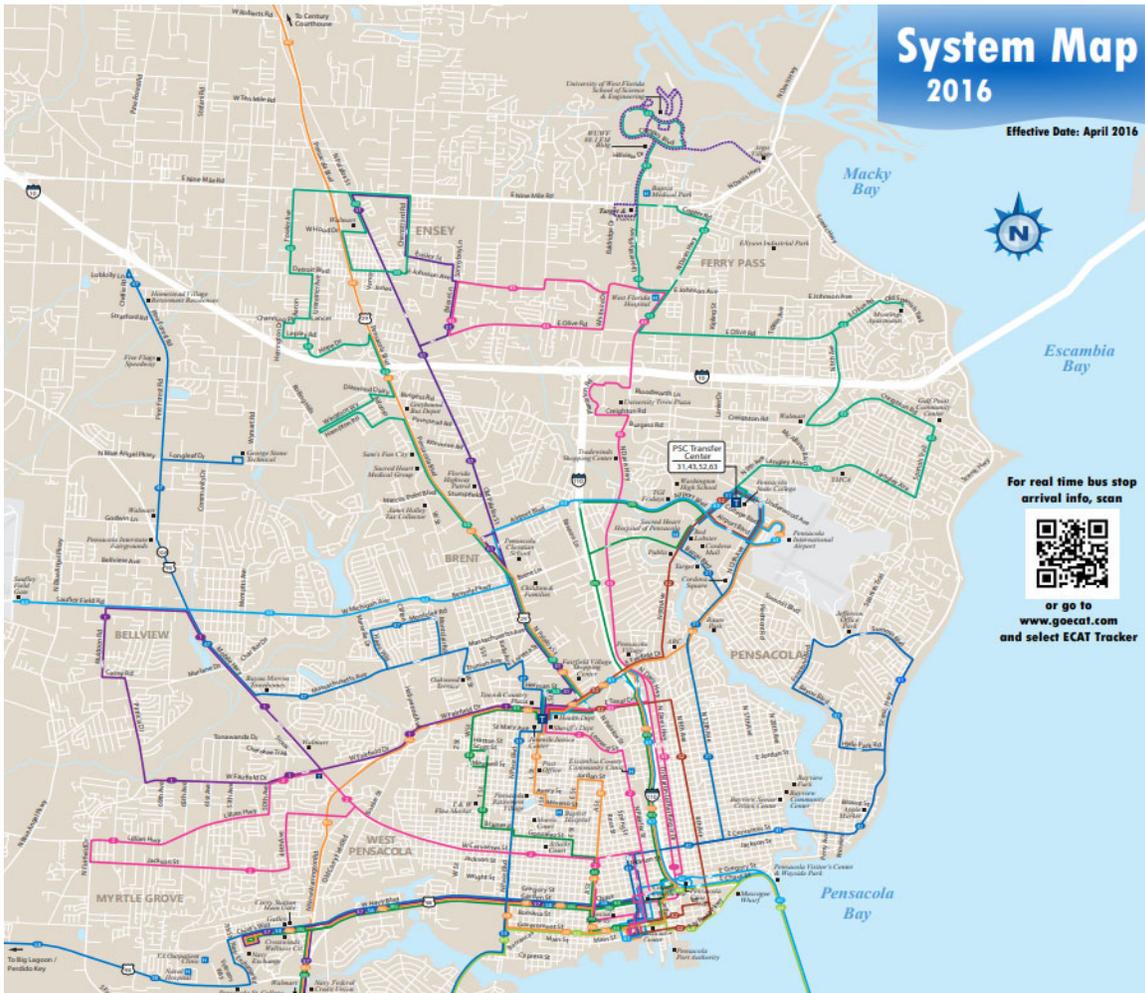
Navy Federal, with 10,000 employees, operates a private shuttle to their worksite for their employees from a park and ride, from Milton and Pace Counties. However, most of the employees still drive to work.

Figure 6 Transit Routes



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Figure 7 Escambia County Area Transit Map



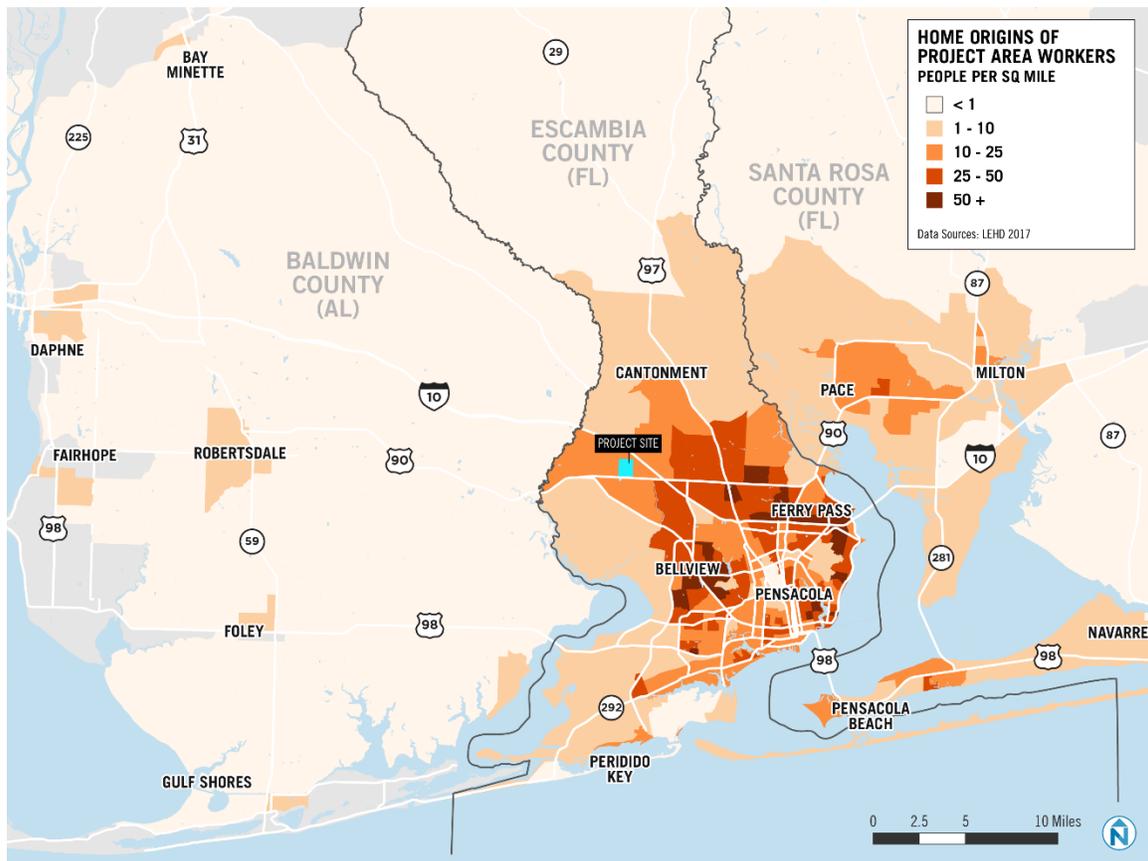
Source: <https://goecat.com/docs/default-source/routes/ecat-system-map-final-1.pdf>

Existing Travel Patterns and Mode Share

The transportation network surrounding the OLF-8 site serves a wide variety of transportation needs in the area. Available data provide some insight into work-related travel patterns on the local transportation network, which provides local residents with access to jobs and services, and also provides people from further afield with access to jobs in the project area.

According to the 2017 Longitudinal Employer-Household Dynamics data (LEHD), people who work in the OLF-8 project area live across the Pensacola area (Figure 8). Many live in northern Pensacola near the project area, or on the western and eastern peripheries of the city in the Bellview and Ferry Pass districts. Smaller numbers of workers live in Pensacola Beach and Pace in Santa Rosa County. Very few commutes from outside of Escambia or Santa Rosa counties to the project area. Such travel patterns indicate that most work trips to the OLF-8 project area originate within 15 miles of project area, primarily in Pensacola.

Figure 8 Home Origins of Workers in the OLF-8 Project Area

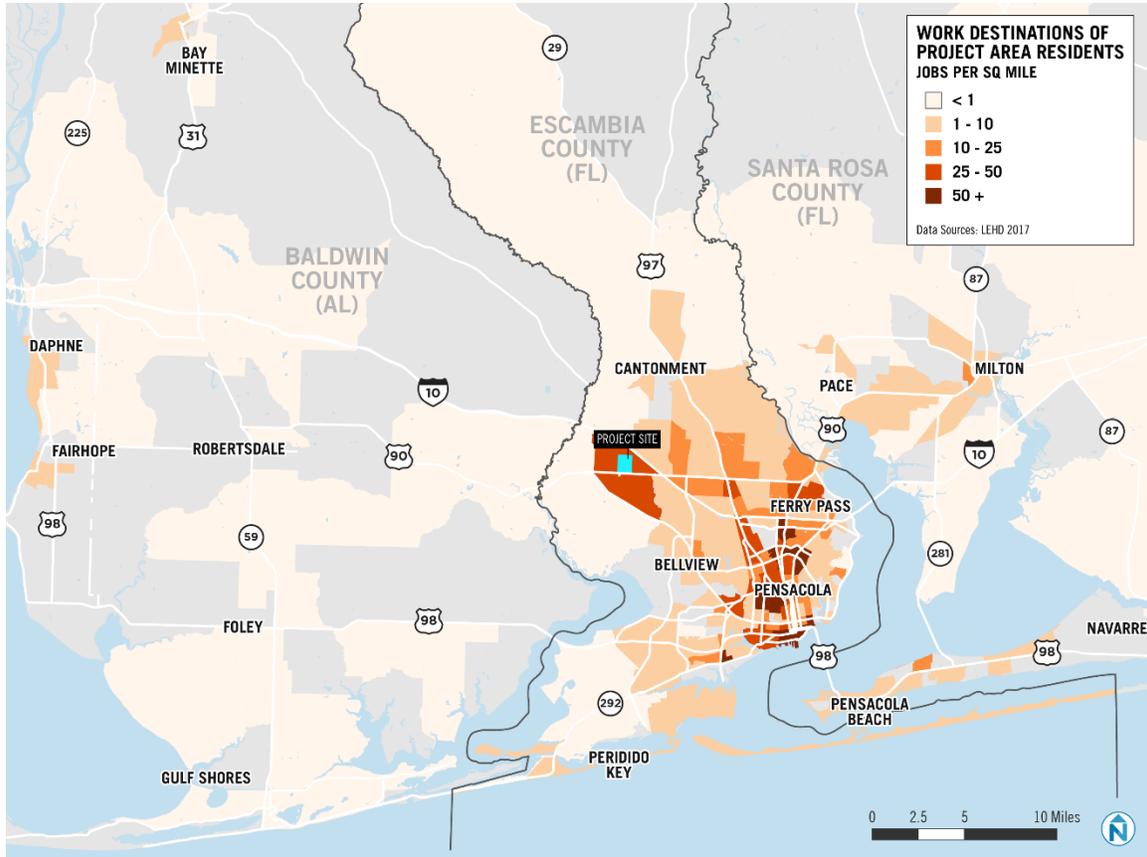


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People who live in the vicinity of the OLF-8 project area primarily work in the Beulah area or in central and northern Pensacola. More modest numbers of residents work across the rest of Pensacola and in Santa Rosa County. These travel patterns indicate that local residents' places of work are more concentrated around the project area and in parts of Pensacola than the home locations of many of the workers who commute to the project area. It also indicates that the strongest transportation demand is likely for linkages between the project area and Pensacola, rather than to outlying areas.

Figure 9 Work Destinations of Residents in the OLF-8 Project Area

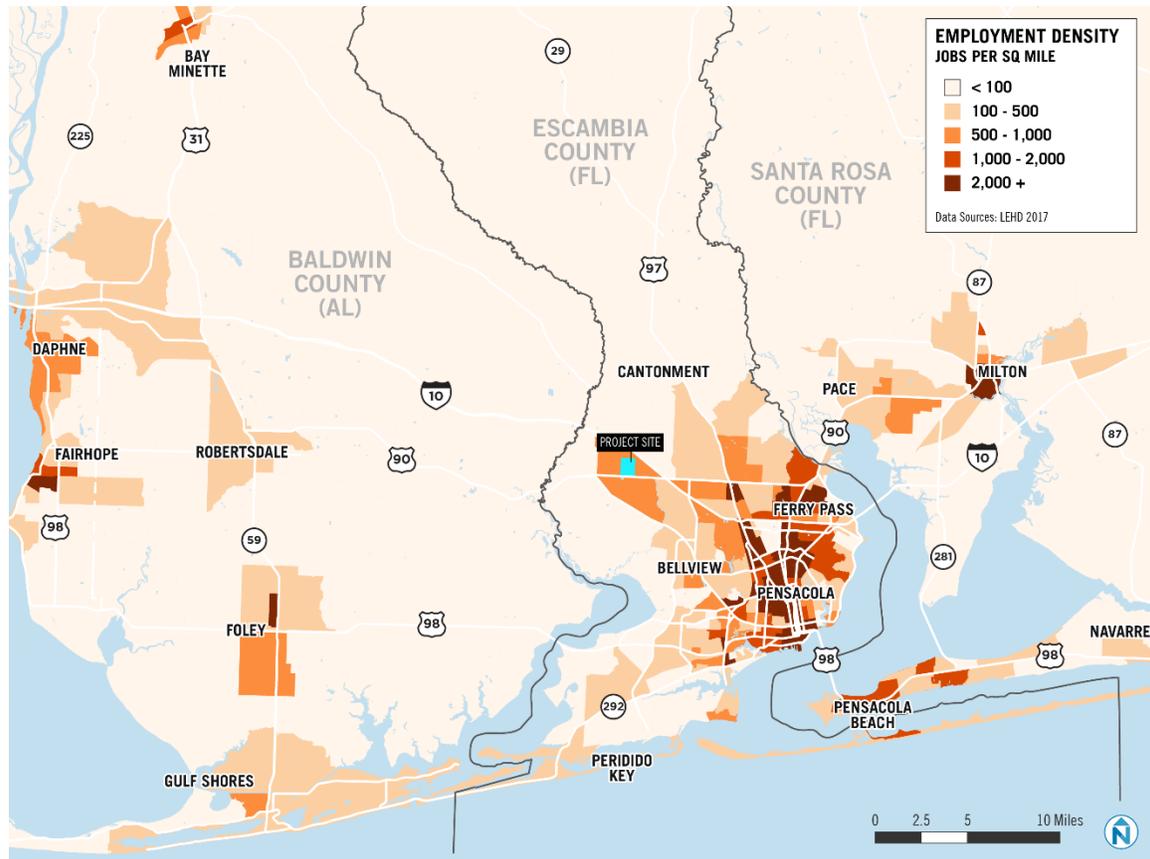


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The concentration of residents' jobs in central and northern Pensacola roughly aligns with the overall density of jobs in the region. Central and northern Pensacola have a higher concentration of jobs than anywhere else in the region. Notably however, few residents of the OLF-8 project area work in areas with high numbers of jobs that are further from Pensacola. Job clusters in Milton, Pensacola Beach, and Baldwin County, Alabama for example, attract fewer project area residents for work.

Figure 10 Employment Density



According to the Census Bureau, in 2018 the average car ownership in Escambia County, FL was 2 cars per household, and the most common method of travel for workers was Drive Alone (74.2%), followed by those who Carpooled (11.2%) and those who Worked At Home (8.72%). However, in the post-Covid19 era, the percentage of people that Work at Home has significantly increased, reducing the mode-share of Drive Alone and Carpool for commute purposes. A study performed by several Universities² showed that in Florida traffic volumes by March 22, 2020, dropped by 47.5 percent compared to that same point in 2019 as a result of the state the governor's state of emergency declaration and school, restaurant, and bar closures.

² https://www.newswise.com/coronavirus/traffic-data-show-drastic-changes-in-floridians-behavior-at-onset-of-the-pandemic/?article_id=734037

FUTURE TRANSPORTATION NETWORKS

Road Network

The following are roadway expansions that are currently under construction, have been planned, or have been proposed:

CONSTRUCTION IN PROGRESS:

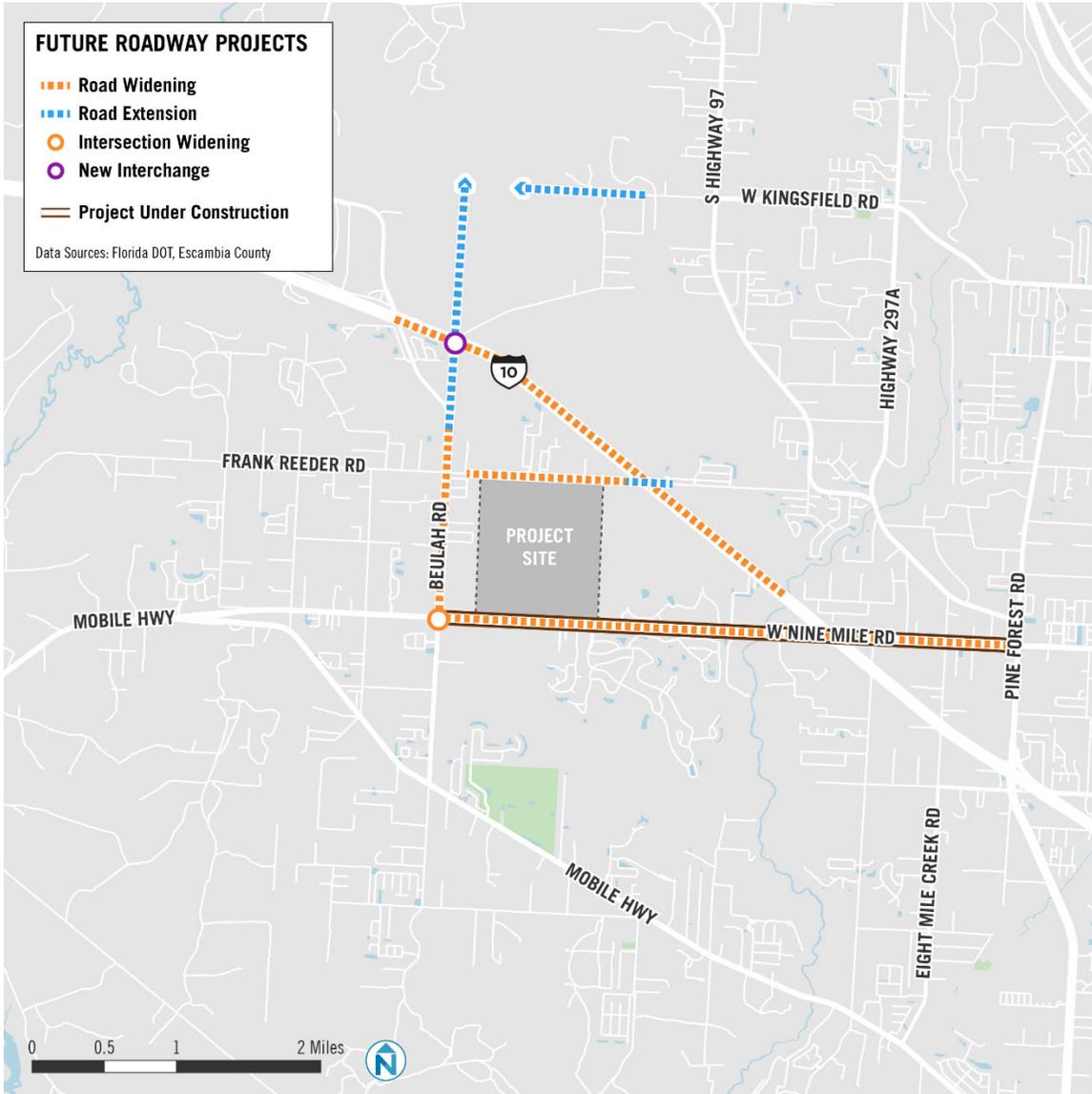
- **9-Mile Road** is currently being widened from one lane per direction to two lanes per direction between Beulah Road and Pine Forest Road and may eventually be widened to three lanes per direction.

PLANNED OR PROPOSED:

- **Beulah Road** is planned to be widened from one lane per direction to two lanes per direction and will also feature new sidewalks and painted bike lanes.
- The **Beulah Road/9-Mile Road intersection** will be significantly expanded to accommodate up to eight east-west lanes, if 9-Mile Road is widened to three lanes per direction, seven lanes on Beulah Road to the north, and five lanes on Beulah Road to the south.
- As the wider area north of Interstate-10 is developed in line with regional plans, which anticipate significant suburban residential development, **Beulah Road** is proposed to be extended northward.
- **Kingsfield Road** is proposed to be extended westward to connect with Beulah Road.
- A study is currently assessing the feasibility of a new interchange at Beulah road and **Interstate-10**, which would also involve widening Interstate-10 from two lanes per direction to three lanes per direction in the vicinity of the OLF-8 site.
- **Frank Reeder Road** is proposed to be widened into a striped two-way roadway and to connect with Divine Farms Road via an under- or overpass across Interstate-10.

OLF-8 TRANSPORTATION IMPLEMENTATION STRATEGY
Escambia County

Figure 11 Future roadway projects



Pedestrian and Bike Network

The following are pedestrian and bicycle network expansions that are currently under construction, have been planned, or have been proposed:

CONSTRUCTION IN PROGRESS:

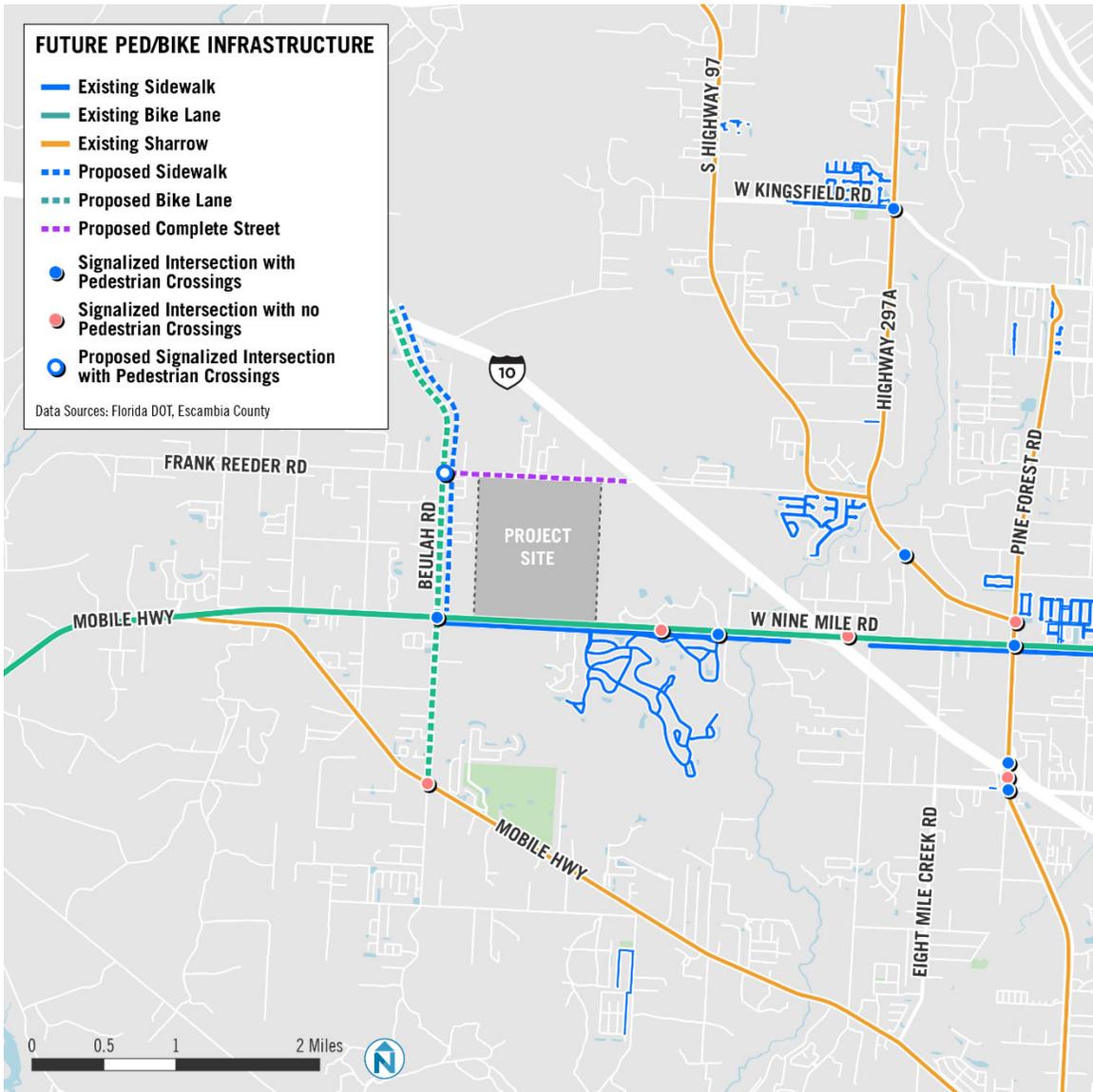
- A sidewalk is being built along the south side of **9-Mile Road** as part of its expansion. The expansion will also maintain the painted bike lanes that currently exist on the road.

PLANNED OR PROPOSED:

- Painted bike lanes and sidewalks are planned as part of the eventual expansion of **Beulah Road**.
- **Frank Reeder Road** may be upgraded to include ‘complete street features’ when it is widened.
- Escambia County proposed to restripe bike lanes on **Beulah Road** between 9 Mile Road and the Mobile Highway in the 2018 Florida/Alabama TPO Pedestrian & Bicycle Masterplan (See Appendix A)

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Figure 12 Future pedestrian and bicycle projects

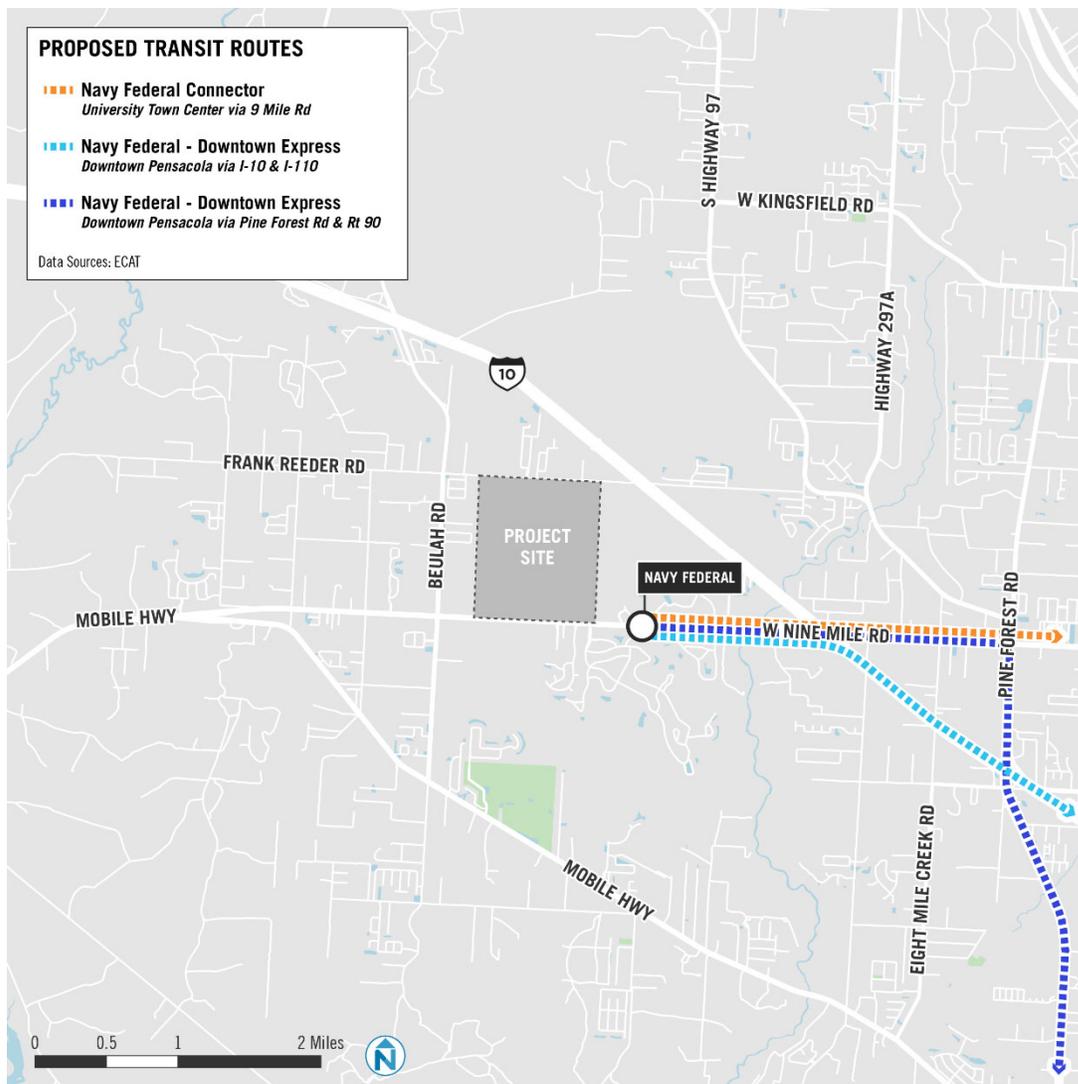


Transit

While there are no current plans to provide transit service directly to the OLF-8 site, ECAT has proposed service expansions to serve the Navy Federal site that could potentially be extended to serve the site. These proposed expansions include:

- **Navy Federal Connector:** a proposed bus service along 9-Mile Road between the Navy Federal site and University Town Center
- **Navy Federal – Downtown Express:** a proposed bus service connecting the Navy Federal site to downtown Pensacola via I-110 and I-10 or via Pine Forest Road and Route 90.

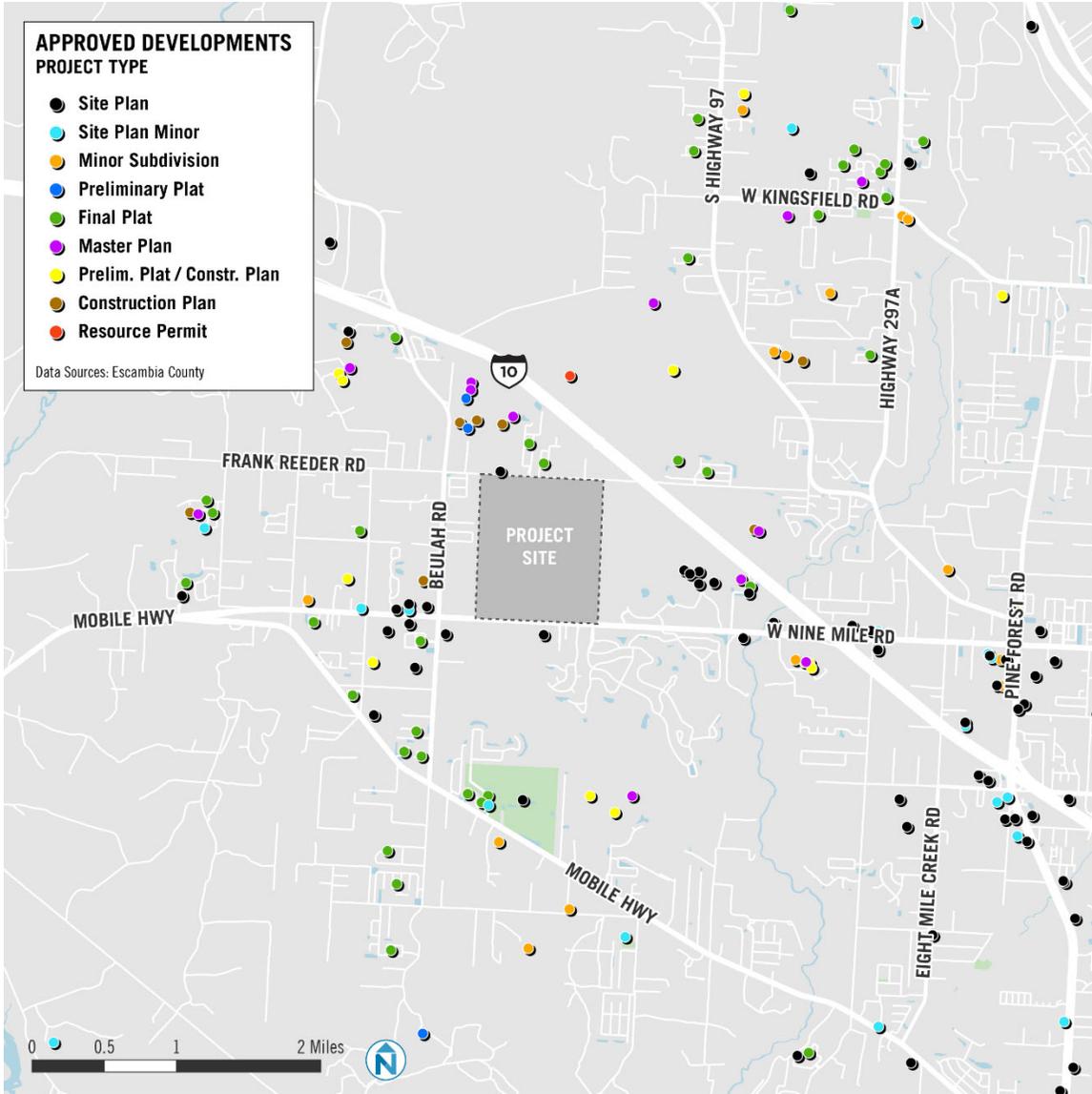
Figure 13 Proposed Transit Routes



ANTICIPATED DEVELOPMENTS

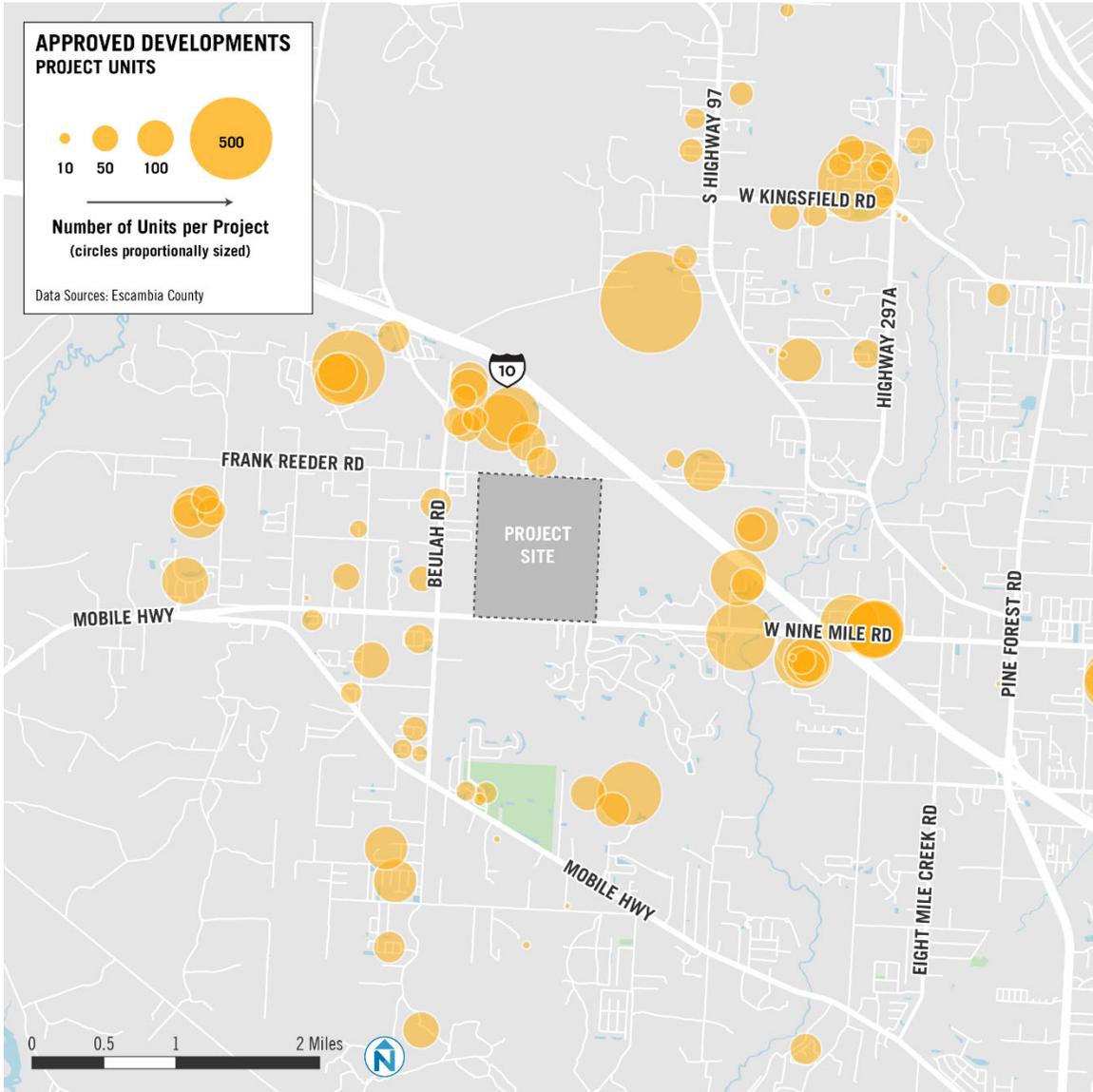
Significant development is planned for the area around the OLF-8 Site that will increase the demand of the use of the transportation networks. Approximately 2,000 new homes will be constructed in the immediate vicinity. New commercial developments at the intersection of Beulah Road and 9-Mile Road will add roughly 350 parking spaces in the area.

Figure 14 Future Network: Approved Development Project Types



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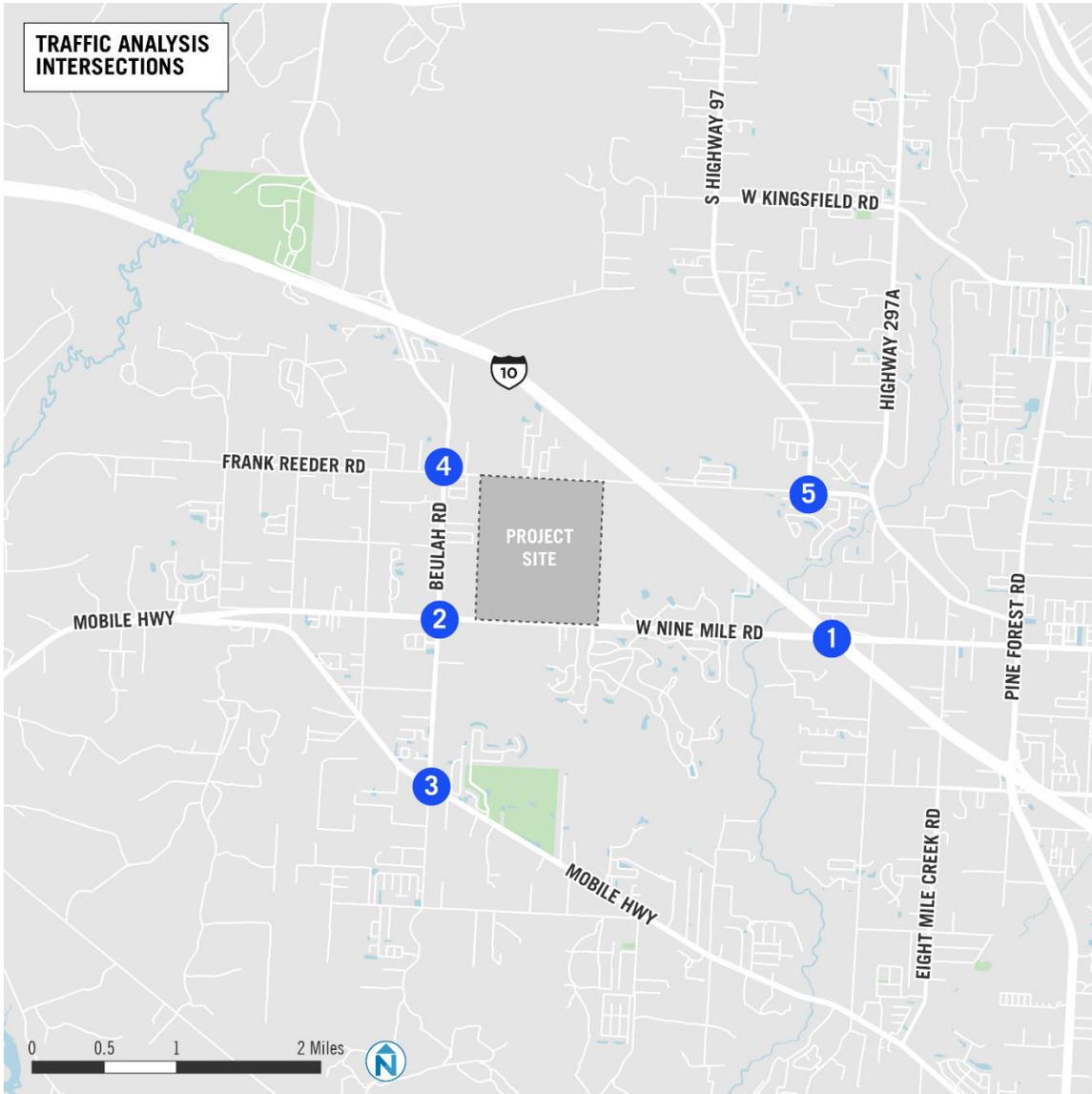
Figure 15 Approved Development Project Dwelling Units



TRAFFIC ANALYSIS

The Traffic Analysis goal is to understand how key intersections which will carry traffic to and from the site operate, and to estimate the excess capacity to absorb additional vehicles in the future. This assessment specifically analyses the existing conditions at the intersections mapped in Figure 16.

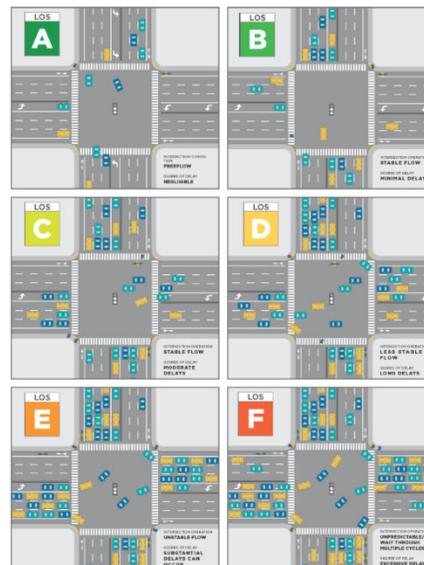
Figure 16 Traffic Analysis Intersections



Methodology

Intersection operations were analyzed at each of the study intersections noted previously for the existing conditions. Operations are assessed through two standard metrics:

- Intersection Level of Service:** Level of Service (LOS) grades intersection operations on an A-F scale. LOS A/B represents free-flowing traffic conditions with little to no delay at an intersection. LOS C introduces some delay but is still considered an effective intersection condition. LOS D introduces more delay per vehicle but is typically still considered an acceptable level of service for most roadway users. LOS E adds more delay and begins what most users feel are congested conditions. LOS F represents highly congested conditions and indicates that traffic levels are above the capacity of the roadway or intersection.
- Delay per Vehicle:** This metric defines the delay, in seconds, that a vehicle will experience on average when passing through an intersection. Lower delay represents a more efficient intersection condition.



Traffic Data

Determining LOS and Delay per Vehicle per intersection requires data during the period for which the analysis will be undertaken.

As the most recent available data was from the 2018 FDOT I-10/Beulah Design Traffic Report completed in February 2019 but was only available for 3 of the 5 study area intersections. Additional traffic data collection was undertaken in July 2020 at all 5 intersections during 8 hours on a weekday, during the morning, midday and afternoon peak periods (see **Appendix B** for the Traffic counts). Data collected showed that:

- Beulah Rd/Frank Reeder Rd intersection: traffic on Beulah Rd was about 2-4 times higher than that in Frank Reeder Rd in all three peak periods, being the busiest period that from 4 pm to 7 pm, and 4 pm to 5 pm the busiest hour. Frank Reeder Rd east of this intersection provides access to the development north of OLF-8 and connects them to I-10 and Mobile Hwy via Beulah Rd.
- Devine Farm Rd/Witt Rd intersection: low volumes were observed in both roads, and the highest movements was during the PM peak hour westbound on Devine Farm Rd, turning left on Witt Rd.
- Beulah Rd/Mobile Hwy intersection: similar to Beulah Rd/Frank Reeder Rd intersection, the highest volumes were observed during the PM, but in this case from 5 pm to 6 pm overall, and from 6 pm to 7 pm westbound on Mobile Hwy (close to 400 vehicles/hour). Main movements in the AM peak hour were

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- vehicles turning from Beulah Rd to Mobile Hwy, and vice-versa during the PM peak hour.
- Beulah Rd/9-Mile Rd intersection: this intersection follows the same typical commute pattern (higher volumes during the AM and PM peaks, with a lower Midday peak, with opposite main flows in the AM and PM peaks) observed in the Beulah Rd/Mobile Hwy intersection, although volumes on 9-Mile Rd are significantly higher than those on Beulah Rd, reaching close to 1,000 per hour in both directions.
 - I-10/9-Mile Rd interchange: highest volumes from I-10 on to 9-Mile Rd were on the I-10 NB off-ramp, with steady volumes during the three peak periods, although slightly higher during the PM peak period. Most volumes from the I-10 SB off-ramp were turning east on 9-Mile Rd. Beulah Rd volumes on both sides of the interchange are 2,000 vehicles/hour in both directions, significantly higher than the volumes near Beulah Rd, due to the volumes in and out of Navy Federal and the residential areas nearby.

To factor the traffic counts from both the FDOT report and July 2020 (to account for the school vacation period and impacts of Covid-19), the following steps were taken:

1. Convert June 2018 traffic count to July 2018 (using FDOT seasonal factor)
2. Apply annual growth factor from July 2018 to July 2020 (based on FDOT AADT data from 2015-2019)
3. Calculate growth factor from existing counts to July 2020 (#2) and apply that to the five (5) intersections counted in July 2020.
4. Convert July 2020 with the seasonal factor to AADT 2020

Results

The existing condition LOS and delay were calculated for each study intersection for the AM and PM peak hours (7:15am-8:15 am and 4:15-5:15 pm) using guidelines laid out in the Highway Capacity Manual, 2010 (HCM 2010). Analysis was conducted in the Synchro 9 microsimulation software, and results are provided in the table below.

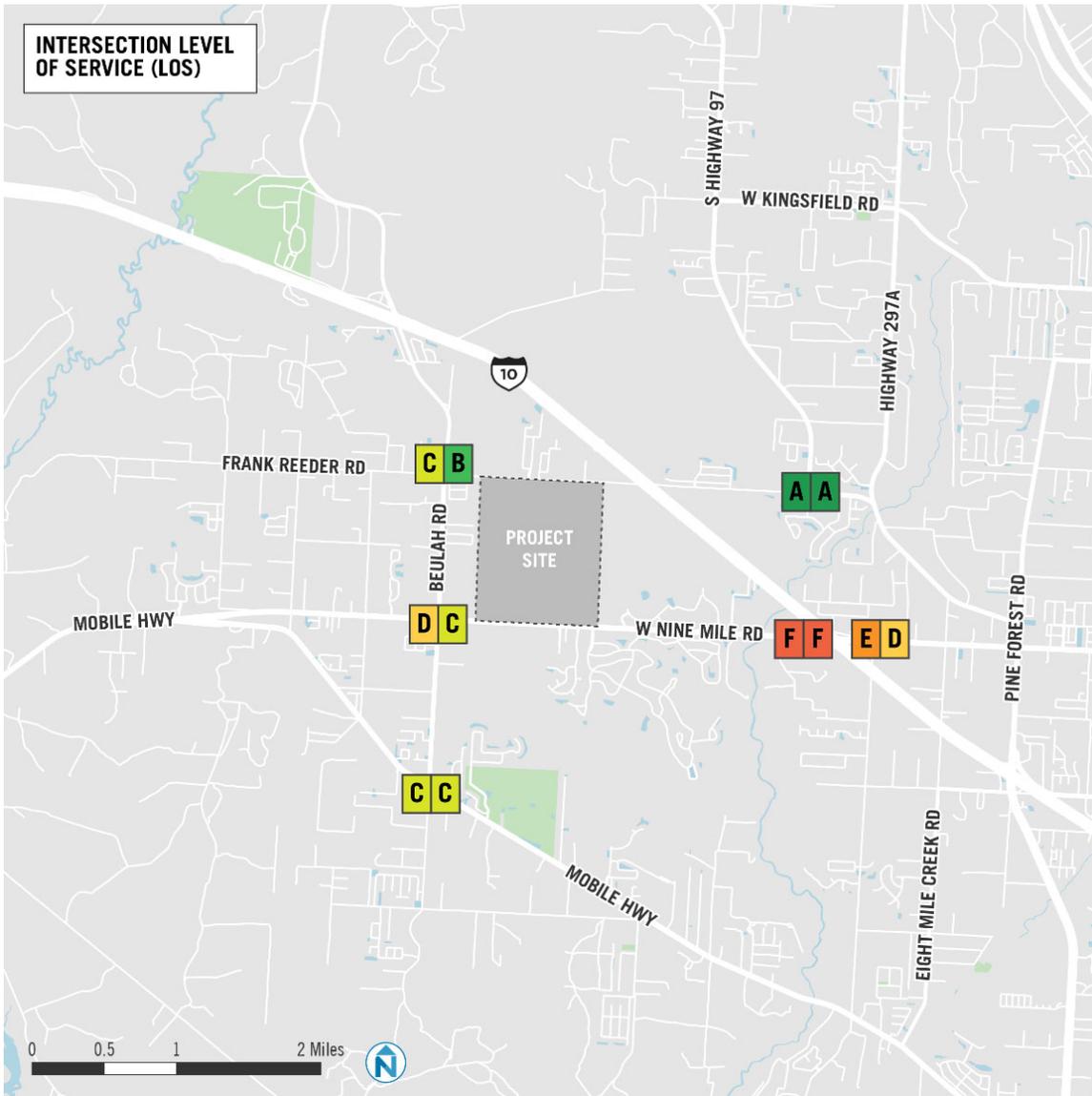
Under existing conditions, most intersections operate at an acceptable LOS. The intersection of I-10 Eastbound Ramps and 9-Mile Road operates at LOS F during both the AM and PM peaks. This is due to the high EB/WB volumes and 9-Mile Road that prevent the SB vehicles at the I-10 Ramp stop sign from finding a gap to pull out into traffic. Signalization could be required at this location in order to improve operations in the future. The intersection of I-10 Westbound Ramps and 9-Mile Road operates at LOS E during the AM peak. Changes to signal timing would likely improve operations at this intersection and provide an acceptable LOS in the future.

Figure 17 Intersection Analysis Results – Existing Conditions

ID	Intersection Name	Intersection Control	LOS and Delay (s) – AM Peak	LOS and Delay (s) – PM Peak
1a	I-10 EB Ramp & 9-Mile Rd	Side-Street Stop Control (SB)	F (384.3)	F (219.0)
1b	I-10 WB Ramp & 9-Mile Rd	Signalized	E (79.2)	D (48.3)
2	Beulah Rd & 9-Mile Rd	Signalized	D (46.5)	C (23.2)
3	Beulah Rd & Mobile Hwy	Signalized	C (31.8)	C (29.3)
4	Beulah Rd & Frank Reeder Rd	Side-Street Stop Control (EB/WB)	C (22.3)	B (14.3)
5	Witt Dr & Devine Farm Rd	Side-Street Stop Control (NB/SB)	A (8.8)	A (8.9)

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Figure 18 Intersection Analysis – Existing Conditions



KEY FINDINGS

Following the evaluation of existing transportation conditions and future networks and improvements, the following key findings have been identified to support the anticipated growth in travel demand that will accompany the implementation of the OLF-8 Master Plan. The key findings of this evaluation include:

- Private vehicle is the main mode of transportation to move around Escambia County, partially due to the distances between origin (residential areas) and destinations (employers, retail, entertainment), but also as a result of the poor pedestrian and bike network, which is discontinuous and does not feel due to the width of vehicle travel lanes and limited crossings, and the lack of transit service in the area.
- Prior to Covid-19, Drive alone was the most used commute mode in Escambia County, followed by Carpool, and just a few Worked from Home. After Covid-19, though, commute travel behavior has shifted to a significant increase of Work from Home, and a decrease in the use of private vehicle.
- The local and regional network has few connection points and vehicular traffic is distributed poorly. I-10/9-Mile Rd interchange accumulates most of it and operates below acceptable level of service during peak periods. However, the current expansion of 9-Mile Rd and the proposed expansion of Frank Reeder Rd and its connection to Devine Farms will increase the road capacity and help distribute traffic in the future. The future road network, though, will need to be shared by the current Beulah area residents and Navy Federal employees, as well as by the future residents that will occupy the 2,000 residential units that are approved in the vicinity of OLF-8.
- Future opportunities to enhance mobility and access to the site and nearby areas include the incorporation of bicycle and pedestrian facilities for new construction or roadway enhancement projects. In addition, the potential ECAT transit expansion could support transit access to the site as could establishing a partnership with Navy Federal to expand and share their shuttle service. All combined could reduce the use of private vehicle for local trips and improve circulation operations on the road network.

3 PROPOSED PLAN

The OLF-8 Master Plan in Escambia County, FL is a transformative program of investment and development that re-imagines the OLF-8 site as a regional destination and town center that can support a robust mix of employment, residential, retail, and entertainment uses (see Figure 19). The OLF-8 proposed mixed-use Plan includes education, office and light industrial, retail, recreational and residential uses, as outlined in Figure 20. To support the development envisioned in the Plan, the proposed mobility network optimizes travel flows and reduces automobile usage.

Figure 19 Hybrid Plan



Figure 20 Land-use program and jobs

Land-use	Sq. Ft/Units	Jobs
Retail	249,814 Sq.Ft.	1,140
Multi-Family (over retail)	500 Units	
Multi-Family (stand-alone)	239 Units	
Industrial/Commerce	2,840,552 Sq.Ft.	2,500
Office (stand-alone)	84,148 Sq.Ft.	2,500
Residential 4-pck	132 Units	
Residential 6-pck	60 Units	
Town houses	179 Units	

Street Network

The street network proposed in the Plan is a grid comprised of north-south entrance streets that act as axes through the site and east-west connector streets. The street grid contains straight and diagonal streets - a response to the need to preserve wetlands at the southwest of the site. The proposed street network allows for permeable movement through all parts of the site and ensures that there are no dead-ends limiting access and connectivity. The grid primarily channels movement north-south through the site to and from the wider road network. Key elements of the street network are as follows:

Entrances

- Three entrances on the site’s southern boundary would allow vehicles and people to enter the site from 9-Mile Road.
- Four entrances on the site’s northern boundary would allow vehicles and people to enter the site from Frank Reeder Road.

North-South Axes

- The easternmost entrance street would provide a direct north-south route paralleling the site’s eastern boundary. This route would allow heavy goods vehicles to move through the site without travelling through residential or retail areas.
- Two north-south routes, correspondent with the western and central entrances from 9-Mile Road would provide access through the retail and residential areas of the site.
- Four north-south routes, correspondent with the western and central entrances from Frank Reeder Road, would provide access through the commercial areas of the northern half of the site.

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- The north-south streets of the northern and southern areas of the site meet at a wide east-west street dividing the residential area from the commercial area.

East-West Streets

- Eight streets provide east-west connectivity through the portions of the site.
- Two wide streets provide east-west connectivity through the northern commercial area of the site.
- East-west streets in the residential area of the site do not provide direct connectivity across the site to minimize through travel on residential streets.
- One diagonal and one straight street provide east-west connectivity across the southern portion of the site through the retail area and southern edge of the residential area. The southern straight street connects directly to the western entrance to the Navy Federal Site adjacent to the OLF-8 site.

The site also provides continuous walking and biking networks that connect with the proposed networks of the adjacent road network, as defined in Figure 12. Proposed Streets are described further in the following Chapter.

4 EVALUATION AND RECOMMENDATIONS FOR THE PROPOSED PLAN

The increased density and use of available space proposed by this Plan would attract a variety of daily trips to an already mobility constrained road network. A significant investment in the multimodal infrastructure and programs will be needed to support a significant shift in single occupancy vehicle (SOV) production to the site would enable a sustainable program of growth and land use development.

Following the Existing Conditions Assessment, the Implementation Strategy reviews the existing challenges and proposes a series of street and road design, parking and transportation demand management (TDM) recommendations to improve access and circulation at OLF-8 for future tenants.

This chapter is structured as follows:

- Assumptions and Methodology of the trip generation, traffic, and parking analysis
- Results of the trip generation, traffic, and parking analysis
- Recommendation on the multimodal transportation networks, organized into short and long term
- Street classifications, including cross-sections

ASSUMPTIONS & METHODOLOGY

Traffic Analysis

This chapter outlines the assumptions and methodology for the traffic analyses conducted to estimate vehicle trips generated by the Hybrid Plan proposed in the OLF-8 site, and the impact of those in the adjacent road network.

Scenarios

In addition to the Existing Conditions scenario (2020), whose results are presented earlier in this document, two future scenarios are evaluated to determine the extent to which the Plan may affect the surrounding transportation environment during weekday morning (AM) and evening (PM) peak periods, as indicated below:

- ***Future Base Line Conditions (2040)*** – Future traffic conditions in 2040, with traffic growth unrelated to the OLF-8 Master Plan.
- ***Future with Project (2040)*** – Future Base Line Conditions plus the new traffic generated by OLF-8 Plan.

Multimodal Network

The road network considered for each scenario is as follows:

- ***Future Base Line Conditions (2040):***
 - **Beulah Road**, widened from one lane per direction to two lanes per direction, with sidewalks and painted bike lanes, and extended north of Interstate-10.
 - **Beulah Road/9-Mile Road intersection**, expanded to accommodate up to eight east-west lanes, if 9-Mile Road is widened to three lanes per direction, seven lanes on Beulah Road to the north, and five lanes on Beulah Road to the south.
 - **Kingsfield Road**, extended westward to connect with Beulah Road.
 - **New interchange at Beulah road and Interstate-10**, widening Interstate-10 from two lanes per direction to three lanes per direction in the vicinity of the OLF-8 site³.
 - **Frank Reeder Road**, widened into a striped two-way roadway, with one center turning lane, and extended to the east to connect with Divine Farms Road via an under- or overpass across Interstate-10.
 - **9-mile Road**, expanded to 3 lanes per direction.
 - **9-mile Road and Interstate-10**, redesigned to accommodate the expansion of 9-mile Road.
- ***Future with Hybrid Plan (2040)*** – Future Base Line Conditions (2040), plus the entry/exits to OLF-8 as designed in the Hybrid Plan.

In addition, we have assumed that a transit service will serve the site (see Figure 13) to connect it with Pensacola Downtown and other key regional destinations, and that the biking and walking infrastructure will be extended to the external networks.

Trip Generation and Mode Split

Mixed-use developments, such as the Hybrid Plan, generally shorten trips and thus allow what might otherwise be vehicle trips to external destinations to become internal walking, cycling, or transit trips. Thus, a mixed-use development that generates a given number of total trips creates less demand on the external roadway network than single-use developments generating the same number of trips. For example, the project would include retail located within proximity to the residential units; therefore, a certain percentage of the residents would likely opt to bike or walk to these shops instead of driving. As a result, a percent reduction in total vehicle trips generated is applicable.

Trip reductions were calculated using the Mixed-Use Trip Generation Model (MXD+) method developed by Fehr & Peers, which includes a combination of quantifiable methods used to more accurately assess trip generation estimation for mixed-use developments; the quantifiable methods that form the basis for the MXD+ method were developed and sponsored by the U.S. Environmental Protection Agency (EPA) and Transportation Research Board (TRB). The MXD+ method uses ITE trip generation

³ <https://nwflroads.com/projects/433113-1>

rates and then adjusts those estimates to account for the mix of uses and environmental characteristics (e.g., geographic layout of the site, land use in surrounding area, socioeconomic data, proximity to land uses and transportation resources, etc.)⁴

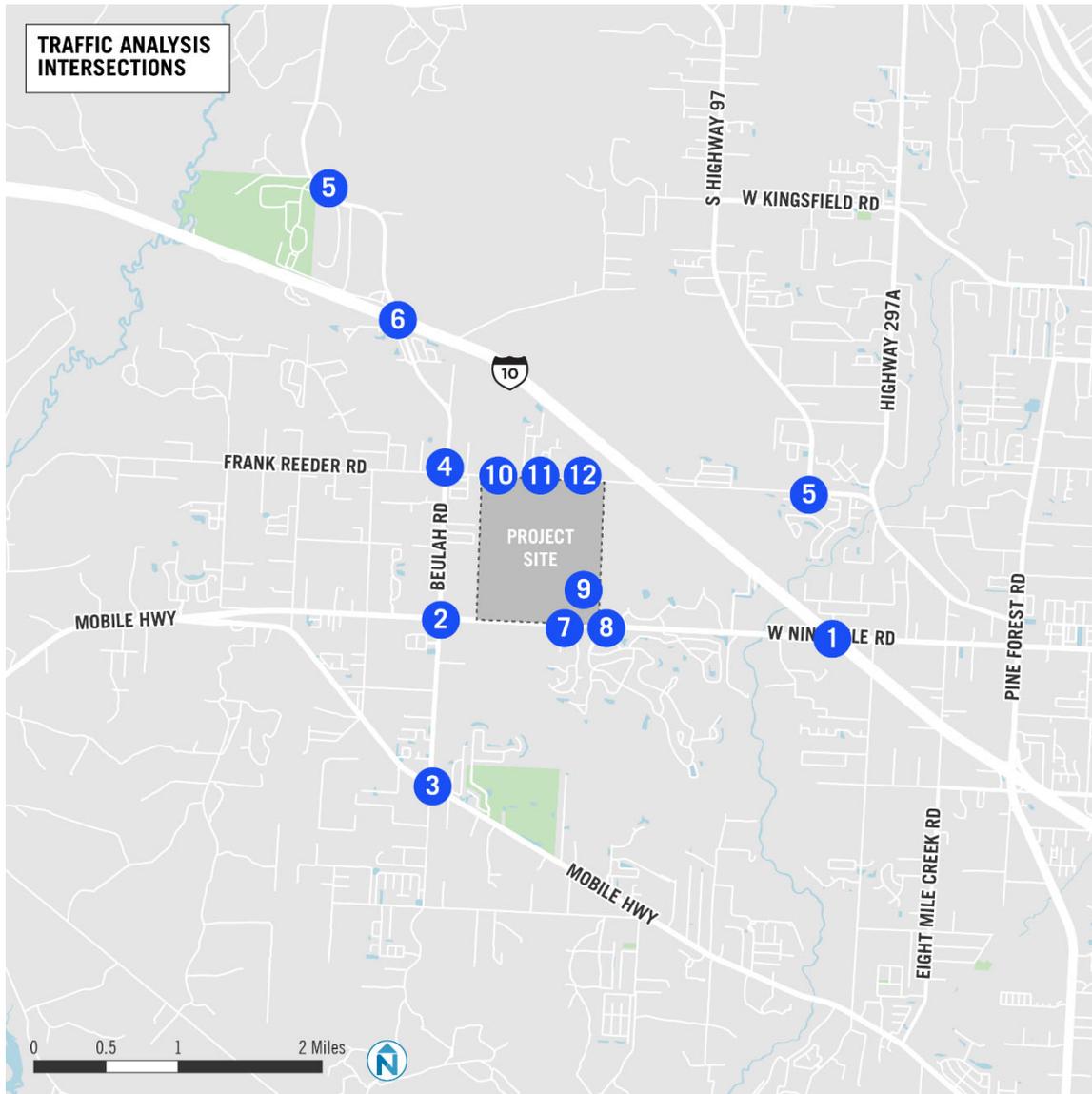
The amount of external traffic generated by the planned development is affected by a wide variety of factors including the mix of employment and residents, the overall size and density of the development, the internal connectivity for walking or driving among land uses, the availability of transit service, and the surrounding trip destinations. An empirically validated method of estimating vehicle trip generation at mixed-use developments was the result of the research. The model allows for predicting external vehicle trip reduction as a function of the mixed-use characteristics. Applying the external vehicle trip reduction percentage to “raw trips”, as predicted by ITE, produces an estimate for the number of vehicle trips traveling in or out of the site. To reiterate, the basis for this MXD+ model is the standard ITE trip generation rates and equations.

Traffic Volumes and new vehicle Trips Distribution and Assignment

- ***Future Base Line Conditions (2040)*** – Future traffic conditions considering traffic growth unrelated to OLF-8 for 2040. Traffic volumes during Peak Hours were defined applying an annual growth of 1.5% to the traffic volumes of the 2025 scenario in the Design Traffic Report of SR 8 (I-10) / CR 99 (Beulah Rd) Interchange.
- ***Future with Hybrid Plan (2040)*** – Traffic volumes were those of the Future Base Line Conditions scenario, plus the ones generated and attracted by OLF-8, calculated as indicated above. New external vehicle trips were distributed geographically based on the Longitudinal Employer-Household Dynamics of 2017, and assigned to each study intersection using PTV Vistro (see Figure 21).

⁴ The MXD+ has also been peer reviewed in the ASCE Journal of Urban Planning and Development (Journal of Urban Planning and Development, 137(3), 248-261), peer reviewed in a 2012 TRB paper evaluating various smart growth trip generation methodologies (Shafizadeh, Kevan et al. “Evaluation of the Operation and Accuracy of Available Smart Growth Trip Generation Methodologies for Use in California”), promoted in an American Planning Association Planning Advisory Service (Walters, Jerry et al. “Getting Trip Generation Right – Eliminating the Bias Against Mixed Use Development”), which recommended it for evaluating traffic generation of mixed-use and other forms of smart growth.

Figure 21 Traffic Analysis Intersections



Intersection operability

Intersection operations were analyzed at each of the study intersections and were assessed through two standard metrics, as described below, using Synchro 9:

- Intersection Level of Service:** Level of Service (LOS) grades intersection operations on an A-F scale. LOS A/B represents free-flowing traffic conditions with little to no delay at an intersection. LOS C introduces some delay but is still considered an effective intersection condition. LOS D introduces more delay per vehicle but is typically still considered an acceptable level of service for most roadway users. LOS E adds more delay and begins what most users feel are congested conditions. LOS F represents highly congested conditions and indicates that traffic levels are above the capacity of the roadway or intersection.

- **Delay per Vehicle:** This metric defines the delay, in seconds, that a vehicle will experience on average when passing through an intersection. Lower delay represents a more efficient intersection condition.

Parking Demand Analysis

This analysis develops its projected scenarios of potential future demand through past experience, Urban Land Institute (ULI) methodologies⁵, and context-specific ratios in a calibrated model that best approximates the conditions in the OLF-8 master plan. To more accurately model mixed-use environments, Nelson\Nygaard has developed an adapted parking model as described in the ULI Shared Parking Manual, plus applied context factors specific to the proposed development characteristics in the OLF-8 master plan. The step-by-step modeling process is as follows:

1. **Traditional Parking Demand Model:** Calculate and compare how much parking would be “required” if each existing land use had its own, dedicated supply of parking based on the Institute of Transportation Engineers’ (ITE) Parking Generation guidebook.
2. **Calibrate Parking Model to Context:** Calibration involves approximating the effect of factors specific to the proposed OLF-8 development area.
3. **Adapted Parking Model:** Apply an adapted parking model derived from the Urban Land Institute’s (ULI) Shared Parking Manual to show the expected parking demand throughout the course of an average weekday.
4. **Anticipated Land Use:** Add anticipated development scenarios and model the expected parking demand.

⁵ Urban Land Institute. Shared Parking Second Edition.

RESULTS

Trip generation

For the purposes of this analysis, the MXD+ reductions for internalization of person trips as well as external walking trips (both of which reduce vehicle demand generation) were calculated for daily, AM peak hour, and PM peak hour. The calculated MXD+ reduction rates for internal capture, walking, transit, and biking trips, are shown in Figure 22 and Figure 23, for Home-Based Work trips (HBW), Home-Based Non-Work trips (HBO), and for Non-Home-Based trips (NHB).

Daily HBO vehicle trips account for 75% of the total home-related external vehicle trips, while NHB account for 13% of the total external vehicle trips generated by OLF-8.

The average vehicle trip reduction for both internal capture and external trip capture by other modes is close to 10% for both Daily and Peak Hour trips, being the NHB trips those that would see the highest reduction, with close to 20% of external vehicle trip reduction. Those would be trips, for example, from the office to a nearby retail or restaurant.

On average, of the total HBW external vehicle trips generated by OLF-8, only 13% are related to the residential uses in the site. This percentage increases to 24% when referring to HBO external vehicle trips.

The results are conservative in the sense that they do not account for those that might reside in OLF-8 and work from home. As indicated in the Existing Conditions Assessment, the current commute mode share in Escambia County in 2018 was Drive Alone (74.2%), followed by those who Carpooled (11.2%) and those who Worked At Home (8.72%). However, they indicate that a percentage, while small, would walk, bike, or take transit, for their commute.

Figure 22 External Trip Reduction (Daily)

	Daily			
	HBW	HBO	NHB	Total
Baseline # of External Trips (ITE Model)	10,850	22,940	10,470	44,250
% External Trip Reduction (predicted by MXD Model)				
Internal Capture	2.1%	6.6%	17.3%	7.2%
Walking/Biking External	1.5%	1.7%	0.9%	1.6%
Transit External	0.6%	1.0%	1.8%	1.0%
Total trip reduction	4.3%	9.4%	20.0%	9.9%
Adjusted # of External Trips	10,390	20,830	8,430	39,640

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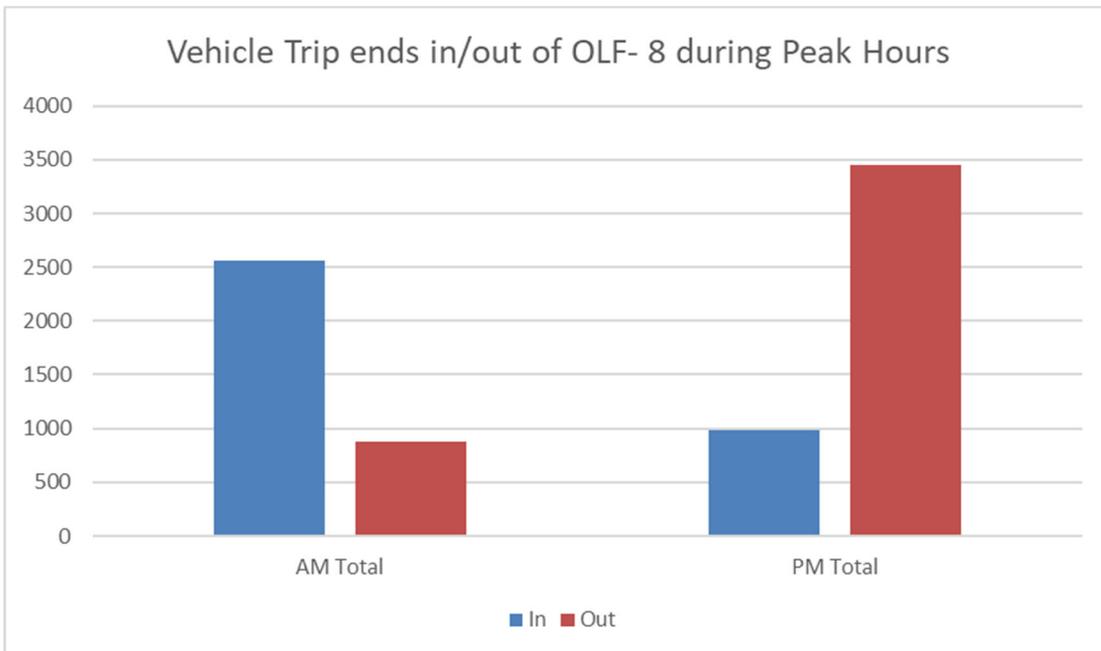
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Figure 23 External trip reduction (AM and PM Peak Hour)

	AM Peak Hour				PM Peak Hour			
	HBW	HBO	NHB	Total	HBW	HBO	NHB	Total
Baseline # of External Trips (ITE Model)	2,210	1,300	190	3,690	1,650	2,070	1,230	4,940
% External Trip Reduction (predicted by MXD Model)								
Internal Capture	2.1%	6.6%	17.3%	5.0%	2.1%	6.6%	17.3%	7.0%
Walking/Biking External	1.5%	1.7%	0.9%	1.6%	1.5%	1.7%	0.9%	1.6%
Transit External	0.6%	1.0%	1.8%	0.9%	0.6%	1.0%	1.8%	1.0%
Total trip reduction	4.3%	9.4%	20.0%	7.4%	4.3%	9.4%	20.0%	9.6%
Adjusted # of External Trips	2,120	1,180	150	3,440	1,580	1,880	990	4,440

Given the mix of uses and the anticipated jobs that the site will create, external vehicle going in the site are higher during the AM (for commute purposes), and vice versa in the PM. Residential uses general traffic in the opposite direction. PM Peak Hour will see higher traffic volumes in and out, due partially to the retail uses. See Figure 24.

Figure 24 External Vehicle trips in/out of OLF-8 during Peak Hours



Traffic Analysis

The Traffic Analysis goal is to understand how key intersections in the adjacent road network will operate because of the development of this Master Plan.

Level of Service and Vehicle Delay

The Level of Service (LOS) and vehicle delay were calculated for each study intersection for the AM and PM peak hours (7:15am-8:15 am and 4:15-5:15 pm) using guidelines laid out in the Highway Capacity Manual, 2010 (HCM 2010). Analysis was conducted in the Synchro 9 microsimulation software, and results are provided in the table below. Signal phasing have been optimized in both scenarios to optimize intersection operations. In addition, the geometry of some intersections in the scenario with project have been modified. An example is the Beulah Rd and Frank Reeder Rd intersection, where a 200ft WB left turn pocket was added on Frank Reeder Rd.

While traffic volumes will increase significantly in 2040 in relation to the existing traffic volumes, it is anticipated that most intersections operate at an acceptable LOS in the Future Base Line scenario for 2040, except from 9-mile Rd and Bell Ridge Dr during the AM Peak Period, as it is modelled as a stop-controlled intersection (see

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Figure 25). This intersection improves its level of services once signalized, as indicated in the Future Hybrid Plan 2040 scenario (see Figure 28). With the Master Plan fully developed, results show that there will be operational problems during both the AM and PM peak hours at Frank Reeder Rd and New Project Access #2 if designed as a stop-controlled intersection, as well as at the Beulah Rd & Frank Reeder Rd and I-10 WB Ramp & Beulah Rd, during the PM Peak period.

Overall, the new design of the I-10 and 9-Mile Rd interchange improve its operability in regard to the Existing Conditions, despite the significant increase of traffic in the Future scenarios.

Synchro reports are available in **Appendix C**.

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Figure 25 Intersection Analysis Results – Future Base Line Scenario

ID	Intersection Name	Future 2040 Conditions		
		Intersection Control	LOS and Delay (s) – AM Peak	LOS and Delay (s) – PM Peak
1a	I-10 EB Ramp & 9-Mile Rd	Signalized	B (10.1)	B (11.5)
1b	I-10 WB Ramp & 9-Mile Rd	Signalized	B (12.1)	B (12.0)
2	Beulah Rd & 9-Mile Rd	Signalized	C (34.8)	C (25.1)
3	Beulah Rd & Mobile Hwy	Signalized	C (33.3)	C (32.9)
4	Beulah Rd & Frank Reeder Rd	Side-Street Stop Control (EB/WB)	B (12.0)	B (11.8)
5	Beulah Rd & Beltway	Signalized	C (20.6)	D (52.2)
6a	I-10 EB Ramp & Beulah Rd	Signalized	C (25.4)	C (24.6)
6b	I-10 WB Ramp & Beulah Rd	Signalized	C (30.6)	B (19.8)
7	9-Mile Rd and Bell Ridge Dr	Side-Street Stop Control (NB)	F (149.5)	B (14.1)
8	9-Mile Rd and Foxtail Loop	Side-Street Stop Control (NB)	C (16.3)	B (11.1)
9	9-Mile Rd and New Project Access #1			
10	Frank Reeder Rd and New Project Access #2			
11	Frank Reeder Rd and Boxelder Blvd	Side-Street Stop Control (SB)	A (8.8)	A (8.6)
12	Frank Reeder Rd and New Project Access #3			

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Figure 26 Intersection Level-of-Service | 2040 AM Peak

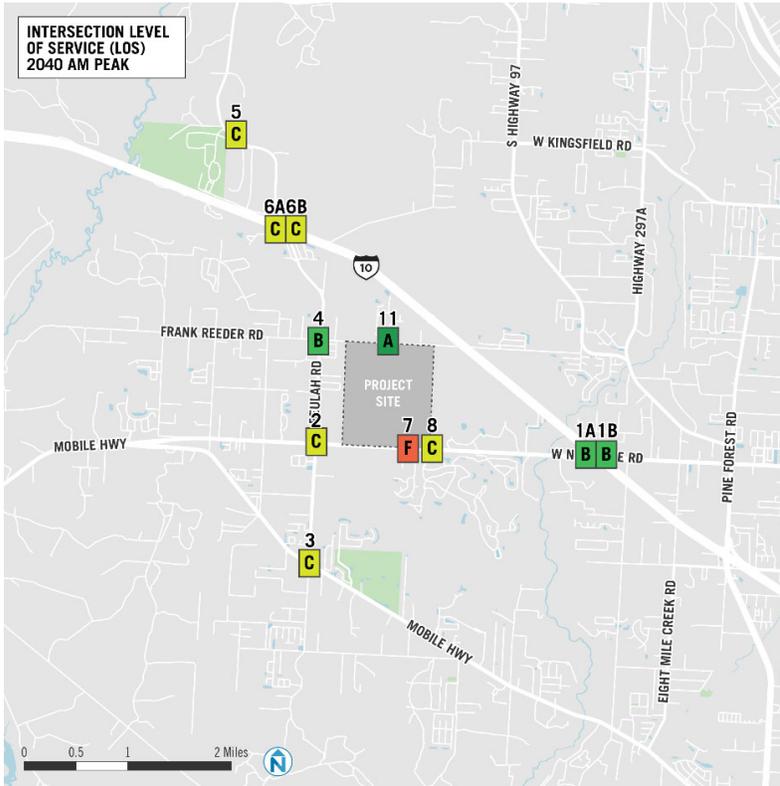
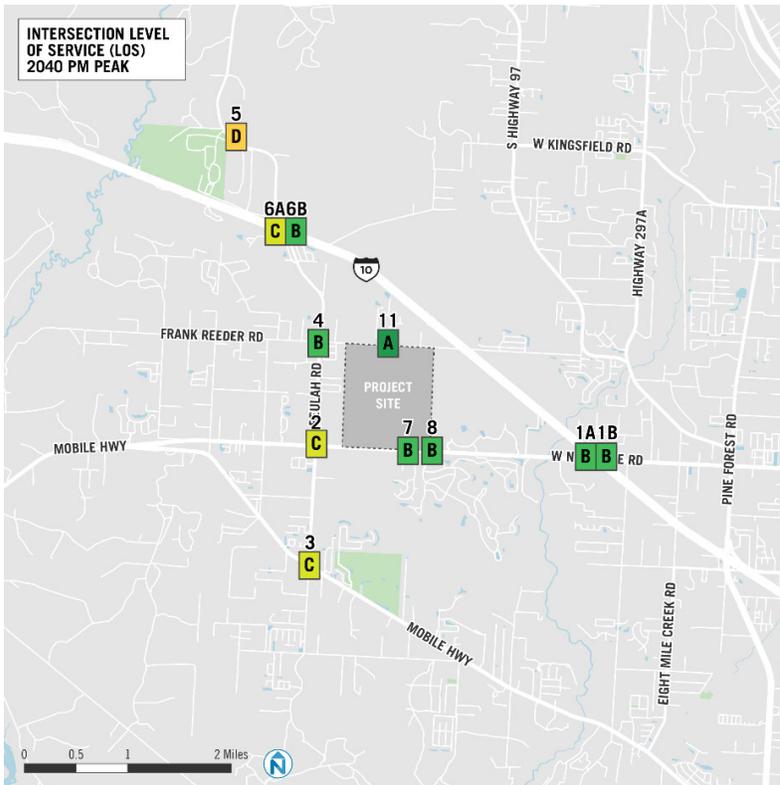


Figure 27 Intersection Level-of-Service | 2040 PM Peak



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Figure 28 Intersection Analysis Results – Future with Hybrid Plan Scenario

		Future 2040 with Project Conditions		
ID	Intersection Name	Intersection Control	LOS and Delay (s) – AM Peak	LOS and Delay (s) – PM Peak
1a	I-10 EB Ramp & 9-Mile Rd	Side-Street Stop Control (SB)	B (19.6)	B (18.0)
1b	I-10 WB Ramp & 9-Mile Rd	Signalized	B (19.2)	B (19.1)
2	Beulah Rd & 9-Mile Rd	Signalized	D (43.1)	C (26.8)
3	Beulah Rd & Mobile Hwy	Signalized	D (35.3)	C (34.5)
4	Beulah Rd & Frank Reeder Rd	Signalized	D (44.9)	E (66.8)
5	Beulah Rd & Beltway	Signalized	D (43.1)	E (69.8)
6a	I-10 EB Ramp & Beulah Rd	Signalized	D (38.7)	D (44.3)
6b	I-10 WB Ramp & Beulah Rd	Signalized	C (32.0)	E (56.6)
7	9-Mile Rd and Bell Ridge Dr	Signalized	B (10.7)	B (19.1)
8	9-Mile Rd and Foxtail Loop	Side-Street Stop Control (NB/SB)	B (12.7)	C (16.8)
9	9-Mile Rd and New Project Access #1	Signalized	A (9.3)	A (9.4)
10	Frank Reeder Rd and New Project Access #2	Side-Street Stop Control (NB)	F (65.7)	E (35.3)
11	Frank Reeder Rd and Boxelder Blvd	Signalized	B (10.9)	C (23.1)
12	Frank Reeder Rd and New Project Access #3	Side-Street Stop Control (NB)	B (12.1)	B (12.2)

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Figure 29 Intersection Level-of-Service | 2040 AM Peak with Project Conditions

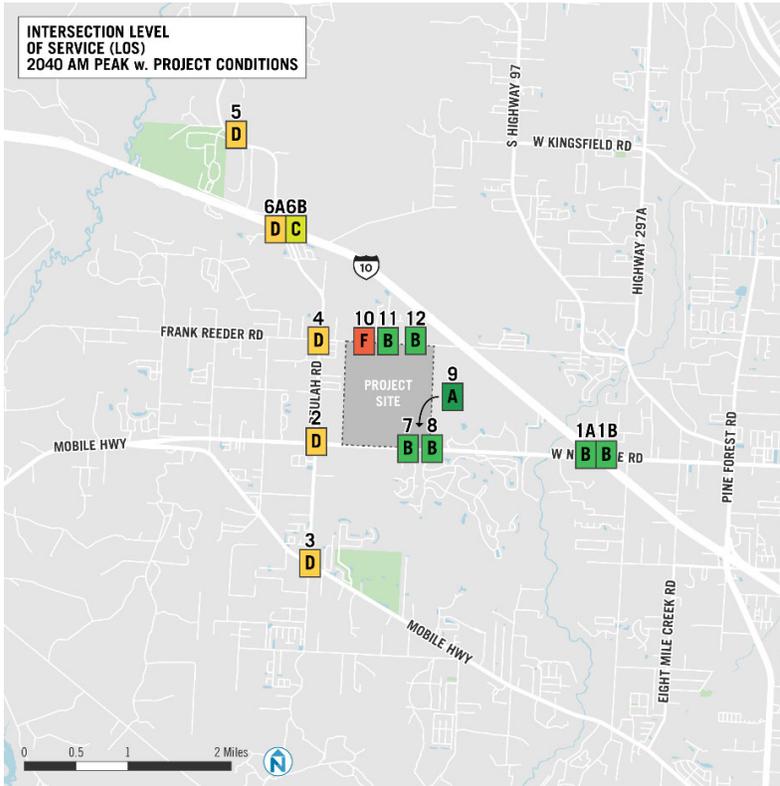
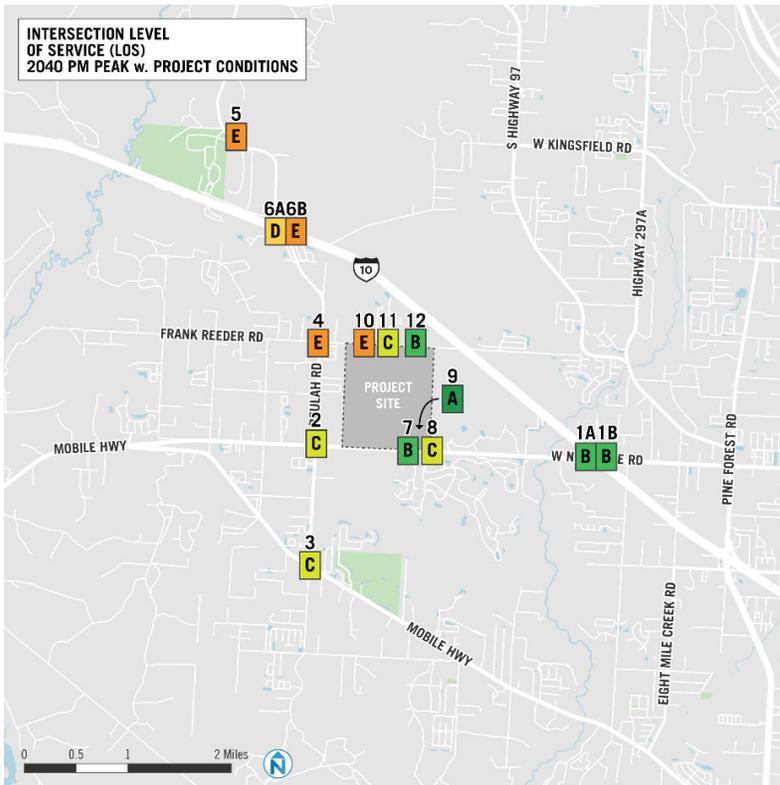


Figure 30 Intersection Level-of-Service | 2040 PM Peak with Project Conditions



Parking Demand Projections

The following table in Figure 31 summarizes the cumulative model outputs for each land use in the OLF-8 development framework. The low and high demand figures are defined as follows:

- Low – the “Low” demand level output of the adapted model factors in conservative adjustments for TDM and the conditions of the mobility environment.
- High – the “High” demand level is the output of the ITE-based Traditional Demand Model without any alterations.

The maximum projected parking supply level for each land use is shown in **bold** in Figure 31.

Figure 31 Projected Peak Parking Demand and Optimal Supply Targets, by Land Use

Land Use	Projected Peak Demand		Projected Optimal Supply (Max Peak + 10%)	
	Low	High	Low	High
Residential				
Weekday	1430	1430	1573	1573
Weekend	1335	1369	1469	1506
Office				
Weekday	2003	2100	2203	2310
Weekend	Not Available	Not Available	Not Available	Not Available
Industrial/Commerce				
Weekday	1312	1375	1443	1513
Weekend	Not Available	Not Available	Not Available	Not Available
Educational				
Weekday	165	175	182	193
Weekend	Not Available	Not Available	Not Available	Not Available
Retail				
Weekday	468	487	515	536
Weekend	698	727	768	800

The parking demand-pattern profile for weekdays and weekends can be found in Figure 32 and Figure 33. The weekday demand profile shows that demand will peak in the 9am-11 and 1pm-3pm range at about 4,500 vehicles. On weekends demand will remain relatively flat at around 1400-1600 vehicles due to the likelihood that demand from industrial, office, and education will be minimal to non-existent.

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Figure 32 Weekday Parking Demand Profile (Low Demand Level)

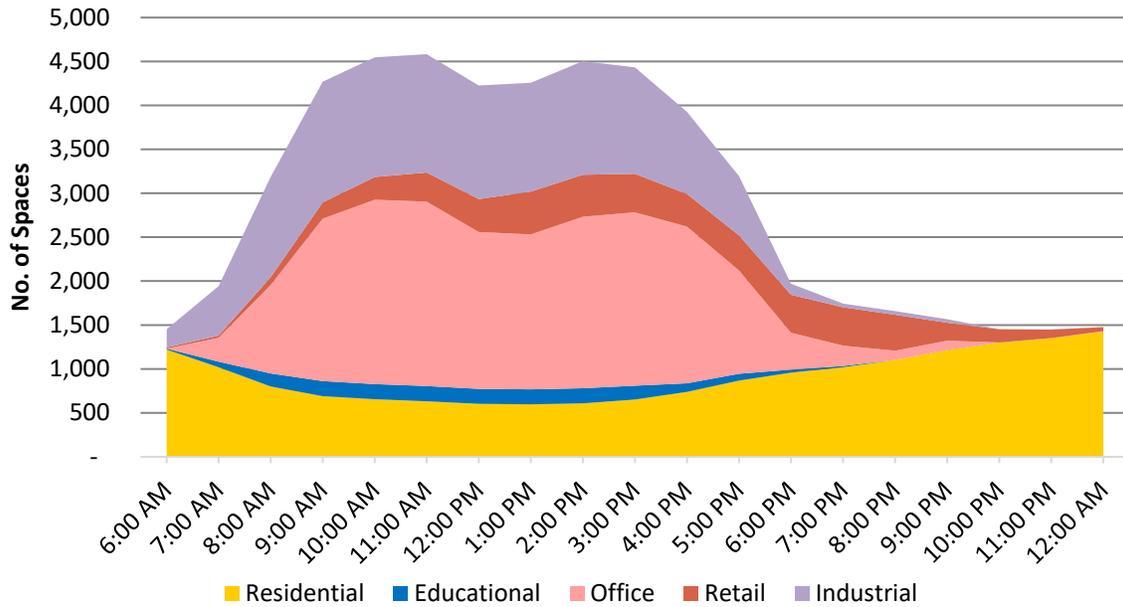
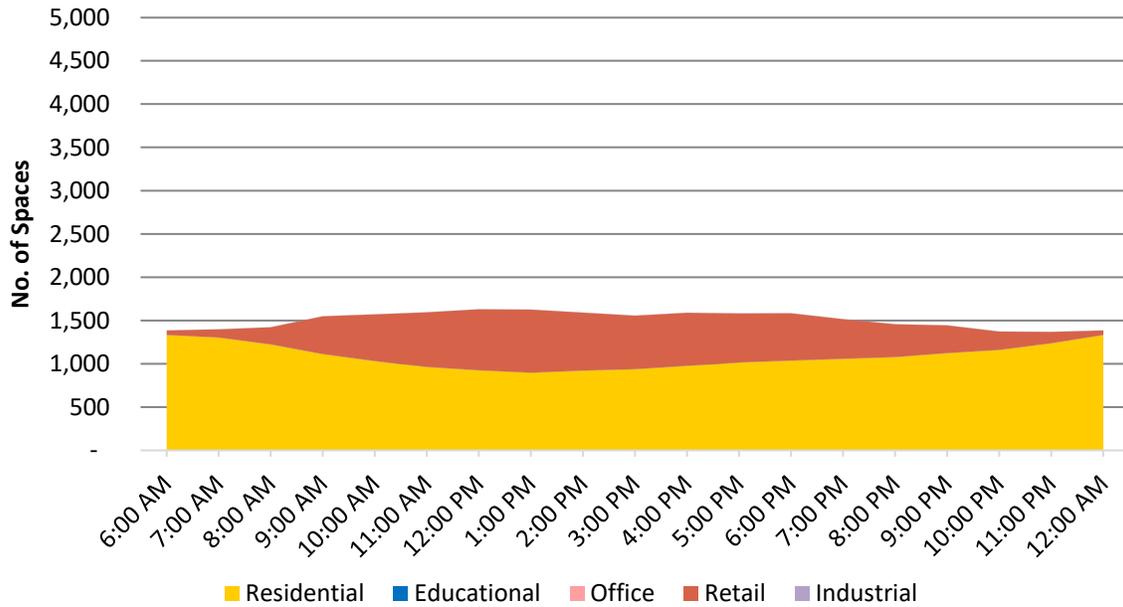


Figure 33 Weekend Parking Demand Profile (Low Demand Level)



5 IMPLEMENTATION RECOMMENDATIONS / STRATEGIES

The Vision proposes a comprehensive multi-modal plan to seamlessly connect OLF-8 to the larger regional transportation network. The proposed street grid and capital infrastructure investments will provide the right mobility options for OLF-8 employees, residents, and visitors via clean, safe, and reliable methods.

TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management, or TDM, consists of strategies that optimize available services and infrastructure by encouraging travel by more space-efficient modes (mass transit, bicycling and walking), shifting car trips to non-peak hours of the day (flexible schedules), or avoiding vehicular trips altogether by mixing land uses and/or employing technology (telecommuting). **TDM strategies are typically more cost-effective than capital investments in increased roadway or parking capacity.**

TDM is not meant to be a one-size-fits-all solution. Rather, a variety of strategies specific to the context combined to reduce congestion. **The most successful projects utilize a combination of bicycling, walking, transit, driving, parking, and programming strategies.** By working together with public agencies in Escambia County, OLF-8 future tenants can utilize existing resources and expertise to help them reach their TDM objectives. Some of the more common objectives of TDM programs may include:

- Creating a more active site by providing alternative transportation options to SOV to residents, visitors and employees to increase the site attraction.
- Reducing costs associated with providing parking on site.
- Reducing the physical impact of parking facilities on site.
- Reducing stakeholder concerns regarding growth; and
- Meeting sustainability goals.

Supply-Side Strategies

- **Integrate walking, biking, and transit infrastructure** in the internal street network to encourage safe walking and biking, and the use of transit to access the site, as well as within the stakeholders. Employers should offer amenities such as lockers and showers, as well as secure bike parking, to encourage walking and biking to work. Similarly, the new school should be equipped with covered bike parking to encourage students to bike to school.
- **Hire traffic control agents to speed up loading at the new school.** Traffic agents are commonly used to speed loading activities at busy destinations. Hiring traffic agents to facilitate faster loading – and preventing vehicles from lingering during peak times – may help mitigate potential congestion caused by parents picking up or dropping off students.

- **Encourage shared parking agreement** among tenants of different uses that are proximate one with another to prevent over-supply of parking:
 - Compensation in the form of increased lot maintenance, lot improvements, added security, etc.
 - If needed, restrict access to shared parking spaces, via permits, to area employees to reduce risk and increase accountability.
 - Defining any added security or enforcement measures necessary to ensure that the primary uses of the lot are prioritized.

Demand-Side Strategies

Because of OLF-8's geographic location, and the lack of bike, pedestrian, or transit connections to key destinations in Escambia County, the range of viable transportation demand management (TDM) strategies is limited in the short-term. Short-term strategies focus on optimizing access by establishing low-investment, high-impact policies and programs using current campus resources. The most significant of these is the administration of a Transportation Impact Fee on all future development at OLF-8, a critical strategy to finance transportation improvements that will enable OLF-8 to mature into a balanced, mixed-use development with a robust menu of mobility options.

SHORT-TERM STRATEGIES

- **Establish a Transportation Impact Fee (TIF) to finance Access Authority and longer-term access improvements.** Create a formalized process to calculate and administer a TIF for all future development at OLF-8. TIFs are calculated by evaluating the anticipated trip generation of each development, according to land use and other factors. Other approaches calculate fees based on the vehicle miles traveled (VMT) of each new development, a more precise measure of the developments' relative contribution to campus congestion. Fees are typically expressed in terms of dollars per square foot of development and may vary according to land use categories, as land use categories typically generate vehicle trips at different rates. Revenues generated by a TIF are crucial to financing long-term TDM strategies as well as an Access Authority to implement them. An Access Authority, also known as a Transportation Management Association (TMA) or Transportation Management Organization (TMO) is an organized, non-profit organization that manages and implements TDM programs for a specified campus or district on behalf of a group of tenants.
- Coordinate with nearby existing employers to **shuttle employees from certain locations**. Navy Federal currently runs a shuttle program, and new tenants could contribute with the service, offer an alternative mode to the employees, and reduce parking demand.
- **Set up Guaranteed Ride Home program for all employees.** OLF-8 should set up a Guaranteed Ride Home program for employees who carpool, walk, bike, or ride transit to work. A long-standing, effective TDM strategy, Guaranteed Ride Home (GRH) programs provide transportation when typical means are not available to employees returning home off of their normal schedule. This employer or association- provided benefit allows for a set amount

of free taxi rides or use of car share vehicles for unplanned trips home that cannot be accommodated by the employee’s normal commute mode.

- **Encourage carpools among employees and visitors.** Key strategies for increasing rideshare commuting include the following:
 - **Ride-matching platform:** Drive-alone trips can be greatly reduced by organizing a ride-matching service within the community to help motorists identify potential driving companions.
 - **Use incentives to reward carpools:** Transportation management platforms like Ride Amigos or Luum offer highly effective tools for campus affiliates to track their commutes, find carpool ride-matches, and win cash-based incentives for the non-drive-alone trips they log. Subsidies as small as \$5 per week can be effective in persuading employees who currently drive alone to OLF-8 to carpool. There are “offline” alternatives to these platforms as well – many institutions hold regular raffles or prize drawings to reward registered carpools.
 - **Dedicate preferential carpool parking:** Reserving the most desirable parking spaces for the most space-efficient car-commuters has proven effective in encouraging carpooling among employees, particularly where parking demand increases the chances of non-carpool commuters having to park far from their destination.
 - **Create “express drop-off” for carpooling users in the new school.** Families that carpool with two or more students in the vehicle should be rewarded with a shorter, more direct loop that minimizes time spent queuing.
- **Explore options with employer TNCs to operate employee carpools.** In recent years, several transportation network companies (TNCs) such as CarpooltoSchool,⁶ Kango,⁷ Zum,⁸ and HopSkipDrive⁹ have begun offering ride-hailing and carpool ride-matching services geared specifically for employees transportation needs. Shared TNCs rides could help to reduce traffic volumes, and parking demand.

LONG-TERM STRATEGIES

- **Create an Access Authority to administer and support key TDM programs.** The OLF-8 Master Plan implementation of a balanced, multimodal transportation system depends on the combined efforts of OLF-8 stakeholders to invest in transportation demand management programs in tandem with its investments in parking and roadway infrastructure. The Mobility Plan recommends that OLF-8 establish an Access Authority to facilitate the sharing of stakeholder resources and program administration functions necessary to implement the joint transportation vision. Access Authorities are generally non-profit, member-controlled organizations that provide transportation services in a

⁶ <https://www.carpooltoschool.com/about-us/>

⁷ <https://www.kangoapp.co/>

⁸ <https://ridezum.com/>

⁹ <https://www.hopskipdrive.com/school-transportation/>

particular area, such as an industrial park, medical campus, or business district. They are often public-private partnerships, consisting primarily of area businesses and institutions, with local government support. The growth of these organizations in the last 25 years stems from the knowledge that businesses, developers, building owners, and government entities can be more effective when working together to address local transportation problems and developing solutions and strategies collaboratively.

As of September 2018, there are more than 145 Access Authorities (or similar organizations) in the U.S., which range in size, scope, and structure. While they differ in services offered, funding mechanisms, and memberships and partnerships, the primary mission of most is to increase mobility, reduce the share of trips made by single-occupancy vehicle, and enhance access to major activity centers for those who work, reside, shop, and commute into and within the district's boundaries. Collaborative organizations can implement programs and services to address traffic and parking challenge. Access authorities provide a range of TDM programs and services to help maximize the effectiveness of the campus transportation network and reduce the impacts of that network to all stakeholders. Some of the most common TDM programs and services managed by access authorities include:

- Shuttle services (local circulators and from park & rides).
- Rideshare matching.
- Vanpool programs.
- Guaranteed ride home programs.
- Sales of and discounts on transit tickets/passes.
- Parking management.
- Bike parking, showers, and lockers.
- Marketing for alternative commute modes; and
- Employee transportation coordinator training.

We recommend using funding from the TIF to finance and staff the Access Authority; some federal and state funding sources may also be available to create and maintain Access Authorities, though the absence of state/local legislation requiring TDM programs makes this pursuit less promising. Access authorities for developments the size of OLF-8 typically employ one full-time staff, often a Transportation Coordinator and a support staff person.

The Access Authority will be responsible for implementing and managing the following TDM programs in the long-term:

- **Work with stakeholders to develop a customized carpool ride-matching platform for employees, residents and visitors.**
- **Work with stakeholders to conduct annual TDM education activities.**
- **Conduct annual travel surveys along with summary report showing changes over time,** by regularly collecting data on how affiliates travel to, from, and within campus, typically through travel surveys. These

data collection efforts are essential to evaluating the success or failure of various TDM programs.

- **Provide subsidies for carpool riders who use on-demand carpool platforms.** The Access Authority should reward carpool riders with subsidized rides using on-demand carpooling platforms like Waze Carpool or Scoop, or Carpoolworld¹⁰, if or when these platforms become available in Pensacola.¹¹ These subsidies could be awarded to any employees as an incentive to reduce drive-alone commuting by carpooling on-demand. The Palo Alto TMA operates a successful partnership with Scoop, offering riders \$1 rides to and from select zones. This partnership has enrolled more than 200 registered users and hopes to reach 400 by 2020.¹²
- **Explore transit service partnerships with Escambia County Area Transit.** While OLF-8 does not currently have direct access to fixed-route services serving the site, this is likely to change as the site is developed and its travel demand increases. The Access Authority should leverage funding from the TIF to offset Escambia County Area Transit’s operating costs of a new or modified route with direct service to OLF-8. This arrangement is a kind of public-private partnership that has been successfully implemented in the Seattle metropolitan area for many years to provide fixed-route transit in hard-to-serve areas. King County Metro, the region’s largest transit agency, operates an additional 130,000 service-hours through its service partnership program “Transit Now,” 30% of which is contributed by employers and local municipalities.¹³
- **Distribute Universal Transit Passes.** Going beyond assisting employees with pre-tax purchases or even direct subsidies of transit passes; the concept of the universal transit pass offers transformational TDM potential by drastically reducing the cost of transit commuting. The principle of these bulk-purchased passes is similar to that of group insurance plans – transit agencies can offer deep bulk discounts when selling passes to a large group with universal enrollment because not all those offered the pass will actually use them regularly. In response to the potential revenue/ridership benefits offered by this TDM strategy, a growing number of transit agencies have teamed with cities, employers, university campuses and neighborhoods, and even entire commercial/mixed-use districts to provide transit pass programs. Studies have linked universal transit passes to reductions in car mode shares of between 4% and 22%, with an average reduction of 11%. Many of these reductions have occurred in areas with very limited transit service.

¹⁰ <https://www.carpoolworld.com/carpool.html?to=Pensacola&wc=USA,US&ws=FL&lat=30.4204410&lon=-87.2171480>

¹¹ As of September 2018, Waze Carpool is available to anyone living and working in Texas and 12 other states. Scoop is available through negotiated agreements to private employers in some states.

¹² Sheyner, Gennady. 2018, March 14. “Nonprofit Revs up Efforts to Reduce Traffic.” Accessed September 26, 2018. <https://www.paloaltoonline.com/news/2018/03/14/palo-alto-nonprofit-revs-up-efforts-to-reduce-traffic>.

¹³ <https://www.kingcounty.gov/transportation/kcdot/MetroTransit/TransitNow/Partnerships.aspx>

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- **Create an on-demand shared service to connect OLF-8 with nearby destinations.** This could be a branded electric vehicle, like those offered by hotels to bring customers to the airport and other destinations. The service could be funded by all tenants or through a TIF and coordinated by the TMA. Some of the benefits would be to provide an alternative transportation service to those residing in OLF-8 with mobility constraints, as well as to those living beyond the walkshed without access to a private vehicle or far from transit.
- **Create a branded shared micromobility service, such as e-bikes or e-scooters, to move around OLF-8.** This could be available to residents and employees, and managed by the TMA, and would provide an alternative to move within the site and cover the first-last mile to transit.

WALKING

SHORT-TERM STRATEGIES

- Build a connected sidewalk network within the site, as well as in the adjacent roads, that connect OLF-8 with the nearby residential subdivisions, retail areas, and employers, such as Navy Federal. The sidewalk network should be designed as specified in the Street Classification chapter.
- On the OLF-8 site, integrate pedestrian-oriented directional signage pointing towards key areas (school, green areas, trails, retail), with approximate walking time, specifically calling out ADA-accessible routes and access points.
- Require curb extensions (or refuge pedestrian islands) at all crosswalks spanning more than two total lanes of traffic.

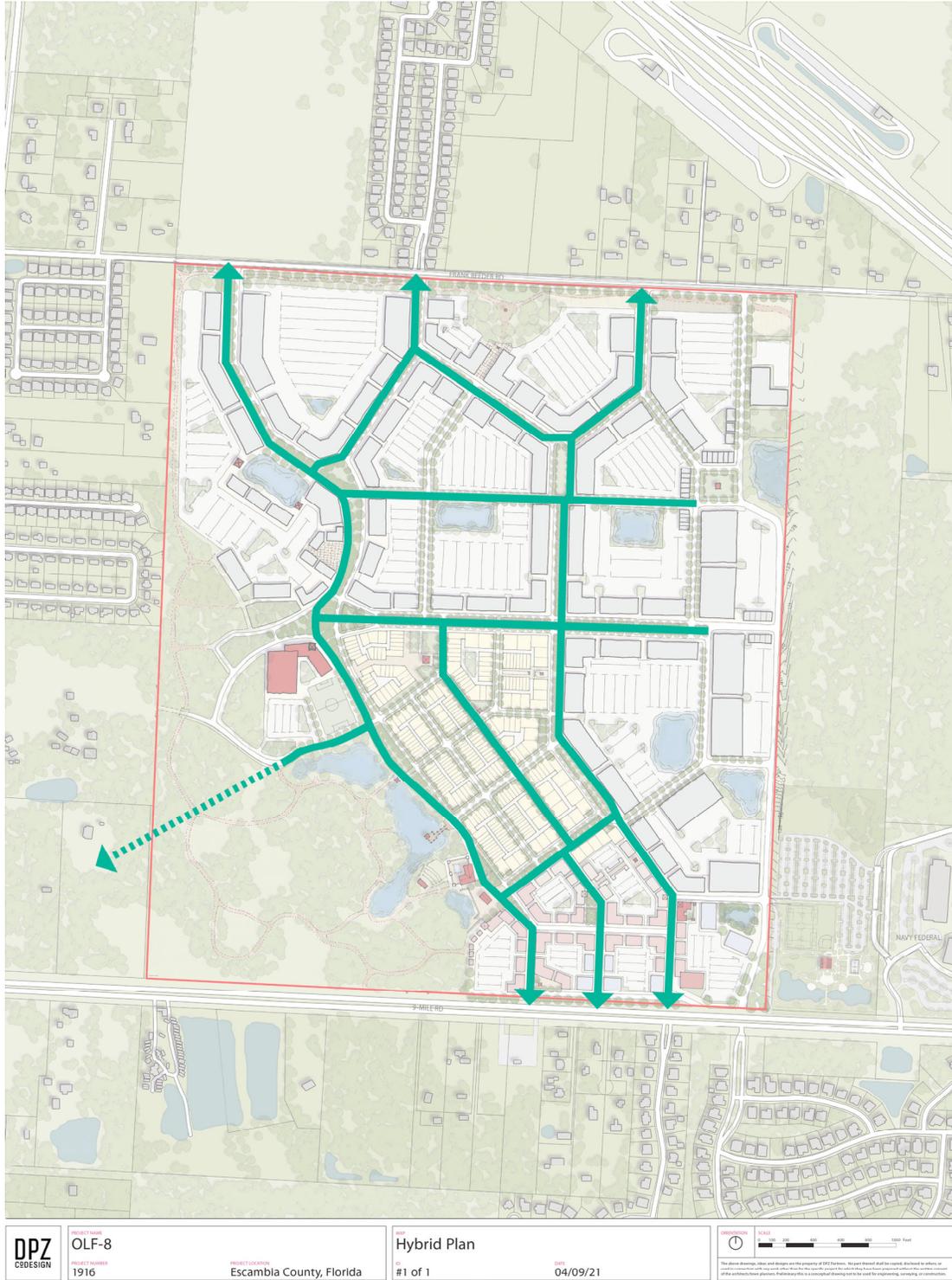
BICYCLING

SHORT-TERM STRATEGIES

- Build a connected bicycle network within the site and one that completes the “desire lines” between OLF-8 and the nearby key destinations such as residential subdivisions, Navy Federal, retail areas at Beulah Rd intersections (Figure 34).
- Develop separated pathways and bike specific facilities to increase overall safety.
- Provide at least one bike repair shop and consider a shared bike program for residents and employees.
- Consider adding bicycle parking requirements and design guidelines to covenants, conditions, and restrictions (CC&R’s), following best practices established by the Association of Pedestrian & Bicycle Professionals (APBP).
- Require bicycle amenities to be provided in employment centers (showers, lockers, covered bike racks).

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Figure 34 Planned Internal Bicycle Network



EMERGING MOBILITY

Emerging mobility and its impact on the OLF-8 site in the future is unknown with the continued growth of new services like bicycle share programs, e-bikes, e-trikes, micro shuttles, automated vehicles, and ride-hailing services, but can be planned for by considering risks and weighting them against future integrated mobility investments in a comprehensive manner. Impactful strategies start with programming for flexibility of use and allowing for an uncertain future. Mobility hubs and adaptable design will be key to this approach.

SHORT-TERM STRATEGIES

- Adopt flexible curb loading zones that work for passengers and consider policies that control usage by ride hailing services, micro shuttles and courier network services/package delivery, to limit conflicts with active modes
- Adopt a park-once district as a natural extension of the Mobility hub programming and services that *expand the area served by parking facilities* by providing on-site first-/last-mile options and by strategically locating parking supplies and encouraging sharing, we can:
 - Intercept drivers and encourage them to walk/transfer to final destination
 - Activate the streets and support a pedestrian friendly environment; and
 - Increase exposure to the site activities
- The risks associated with over-building parking are set to escalate significantly, as disruptive technologies and service innovations, primarily in the arena of” shared mobility” (or “emerging mobility” among other terms) push US travel preferences toward what many expect to be a profound paradigm shift. To prevent the potential of vacant parking spaces in future, parking infrastructure such as the following should be considered:
 - Parking resources designed to serve areawide needs (potentially in the context of a shared parking district), securing underutilized sites to temporarily serve as surface lots (prior to redevelopment); and,
 - “Adaptable” parking facilities which are designed and built to be repurposed for non-parking uses (such as data centers, offices, or apartments) within a 10-year window.

LONG-TERM STRATEGIES

- Adopt/implement Mobility Hub design that encourages and supports activity and facilitates the seamless transfer between modes. Mobility Hubs are places of connectivity that provide an integrated suite of mobility services, amenities, and technologies to bridge the distance between transit/parking and an individual’s origin or destination. In OLF-8, that could be an option in the southeastern area, where dense mixed-use is expected. In addition, if transit serves, the area, that could be a point where additional services, such as shared (e)bikes or (e)scooters could be provided to access other locations within the site. Similarly, as the

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Master Plan is developed, an internal shared shuttle service or a shared micromobility service (such as an electric shared vehicle), could serve the site from there.

Figure 35 Example of a Mobility Hub

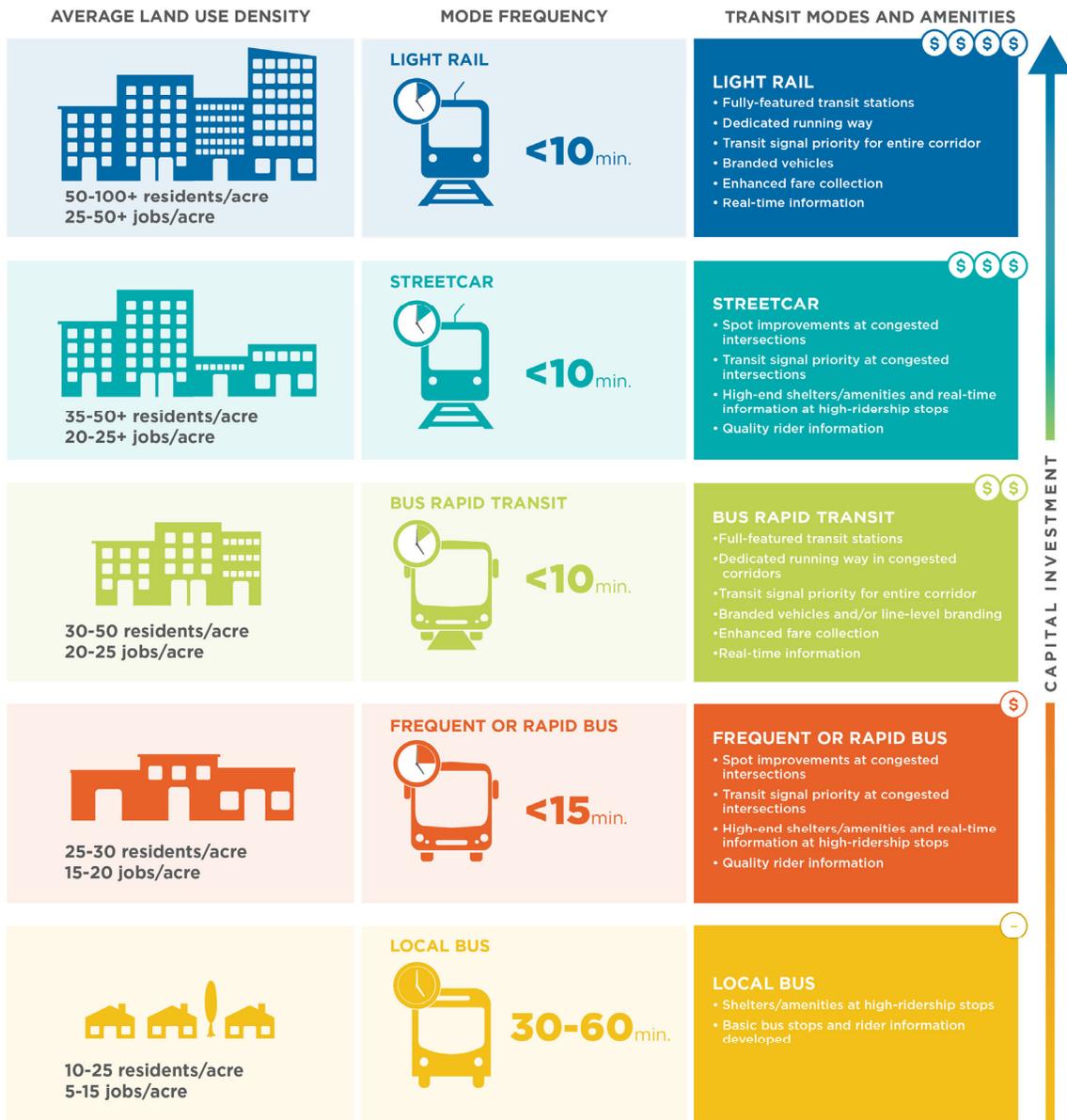


TRANSIT

SHORT-TERM STRATEGIES

The transit route could be one or several extensions of the existing bus routes operated by Escambia County Area Transit. According to the job and residents' density, it is recommended that the site is served by a bus route, with 30' to 60' frequency, and that stops are equipped with shelters at key locations. See Figure 36.

Figure 36 Transit Mode per Average Land Use Density



STREET DESIGN

The street network proposed in the Plan is intended to work well for people driving, bicycling, and walking. The street network would be comprised broadly of five different street designs implemented across 14 street types. These designs place varying emphasis on different uses, with some prioritizing vehicle movement and others prioritizing the creation of a comfortable and safe pedestrian environment.

Figure 37 depicts the assignment of five street designs within the proposed street network. The street designs assigned to the network include:

- **Primary Town-Center Streets:** Bidirectional streets intended to accommodate moderate speeds and volumes of vehicles, bicycles, people walking, and on-street parking or other parking lane uses.
- **Primary Commercial Streets:** Bidirectional streets intended to accommodate moderate speeds and volumes of vehicles, bicycles, people walking, and on-street parking.
- **Secondary Industrial Streets:** Bidirectional streets intended to accommodate low-speed and low-volume large vehicle traffic, on-street parking, and people walking.
- **Secondary Residential Streets:** Bidirectional streets intended to accommodate low-speed low-volume vehicle traffic, bicycles, people walking, and limited on-street parking.
- **Tertiary Streets:** Bidirectional streets intended to provide connectivity in less developed areas for low-speed low-volume vehicle traffic and people walking.

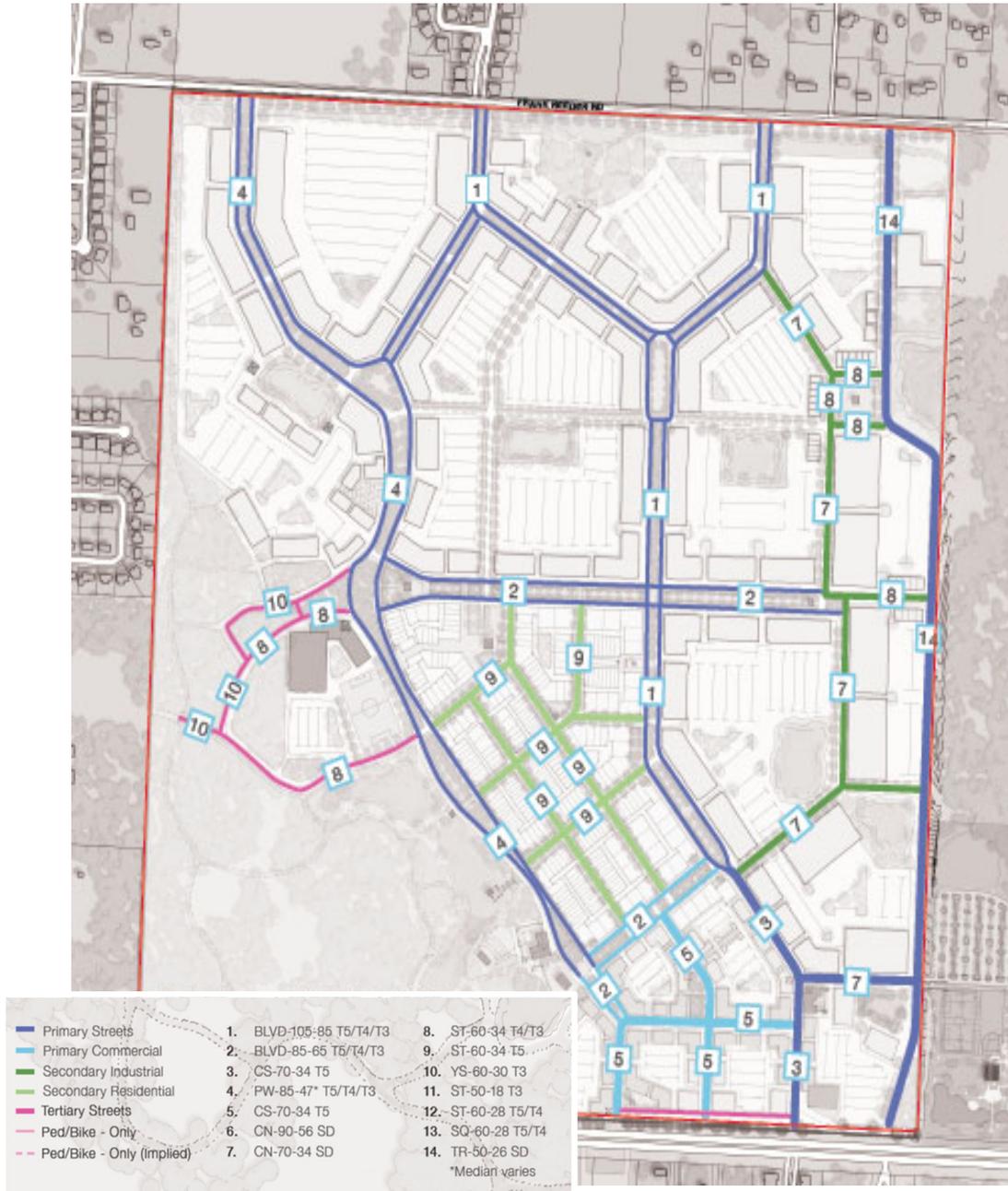
These five designs will be adapted and implemented across different street types, as identified in Figure 37. These street types have been designated according to their functionality and width as follows:

- Boulevard (BLVD) | 105' right-of-way | 85' curb-to-curb width
- Boulevard (BLVD) | 85' right-of-way | 65' curb-to-curb width
- Commercial Street (CS) | 70' right-of-way | 34' curb-to-curb width
- Commercial Street (CS) | 90' right-of-way | 56' curb-to-curb width
- Street (ST) | 60' right-of-way | 34' curb-to-curb width
- Street (ST) | 60' right-of-way | 28' curb-to-curb width
- Street (ST) | 50' right-of-way | 18' curb-to-curb width
- Parkway (PW) | 85' right-of-way | 47' curb-to-curb width
- Yield Street (YS) | 60' right-of-way | 28' curb-to-curb width
- Square (SQ) | 60' right-of-way | 28' curb-to-curb width
- Truck Route | 50' right-of-way | 26' curb-to-curb width

These five designs are described in further detail below. The designs depicted are intended to be flexible within the parameters of the OLF-8 street widths. Designs present standard street configurations for different purposes that will be modified according to the width of each OLF-8 street.

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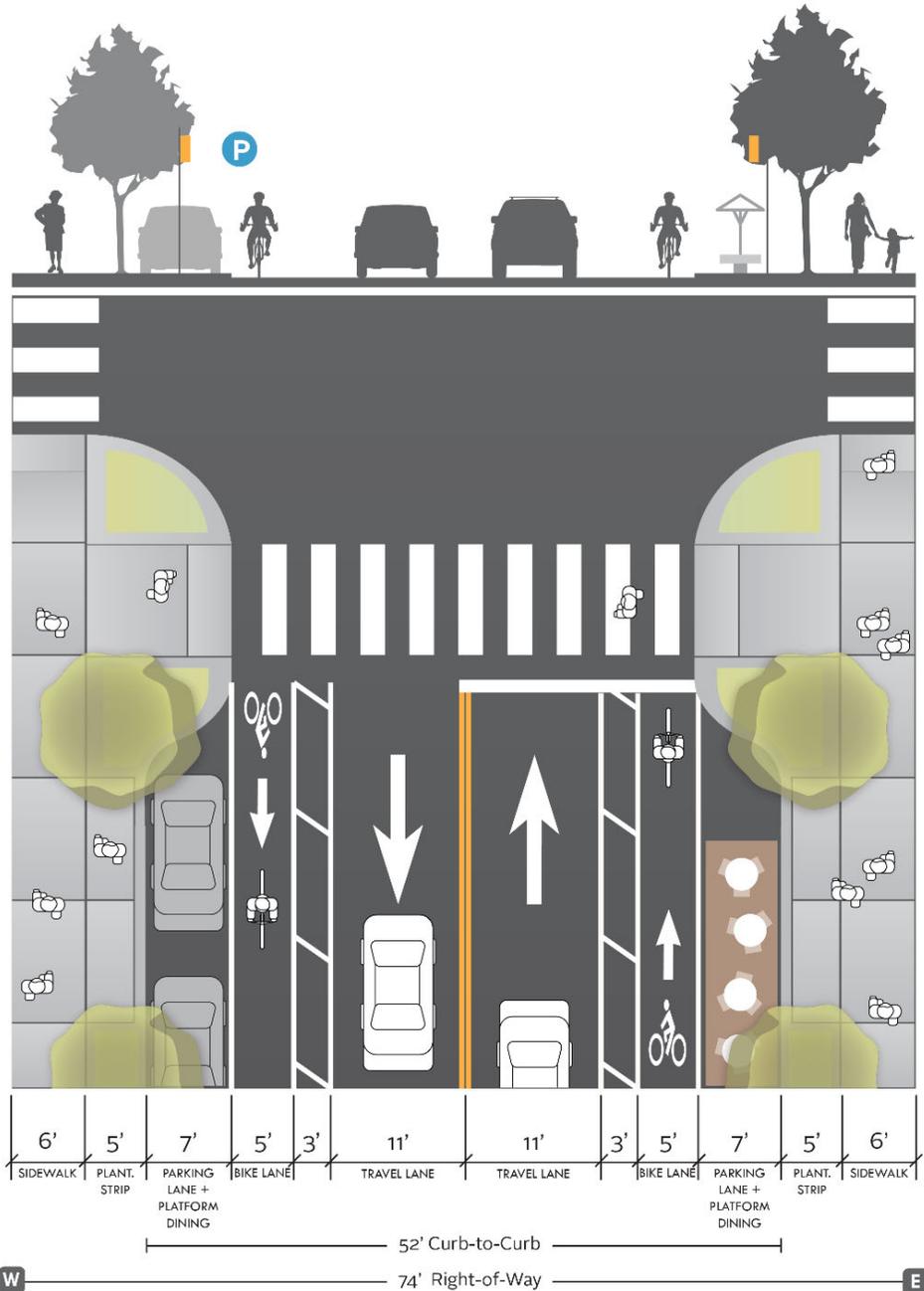
Figure 37 Street Design Assignment



Primary Town Center Street

Primary town center streets typically feature one or more lanes of vehicle traffic per direction, on-street parking, bicycle lanes, and sidewalks. At the OLF-8 site, town center streets will carry moderate volumes of traffic through the site, while providing safe and comfortable routes for the most vulnerable road users. Town center streets also allow for adaptive use of parking lanes, for restaurants or parklets, according to local needs.

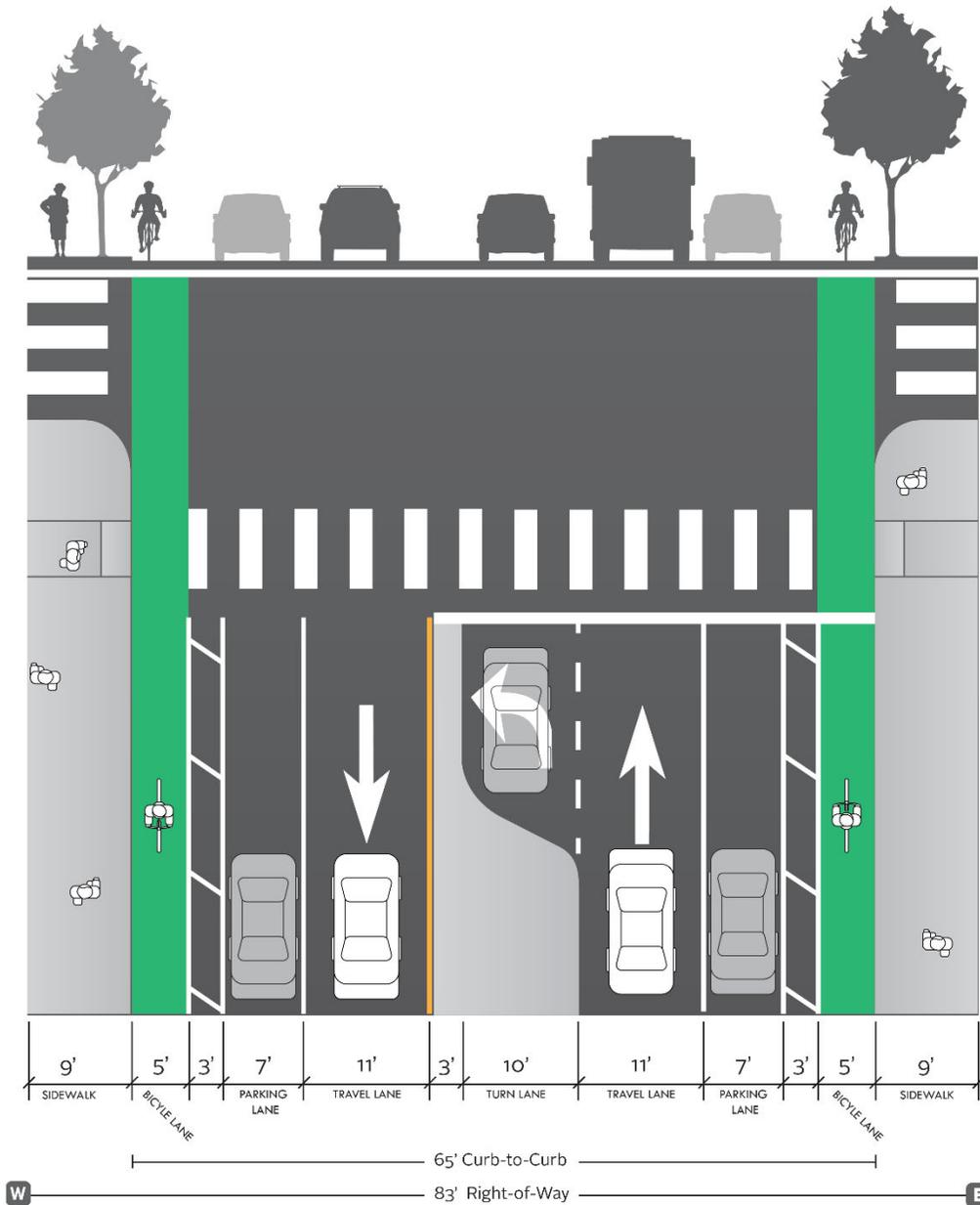
Figure 38 Cross Section: Primary Town Center Street



Primary Commercial Street

Primary commercial streets typically feature one or more lanes of vehicle traffic per direction, on-street parking, protected bicycle lanes, and sidewalks. At the OLF-8 site, primary commercial streets will be implemented in the commercial core at the south of the site and will accommodate vehicles and people entering the site from 9 Mile Road.

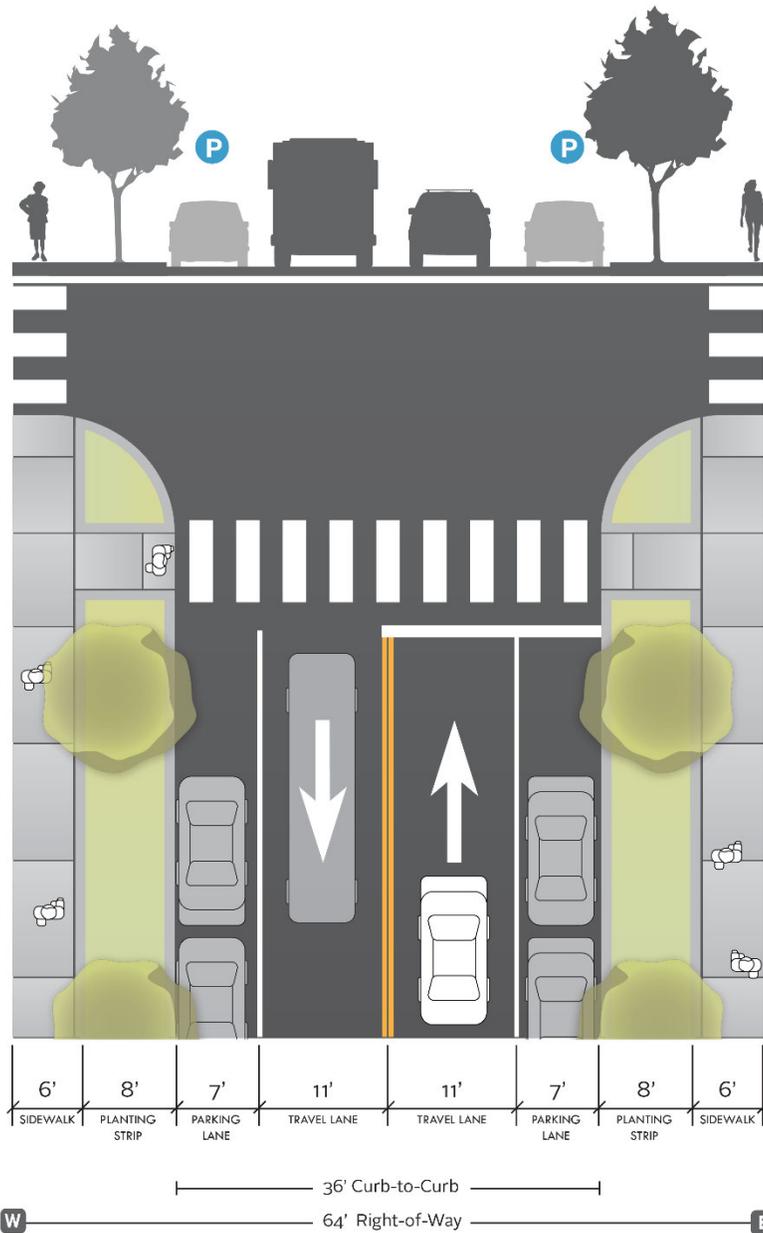
Figure 39 Cross Section: Primary Commercial Street



Secondary Industrial Street

Secondary industrial streets typically feature one vehicle lane per direction, on-street parking, and sidewalks buffered by planting strips. They are intended to accommodate industrial vehicle traffic while also providing safe walking routes for people. At the OLF-8 site, secondary industrial streets will be implemented in the industrial area at the central eastern edge of the site to provide connectivity to the main north-south access road at the site's eastern boundary.

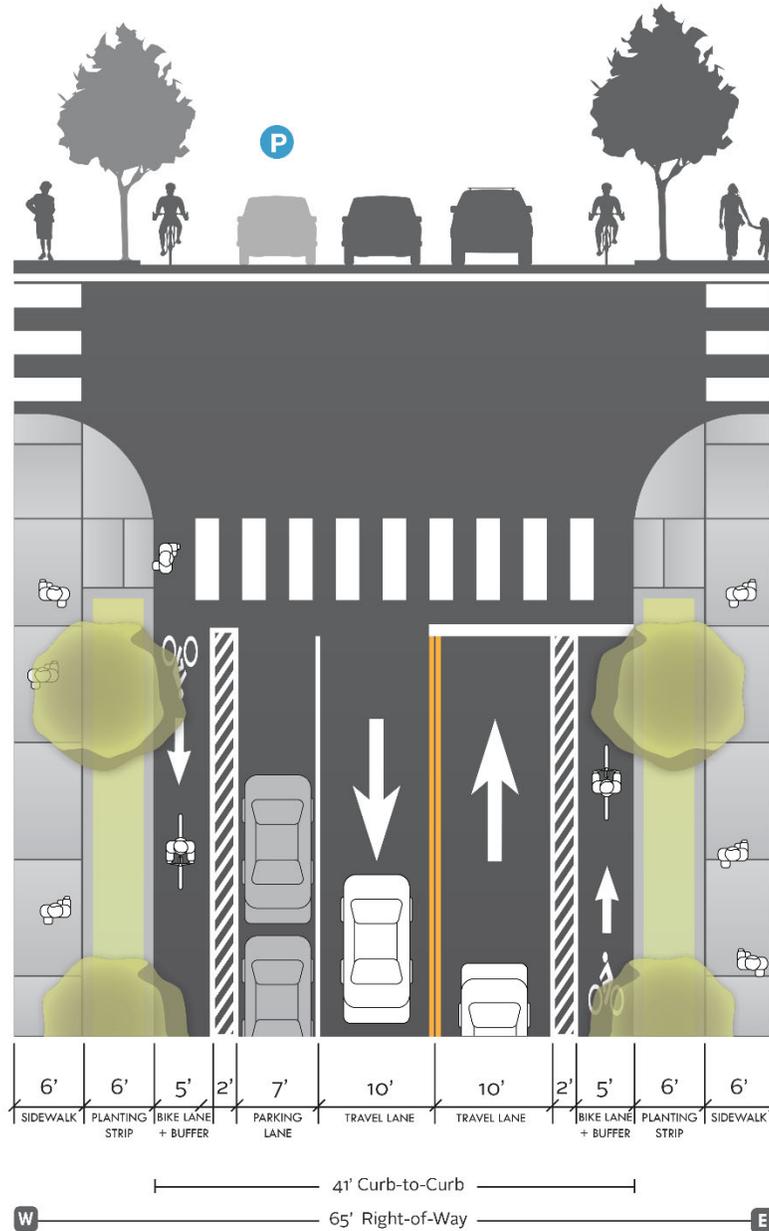
Figure 40 Cross Section: Secondary Industrial Street



Secondary Residential Street

Secondary residential streets typically feature one lane of vehicle traffic per direction, limited on-street parking, bicycle lanes, and buffered sidewalks. They are intended to accommodate vehicle, bicycle, and pedestrian traffic in residential areas at low speeds. At the OLF-8 site, secondary residential streets will be implemented in the residential areas to provide connectivity to primary streets at the edge of residential development.

Figure 41 Cross Section: Secondary Residential Street



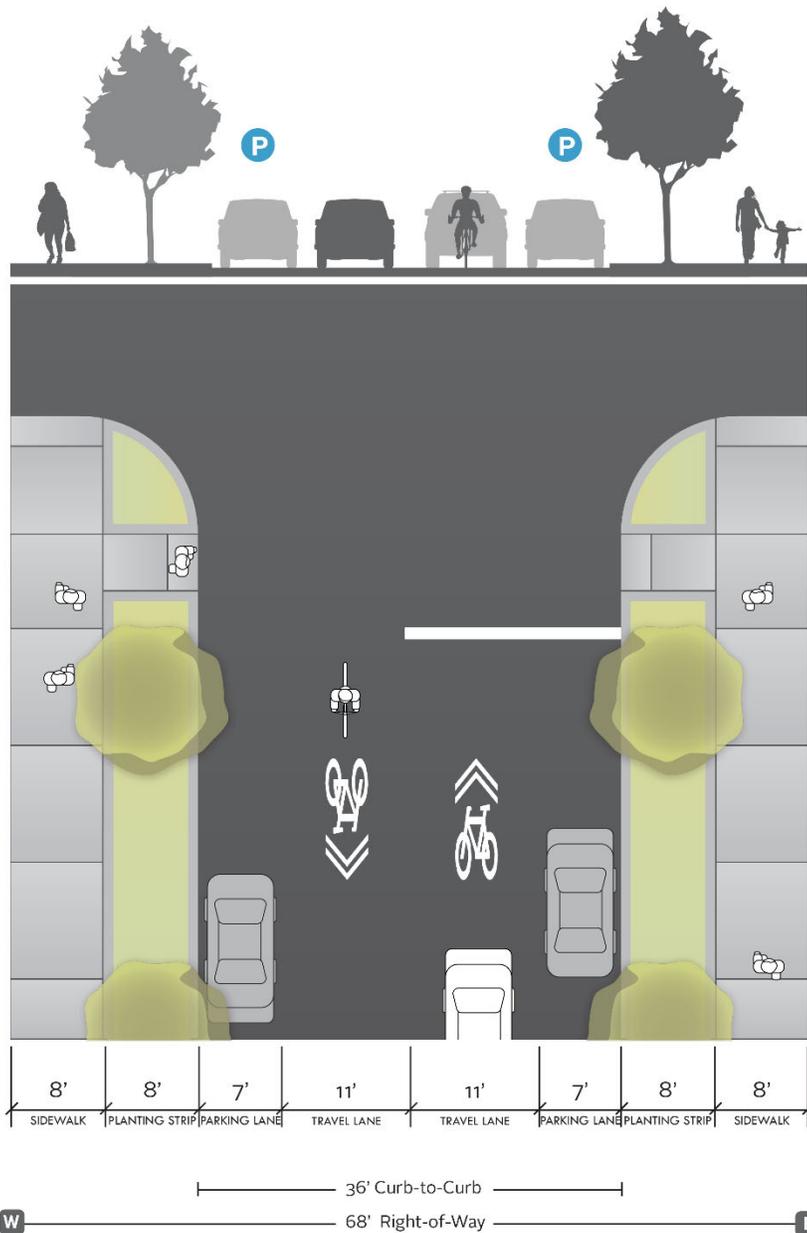
OLF-8 TRANSPORTATION IMPLEMENTATION STRATEGY

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Tertiary Street

Tertiary streets typically do not feature striped lanes and instead function as bidirectional low-speed streets with on-street parking and sidewalks. They may feature limited bicycle infrastructure such as sharrows. Tertiary streets are generally not intended to carry high volumes of through-traffic and at the OLF-8 site, they will be implemented only as part of a loop to recreational facilities at the site's west-central boundary.

Figure 42 Cross Section: Tertiary Street



Appendix A Summary of Previous Plans

Key Highlights:

- Beulah road to be widened to 4 lanes between 9-Mile road and I-10 and extended from there northward.
- 9-Mile Road is being widened to 4 lanes (with the potential for 6) between Pine Forest Road and Beulah Road, with shoulder bike lanes, sidewalks, and sound walls. Construction completion estimated at the end of 2021.
- Frank Reeder road to be widened to 2 lanes in each direction.
- Kingsfield road may be extended west from Hwy 97 to Beulah Road.
- Lots of low-density residential development planned for the area (~2000 units nearby to site) and some commercial development planned for the 9-Mile Road/Beulah Road intersection.

Escambia County Midwest Sector Plan

September 2011

- This plan puts forward a development vision for the Midwest sector of Escambia County, north of I-10.
- The plan calls for single-use commercial and residential development with some town center areas and the preservation of some wetlands.
- The plan calls for a curvilinear street grid that “respects the natural environment while providing a high degree of interconnectivity”. It also calls for local networks of complete streets that encourage walking and bicycling while discouraging high vehicle speeds.
- Neighborhood centers are to be transit oriented for future transit expansions.
- Land use distribution should locate residences in close proximity to jobs.
- The circulation element of the plan calls for a large pedestrian/bike trail network, but this is largely focused on northern half of the sector and would not connect to the OLF 8 site.

Draft Corridor Study – Kingsfield Road Extension

July 2012

- Escambia County proposes to extend Kingsfield Road from Highway 97 to Beulah Road.
- From its existing urban section, the roadway will primarily be a 2-lane country road with 12’ travel lanes, 5’ shoulders, and a 130’ ROW.

Final Environmental Assessment for Land Exchange Involving NOLF 8 Site for Suitable Land & Improvements in Santa Rosa County

March 2018

- The purpose of the EA is to assess the environmental impacts, including transportation, of the exchange of NOLF 8 from the Navy to Escambia County in exchange for suitable land for another NOLF in Santa Rosa County.
- In terms of transportation, the document finds that the transfer of land itself would have no significant impact on transportation patterns. The eventual redevelopment of NOLF 8 would have traffic impacts “consistent with expected growth patterns already accounted for within the region”.

Project 52

May 2018

- Planned commercial and residential development just southeast of the Navy Federal site containing several buildings extending southward from 9-Mile Road and with two entrances on to 9-Mile Road.
- A shared parking analysis conducted for the development proposes 289 parking spaces.

Greater Beulah Area Transportation Network Sketch Plan

September 2018

2017 ADT on Surrounding Roads:

- 32,000 on I10
- 5,800 – 6,400 on Beulah Road
- 4,900 on 9-Mile Road
- Injury concentrations at 9-Mile Road/I10 intersection and at Beulah Road/Mobile Hwy intersection.
- Schools located SW of the OLF-8 site near 9-Mile Road/Beulah Road intersection.
- Some community facilities located southwest of the site but none immediately adjacent.
- Approximately 1,850 lots/units approved in the immediate vicinity of OLF-8 between 2010 and 2018.
- Transportation planning recommendations:
 - Frank Reeder Road to be rebuilt as 2-lane roadway with complete street features. Make it the primary access point to OLF-8 and back entrance to Navy Federal
 - Signalize Beulah Road and Frank Reeder Road
 - Widen 8 Mile Creek Road

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- Widen Beulah Road from Mobile Highway to 9-Mile road to include 4' shoulder/bike lane
- Provide direct access road from OLF8 to Beulah Road
- Provide direct access road from Navy Federal to Frank Reeder Road via a frontage road
- Land development code change to increase front setback for new developments and access management
- Create a special purpose district to help pay for the construction and maintenance of transportation infrastructure

Pathstone Subdivision

November 2018

- 175-acre site immediately to the east of Project 52, on 9-Mile road just west of I-10, is likely to be developed. No further information provided.
- Site to be developed in 4 phases with curvilinear street grid extending into site. No egress except to 9-Mile Road.

Beulah Beltway Corridor Project

December 2018

- Beulah Road is planned to be extended northward.
 - Option: northeast from I-10 through an area of woodland to Highway 97 @ Muskogee Road.
 - Option: northwest from I-10 to reconnect with itself along the alignment of the proposed extension of Kingsfield Road.

Northwest District 1 Survey Results

June – July 2019

- Most respondents were white homeowners in the area. The age of respondents was relatively evenly distributed between the ages of 35 to 74.
- People are in favor of:
 - Minimum lot sizes
 - Development fees to pay for infrastructure
 - A rural atmosphere with multi-use paths and recreational opportunities
 - An organized town center
 - Overlay zones
- Preferred green spaces/features are: multi-use paths, community parks, and street trees.
- Top amenities are: restaurants, fire station, and retail.
- Traffic and crime are viewed as the biggest detriments to quality of life.

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- People favor synchronized lights and boulevard-style roads as traffic control solutions.

I-10 at Beulah Road Interchange Project

October 2019

- Beulah Road will be widened from 2 to 4 lanes between 9-Mile Road and I-10, and would include sidewalks and painted bike lanes.
- I-10 will be widened from 2 lanes per direction to 3 lanes per direction with 12' shoulders on either side of each directional roadway.

Navy Federal Recreation Facility

February 2020

- Navy Federal has proposed the development of a large recreational facility on part of the OLF-8 site to the west of the existing Navy Federal site.
- Development would extend 800' into the OLF-8 site west from the current boundary of the Navy Federal site.
- 777 total proposed parking spaces.

Nine Mile Crossing

February 2020

- 4 lot site planned for commercial development
- A McDonalds is planned on one lot at the southeast corner of 9-Mile Road and Beulah Road.
 - 44 parking spaces to be provided.
 - Ingress/egress will be off Beulah Road.
- A Publix is planned on the large lot south of the McDonalds.
 - 311 parking spaces to be provided (5/1000SF).
 - Ingress/egress will be via three driveways off Beulah Road.

Nine Mile Road PD&E Concept Plans

March 2020

- 9-Mile Road is currently being widened into a 2-lane x 2 lane roadway with sidewalks, shoulder bike lanes, and sound walls from I-10 to Beulah Road. Construction completion is estimated at the end of 2021.
- Plans show 9-Mile Road being widened into a 3-lane x 3 lane road with a center turn lane and shoulder bike lane south of the OLF-8 site from Pine Forest Road to Beulah Road.

Other Transportation Notes from Project Kick-off Meeting

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May 2020

- A study is considering the widening of Frank Reeder Road and the potential construction of an overpass over I-10 to connect it to Devine Farms Road.
- Navy Federal congestion issues
 - The Navy Federal site faces notable congestion issues though the company has improved at staggering its start times.
 - Most of its 10,000 employees drive though there is bus service to Milton & Pace counties.
- There is currently no ECAT transit service in the area of the OLF-8 site.

Florida/Alabama TPO Pedestrian & Bicycle Masterplan

2018

- An update to the 2010 initial Ped/Bike Masterplan. Intended to provide strategic guidance on ped/bike friendly development as part of the 2040 transportation masterplan.
- Public Outreach
 - Surveys indicate that most people want more/improved sidewalks and bike paths separate from roadways.
 - Poor quality infrastructure and concerns about traffic danger were the primary factors keeping people from walking or biking.
- Commute Trends (2010)
 - 78.7% drive alone
 - 1.5% walk
 - 0.3% bike
- Summary of other relevant plans:
 - Florida adopted a complete streets policy in 2014
 - The *Escambia Comprehensive Plan* calls for the provision of sidewalk and bike infrastructure when new public roads are constructed. It outlines policies to encourage sidewalk development in private developments as well. It requires the provision of non-motorized transportation links between residential areas and commercial/recreational sites.
- Projects proposed under the TPO:
 - 81 projects are proposed around the Pensacola area as part of the TPO plan.
 - The only project proposed within the vicinity of the OLF-8 site is a proposal by Escambia County to restripe bike lanes on Beulah Road between 9 Mile Road and the Mobile Highway.
 - Most proposed projects are in central Pensacola and in Santa Rosa County
 - Projects are ranked according to a ranking system that takes into account a project's safety impact, connection to schools, network continuity, locational

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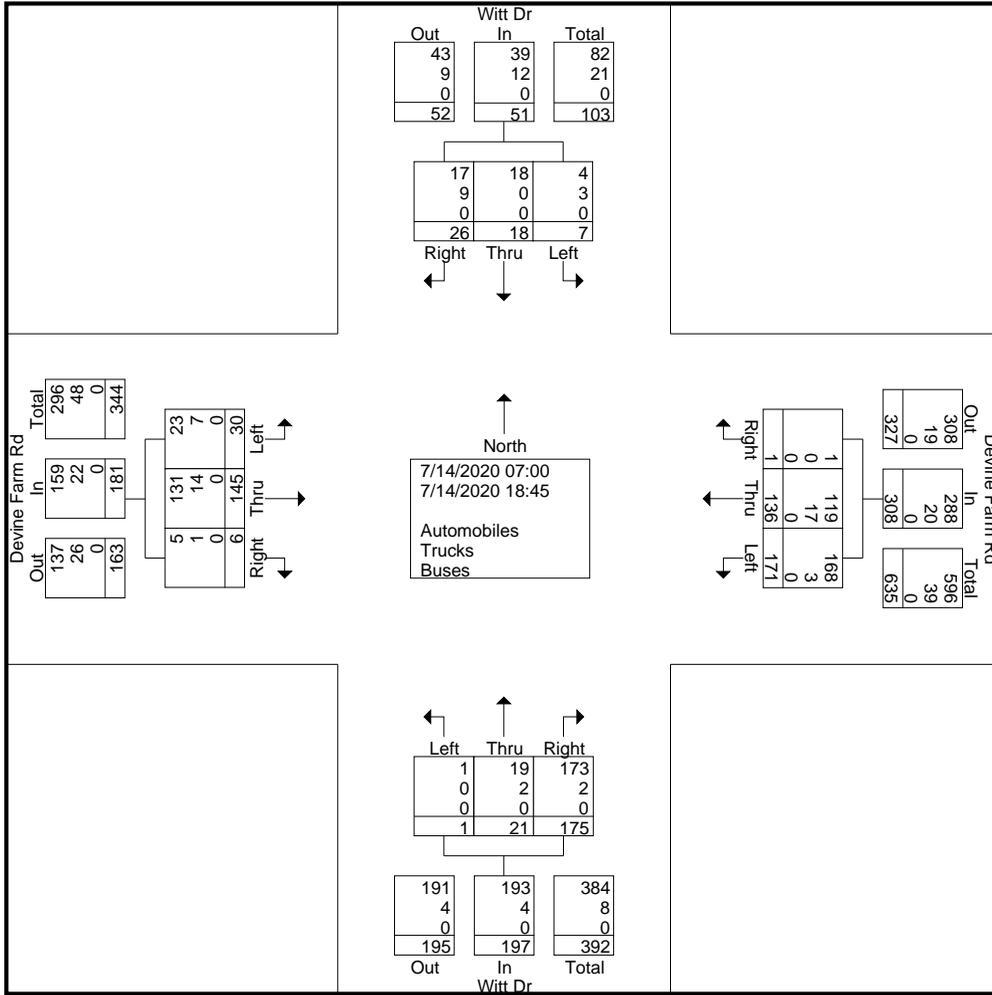
Escambia County

and cost efficiencies, its coordination with existing plans, and proximity to low-vehicle ownership areas.

- Most of the highly ranked proposals focus on sidewalk expansion/improvement.
- Policies proposed under the TPO:
 - The document outlines a policy of education, engineering, enforcement, equity, and encouragement to improve the pedestrian and bicycle network.
 - It proposes targeted policies corresponding to these themes.
- Funding Opportunities
 - The document identifies a wide range of federal, state, local, and third-party funding sources for pedestrian and bicycle projects including. Many federal and state roadway and congestion mitigation funding sources can be used for pedestrian and bicycle projects.

Appendix B Traffic Counts

Intersection Turning Movement Count



Intersection Turning Movement Count

File Name : Devine Farm Rd @ Witt Dr
 Site Code : 00000003
 Start Date : 7/14/2020
 Page No : 3

Start Time	Witt Dr Southbound				Devine Farm Rd Westbound				Witt Dr Northbound				Devine Farm Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:30																	
08:30	0	0	1	1	2	4	0	6	0	0	5	5	0	6	0	6	18
08:45	0	1	1	2	2	1	0	3	0	0	7	7	1	8	0	9	21
09:00	1	0	2	3	1	5	0	6	0	0	7	7	0	4	0	4	20
09:15	0	0	2	2	5	5	0	10	0	0	5	5	1	7	0	8	25
Total Volume	1	1	6	8	10	15	0	25	0	0	24	24	2	25	0	27	84
% App. Total	12.5	12.5	75		40	60	0		0	0	100		7.4	92.6	0		
PHF	.250	.250	.750	.667	.500	.750	.000	.625	.000	.000	.857	.857	.500	.781	.000	.750	.840
Automobiles	0	1	3	4	9	11	0	20	0	0	24	24	0	21	0	21	69
% Automobiles	0	100	50.0	50.0	90.0	73.3	0	80.0	0	0	100	100	0	84.0	0	77.8	82.1
Trucks	1	0	3	4	1	4	0	5	0	0	0	0	2	4	0	6	15
% Trucks	100	0	50.0	50.0	10.0	26.7	0	20.0	0	0	0	0	100	16.0	0	22.2	17.9
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:15				07:45				09:00				08:00			
+0 mins.	1	1	0	2	4	4	0	8	0	0	7	7	1	5	0	6
+15 mins.	0	0	1	1	6	2	0	8	0	0	5	5	1	8	0	9
+30 mins.	0	1	1	2	0	5	0	5	0	2	5	7	0	6	0	6
+45 mins.	1	0	2	3	2	4	0	6	0	1	8	9	1	8	0	9
Total Volume	2	2	4	8	12	15	0	27	0	3	25	28	3	27	0	30
% App. Total	25	25	50		44.4	55.6	0		0	10.7	89.3		10	90	0	
PHF	.500	.500	.500	.667	.500	.750	.000	.844	.000	.375	.781	.778	.750	.844	.000	.833
Automobiles	0	2	2	4	12	9	0	21	0	2	25	27	0	21	0	21
% Automobiles	0	100	50	50	100	60	0	77.8	0	66.7	100	96.4	0	77.8	0	70
Trucks	2	0	2	4	0	6	0	6	0	1	0	1	3	6	0	9
% Trucks	100	0	50	50	0	40	0	22.2	0	33.3	0	3.6	100	22.2	0	30
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 12:30

12:30	0	2	0	2	3	7	0	10	1	0	6	7	0	5	1	6	25
12:45	0	1	0	1	12	6	0	18	0	0	7	7	2	5	0	7	33
13:00	0	1	1	2	9	7	0	16	0	2	8	10	1	5	0	6	34
13:15	1	1	2	4	8	2	0	10	0	0	8	8	1	1	0	2	24
Total Volume	1	5	3	9	32	22	0	54	1	2	29	32	4	16	1	21	116
% App. Total	11.1	55.6	33.3		59.3	40.7	0		3.1	6.2	90.6		19	76.2	4.8		
PHF	.250	.625	.375	.563	.667	.786	.000	.750	.250	.250	.906	.800	.500	.800	.250	.750	.853
Automobiles	0	5	3	8	31	18	0	49	1	2	28	31	4	12	1	17	105
% Automobiles	0	100	100	88.9	96.9	81.8	0	90.7	100	100	96.6	96.9	100	75.0	100	81.0	90.5
Trucks	1	0	0	1	1	4	0	5	0	0	1	1	0	4	0	4	11
% Trucks	100	0	0	11.1	3.1	18.2	0	9.3	0	0	3.4	3.1	0	25.0	0	19.0	9.5
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	12:30				12:45				12:30				12:00			
+0 mins.	0	2	0	2	12	6	0	18	1	0	6	7	4	3	0	7
+15 mins.	0	1	0	1	9	7	0	16	0	0	7	7	1	1	1	3
+30 mins.	0	1	1	2	8	2	0	10	0	2	8	10	0	5	1	6
+45 mins.	1	1	2	4	7	5	0	12	0	0	8	8	2	5	0	7
Total Volume	1	5	3	9	36	20	0	56	1	2	29	32	7	14	2	23
% App. Total	11.1	55.6	33.3		64.3	35.7	0		3.1	6.2	90.6		30.4	60.9	8.7	
PHF	.250	.625	.375	.563	.750	.714	.000	.778	.250	.250	.906	.800	.438	.700	.500	.821
Automobiles	0	5	3	8	35	18	0	53	1	2	28	31	7	12	1	20
% Automobiles	0	100	100	88.9	97.2	90	0	94.6	100	100	96.6	96.9	100	85.7	50	87
Trucks	1	0	0	1	1	2	0	3	0	0	1	1	0	2	1	3
% Trucks	100	0	0	11.1	2.8	10	0	5.4	0	0	3.4	3.1	0	14.3	50	13
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Turning Movement Count

File Name : Devine Farm Rd @ Witt Dr
 Site Code : 00000003
 Start Date : 7/14/2020
 Page No : 4

Start Time	Witt Dr Southbound				Devine Farm Rd Westbound				Witt Dr Northbound				Devine Farm Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 14:00 to 18:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	0	0	1	1	11	5	0	16	0	2	3	5	2	4	0	6	28
17:00	0	0	2	2	8	7	0	15	0	1	2	3	0	9	0	9	29
17:15	0	0	0	0	4	6	0	10	0	0	5	5	0	5	0	5	20
17:30	0	1	1	2	9	6	0	15	0	1	3	4	0	7	0	7	28
Total Volume	0	1	4	5	32	24	0	56	0	4	13	17	2	25	0	27	105
% App. Total	0	20	80		57.1	42.9	0		0	23.5	76.5		7.4	92.6	0		
PHF	.000	.250	.500	.625	.727	.857	.000	.875	.000	.500	.650	.850	.250	.694	.000	.750	.905
Automobiles	0	1	4	5	32	24	0	56	0	3	13	16	2	25	0	27	104
% Automobiles	0	100	100	100	100	100	0	100	0	75.0	100	94.1	100	100	0	100	99.0
Trucks	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
% Trucks	0	0	0	0	0	0	0	0	0	25.0	0	5.9	0	0	0	0	1.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis From 14:00 to 18:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00				16:45				18:00				16:45			
+0 mins.	1	2	3	6	11	5	0	16	0	2	6	8	2	4	0	6
+15 mins.	0	1	1	2	8	7	0	15	0	0	4	4	0	9	0	9
+30 mins.	0	1	1	2	4	6	0	10	0	2	10	12	0	5	0	5
+45 mins.	0	0	1	1	9	6	0	15	0	1	6	7	0	7	0	7
Total Volume	1	4	6	11	32	24	0	56	0	5	26	31	2	25	0	27
% App. Total	9.1	36.4	54.5		57.1	42.9	0		0	16.1	83.9		7.4	92.6	0	
PHF	.250	.500	.500	.458	.727	.857	.000	.875	.000	.625	.650	.646	.250	.694	.000	.750
Automobiles	1	4	5	10	32	24	0	56	0	5	25	30	2	25	0	27
% Automobiles	100	100	83.3	90.9	100	100	0	100	0	100	96.2	96.8	100	100	0	100
Trucks	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0
% Trucks	0	0	16.7	9.1	0	0	0	0	0	0	3.8	3.2	0	0	0	0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Turning Movement Count

Devine Farm Rd @ Witt Dr
Pensacola, Florida

File Name : Devine Farm Rd @ Witt Dr
Site Code : 00000003
Start Date : 7/14/2020
Page No : 1

Groups Printed- Trucks - Buses

Start Time	Witt Dr Southbound				Devine Farm Rd Westbound				Witt Dr Northbound				Devine Farm Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
07:30	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	2
07:45	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
Total	0	0	2	2	0	3	0	3	0	0	0	0	0	2	0	2	7
08:00	0	0	1	1	0	0	0	0	0	0	0	0	1	2	0	3	4
08:15	1	0	0	1	0	2	0	2	0	0	0	0	1	1	0	2	5
08:30	0	0	1	1	0	2	0	2	0	0	0	0	0	0	0	0	3
08:45	0	0	1	1	0	0	0	0	0	0	0	0	1	3	0	4	5
Total	1	0	3	4	0	4	0	4	0	0	0	0	3	6	0	9	17
09:00	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
09:15	0	0	1	1	1	2	0	3	0	0	0	0	1	1	0	2	6
09:30	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	2	3
09:45	0	0	2	2	0	0	0	0	0	0	0	0	1	0	0	1	3
Total	1	0	3	4	1	2	0	3	0	1	0	1	4	1	0	5	13
12:00	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
12:30	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
12:45	0	0	0	0	1	1	0	2	0	0	0	0	0	2	0	2	4
Total	0	0	0	0	1	4	0	5	0	0	0	0	0	2	1	3	8
13:00	0	0	0	0	0	1	0	1	0	0	1	1	0	2	0	2	4
13:15	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
13:45	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3
Total	1	0	0	1	0	4	0	4	0	0	1	1	0	3	0	3	9
16:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
16:45	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0	2
17:45	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
18:15	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Grand Total	3	0	9	12	3	17	0	20	0	2	2	4	7	14	1	22	58
Approch %	25	0	75		15	85	0		0	50	50		31.8	63.6	4.5		
Total %	5.2	0	15.5	20.7	5.2	29.3	0	34.5	0	3.4	3.4	6.9	12.1	24.1	1.7	37.9	
Trucks	3	0	9	12	3	17	0	20	0	2	2	4	7	14	1	22	58
% Trucks	100	0	100	100	100	100	0	100	0	100	100	100	100	100	100	100	100
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Turning Movement Count

Devine Farm Rd @ Witt Dr

File Name : Devine Farm Rd @ Witt Dr Peds

Site Code : 00000003

Start Date : 7/14/2020

Page No : 1

Groups Printed- Peds

Start Time	Witt Dr	Devine Farm Rd	Witt Dr	Devine Farm Rd	Int. Total
	Southbound	Westbound	Northbound	Eastbound	
	Peds	Peds	Peds	Peds	
07:00	0	0	0	0	0
07:15	0	0	0	0	0
07:30	0	0	0	0	0
07:45	0	1	0	1	2
Total	0	1	0	1	2
08:00	0	0	0	0	0
08:15	0	0	0	0	0
08:30	0	0	0	0	0
08:45	0	0	0	0	0
Total	0	0	0	0	0
09:00	0	0	0	0	0
09:15	0	0	0	0	0
09:30	0	0	0	0	0
09:45	0	0	0	1	1
Total	0	0	0	1	1
10:00	0	0	0	0	0
10:15	0	0	0	0	0
10:30	0	0	0	0	0
10:45	0	0	0	0	0
Total	0	0	0	0	0
11:00	0	0	0	0	0
11:15	0	0	0	0	0
11:30	0	0	0	0	0
11:45	0	0	0	0	0
Total	0	0	0	0	0
12:00	0	0	0	0	0
12:15	0	0	0	0	0
12:30	0	0	0	0	0
12:45	0	0	0	0	0
Total	0	0	0	0	0
13:00	0	0	0	0	0
13:15	0	0	0	0	0
13:30	0	0	0	0	0
13:45	0	0	0	0	0
Total	0	0	0	0	0
14:00	0	0	0	0	0
14:15	0	0	0	0	0
14:30	0	0	0	0	0
14:45	0	0	0	0	0
Total	0	0	0	0	0
15:00	0	0	0	0	0
15:15	0	0	0	0	0
15:30	0	0	0	0	0
15:45	0	0	0	0	0
Total	0	0	0	0	0

Intersection Turning Movement Count

File Name : Devine Farm Rd @ Witt Dr Peds
 Site Code : 00000003
 Start Date : 7/14/2020
 Page No : 2

Groups Printed- Peds

	Witt Dr Southbound	Devine Farm Rd Westbound	Witt Dr Northbound	Devine Farm Rd Eastbound	
Start Time	Peds	Peds	Peds	Peds	Int. Total
16:00	0	0	0	0	0
16:15	0	0	0	0	0
16:30	0	0	0	0	0
16:45	0	0	0	0	0
Total	0	0	0	0	0
17:00	0	0	0	0	0
17:15	0	0	0	0	0
17:30	0	0	0	0	0
17:45	0	0	0	0	0
Total	0	0	0	0	0
18:00	0	0	0	0	0
18:15	0	0	0	0	0
18:30	0	0	0	0	0
18:45	0	0	0	0	0
Total	0	0	0	0	0
Grand Total	0	1	0	2	3
Apprch %	0	100	0	100	
Total %	0	33.3	0	66.7	

Intersection Turning Movement Count

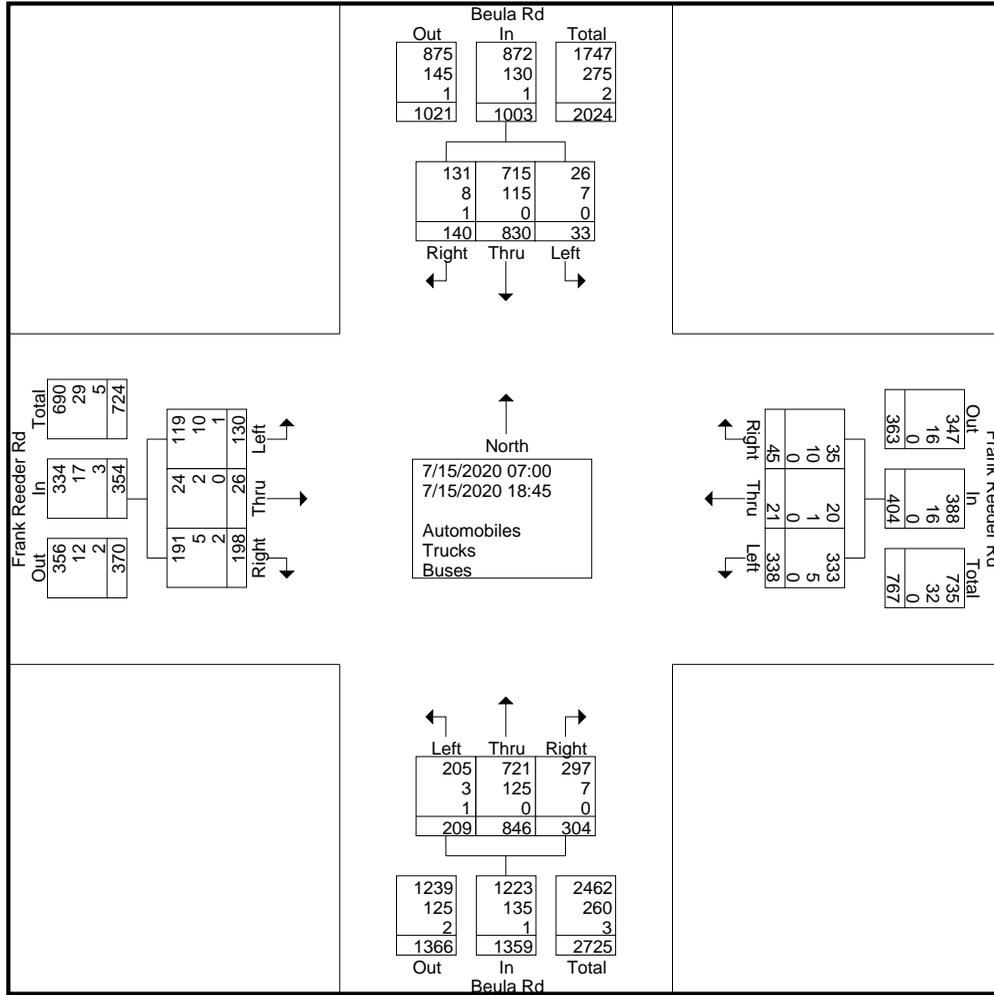
Frank Reeder Rd @ Beulah Rd
Pensacola, Florida

File Name : Frank Reeder Rd @ Beulah Rd
Site Code : 00000004
Start Date : 7/15/2020
Page No : 1

Groups Printed- Automobiles - Trucks - Buses

Start Time	Beula Rd Southbound				Frank Reeder Rd Westbound				Beula Rd Northbound				Frank Reeder Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00	0	48	5	53	23	1	1	25	1	17	2	20	3	0	4	7	105
07:15	1	42	7	50	17	0	2	19	2	25	4	31	7	0	6	13	113
07:30	2	42	5	49	19	0	3	22	3	20	5	28	6	0	8	14	113
07:45	1	33	7	41	12	1	2	15	3	17	3	23	5	0	7	12	91
Total	4	165	24	193	71	2	8	81	9	79	14	102	21	0	25	46	422
08:00	2	35	4	41	15	0	2	17	5	14	9	28	4	0	6	10	96
08:15	0	25	1	26	11	0	4	15	5	12	5	22	4	1	6	11	74
08:30	1	33	2	36	15	1	1	17	6	38	6	50	4	3	11	18	121
08:45	0	21	2	23	12	0	3	15	4	26	4	34	5	0	2	7	79
Total	3	114	9	126	53	1	10	64	20	90	24	134	17	4	25	46	370
09:00	4	26	6	36	7	0	1	8	4	24	5	33	2	0	4	6	83
09:15	1	33	1	35	8	2	4	14	5	18	8	31	3	0	9	12	92
09:30	4	30	7	41	7	1	0	8	7	17	5	29	5	1	9	15	93
09:45	0	27	2	29	7	0	1	8	8	23	9	40	2	1	6	9	86
Total	9	116	16	141	29	3	6	38	24	82	27	133	12	2	28	42	354
*** BREAK ***																	
12:00	1	22	5	28	15	1	0	16	7	24	8	39	1	2	4	7	90
12:15	1	22	3	26	7	1	3	11	3	21	6	30	4	0	4	8	75
12:30	0	20	4	24	8	0	0	8	6	30	9	45	6	0	5	11	88
12:45	0	17	5	22	9	0	1	10	7	15	8	30	1	2	3	6	68
Total	2	81	17	100	39	2	4	45	23	90	31	144	12	4	16	32	321
13:00	1	17	4	22	10	1	0	11	3	16	4	23	4	3	7	14	70
13:15	0	23	3	26	7	1	1	9	8	22	9	39	3	1	5	9	83
13:30	0	16	2	18	14	1	3	18	11	33	4	48	6	0	10	16	100
13:45	1	26	4	31	6	1	0	7	5	37	11	53	6	2	5	13	104
Total	2	82	13	97	37	4	4	45	27	108	28	163	19	6	27	52	357
*** BREAK ***																	
16:00	1	34	4	39	3	2	1	6	8	41	14	63	5	0	4	9	117
16:15	1	32	7	40	11	0	0	11	13	35	12	60	2	2	5	9	120
16:30	2	22	6	30	16	0	0	16	8	49	13	70	9	0	10	19	135
16:45	1	32	4	37	9	1	2	12	6	34	20	60	3	1	5	9	118
Total	5	120	21	146	39	3	3	45	35	159	59	253	19	3	24	46	490
17:00	0	21	7	28	6	2	3	11	12	38	17	67	7	3	8	18	124
17:15	3	18	12	33	11	1	3	15	10	34	10	54	0	2	5	7	109
17:30	0	21	1	22	8	0	1	9	9	30	17	56	6	1	6	13	100
17:45	2	29	5	36	11	0	1	12	6	32	15	53	8	0	5	13	114
Total	5	89	25	119	36	3	8	47	37	134	59	230	21	6	24	51	447
18:00	3	18	4	25	12	1	1	14	11	31	14	56	5	1	4	10	105
18:15	0	16	5	21	6	1	0	7	9	26	17	52	4	0	13	17	97
18:30	0	17	2	19	12	0	1	13	6	19	16	41	0	0	9	9	82
18:45	0	12	4	16	4	1	0	5	8	28	15	51	0	0	3	3	75
Total	3	63	15	81	34	3	2	39	34	104	62	200	9	1	29	39	359
Grand Total	33	830	140	1003	338	21	45	404	209	846	304	1359	130	26	198	354	3120
Apprch %	3.3	82.8	14		83.7	5.2	11.1		15.4	62.3	22.4		36.7	7.3	55.9		
Total %	1.1	26.6	4.5	32.1	10.8	0.7	1.4	12.9	6.7	27.1	9.7	43.6	4.2	0.8	6.3	11.3	
Automobiles	26	715	131	872	333	20	35	388	205	721	297	1223	119	24	191	334	2817
% Automobiles	78.8	86.1	93.6	86.9	98.5	95.2	77.8	96	98.1	85.2	97.7	90	91.5	92.3	96.5	94.4	90.3
Trucks	7	115	8	130	5	1	10	16	3	125	7	135	10	2	5	17	298
% Trucks	21.2	13.9	5.7	13	1.5	4.8	22.2	4	1.4	14.8	2.3	9.9	7.7	7.7	2.5	4.8	9.6
Buses	0	0	1	1	0	0	0	0	1	0	0	1	1	0	2	3	5
% Buses	0	0	0.7	0.1	0	0	0	0	0.5	0	0	0.1	0.8	0	1	0.8	0.2

Intersection Turning Movement Count



Intersection Turning Movement Count

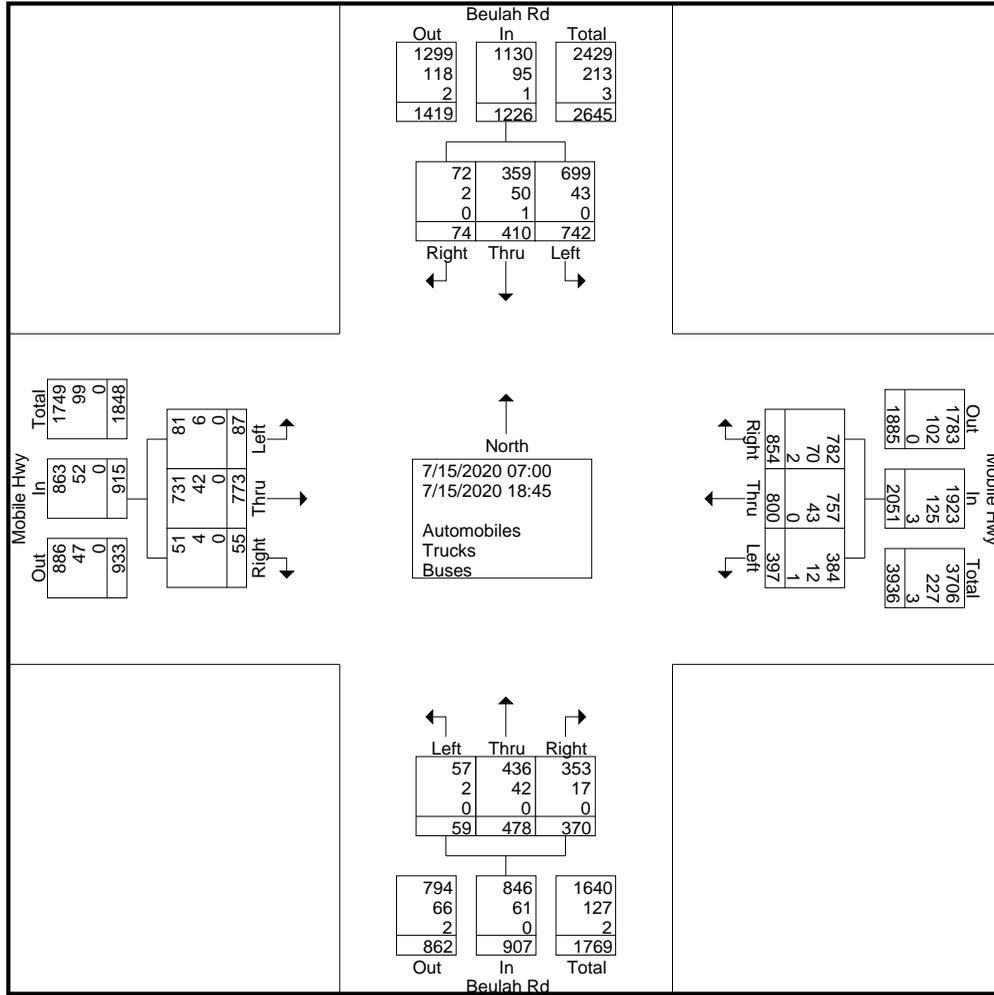
Frank Reeder Rd @ Beulah Rd
Pensacola, Florida

File Name : Frank Reeder Rd @ Beulah Rd
Site Code : 00000004
Start Date : 7/15/2020
Page No : 1

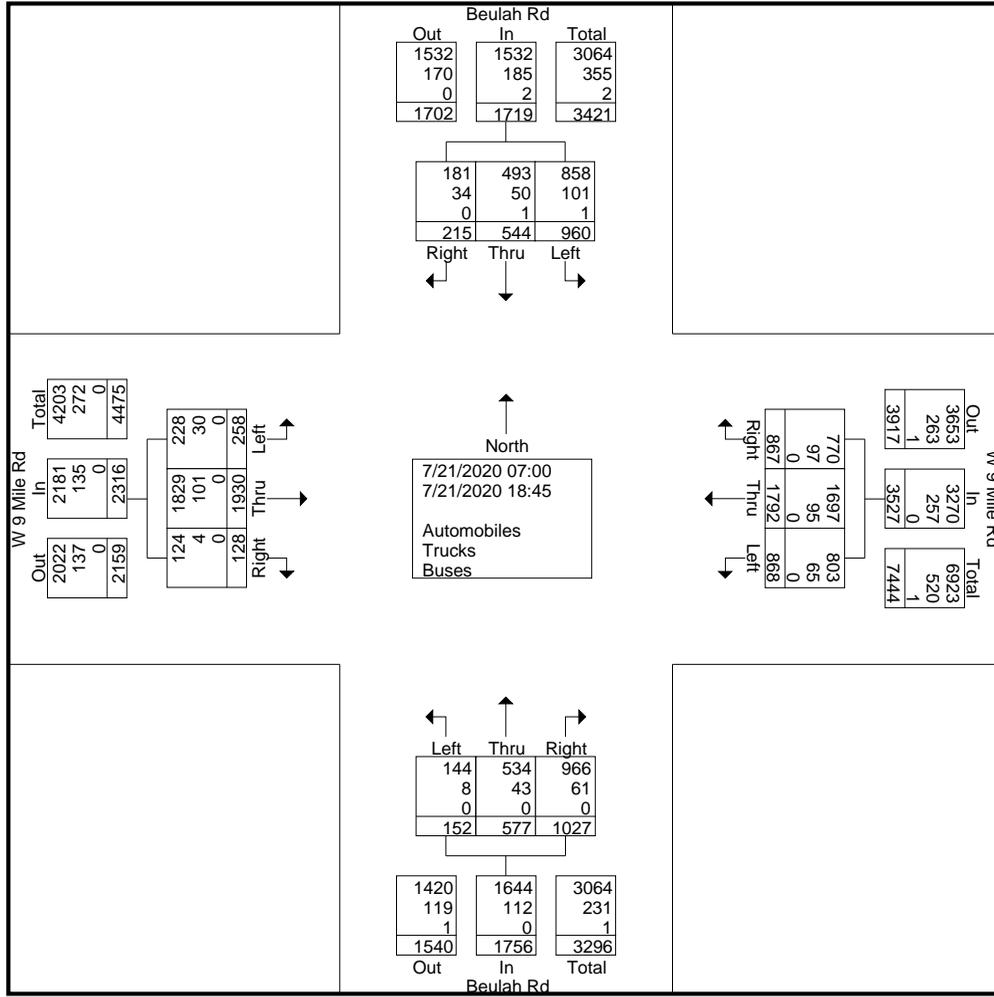
Groups Printed- Trucks - Buses

Start Time	Beula Rd Southbound				Frank Reeder Rd Westbound				Beula Rd Northbound				Frank Reeder Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00	0	6	2	8	1	0	0	1	0	1	0	1	1	0	0	1	11
07:15	0	5	1	6	0	0	0	0	0	8	0	8	1	0	0	1	15
07:30	1	3	1	5	1	0	2	3	0	7	1	8	1	0	0	1	17
07:45	0	6	2	8	0	1	0	1	0	5	0	5	2	0	0	2	16
Total	1	20	6	27	2	1	2	5	0	21	1	22	5	0	0	5	59
08:00	1	9	0	10	0	0	0	0	0	5	0	5	0	0	1	1	16
08:15	0	5	0	5	0	0	1	1	1	2	0	3	1	0	0	1	10
08:30	1	6	1	8	0	0	0	0	0	11	1	12	0	0	1	1	21
08:45	0	3	0	3	0	0	2	2	0	3	1	4	0	0	0	0	9
Total	2	23	1	26	0	0	3	3	1	21	2	24	1	0	2	3	56
09:00	2	5	0	7	0	0	0	0	1	8	0	9	1	0	0	1	17
09:15	0	6	0	6	0	0	2	2	0	10	0	10	0	0	0	0	18
09:30	2	7	0	9	1	0	0	1	0	4	0	4	1	1	0	2	16
09:45	0	7	0	7	0	0	0	0	0	3	0	3	0	0	0	0	10
Total	4	25	0	29	1	0	2	3	1	25	0	26	2	1	0	3	61
12:00	0	5	0	5	0	0	0	0	0	7	1	8	0	0	0	0	13
12:15	0	4	1	5	1	0	1	2	0	4	0	4	0	0	0	0	11
12:30	0	5	0	5	0	0	0	0	0	5	1	6	0	0	0	0	11
12:45	0	1	1	2	1	0	0	1	0	6	0	6	0	1	0	1	10
Total	0	15	2	17	2	0	1	3	0	22	2	24	0	1	0	1	45
13:00	0	1	0	1	0	0	0	0	0	5	0	5	0	0	1	1	7
13:15	0	2	0	2	0	0	1	1	0	2	0	2	0	0	1	1	6
13:30	0	1	0	1	0	0	1	1	0	6	1	7	1	0	0	1	10
13:45	0	12	0	12	0	0	0	0	1	6	0	7	2	0	0	2	21
Total	0	16	0	16	0	0	2	2	1	19	1	21	3	0	2	5	44
16:00	0	2	0	2	0	0	0	0	0	3	0	3	0	0	0	0	5
16:15	0	4	0	4	0	0	0	0	0	6	0	6	0	0	0	0	10
16:30	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
16:45	0	6	0	6	0	0	0	0	0	2	1	3	0	0	0	0	9
Total	0	14	0	14	0	0	0	0	0	13	1	14	0	0	0	0	28
17:00	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
17:15	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
17:30	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	1	2
17:45	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	2	0	2	0	0	0	0	1	1	0	2	0	0	1	1	5
18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
18:30	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2
18:45	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	3	0	3	0	0	2	2	5
Grand Total	7	115	9	131	5	1	10	16	4	125	7	136	11	2	7	20	303
Apprch %	5.3	87.8	6.9		31.2	6.2	62.5		2.9	91.9	5.1		55	10	35		
Total %	2.3	38	3	43.2	1.7	0.3	3.3	5.3	1.3	41.3	2.3	44.9	3.6	0.7	2.3	6.6	
Trucks	7	115	8	130	5	1	10	16	3	125	7	135	10	2	5	17	298
% Trucks	100	100	88.9	99.2	100	100	100	100	75	100	100	99.3	90.9	100	71.4	85	98.3
Buses	0	0	1	1	0	0	0	0	1	0	0	1	1	0	2	3	5
% Buses	0	0	11.1	0.8	0	0	0	0	25	0	0	0.7	9.1	0	28.6	15	1.7

Intersection Turning Movement Count



Intersection Turning Movement Count



Intersection Turning Movement Count

W 9 Mile Rd @ Beulah Rd
Pensacola, Florida

File Name : W 9 Mile Rd @ Beulah Rd
Site Code : 00000005
Start Date : 7/21/2020
Page No : 1

Groups Printed- Trucks - Buses

Start Time	Beulah Rd Southbound				W 9 Mile Rd Westbound				Beulah Rd Northbound				W 9 Mile Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00	5	1	1	7	4	3	7	14	0	1	2	3	1	2	0	3	27
07:15	4	0	0	4	4	1	6	11	0	0	1	1	1	2	1	4	20
07:30	5	2	0	7	4	6	2	12	0	2	2	4	1	3	0	4	27
07:45	4	2	1	7	4	3	6	13	1	4	3	8	1	5	0	6	34
Total	18	5	2	25	16	13	21	50	1	7	8	16	4	12	1	17	108
08:00	7	3	1	11	2	6	4	12	1	0	4	5	0	5	0	5	33
08:15	4	1	0	5	3	8	4	15	0	3	0	3	1	1	0	2	25
08:30	4	4	1	9	3	3	3	9	0	1	1	2	3	3	1	7	27
08:45	1	2	0	3	0	4	3	7	0	1	3	4	1	2	0	3	17
Total	16	10	2	28	8	21	14	43	1	5	8	14	5	11	1	17	102
09:00	2	0	0	2	1	4	4	9	0	6	4	10	2	5	0	7	28
09:15	8	3	1	12	3	2	4	9	0	2	5	7	0	3	0	3	31
09:30	1	6	1	8	5	2	6	13	0	2	1	3	1	3	0	4	28
09:45	12	3	0	15	5	8	8	21	0	1	4	5	0	6	1	7	48
Total	23	12	2	37	14	16	22	52	0	11	14	25	3	17	1	21	135
12:00	3	2	2	7	5	3	3	11	0	1	2	3	0	5	0	5	26
12:15	3	4	1	8	0	3	2	5	2	3	4	9	4	5	0	9	31
12:30	11	0	1	12	2	6	2	10	0	3	4	7	1	5	0	6	35
12:45	3	2	1	6	1	3	10	14	0	1	2	3	2	6	0	8	31
Total	20	8	5	33	8	15	17	40	2	8	12	22	7	21	0	28	123
13:00	1	1	2	4	4	5	6	15	0	1	1	2	0	3	1	4	25
13:15	4	1	0	5	4	5	4	13	0	2	3	5	1	8	0	9	32
13:30	0	1	3	4	1	2	3	6	1	1	4	6	1	5	0	6	22
13:45	6	5	1	12	4	2	6	12	0	2	1	3	2	4	0	6	33
Total	11	8	6	25	13	14	19	46	1	6	9	16	4	20	1	25	112
16:00	4	2	0	6	4	5	0	9	0	0	4	4	1	2	0	3	22
16:15	1	1	5	7	0	0	0	0	1	1	1	3	0	2	0	2	12
16:30	0	1	5	6	0	5	1	6	1	0	1	2	0	2	0	2	16
16:45	2	0	4	6	0	0	2	2	0	1	2	3	1	3	0	4	15
Total	7	4	14	25	4	10	3	17	2	2	8	12	2	9	0	11	65
17:00	1	1	1	3	0	0	1	1	1	1	0	2	1	1	0	2	8
17:15	3	2	1	6	1	0	0	1	0	2	0	2	1	4	0	5	14
17:30	0	0	0	0	1	2	0	3	0	1	1	2	2	0	0	2	7
17:45	0	1	1	2	0	2	0	2	0	0	1	1	0	2	0	2	7
Total	4	4	3	11	2	4	1	7	1	4	2	7	4	7	0	11	36
18:00	2	0	0	2	0	0	0	0	0	0	0	0	1	2	0	3	5
18:15	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
18:30	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
18:45	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
Total	3	0	0	3	0	2	0	2	0	0	0	0	1	4	0	5	10
Grand Total	102	51	34	187	65	95	97	257	8	43	61	112	30	101	4	135	691
Apprch %	54.5	27.3	18.2		25.3	37	37.7		7.1	38.4	54.5		22.2	74.8	3		
Total %	14.8	7.4	4.9	27.1	9.4	13.7	14	37.2	1.2	6.2	8.8	16.2	4.3	14.6	0.6	19.5	
Trucks	101	50	34	185	65	95	97	257	8	43	61	112	30	101	4	135	689
% Trucks	99	98	100	98.9	100	100	100	100	100	100	100	100	100	100	100	100	99.7
Buses	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
% Buses	1	2	0	1.1	0	0	0	0	0	0	0	0	0	0	0	0	0.3

Intersection Turning Movement Count

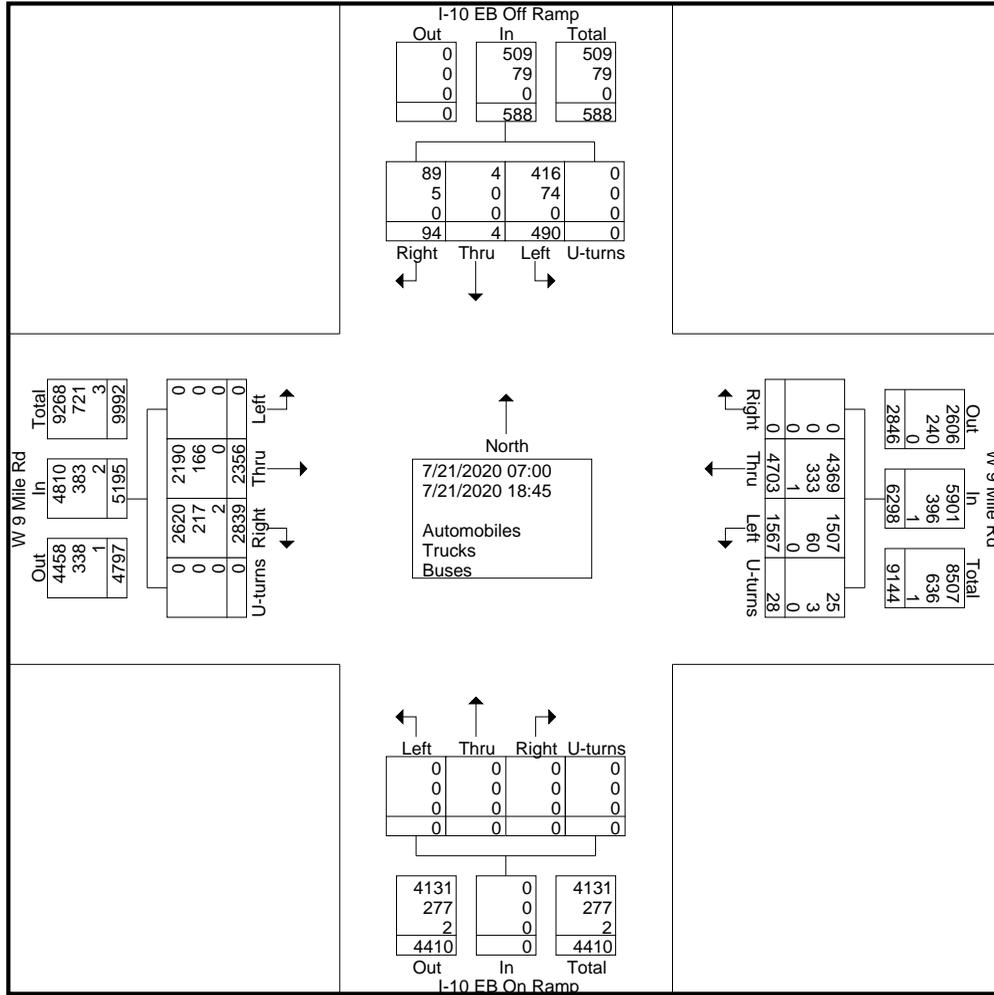
W 9 Mile Rd @ I-10 EB Ramps
Pensacola, Florida

File Name : W 9 Mile Rd @ I-10 EB Ramps
Site Code : 00000002
Start Date : 7/21/2020
Page No : 1

Groups Printed- Automobiles - Trucks - Buses

Start Time	I-10 EB Off Ramp Southbound					W 9 Mile Rd Westbound					I-10 EB On Ramp Northbound					W 9 Mile Rd Eastbound					Int. Total
	Left	Thru	Right	U-turns	App. Total	Left	Thru	Right	U-turns	App. Total	Left	Thru	Right	U-turns	App. Total	Left	Thru	Right	U-turns	App. Total	
07:00	10	0	4	0	14	65	117	0	1	183	0	0	0	0	0	0	62	120	0	182	379
07:15	10	0	1	0	11	94	126	0	1	221	0	0	0	0	0	0	58	179	0	237	469
07:30	8	0	2	0	10	105	130	0	0	235	0	0	0	0	0	0	59	184	0	243	488
07:45	10	0	2	0	12	69	150	0	0	219	0	0	0	0	0	0	63	131	0	194	425
Total	38	0	9	0	47	333	523	0	2	858	0	0	0	0	0	0	242	614	0	856	1761
08:00	15	0	2	0	17	52	131	0	1	184	0	0	0	0	0	0	89	107	0	196	397
08:15	14	0	0	0	14	59	153	0	0	212	0	0	0	0	0	0	69	107	0	176	402
08:30	20	0	2	0	22	77	111	0	0	188	0	0	0	0	0	0	77	96	0	173	383
08:45	13	0	2	0	15	57	136	0	0	193	0	0	0	0	0	0	76	98	0	174	382
Total	62	0	6	0	68	245	531	0	1	777	0	0	0	0	0	0	311	408	0	719	1564
09:00	7	0	2	0	9	44	101	0	0	145	0	0	0	0	0	0	75	77	0	152	306
09:15	17	0	1	0	18	48	130	0	1	179	0	0	0	0	0	0	69	91	0	160	357
09:30	15	0	2	0	17	47	126	0	2	175	0	0	0	0	0	0	63	99	0	162	354
09:45	9	0	3	0	12	44	127	0	3	174	0	0	0	0	0	0	71	85	0	156	342
Total	48	0	8	0	56	183	484	0	6	673	0	0	0	0	0	0	278	352	0	630	1359
*** BREAK ***																					
12:00	16	0	1	0	17	45	162	0	0	207	0	0	0	0	0	0	76	59	0	135	359
12:15	9	1	6	0	16	43	169	0	3	215	0	0	0	0	0	0	81	68	0	149	380
12:30	17	1	5	0	23	36	142	0	0	178	0	0	0	0	0	0	59	80	0	139	340
12:45	20	0	1	0	21	31	158	0	4	193	0	0	0	0	0	0	78	66	0	144	358
Total	62	2	13	0	77	155	631	0	7	793	0	0	0	0	0	0	294	273	0	567	1437
13:00	14	0	4	0	18	34	151	0	1	186	0	0	0	0	0	0	70	79	0	149	353
13:15	14	0	4	0	18	46	152	0	0	198	0	0	0	0	0	0	80	65	0	145	361
13:30	19	0	1	0	20	48	134	0	1	183	0	0	0	0	0	0	71	76	0	147	350
13:45	17	0	3	0	20	41	159	0	0	200	0	0	0	0	0	0	58	74	0	132	352
Total	64	0	12	0	76	169	596	0	2	767	0	0	0	0	0	0	279	294	0	573	1416
*** BREAK ***																					
16:00	13	0	2	0	15	42	187	0	2	231	0	0	0	0	0	0	90	78	0	168	414
16:15	21	0	5	0	26	52	165	0	0	217	0	0	0	0	0	0	90	101	0	191	434
16:30	30	0	9	0	39	44	178	0	2	224	0	0	0	0	0	0	74	94	0	168	431
16:45	26	0	2	0	28	42	187	0	0	229	0	0	0	0	0	0	73	74	0	147	404
Total	90	0	18	0	108	180	717	0	4	901	0	0	0	0	0	0	327	347	0	674	1683
17:00	24	0	9	0	33	53	186	0	0	239	0	0	0	0	0	0	78	90	0	168	440
17:15	18	0	8	0	26	35	182	0	1	218	0	0	0	0	0	0	88	72	0	160	404
17:30	25	1	1	0	27	39	177	0	0	216	0	0	0	0	0	0	108	82	0	190	433
17:45	17	1	2	0	20	35	155	0	2	192	0	0	0	0	0	0	74	70	0	144	356
Total	84	2	20	0	106	162	700	0	3	865	0	0	0	0	0	0	348	314	0	662	1633
18:00	12	0	4	0	16	37	119	0	3	159	0	0	0	0	0	0	70	60	0	130	305
18:15	8	0	2	0	10	38	152	0	0	190	0	0	0	0	0	0	71	53	0	124	324
18:30	15	0	1	0	16	33	135	0	0	168	0	0	0	0	0	0	79	65	0	144	328
18:45	7	0	1	0	8	32	115	0	0	147	0	0	0	0	0	0	57	59	0	116	271
Total	42	0	8	0	50	140	521	0	3	664	0	0	0	0	0	0	277	237	0	514	1228
Grand Total	490	4	94	0	588	1567	4703	0	28	6298	0	0	0	0	0	0	2356	2839	0	5195	12081
Apprch %	83.3	0.7	16	0		24.9	74.7	0	0.4		0	0	0	0	0	0	45.4	54.6	0		
Total %	4.1	0	0.8	0	4.9	13	38.9	0	0.2	52.1	0	0	0	0	0	0	19.5	23.5	0	43	
Automobiles	416	4	89	0	509	1507	4369	0	25	5901	0	0	0	0	0	0	2190	2620	0	4810	11220
% Automobiles	84.9	100	94.7	0	86.6	96.2	92.9	0	89.3	93.7	0	0	0	0	0	0	93	92.3	0	92.6	92.9
Trucks	74	0	5	0	79	60	333	0	3	396	0	0	0	0	0	0	166	217	0	383	858
% Trucks	15.1	0	5.3	0	13.4	3.8	7.1	0	10.7	6.3	0	0	0	0	0	0	7	7.6	0	7.4	7.1
Buses	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	3
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0

Intersection Turning Movement Count



Intersection Turning Movement Count

File Name : W 9 Mile Rd @ I-10 EB Ramps
 Site Code : 00000002
 Start Date : 7/21/2020
 Page No : 3

Start Time	I-10 EB Off Ramp Southbound					W 9 Mile Rd Westbound					I-10 EB On Ramp Northbound					W 9 Mile Rd Eastbound					Int. Total
	Left	Thru	Right	U-turns	App. Total	Left	Thru	Right	U-turns	App. Total	Left	Thru	Right	U-turns	App. Total	Left	Thru	Right	U-turns	App. Total	
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	10	0	1	0	11	94	126	0	1	221	0	0	0	0	0	0	58	179	0	237	469
07:30	8	0	2	0	10	105	130	0	0	235	0	0	0	0	0	0	59	184	0	243	488
07:45	10	0	2	0	12	69	150	0	0	219	0	0	0	0	0	0	63	131	0	194	425
08:00	15	0	2	0	17	52	131	0	1	184	0	0	0	0	0	0	89	107	0	196	397
Total Volume	43	0	7	0	50	320	537	0	2	859	0	0	0	0	0	0	269	601	0	870	1779
% App. Total	86	0	14	0		37.3	62.5	0	0.2		0	0	0	0	0	0	30.9	69.1	0		
PHF	.717	.000	.875	.000	.735	.762	.895	.000	.500	.914	.000	.000	.000	.000	.000	.000	.756	.817	.000	.895	.911
Automobiles	31	0	6	0	37	308	463	0	2	773	0	0	0	0	0	0	245	561	0	806	1616
% Automobiles	72.1	0	85.7	0	74.0	96.3	86.2	0	100	90.0	0	0	0	0	0	0	91.1	93.3	0	92.6	90.8
Trucks	12	0	1	0	13	12	74	0	0	86	0	0	0	0	0	0	24	39	0	63	162
% Trucks	27.9	0	14.3	0	26.0	3.8	13.8	0	0	10.0	0	0	0	0	0	0	8.9	6.5	0	7.2	9.1
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0.1	0.1

Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:00					07:15					07:00					07:15				
+0 mins.	15	0	2	0	17	94	126	0	1	221	0	0	0	0	0	0	58	179	0	237
+15 mins.	14	0	0	0	14	105	130	0	0	235	0	0	0	0	0	0	59	184	0	243
+30 mins.	20	0	2	0	22	69	150	0	0	219	0	0	0	0	0	0	63	131	0	194
+45 mins.	13	0	2	0	15	52	131	0	1	184	0	0	0	0	0	0	89	107	0	196
Total Volume	62	0	6	0	68	320	537	0	2	859	0	0	0	0	0	0	269	601	0	870
% App. Total	91.2	0	8.8	0		37.3	62.5	0	0.2		0	0	0	0	0	0	30.9	69.1	0	
PHF	.775	.000	.750	.000	.773	.762	.895	.000	.500	.914	.000	.000	.000	.000	.000	.000	.756	.817	.000	.895
Automobiles	46	0	5	0	51	308	463	0	2	773	0	0	0	0	0	0	245	561	0	806
% Automobiles	74.	0	83.	0	75	96.	86.	0	100	90	0	0	0	0	0	0	91.	93.	0	92.6
Trucks	2	0	3	0	5	2	2	0	100	90	0	0	0	0	0	0	1	3	0	92.6
% Trucks	25.	0	16.	0	25	3.8	13.	0	0	10	0	0	0	0	0	0	8.9	6.5	0	7.2
Buses	8	0	7	0	15	0	8	0	0	10	0	0	0	0	0	0	0	1	0	1
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0.1

Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 12:00

12:00	16	0	1	0	17	45	162	0	0	207	0	0	0	0	0	0	76	59	0	135	359
12:15	9	1	6	0	16	43	169	0	3	215	0	0	0	0	0	0	81	68	0	149	380
12:30	17	1	5	0	23	36	142	0	0	178	0	0	0	0	0	0	59	80	0	139	340
12:45	20	0	1	0	21	31	158	0	4	193	0	0	0	0	0	0	78	66	0	144	358
Total Volume	62	2	13	0	77	155	631	0	7	793	0	0	0	0	0	0	294	273	0	567	1437
% App. Total	80.5	2.6	16.9	0		19.5	79.6	0	0.9		0	0	0	0	0	0	51.9	48.1	0		
PHF	.775	.500	.542	.000	.837	.861	.933	.000	.438	.922	.000	.000	.000	.000	.000	.000	.907	.853	.000	.951	.945
Automobiles	47	2	13	0	62	143	586	0	6	735	0	0	0	0	0	0	261	236	0	497	1294
% Automobiles	75.8	100	100	0	80.5	92.3	92.9	0	85.7	92.7	0	0	0	0	0	0	88.8	86.4	0	87.7	90.0
Trucks	15	0	0	0	15	12	45	0	1	58	0	0	0	0	0	0	33	37	0	70	143
% Trucks	24.2	0	0	0	19.5	7.7	7.1	0	14.3	7.3	0	0	0	0	0	0	11.2	13.6	0	12.3	10.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	12:30					12:00					10:00					12:45				
+0 mins.	17	1	5	0	23	45	162	0	0	207	0	0	0	0	0	0	78	66	0	144
+15 mins.	20	0	1	0	21	43	169	0	3	215	0	0	0	0	0	0	70	79	0	149
+30 mins.	14	0	4	0	18	36	142	0	0	178	0	0	0	0	0	0	80	65	0	145
+45 mins.	14	0	4	0	18	31	158	0	4	193	0	0	0	0	0	0	71	76	0	147
Total Volume	65	1	14	0	80	155	631	0	7	793	0	0	0	0	0	0	299	286	0	585
% App. Total	81.2	1.2	17.5	0		19.5	79.6	0	0.9		0	0	0	0	0	0	51.1	48.9	0	
PHF	.813	.250	.700	.000	.870	.861	.933	.000	.438	.922	.000	.000	.000	.000	.000	.000	.934	.905	.000	.982
Automobiles	53	1	14	0	68	143	586	0	6	735	0	0	0	0	0	0	272	254	0	526
% Automobiles	81.	100	100	0	85	92.	92.	0	85.	92.7	0	0	0	0	0	0	91	88.	0	89.9
Trucks	5	0	0	0	12	3	9	0	7	58	0	0	0	0	0	0	8		0	89.9
% Trucks	12	0	0	0	12	12	45	0	1	58	0	0	0	0	0	0	27	32	0	59

Intersection Turning Movement Count

W 9 Mile Rd @ I-10 EB Ramps
Pensacola, Florida

File Name : W 9 Mile Rd @ I-10 EB Ramps
Site Code : 00000002
Start Date : 7/21/2020
Page No : 1

Groups Printed- Trucks - Buses

Start Time	I-10 EB Off Ramp Southbound					W 9 Mile Rd Westbound					I-10 EB On Ramp Northbound					W 9 Mile Rd Eastbound					Int. Total
	Left	Thru	Right	U-turns	App. Total	Left	Thru	Right	U-turns	App. Total	Left	Thru	Right	U-turns	App. Total	Left	Thru	Right	U-turns	App. Total	
07:00	0	0	1	0	1	3	20	0	0	23	0	0	0	0	0	0	3	9	0	12	36
07:15	2	0	0	0	2	6	13	0	0	19	0	0	0	0	0	0	6	8	0	14	35
07:30	3	0	0	0	3	2	18	0	0	20	0	0	0	0	0	0	5	7	0	12	35
07:45	3	0	0	0	3	1	21	0	0	22	0	0	0	0	0	0	6	15	0	21	46
Total	8	0	1	0	9	12	72	0	0	84	0	0	0	0	0	0	20	39	0	59	152
08:00	4	0	1	0	5	3	22	0	0	25	0	0	0	0	0	0	7	10	0	17	47
08:15	3	0	0	0	3	4	15	0	0	19	0	0	0	0	0	0	8	6	0	14	36
08:30	7	0	0	0	7	2	14	0	0	16	0	0	0	0	0	0	5	8	0	13	36
08:45	2	0	0	0	2	1	15	0	0	16	0	0	0	0	0	0	2	9	0	11	29
Total	16	0	1	0	17	10	66	0	0	76	0	0	0	0	0	0	22	33	0	55	148
09:00	3	0	1	0	4	3	14	0	0	17	0	0	0	0	0	0	8	7	0	15	36
09:15	4	0	1	0	5	3	20	0	0	23	0	0	0	0	0	0	9	13	0	22	50
09:30	3	0	1	0	4	0	20	0	1	21	0	0	0	0	0	0	9	8	0	17	42
09:45	0	0	0	0	0	5	16	0	0	21	0	0	0	0	0	0	12	12	0	24	45
Total	10	0	3	0	13	11	70	0	1	82	0	0	0	0	0	0	38	40	0	78	173
12:00	5	0	0	0	5	5	13	0	0	18	0	0	0	0	0	0	6	9	0	15	38
12:15	2	0	0	0	2	2	7	0	0	9	0	0	0	0	0	0	8	10	0	18	29
12:30	6	0	0	0	6	2	10	0	0	12	0	0	0	0	0	0	8	9	0	17	35
12:45	2	0	0	0	2	3	15	0	1	19	0	0	0	0	0	0	11	9	0	20	41
Total	15	0	0	0	15	12	45	0	1	58	0	0	0	0	0	0	33	37	0	70	143
13:00	2	0	0	0	2	1	22	0	0	23	0	0	0	0	0	0	3	8	0	11	36
13:15	2	0	0	0	2	2	12	0	0	14	0	0	0	0	0	0	7	5	0	12	28
13:30	3	0	0	0	3	1	6	0	1	8	0	0	0	0	0	0	6	10	0	16	27
13:45	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	5	6	0	11	26
Total	7	0	0	0	7	4	55	0	1	60	0	0	0	0	0	0	21	29	0	50	117
16:00	0	0	0	0	0	2	6	0	0	8	0	0	0	0	0	0	5	4	0	9	17
16:15	2	0	0	0	2	2	3	0	0	5	0	0	0	0	0	0	4	10	0	14	21
16:30	2	0	0	0	2	0	4	0	0	4	0	0	0	0	0	0	4	4	0	8	14
16:45	3	0	0	0	3	0	2	0	0	2	0	0	0	0	0	0	3	4	0	7	12
Total	7	0	0	0	7	4	15	0	0	19	0	0	0	0	0	0	16	22	0	38	64
17:00	3	0	0	0	3	0	1	0	0	1	0	0	0	0	0	0	0	3	0	3	7
17:15	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	0	6	3	0	9	12
17:30	1	0	0	0	1	1	2	0	0	3	0	0	0	0	0	0	1	3	0	4	8
17:45	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	2	2	0	4	6
Total	4	0	0	0	4	4	5	0	0	9	0	0	0	0	0	0	9	11	0	20	33
18:00	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	4	0	5	7
18:15	4	0	0	0	4	0	1	0	0	1	0	0	0	0	0	0	2	1	0	3	8
18:30	2	0	0	0	2	0	3	0	0	3	0	0	0	0	0	0	3	3	0	6	11
18:45	0	0	0	0	0	3	1	0	0	4	0	0	0	0	0	0	1	0	0	1	5
Total	7	0	0	0	7	3	6	0	0	9	0	0	0	0	0	0	7	8	0	15	31
Grand Total	74	0	5	0	79	60	334	0	3	397	0	0	0	0	0	0	166	219	0	385	861
Apprch %	93.7	0	6.3	0		15.1	84.1	0	0.8		0	0	0	0	0	0	43.1	56.9	0		
Total %	8.6	0	0.6	0	9.2	7	38.8	0	0.3	46.1	0	0	0	0	0	0	19.3	25.4	0	44.7	
Trucks	74	0	5	0	79	60	333	0	3	396	0	0	0	0	0	0	166	217	0	383	858
% Trucks	100	0	100	0	100	100	99.7	0	100	99.7	0	0	0	0	0	0	100	99.1	0	99.5	99.7
Buses	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2	0	2	3
% Buses	0	0	0	0	0	0	0.3	0	0	0.3	0	0	0	0	0	0	0	0.9	0	0.5	0.3

Intersection Turning Movement Count

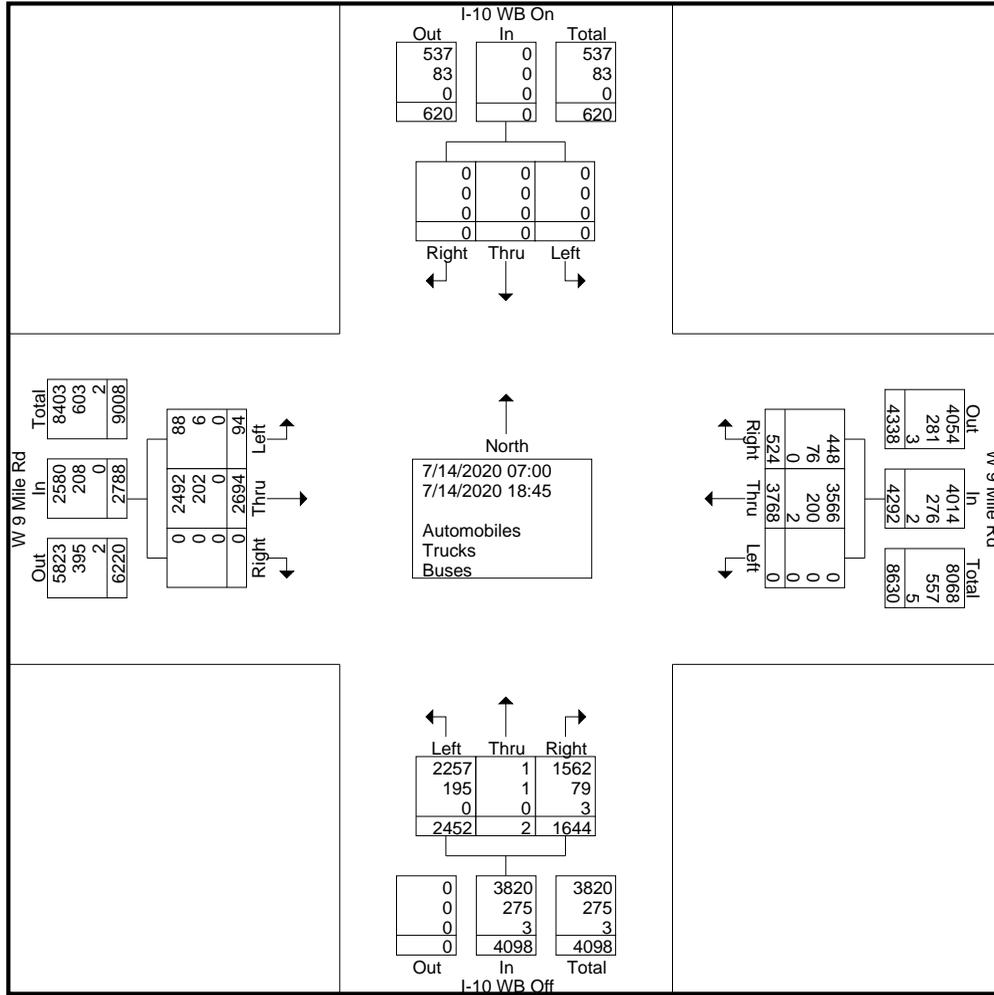
W 9 Mile Rd @ I-10 WB Ramps
Pensacola, Florida

File Name : W 9 Mile Rd @ I-10 WB Ramps
Site Code : 00000001
Start Date : 7/14/2020
Page No : 1

Groups Printed- Automobiles - Trucks - Buses

Start Time	I-10 WB On Southbound				W 9 Mile Rd Westbound				I-10 WB Off Northbound				W 9 Mile Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00	0	0	0	0	0	142	13	155	72	0	23	95	4	64	0	68	318
07:15	0	0	0	0	0	146	12	158	66	0	25	91	2	66	0	68	317
07:30	0	0	0	0	0	134	18	152	87	0	25	112	0	73	0	73	337
07:45	0	0	0	0	0	169	9	178	68	0	17	85	8	85	0	93	356
Total	0	0	0	0	0	591	52	643	293	0	90	383	14	288	0	302	1328
08:00	0	0	0	0	0	109	15	124	80	0	25	105	6	68	0	74	303
08:15	0	0	0	0	0	125	20	145	74	0	28	102	0	64	0	64	311
08:30	0	0	0	0	0	136	16	152	65	0	30	95	2	86	0	88	335
08:45	0	0	0	0	0	115	12	127	84	0	30	114	3	75	0	78	319
Total	0	0	0	0	0	485	63	548	303	0	113	416	11	293	0	304	1268
09:00	0	0	0	0	0	88	10	98	54	0	26	80	3	85	0	88	266
09:15	0	0	0	0	0	93	15	108	54	0	23	77	0	80	0	80	265
09:30	0	0	0	0	0	114	20	134	66	0	36	102	7	71	0	78	314
09:45	0	0	0	0	0	127	14	141	64	0	38	102	2	86	0	88	331
Total	0	0	0	0	0	422	59	481	238	0	123	361	12	322	0	334	1176
*** BREAK ***																	
12:00	0	0	0	0	0	130	16	146	77	0	41	118	5	90	0	95	359
12:15	0	0	0	0	0	125	17	142	66	0	36	102	5	91	0	96	340
12:30	0	0	0	0	0	120	17	137	83	0	46	129	7	92	0	99	365
12:45	0	0	0	0	0	118	16	134	62	0	46	108	2	92	0	94	336
Total	0	0	0	0	0	493	66	559	288	0	169	457	19	365	0	384	1400
13:00	0	0	0	0	0	103	14	117	83	0	41	124	2	89	0	91	332
13:15	0	0	0	0	0	125	14	139	83	0	33	116	1	85	0	86	341
13:30	0	0	0	0	0	120	16	136	87	0	45	132	4	77	0	81	349
13:45	0	0	0	0	0	123	29	152	68	0	37	105	5	100	0	105	362
Total	0	0	0	0	0	471	73	544	321	0	156	477	12	351	0	363	1384
*** BREAK ***																	
16:00	0	0	0	0	0	133	17	150	94	0	76	170	5	89	0	94	414
16:15	0	0	0	0	0	145	23	168	99	1	100	200	5	104	0	109	477
16:30	0	0	0	0	0	125	30	155	99	0	110	209	1	104	0	105	469
16:45	0	0	0	0	0	117	17	134	114	0	88	202	0	82	0	82	418
Total	0	0	0	0	0	520	87	607	406	1	374	781	11	379	0	390	1778
17:00	0	0	0	0	0	147	18	165	95	0	91	186	3	115	0	118	469
17:15	0	0	0	0	0	93	18	111	96	0	94	190	0	112	0	112	413
17:30	0	0	0	0	0	107	12	119	70	0	111	181	2	118	0	120	420
17:45	0	0	0	0	0	91	23	114	87	0	107	194	2	68	0	70	378
Total	0	0	0	0	0	438	71	509	348	0	403	751	7	413	0	420	1680
18:00	0	0	0	0	0	84	14	98	70	1	78	149	4	76	0	80	327
18:15	0	0	0	0	0	86	14	100	56	0	53	109	1	72	0	73	282
18:30	0	0	0	0	0	92	10	102	65	0	50	115	1	70	0	71	288
18:45	0	0	0	0	0	86	15	101	64	0	35	99	2	65	0	67	267
Total	0	0	0	0	0	348	53	401	255	1	216	472	8	283	0	291	1164
Grand Total	0	0	0	0	0	3768	524	4292	2452	2	1644	4098	94	2694	0	2788	11178
Apprch %	0	0	0		0	87.8	12.2		59.8	0	40.1		3.4	96.6	0		
Total %	0	0	0	0	0	33.7	4.7	38.4	21.9	0	14.7	36.7	0.8	24.1	0	24.9	
Automobiles	0	0	0	0	0	3566	448	4014	2257	1	1562	3820	88	2492	0	2580	10414
% Automobiles	0	0	0	0	0	94.6	85.5	93.5	92	50	95	93.2	93.6	92.5	0	92.5	93.2
Trucks	0	0	0	0	0	200	76	276	195	1	79	275	6	202	0	208	759
% Trucks	0	0	0	0	0	5.3	14.5	6.4	8	50	4.8	6.7	6.4	7.5	0	7.5	6.8
Buses	0	0	0	0	0	2	0	2	0	0	3	3	0	0	0	0	5
% Buses	0	0	0	0	0	0.1	0	0	0	0	0.2	0.1	0	0	0	0	0

Intersection Turning Movement Count



Intersection Turning Movement Count

File Name : W 9 Mile Rd @ I-10 WB Ramps

Site Code : 00000001

Start Date : 7/14/2020

Page No : 3

Start Time	I-10 WB On Southbound				W 9 Mile Rd Westbound				I-10 WB Off Northbound				W 9 Mile Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00																	
07:00	0	0	0	0	0	142	13	155	72	0	23	95	4	64	0	68	318
07:15	0	0	0	0	0	146	12	158	66	0	25	91	2	66	0	68	317
07:30	0	0	0	0	0	134	18	152	87	0	25	112	0	73	0	73	337
07:45	0	0	0	0	0	169	9	178	68	0	17	85	8	85	0	93	356
Total Volume	0	0	0	0	0	591	52	643	293	0	90	383	14	288	0	302	1328
% App. Total	0	0	0	0	0	91.9	8.1		76.5	0	23.5		4.6	95.4	0		
PHF	.000	.000	.000	.000	.000	.874	.722	.903	.842	.000	.900	.855	.438	.847	.000	.812	.933
Automobiles	0	0	0	0	0	560	47	607	268	0	83	351	14	261	0	275	1233
% Automobiles	0	0	0	0	0	94.8	90.4	94.4	91.5	0	92.2	91.6	100	90.6	0	91.1	92.8
Trucks	0	0	0	0	0	31	5	36	25	0	6	31	0	27	0	27	94
% Trucks	0	0	0	0	0	5.2	9.6	5.6	8.5	0	6.7	8.1	0	9.4	0	8.9	7.1
Buses	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
% Buses	0	0	0	0	0	0	0	0	0	0	1.1	0.3	0	0	0	0	0.1

Peak Hour Analysis From 07:00 to 09:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00				07:00				08:00				08:30			
+0 mins.	0	0	0	0	0	142	13	155	80	0	25	105	2	86	0	88
+15 mins.	0	0	0	0	0	146	12	158	74	0	28	102	3	75	0	78
+30 mins.	0	0	0	0	0	134	18	152	65	0	30	95	3	85	0	88
+45 mins.	0	0	0	0	0	169	9	178	84	0	30	114	0	80	0	80
Total Volume	0	0	0	0	0	591	52	643	303	0	113	416	8	326	0	334
% App. Total	0	0	0	0	0	91.9	8.1		72.8	0	27.2		2.4	97.6	0	
PHF	.000	.000	.000	.000	.000	.874	.722	.903	.902	.000	.942	.912	.667	.948	.000	.949
Automobiles	0	0	0	0	0	560	47	607	266	0	95	361	8	290	0	298
% Automobiles	0	0	0	0	0	94.8	90.4	94.4	87.8	0	84.1	86.8	100	89	0	89.2
Trucks	0	0	0	0	0	31	5	36	37	0	18	55	0	36	0	36
% Trucks	0	0	0	0	0	5.2	9.6	5.6	12.2	0	15.9	13.2	0	11	0	10.8
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 12:00

12:00	0	0	0	0	0	130	16	146	77	0	41	118	5	90	0	95	359
12:15	0	0	0	0	0	125	17	142	66	0	36	102	5	91	0	96	340
12:30	0	0	0	0	0	120	17	137	83	0	46	129	7	92	0	99	365
12:45	0	0	0	0	0	118	16	134	62	0	46	108	2	92	0	94	336
Total Volume	0	0	0	0	0	493	66	559	288	0	169	457	19	365	0	384	1400
% App. Total	0	0	0	0	0	88.2	11.8		63	0	37		4.9	95.1	0		
PHF	.000	.000	.000	.000	.000	.948	.971	.957	.867	.000	.918	.886	.679	.992	.000	.970	.959
Automobiles	0	0	0	0	0	465	53	518	254	0	161	415	18	333	0	351	1284
% Automobiles	0	0	0	0	0	94.3	80.3	92.7	88.2	0	95.3	90.8	94.7	91.2	0	91.4	91.7
Trucks	0	0	0	0	0	28	13	41	34	0	7	41	1	32	0	33	115
% Trucks	0	0	0	0	0	5.7	19.7	7.3	11.8	0	4.1	9.0	5.3	8.8	0	8.6	8.2
Buses	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
% Buses	0	0	0	0	0	0	0	0	0	0	0.6	0.2	0	0	0	0	0.1

Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	10:00				12:00				12:45				12:00			
+0 mins.	0	0	0	0	0	130	16	146	62	0	46	108	5	90	0	95
+15 mins.	0	0	0	0	0	125	17	142	83	0	41	124	5	91	0	96
+30 mins.	0	0	0	0	0	120	17	137	83	0	33	116	7	92	0	99
+45 mins.	0	0	0	0	0	118	16	134	87	0	45	132	2	92	0	94
Total Volume	0	0	0	0	0	493	66	559	315	0	165	480	19	365	0	384
% App. Total	0	0	0	0	0	88.2	11.8		65.6	0	34.4		4.9	95.1	0	
PHF	.000	.000	.000	.000	.000	.948	.971	.957	.905	.000	.897	.909	.679	.992	.000	.970
Automobiles	0	0	0	0	0	465	53	518	274	0	147	421	18	333	0	351
% Automobiles	0	0	0	0	0	94.3	80.3	92.7	87	0	89.1	87.7	94.7	91.2	0	91.4
Trucks	0	0	0	0	0	28	13	41	41	0	17	58	1	32	0	33
% Trucks	0	0	0	0	0	5.7	19.7	7.3	13	0	10.3	12.1	5.3	8.8	0	8.6
Buses	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0.6	0.2	0	0	0	0

Intersection Turning Movement Count

File Name : W 9 Mile Rd @ I-10 WB Ramps

Site Code : 00000001

Start Date : 7/14/2020

Page No : 4

Start Time	I-10 WB On Southbound				W 9 Mile Rd Westbound				I-10 WB Off Northbound				W 9 Mile Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 14:00 to 18:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:15																	
16:15	0	0	0	0	0	145	23	168	99	1	100	200	5	104	0	109	477
16:30	0	0	0	0	0	125	30	155	99	0	110	209	1	104	0	105	469
16:45	0	0	0	0	0	117	17	134	114	0	88	202	0	82	0	82	418
17:00	0	0	0	0	0	147	18	165	95	0	91	186	3	115	0	118	469
Total Volume	0	0	0	0	0	534	88	622	407	1	389	797	9	405	0	414	1833
% App. Total	0	0	0	0	0	85.9	14.1		51.1	0.1	48.8		2.2	97.8	0		
PHF	.000	.000	.000	.000	.000	.908	.733	.926	.893	.250	.884	.953	.450	.880	.000	.877	.961
Automobiles	0	0	0	0	0	508	82	590	396	1	376	773	7	390	0	397	1760
% Automobiles	0	0	0	0	0	95.1	93.2	94.9	97.3	100	96.7	97.0	77.8	96.3	0	95.9	96.0
Trucks	0	0	0	0	0	26	6	32	11	0	13	24	2	15	0	17	73
% Trucks	0	0	0	0	0	4.9	6.8	5.1	2.7	0	3.3	3.0	22.2	3.7	0	4.1	4.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis From 14:00 to 18:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	14:00				16:15				16:15				16:45			
+0 mins.	0	0	0	0	0	145	23	168	99	1	100	200	0	82	0	82
+15 mins.	0	0	0	0	0	125	30	155	99	0	110	209	3	115	0	118
+30 mins.	0	0	0	0	0	117	17	134	114	0	88	202	0	112	0	112
+45 mins.	0	0	0	0	0	147	18	165	95	0	91	186	2	118	0	120
Total Volume	0	0	0	0	0	534	88	622	407	1	389	797	5	427	0	432
% App. Total	0	0	0	0	0	85.9	14.1		51.1	0.1	48.8		1.2	98.8	0	
PHF	.000	.000	.000	.000	.000	.908	.733	.926	.893	.250	.884	.953	.417	.905	.000	.900
Automobiles	0	0	0	0	0	508	82	590	396	1	376	773	5	408	0	413
% Automobiles	0	0	0	0	0	95.1	93.2	94.9	97.3	100	96.7	97	100	95.6	0	95.6
Trucks	0	0	0	0	0	26	6	32	11	0	13	24	0	19	0	19
% Trucks	0	0	0	0	0	4.9	6.8	5.1	2.7	0	3.3	3	0	4.4	0	4.4
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Turning Movement Count

W 9 Mile Rd @ I-10 WB Ramps
Pensacola, Florida

File Name : W 9 Mile Rd @ I-10 WB Ramps
Site Code : 00000001
Start Date : 7/14/2020
Page No : 1

Groups Printed- Trucks - Buses

Start Time	I-10 WB On Southbound				W 9 Mile Rd Westbound				I-10 WB Off Northbound				W 9 Mile Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00	0	0	0	0	0	5	2	7	7	0	3	10	0	4	0	4	21
07:15	0	0	0	0	0	15	1	16	4	0	2	6	0	5	0	5	27
07:30	0	0	0	0	0	4	2	6	9	0	1	10	0	6	0	6	22
07:45	0	0	0	0	0	7	0	7	5	0	1	6	0	12	0	12	25
Total	0	0	0	0	0	31	5	36	25	0	7	32	0	27	0	27	95
08:00	0	0	0	0	0	6	2	8	10	0	6	16	1	10	0	11	35
08:15	0	0	0	0	0	17	4	21	9	0	2	11	0	7	0	7	39
08:30	0	0	0	0	0	8	2	10	8	0	6	14	0	12	0	12	36
08:45	0	0	0	0	0	14	1	15	10	0	4	14	0	7	0	7	36
Total	0	0	0	0	0	45	9	54	37	0	18	55	1	36	0	37	146
09:00	0	0	0	0	0	4	3	7	5	0	1	6	0	10	0	10	23
09:15	0	0	0	0	0	7	3	10	13	0	4	17	0	7	0	7	34
09:30	0	0	0	0	0	6	8	14	7	0	5	12	1	7	0	8	34
09:45	0	0	0	0	0	11	2	13	9	0	1	10	0	12	0	12	35
Total	0	0	0	0	0	28	16	44	34	0	11	45	1	36	0	37	126
12:00	0	0	0	0	0	12	4	16	8	0	0	8	0	6	0	6	30
12:15	0	0	0	0	0	3	2	5	9	0	3	12	0	14	0	14	31
12:30	0	0	0	0	0	5	3	8	11	0	2	13	1	6	0	7	28
12:45	0	0	0	0	0	8	4	12	6	0	3	9	0	6	0	6	27
Total	0	0	0	0	0	28	13	41	34	0	8	42	1	32	0	33	116
13:00	0	0	0	0	0	3	3	6	12	0	5	17	0	6	0	6	29
13:15	0	0	0	0	0	8	1	9	10	0	3	13	0	8	0	8	30
13:30	0	0	0	0	0	9	3	12	13	0	7	20	0	3	0	3	35
13:45	0	0	0	0	0	8	7	15	10	0	2	12	1	8	0	9	36
Total	0	0	0	0	0	28	14	42	45	0	17	62	1	25	0	26	130
16:00	0	0	0	0	0	3	4	7	2	0	3	5	0	4	0	4	16
16:15	0	0	0	0	0	9	2	11	2	0	2	4	2	4	0	6	21
16:30	0	0	0	0	0	6	2	8	3	0	2	5	0	4	0	4	17
16:45	0	0	0	0	0	1	2	3	6	0	5	11	0	3	0	3	17
Total	0	0	0	0	0	19	10	29	13	0	12	25	2	15	0	17	71
17:00	0	0	0	0	0	10	0	10	0	0	4	4	0	4	0	4	18
17:15	0	0	0	0	0	4	1	5	3	0	0	3	0	7	0	7	15
17:30	0	0	0	0	0	3	0	3	1	0	0	1	0	5	0	5	9
17:45	0	0	0	0	0	1	2	3	0	0	2	2	0	5	0	5	10
Total	0	0	0	0	0	18	3	21	4	0	6	10	0	21	0	21	52
18:00	0	0	0	0	0	1	2	3	1	1	2	4	0	3	0	3	10
18:15	0	0	0	0	0	1	1	2	0	0	0	0	0	2	0	2	4
18:30	0	0	0	0	0	1	1	2	1	0	0	1	0	2	0	2	5
18:45	0	0	0	0	0	2	2	4	1	0	1	2	0	3	0	3	9
Total	0	0	0	0	0	5	6	11	3	1	3	7	0	10	0	10	28
Grand Total	0	0	0	0	0	202	76	278	195	1	82	278	6	202	0	208	764
Apprch %	0	0	0		0	72.7	27.3		70.1	0.4	29.5		2.9	97.1	0		
Total %	0	0	0	0	0	26.4	9.9	36.4	25.5	0.1	10.7	36.4	0.8	26.4	0	27.2	
Trucks	0	0	0	0	0	200	76	276	195	1	79	275	6	202	0	208	759
% Trucks	0	0	0	0	0	99	100	99.3	100	100	96.3	98.9	100	100	0	100	99.3
Buses	0	0	0	0	0	2	0	2	0	0	3	3	0	0	0	0	5
% Buses	0	0	0	0	0	1	0	0.7	0	0	3.7	1.1	0	0	0	0	0.7

Intersection Turning Movement Count

W 9 Mile Rd @ I-10 WB Ramps

File Name : W 9 Mile Rd @ I-10 WB Ramps Peds

Site Code : 00000001

Start Date : 7/14/2020

Page No : 1

Groups Printed- Peds

Start Time	I-10 WB On Southbound Peds	W 9 Mile Rd Westbound Peds	I-10 WB Off Northbound Peds	W 9 Mile Rd Eastbound Peds	Int. Total
07:00	0	0	0	0	0
07:15	0	0	0	0	0
07:30	0	0	1	0	1
07:45	0	0	0	0	0
Total	0	0	1	0	1
08:00	0	0	0	0	0
08:15	0	0	0	0	0
08:30	0	0	0	0	0
08:45	0	0	0	0	0
Total	0	0	0	0	0
09:00	0	0	1	0	1
09:15	0	0	1	0	1
09:30	0	0	0	0	0
09:45	0	3	0	0	3
Total	0	3	2	0	5
10:00	0	0	0	0	0
10:15	0	0	0	0	0
10:30	0	0	0	0	0
10:45	0	0	0	0	0
Total	0	0	0	0	0
11:00	0	0	0	0	0
11:15	0	0	0	0	0
11:30	0	0	0	0	0
11:45	0	0	0	0	0
Total	0	0	0	0	0
12:00	0	0	0	0	0
12:15	0	0	1	0	1
12:30	0	0	1	0	1
12:45	0	0	0	0	0
Total	0	0	2	0	2
13:00	0	0	0	0	0
13:15	0	0	0	0	0
13:30	0	0	0	0	0
13:45	0	0	0	0	0
Total	0	0	0	0	0
14:00	0	0	0	0	0
14:15	0	0	0	0	0
14:30	0	0	0	0	0
14:45	0	0	0	0	0
Total	0	0	0	0	0
15:00	0	0	0	0	0
15:15	0	0	0	0	0
15:30	0	0	0	0	0
15:45	0	0	0	0	0
Total	0	0	0	0	0

Intersection Turning Movement Count

File Name : W 9 Mile Rd @ I-10 WB Ramps Peds

Site Code : 00000001

Start Date : 7/14/2020

Page No : 2

Groups Printed- Peds

Start Time	I-10 WB On Southbound Peds	W 9 Mile Rd Westbound Peds	I-10 WB Off Northbound Peds	W 9 Mile Rd Eastbound Peds	Int. Total
16:00	0	0	0	0	0
16:15	0	0	0	0	0
16:30	0	0	0	0	0
16:45	0	0	1	0	1
Total	0	0	1	0	1
17:00	0	0	0	0	0
17:15	0	0	0	0	0
17:30	0	0	0	0	0
17:45	0	0	0	0	0
Total	0	0	0	0	0
18:00	0	0	0	0	0
18:15	0	0	0	0	0
18:30	0	0	0	0	0
18:45	0	0	0	0	0
Total	0	0	0	0	0
Grand Total	0	3	6	0	9
Apprch %	0	100	100	0	
Total %	0	33.3	66.7	0	

Appendix C Traffic Analysis – Future Scenarios

HCM Signalized Intersection Capacity Analysis

2018 Existing - PM

4: Beulah Rd & Frank Reeder Rd

05/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕	↗	↗	↕	↕
Traffic Volume (vph)	63	5	43	81	4	55	33	329	34	16	725	48
Future Volume (vph)	63	5	43	81	4	55	33	329	34	16	725	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	12	12	10	12	12	11	12	12	11	12
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00		1.00	0.95	1.00	1.00	0.95	
Frt		0.95			0.95		1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.97			0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1659			1600		1626	3144	1455	1626	3114	
Flt Permitted		0.79			0.79		0.25	1.00	1.00	0.54	1.00	
Satd. Flow (perm)		1354			1300		429	3144	1455	917	3114	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	69	5	47	89	4	60	36	362	37	18	797	53
RTOR Reduction (vph)	0	28	0	0	36	0	0	0	22	0	11	0
Lane Group Flow (vph)	0	93	0	0	117	0	36	362	15	18	839	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	11%	11%	11%	11%	11%	11%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		18.0			18.0		18.0	18.0	18.0	18.0	18.0	
Effective Green, g (s)		18.0			18.0		18.0	18.0	18.0	18.0	18.0	
Actuated g/C Ratio		0.40			0.40		0.40	0.40	0.40	0.40	0.40	
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5	4.5	4.5	
Lane Grp Cap (vph)		541			520		171	1257	582	366	1245	
v/s Ratio Prot								0.12			c0.27	
v/s Ratio Perm		0.07			c0.09		0.08		0.01	0.02		
v/c Ratio		0.17			0.23		0.21	0.29	0.03	0.05	0.67	
Uniform Delay, d1		8.7			8.9		8.8	9.2	8.2	8.3	11.1	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.7			1.0		2.8	0.6	0.1	0.3	2.9	
Delay (s)		9.4			9.9		11.6	9.7	8.3	8.5	14.0	
Level of Service		A			A		B	A	A	A	B	
Approach Delay (s)		9.4			9.9			9.8			13.9	
Approach LOS		A			A			A			B	

Intersection Summary

HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	45.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	44.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
5: Beulah Rd & W Nine Mile Rd

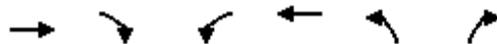
2018 Existing - PM
05/13/2021

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  			  			 			 		
Traffic Volume (vph)	138	716	16	66	73	99	24	159	473	501	225	123	
Future Volume (vph)	138	716	16	66	73	99	24	159	473	501	225	123	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	11	12	12	11	12	12	10	10	10	12	12	12	
Total Lost time (s)	7.6	7.6	7.6	7.5	7.5	7.5	6.7	6.7	6.7	6.8	6.8	6.8	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1616	4803	1495	1616	4803	1495	1518	3035	1358	1626	3252	1455	
Flt Permitted	0.54	1.00	1.00	0.34	1.00	1.00	0.60	1.00	1.00	0.64	1.00	1.00	
Satd. Flow (perm)	911	4803	1495	570	4803	1495	961	3035	1358	1102	3252	1455	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Adj. Flow (vph)	148	770	17	71	78	106	26	171	509	539	242	132	
RTOR Reduction (vph)	0	0	13	0	0	85	0	0	160	0	0	66	
Lane Group Flow (vph)	148	770	4	71	78	21	26	171	349	539	242	66	
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	11%	11%	11%	11%	11%	11%	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	
Protected Phases	1	6		5	2			4		3	8		
Permitted Phases	6		6	2		2	4		4	8		8	
Actuated Green, G (s)	37.6	27.1	27.1	25.0	20.8	20.8	31.7	31.7	31.7	53.4	53.4	53.4	
Effective Green, g (s)	37.6	27.1	27.1	25.0	20.8	20.8	31.7	31.7	31.7	53.4	53.4	53.4	
Actuated g/C Ratio	0.35	0.25	0.25	0.23	0.20	0.20	0.30	0.30	0.30	0.50	0.50	0.50	
Clearance Time (s)	7.6	7.6	7.6	7.5	7.5	7.5	6.7	6.7	6.7	6.8	6.8	6.8	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	390	1221	380	174	937	291	285	902	403	625	1629	728	
v/s Ratio Prot	c0.04	c0.16		0.02	0.02			0.06		c0.12	0.07		
v/s Ratio Perm	0.10		0.00	0.08		0.01	0.03		0.26	c0.31		0.05	
v/c Ratio	0.38	0.63	0.01	0.41	0.08	0.07	0.09	0.19	0.87	0.86	0.15	0.09	
Uniform Delay, d1	24.8	35.3	29.7	32.7	35.1	35.0	27.0	27.9	35.4	23.4	14.3	13.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.6	1.1	0.0	1.6	0.0	0.1	0.1	0.1	17.3	11.8	0.0	0.1	
Delay (s)	25.4	36.4	29.7	34.2	35.1	35.1	27.2	28.0	52.8	35.2	14.4	14.0	
Level of Service	C	D	C	C	D	D	C	C	D	D	B	B	
Approach Delay (s)		34.5			34.9			45.8			26.6		
Approach LOS		C			C			D			C		
Intersection Summary													
HCM 2000 Control Delay			34.8									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.84										
Actuated Cycle Length (s)			106.6									Sum of lost time (s)	28.6
Intersection Capacity Utilization			88.5%									ICU Level of Service	E
Analysis Period (min)			15										

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
6: Bell Ridge Dr & W Nine Mile Rd

2018 Existing - PM
05/13/2021



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↑		↵	↑↑↑	↵			
Traffic Volume (veh/h)	1638	3	5	201	43	26		
Future Volume (Veh/h)	1638	3	5	201	43	26		
Sign Control	Free			Free	Stop			
Grade	0%			0%	0%			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90		
Hourly flow rate (vph)	1820	3	6	223	48	29		
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type	None			None				
Median storage (veh)								
Upstream signal (ft)								
pX, platoon unblocked								
vC, conflicting volume			1823		1908	608		
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol			1823		1908	608		
tC, single (s)			4.3		6.8	6.9		
tC, 2 stage (s)								
tF (s)			2.3		3.5	3.3		
p0 queue free %			98		19	93		
cM capacity (veh/h)			308		59	439		
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1
Volume Total	728	728	367	6	74	74	74	77
Volume Left	0	0	0	6	0	0	0	48
Volume Right	0	0	3	0	0	0	0	29
cSH	1700	1700	1700	308	1700	1700	1700	88
Volume to Capacity	0.43	0.43	0.22	0.02	0.04	0.04	0.04	0.88
Queue Length 95th (ft)	0	0	0	1	0	0	0	119
Control Delay (s)	0.0	0.0	0.0	16.9	0.0	0.0	0.0	149.5
Lane LOS				C				F
Approach Delay (s)	0.0			0.4				149.5
Approach LOS								F
Intersection Summary								
Average Delay			5.5					
Intersection Capacity Utilization			42.4%	ICU Level of Service				A
Analysis Period (min)			15					

HCM Unsignalized Intersection Capacity Analysis
7: Foxtail Loop & W Nine Mile Rd

2018 Existing - PM
05/13/2021

										
Movement	EBT	EBR	WBL	WBT	NBL	NBR				
Lane Configurations	↑↑↑		↙	↑↑↑		↗				
Traffic Volume (veh/h)	1651	29	11	200	0	103				
Future Volume (Veh/h)	1651	29	11	200	0	103				
Sign Control	Free			Free	Stop					
Grade	0%			0%	0%					
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				
Hourly flow rate (vph)	1814	32	12	220	0	113				
Pedestrians										
Lane Width (ft)										
Walking Speed (ft/s)										
Percent Blockage										
Right turn flare (veh)										
Median type	None			None						
Median storage (veh)										
Upstream signal (ft)										
pX, platoon unblocked										
vC, conflicting volume			1846			1927	621			
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol			1846			1927	621			
tC, single (s)			4.3			6.8	6.9			
tC, 2 stage (s)										
tF (s)			2.3			3.5	3.3			
p0 queue free %			96			100	74			
cM capacity (veh/h)			301			56	430			
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1		
Volume Total	726	726	395	12	73	73	73	113		
Volume Left	0	0	0	12	0	0	0	0		
Volume Right	0	0	32	0	0	0	0	113		
cSH	1700	1700	1700	301	1700	1700	1700	430		
Volume to Capacity	0.43	0.43	0.23	0.04	0.04	0.04	0.04	0.26		
Queue Length 95th (ft)	0	0	0	3	0	0	0	26		
Control Delay (s)	0.0	0.0	0.0	17.4	0.0	0.0	0.0	16.3		
Lane LOS				C			C			
Approach Delay (s)	0.0		0.9				16.3			
Approach LOS								C		
Intersection Summary										
Average Delay			0.9							
Intersection Capacity Utilization			45.6%		ICU Level of Service				A	
Analysis Period (min)			15							

HCM Signalized Intersection Capacity Analysis

2018 Existing - PM

05/13/2021

29:



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	30	530	169	278	259	3
Future Volume (vph)	30	530	169	278	259	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	3539	3534	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1770	3539	3534	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	576	184	302	282	3
RTOR Reduction (vph)	0	364	0	0	1	0
Lane Group Flow (vph)	33	212	184	302	284	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	29.5	29.5	16.5	41.5	20.5	
Effective Green, g (s)	29.5	29.5	16.5	41.5	20.5	
Actuated g/C Ratio	0.37	0.37	0.21	0.52	0.26	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Grp Cap (vph)	652	583	365	1835	905	
v/s Ratio Prot	0.02		c0.10	0.09	c0.08	
v/s Ratio Perm		c0.13				
v/c Ratio	0.05	0.36	0.50	0.16	0.31	
Uniform Delay, d1	16.2	18.4	28.1	10.1	24.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	1.8	4.9	0.2	0.9	
Delay (s)	16.4	20.2	33.0	10.3	25.0	
Level of Service	B	C	C	B	C	
Approach Delay (s)	20.0			18.9	25.0	
Approach LOS	B			B	C	

Intersection Summary

HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

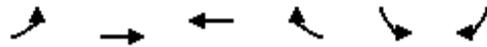
HCM Signalized Intersection Capacity Analysis
83: Beulah Rd & Mobile Hwy

2018 Existing - PM
05/13/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	41	279	10	56	105	176	9	156	130	224	50	9	
Future Volume (vph)	41	279	10	56	105	176	9	156	130	224	50	9	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	7.8	6.8		7.8	6.8	6.8	7.8	7.8		7.4	7.4		
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00		
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.93		1.00	0.98		
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00		
Satd. Flow (prot)	1770	1853		1770	1863	1583	1770	1736		1770	1819		
Flt Permitted	0.64	1.00		0.43	1.00	1.00	0.72	1.00		0.50	1.00		
Satd. Flow (perm)	1187	1853		792	1863	1583	1332	1736		937	1819		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	45	303	11	61	114	191	10	170	141	243	54	10	
RTOR Reduction (vph)	0	1	0	0	0	135	0	21	0	0	5	0	
Lane Group Flow (vph)	45	313	0	61	114	56	10	290	0	243	59	0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA		
Protected Phases	5	2		1	6			4			8		
Permitted Phases	2			6		6	4			8			
Actuated Green, G (s)	55.4	44.2		49.4	41.2	41.2	65.2	65.2		65.6	65.6		
Effective Green, g (s)	55.4	44.2		49.4	41.2	41.2	65.2	65.2		65.6	65.6		
Actuated g/C Ratio	0.40	0.32		0.35	0.29	0.29	0.47	0.47		0.47	0.47		
Clearance Time (s)	7.8	6.8		7.8	6.8	6.8	7.8	7.8		7.4	7.4		
Lane Grp Cap (vph)	516	585		336	548	465	620	808		439	852		
v/s Ratio Prot	0.01	c0.17		c0.01	0.06			0.17			0.03		
v/s Ratio Perm	0.03			0.05		0.04	0.01			c0.26			
v/c Ratio	0.09	0.54		0.18	0.21	0.12	0.02	0.36		0.55	0.07		
Uniform Delay, d1	26.3	39.4		30.8	37.1	36.1	20.1	24.0		26.7	20.4		
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2	0.3	3.5		1.2	0.9	0.5	0.0	1.2		5.0	0.2		
Delay (s)	26.6	42.9		32.0	38.0	36.7	20.2	25.2		31.7	20.6		
Level of Service	C	D		C	D	D	C	C		C	C		
Approach Delay (s)		40.9			36.3			25.1			29.3		
Approach LOS		D			D			C			C		
Intersection Summary													
HCM 2000 Control Delay			33.3									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.52										
Actuated Cycle Length (s)			140.0									Sum of lost time (s)	22.4
Intersection Capacity Utilization			78.5%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													

HCM Unsignalized Intersection Capacity Analysis
89: Devine Farm Rd

2018 Existing - PM
05/13/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↶		↶	
Traffic Volume (veh/h)	2	38	25	0	2	6
Future Volume (Veh/h)	2	38	25	0	2	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	41	27	0	2	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	27				72	27
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	27				72	27
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	1587				931	1048
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	43	27	9			
Volume Left	2	0	2			
Volume Right	0	0	7			
cSH	1587	1700	1020			
Volume to Capacity	0.00	0.02	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.3	0.0	8.6			
Lane LOS	A		A			
Approach Delay (s)	0.3	0.0	8.6			
Approach LOS			A			
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			13.6%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis
 94: W Nine Mile Rd

2018 Existing - PM
 05/13/2021

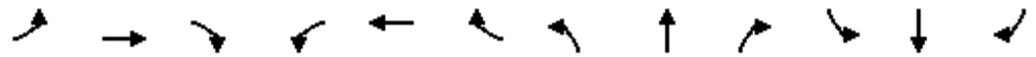
												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations					↑↑↑			↑↑				
Traffic Volume (vph)	0	0	0	0	1614	0	0	600	0	0	0	0
Future Volume (vph)	0	0	0	0	1614	0	0	600	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5			4.5				
Lane Util. Factor					0.91			0.95				
Frt					1.00			1.00				
Flt Protected					1.00			1.00				
Satd. Flow (prot)					5085			3539				
Flt Permitted					1.00			1.00				
Satd. Flow (perm)					5085			3539				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	1754	0	0	652	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1754	0	0	652	0	0	0	0
Turn Type					NA			NA				
Protected Phases					2			4				
Permitted Phases												
Actuated Green, G (s)					23.0			18.0				
Effective Green, g (s)					23.0			18.0				
Actuated g/C Ratio					0.46			0.36				
Clearance Time (s)					4.5			4.5				
Lane Grp Cap (vph)					2339			1274				
v/s Ratio Prot					c0.34			c0.18				
v/s Ratio Perm												
v/c Ratio					0.75			0.51				
Uniform Delay, d1					11.1			12.6				
Progression Factor					0.57			1.00				
Incremental Delay, d2					2.2			1.5				
Delay (s)					8.6			14.0				
Level of Service					A			B				
Approach Delay (s)		0.0			8.6			14.0			0.0	
Approach LOS		A			A			B			A	
Intersection Summary												
HCM 2000 Control Delay			10.1		HCM 2000 Level of Service						B	
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			50.0		Sum of lost time (s)						9.0	
Intersection Capacity Utilization			55.3%		ICU Level of Service						B	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2018 Existing - PM

96:

05/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖↗		↖	↖	↕			↕	↖
Traffic Volume (vph)	0	0	0	19	0	95	36	109	0	0	858	24
Future Volume (vph)	0	0	0	19	0	95	36	109	0	0	858	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5		4.5	4.5	4.5			4.5	4.5
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	1770	3539			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	21	0	103	39	118	0	0	933	26
RTOR Reduction (vph)	0	0	0	0	0	77	0	0	0	0	0	18
Lane Group Flow (vph)	0	0	0	21	0	26	39	118	0	0	933	8
Turn Type				Perm		Perm	Split	NA			NA	Perm
Protected Phases							2	2			6	
Permitted Phases				8		8						6
Actuated Green, G (s)				18.0		18.0	18.0	18.0			20.5	20.5
Effective Green, g (s)				18.0		18.0	18.0	18.0			20.5	20.5
Actuated g/C Ratio				0.26		0.26	0.26	0.26			0.29	0.29
Clearance Time (s)				4.5		4.5	4.5	4.5			4.5	4.5
Lane Grp Cap (vph)				882		407	455	910			1036	463
v/s Ratio Prot							0.02	c0.03			c0.26	
v/s Ratio Perm				0.01		c0.02						0.00
v/c Ratio				0.02		0.07	0.09	0.13			0.90	0.02
Uniform Delay, d1				19.4		19.6	19.7	20.0			23.8	17.6
Progression Factor				1.00		1.00	0.41	0.40			1.00	1.00
Incremental Delay, d2				0.0		0.3	0.4	0.3			12.3	0.1
Delay (s)				19.5		20.0	8.4	8.4			36.1	17.7
Level of Service				B		B	A	A			D	B
Approach Delay (s)		0.0			19.9			8.4			35.6	
Approach LOS		A			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

2018 Existing - PM

98:

05/13/2021

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	 							 		 	 		
Traffic Volume (vph)	19	0	115	0	0	0	0	126	181	730	146	0	
Future Volume (vph)	19	0	115	0	0	0	0	126	181	730	146	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.5		4.5					4.5	4.5	4.5	4.5		
Lane Util. Factor	0.97		1.00					0.95	1.00	0.97	0.95		
Frt	1.00		0.85					1.00	0.85	1.00	1.00		
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3433		1583					3539	1583	3433	3539		
Flt Permitted	0.95		1.00					1.00	1.00	0.95	1.00		
Satd. Flow (perm)	3433		1583					3539	1583	3433	3539		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	21	0	125	0	0	0	0	137	197	793	159	0	
RTOR Reduction (vph)	0	0	93	0	0	0	0	0	146	0	0	0	
Lane Group Flow (vph)	21	0	32	0	0	0	0	137	51	793	159	0	
Turn Type	Perm		Perm					NA	Perm	Split	NA		
Protected Phases								2		6	6		
Permitted Phases	4		4						2				
Actuated Green, G (s)	18.0		18.0					18.0	18.0	20.5	20.5		
Effective Green, g (s)	18.0		18.0					18.0	18.0	20.5	20.5		
Actuated g/C Ratio	0.26		0.26					0.26	0.26	0.29	0.29		
Clearance Time (s)	4.5		4.5					4.5	4.5	4.5	4.5		
Lane Grp Cap (vph)	882		407					910	407	1005	1036		
v/s Ratio Prot								c0.04		c0.23	0.04		
v/s Ratio Perm	0.01		c0.02						0.03				
v/c Ratio	0.02		0.08					0.15	0.12	0.79	0.15		
Uniform Delay, d1	19.4		19.7					20.1	20.0	22.8	18.3		
Progression Factor	1.00		1.00					1.00	1.00	1.13	1.35		
Incremental Delay, d2	0.0		0.4					0.4	0.6	2.9	0.1		
Delay (s)	19.5		20.1					20.4	20.6	28.6	24.9		
Level of Service	B		C					C	C	C	C		
Approach Delay (s)		20.0			0.0			20.5			28.0		
Approach LOS		C			A			C			C		
Intersection Summary													
HCM 2000 Control Delay			25.4									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.36										
Actuated Cycle Length (s)			70.0									Sum of lost time (s)	13.5
Intersection Capacity Utilization			47.4%									ICU Level of Service	A
Analysis Period (min)			15										
c Critical Lane Group													

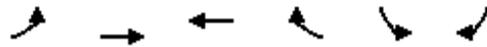
HCM Signalized Intersection Capacity Analysis
 111: W Nine Mile Rd

2018 Existing - PM
 05/13/2021

													
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR	
Lane Configurations		↑↑									↑↑↑		
Traffic Volume (vph)	0	1055	0	0	0	0	0	0	0	0	723	0	
Future Volume (vph)	0	1055	0	0	0	0	0	0	0	0	723	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.5									4.5		
Lane Util. Factor		0.95									0.91		
Frt		1.00									1.00		
Flt Protected		1.00									1.00		
Satd. Flow (prot)		3539									5085		
Flt Permitted		1.00									1.00		
Satd. Flow (perm)		3539									5085		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	1147	0	0	0	0	0	0	0	0	786	0	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	0	1147	0	0	0	0	0	0	0	0	786	0	
Turn Type		NA									NA		
Protected Phases		2									4		
Permitted Phases													
Actuated Green, G (s)		23.0									18.0		
Effective Green, g (s)		23.0									18.0		
Actuated g/C Ratio		0.46									0.36		
Clearance Time (s)		4.5									4.5		
Lane Grp Cap (vph)		1627									1830		
v/s Ratio Prot		c0.32									c0.15		
v/s Ratio Perm													
v/c Ratio		0.70									0.43		
Uniform Delay, d1		10.8									12.1		
Progression Factor		0.84									1.00		
Incremental Delay, d2		2.5									0.7		
Delay (s)		11.6									12.9		
Level of Service		B									B		
Approach Delay (s)		11.6			0.0			0.0			12.9		
Approach LOS		B			A			A			B		
Intersection Summary													
HCM 2000 Control Delay			12.1									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.58										
Actuated Cycle Length (s)			50.0									Sum of lost time (s)	9.0
Intersection Capacity Utilization			50.6%									ICU Level of Service	A
Analysis Period (min)			15										
c	Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
 116: Devine Farm Rd/Frank Reeder Rd

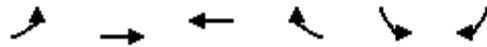
2018 Existing - PM
 05/13/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↑	↷		↷	↶
Traffic Volume (veh/h)	0	50	60	0	0	40
Future Volume (Veh/h)	0	50	60	0	0	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	54	65	0	0	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	65				119	65
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	65				119	65
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	96
cM capacity (veh/h)	1537				877	999
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	0	54	65	43		
Volume Left	0	0	0	0		
Volume Right	0	0	0	43		
cSH	1700	1700	1700	999		
Volume to Capacity	0.00	0.03	0.04	0.04		
Queue Length 95th (ft)	0	0	0	3		
Control Delay (s)	0.0	0.0	0.0	8.8		
Lane LOS				A		
Approach Delay (s)	0.0		0.0	8.8		
Approach LOS				A		
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization			13.3%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 119: Devine Farm Rd/Frank Reeder Rd

2018 Existing - PM
 05/13/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↑	↷		↷	↶
Traffic Volume (veh/h)	0	50	100	0	0	0
Future Volume (Veh/h)	0	50	100	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	54	109	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	109				163	109
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	109				163	109
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1481				828	945
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	0	54	109	0		
Volume Left	0	0	0	0		
Volume Right	0	0	0	0		
cSH	1700	1700	1700	1700		
Volume to Capacity	0.00	0.03	0.06	0.00		
Queue Length 95th (ft)	0	0	0	0		
Control Delay (s)	0.0	0.0	0.0	0.0		
Lane LOS				A		
Approach Delay (s)	0.0		0.0	0.0		
Approach LOS				A		
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			8.6%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

2018 Existing - PM

4: Beulah Rd & Frank Reeder Rd

05/12/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕	↗	↗	↕	↕
Traffic Volume (vph)	43	1	35	53	1	28	58	704	78	45	531	59
Future Volume (vph)	43	1	35	53	1	28	58	704	78	45	531	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	12	12	10	12	12	11	12	12	11	12
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00		1.00	0.95	1.00	1.00	0.95	
Frt		0.94			0.95		1.00	1.00	0.85	1.00	0.98	
Flt Protected		0.97			0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1648			1606		1626	3144	1455	1626	3097	
Flt Permitted		0.84			0.81		0.36	1.00	1.00	0.29	1.00	
Satd. Flow (perm)		1430			1349		623	3144	1455	498	3097	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	47	1	38	58	1	31	64	774	86	49	584	65
RTOR Reduction (vph)	0	23	0	0	19	0	0	0	52	0	19	0
Lane Group Flow (vph)	0	63	0	0	71	0	64	774	34	49	630	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	11%	11%	11%	11%	11%	11%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		18.0			18.0		18.0	18.0	18.0	18.0	18.0	
Effective Green, g (s)		18.0			18.0		18.0	18.0	18.0	18.0	18.0	
Actuated g/C Ratio		0.40			0.40		0.40	0.40	0.40	0.40	0.40	
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5	4.5	4.5	
Lane Grp Cap (vph)		572			539		249	1257	582	199	1238	
v/s Ratio Prot								c0.25			0.20	
v/s Ratio Perm		0.04			c0.05		0.10		0.02	0.10		
v/c Ratio		0.11			0.13		0.26	0.62	0.06	0.25	0.51	
Uniform Delay, d1		8.5			8.6		9.0	10.7	8.3	9.0	10.2	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.4			0.5		2.5	2.3	0.2	2.9	1.5	
Delay (s)		8.9			9.1		11.5	13.0	8.5	11.9	11.7	
Level of Service		A			A		B	B	A	B	B	
Approach Delay (s)		8.9			9.1			12.5			11.7	
Approach LOS		A			A			B			B	

Intersection Summary

HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	45.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
5: Beulah Rd & W Nine Mile Rd

2018 Existing - PM
05/12/2021

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  			  			 			 		
Traffic Volume (vph)	150	178	15	406	555	466	28	223	91	174	220	225	
Future Volume (vph)	150	178	15	406	555	466	28	223	91	174	220	225	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	11	12	12	11	12	12	10	10	10	12	12	12	
Total Lost time (s)	7.6	7.6	7.6	7.5	7.5	7.5	6.7	6.7	6.7	6.8	6.8	6.8	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1616	4803	1495	1616	4803	1495	1518	3035	1358	1626	3252	1455	
Flt Permitted	0.42	1.00	1.00	0.42	1.00	1.00	0.60	1.00	1.00	0.60	1.00	1.00	
Satd. Flow (perm)	707	4803	1495	717	4803	1495	965	3035	1358	1031	3252	1455	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Adj. Flow (vph)	161	191	16	437	597	501	30	240	98	187	237	242	
RTOR Reduction (vph)	0	0	13	0	0	320	0	0	84	0	0	175	
Lane Group Flow (vph)	161	191	3	437	597	181	30	240	14	187	237	67	
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	11%	11%	11%	11%	11%	11%	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	
Protected Phases	1	6		5	2			4		3	8		
Permitted Phases	6		6	2		2	4		4	8		8	
Actuated Green, G (s)	26.9	15.3	15.3	52.6	33.4	33.4	13.3	13.3	13.3	25.8	25.8	25.8	
Effective Green, g (s)	26.9	15.3	15.3	52.6	33.4	33.4	13.3	13.3	13.3	25.8	25.8	25.8	
Actuated g/C Ratio	0.29	0.17	0.17	0.57	0.36	0.36	0.14	0.14	0.14	0.28	0.28	0.28	
Clearance Time (s)	7.6	7.6	7.6	7.5	7.5	7.5	6.7	6.7	6.7	6.8	6.8	6.8	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	318	792	246	694	1730	538	138	435	194	324	905	404	
v/s Ratio Prot	0.06	0.04		c0.20	0.12			0.08		c0.04	0.07		
v/s Ratio Perm	0.08		0.00	c0.16		0.12	0.03		0.01	c0.12		0.05	
v/c Ratio	0.51	0.24	0.01	0.63	0.35	0.34	0.22	0.55	0.07	0.58	0.26	0.17	
Uniform Delay, d1	25.9	33.7	32.4	12.4	21.7	21.6	35.1	36.9	34.4	29.5	26.0	25.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.3	0.2	0.0	1.8	0.1	0.4	0.8	1.5	0.2	2.5	0.2	0.2	
Delay (s)	27.2	33.8	32.4	14.2	21.8	21.9	35.9	38.4	34.5	32.0	26.2	25.5	
Level of Service	C	C	C	B	C	C	D	D	C	C	C	C	
Approach Delay (s)		30.9			19.7			37.2			27.6		
Approach LOS		C			B			D			C		
Intersection Summary													
HCM 2000 Control Delay			25.1		HCM 2000 Level of Service					C			
HCM 2000 Volume to Capacity ratio			0.71										
Actuated Cycle Length (s)			92.7		Sum of lost time (s)					28.6			
Intersection Capacity Utilization			75.1%		ICU Level of Service					D			
Analysis Period (min)			15										

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
6: Bell Ridge Dr & W Nine Mile Rd

2018 Existing - PM
05/12/2021

	→	↘	↙	←	↖	↗			
Movement	EBT	EBR	WBL	WBT	NBL	NBR			
Lane Configurations	↑↑↑		↙	↑↑↑	↖				
Traffic Volume (veh/h)	415	9	26	1381	8	14			
Future Volume (Veh/h)	415	9	26	1381	8	14			
Sign Control	Free			Free	Stop				
Grade	0%			0%	0%				
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90			
Hourly flow rate (vph)	461	10	29	1534	9	16			
Pedestrians									
Lane Width (ft)									
Walking Speed (ft/s)									
Percent Blockage									
Right turn flare (veh)									
Median type	None			None					
Median storage (veh)									
Upstream signal (ft)									
pX, platoon unblocked									
vC, conflicting volume			471			1035	159		
vC1, stage 1 conf vol									
vC2, stage 2 conf vol									
vCu, unblocked vol			471			1035	159		
tC, single (s)			4.3			6.8	6.9		
tC, 2 stage (s)									
tF (s)			2.3			3.5	3.3		
p0 queue free %			97			96	98		
cM capacity (veh/h)			1046			221	858		
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	
Volume Total	184	184	102	29	511	511	511	25	
Volume Left	0	0	0	29	0	0	0	9	
Volume Right	0	0	10	0	0	0	0	16	
cSH	1700	1700	1700	1046	1700	1700	1700	421	
Volume to Capacity	0.11	0.11	0.06	0.03	0.30	0.30	0.30	0.06	
Queue Length 95th (ft)	0	0	0	2	0	0	0	5	
Control Delay (s)	0.0	0.0	0.0	8.5	0.0	0.0	0.0	14.1	
Lane LOS				A					B
Approach Delay (s)	0.0				0.2				14.1
Approach LOS									B
Intersection Summary									
Average Delay			0.3						
Intersection Capacity Utilization			36.7%		ICU Level of Service				A
Analysis Period (min)			15						

HCM Unsignalized Intersection Capacity Analysis
7: Foxtail Loop & W Nine Mile Rd

2018 Existing - PM
05/12/2021



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↑		↙	↑↑↑		↗		
Traffic Volume (veh/h)	385	44	89	1408	0	54		
Future Volume (Veh/h)	385	44	89	1408	0	54		
Sign Control	Free			Free	Stop			
Grade	0%			0%	0%			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91		
Hourly flow rate (vph)	423	48	98	1547	0	59		
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type	None			None				
Median storage (veh)								
Upstream signal (ft)								
pX, platoon unblocked								
vC, conflicting volume			471	1159	165			
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol			471	1159	165			
tC, single (s)			4.3	6.8	6.9			
tC, 2 stage (s)								
tF (s)			2.3	3.5	3.3			
p0 queue free %			91	100	93			
cM capacity (veh/h)			1046	171	850			
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1
Volume Total	169	169	133	98	516	516	516	59
Volume Left	0	0	0	98	0	0	0	0
Volume Right	0	0	48	0	0	0	0	59
cSH	1700	1700	1700	1046	1700	1700	1700	850
Volume to Capacity	0.10	0.10	0.08	0.09	0.30	0.30	0.30	0.07
Queue Length 95th (ft)	0	0	0	8	0	0	0	6
Control Delay (s)	0.0	0.0	0.0	8.8	0.0	0.0	0.0	9.5
Lane LOS				A				A
Approach Delay (s)	0.0			0.5				9.5
Approach LOS								A
Intersection Summary								
Average Delay			0.7					
Intersection Capacity Utilization			30.5%	ICU Level of Service			A	
Analysis Period (min)			15					



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	318	573	201	318	24
Future Volume (vph)	5	318	573	201	318	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	3539	3502	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1770	3539	3502	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	346	623	218	346	26
RTOR Reduction (vph)	0	268	0	0	7	0
Lane Group Flow (vph)	5	78	623	218	365	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	18.0	18.0	30.5	53.0	18.0	
Effective Green, g (s)	18.0	18.0	30.5	53.0	18.0	
Actuated g/C Ratio	0.22	0.22	0.38	0.66	0.22	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Grp Cap (vph)	398	356	674	2344	787	
v/s Ratio Prot	0.00		c0.35	0.06	c0.10	
v/s Ratio Perm		c0.05				
v/c Ratio	0.01	0.22	0.92	0.09	0.46	
Uniform Delay, d1	24.1	25.3	23.6	4.9	26.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	1.4	20.4	0.1	2.0	
Delay (s)	24.2	26.7	44.0	4.9	28.8	
Level of Service	C	C	D	A	C	
Approach Delay (s)	26.6			33.9	28.8	
Approach LOS	C			C	C	

Intersection Summary

HCM 2000 Control Delay	31.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
83: Beulah Rd & Mobile Hwy

2018 Existing - PM
05/12/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	143	15	160	273	218	21	85	75	275	215	50
Future Volume (vph)	18	143	15	160	273	218	21	85	75	275	215	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.8	6.8		7.8	6.8	6.8	7.8	7.8		7.4	7.4	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.93		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1837		1770	1863	1583	1770	1731		1770	1810	
Flt Permitted	0.46	1.00		0.54	1.00	1.00	0.51	1.00		0.64	1.00	
Satd. Flow (perm)	860	1837		999	1863	1583	958	1731		1196	1810	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	155	16	174	297	237	23	92	82	299	234	54
RTOR Reduction (vph)	0	3	0	0	0	162	0	23	0	0	6	0
Lane Group Flow (vph)	20	168	0	174	297	75	23	151	0	299	282	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6		6	4			8		
Actuated Green, G (s)	51.4	40.2		59.4	44.2	44.2	62.2	62.2		62.6	62.6	
Effective Green, g (s)	51.4	40.2		59.4	44.2	44.2	62.2	62.2		62.6	62.6	
Actuated g/C Ratio	0.37	0.29		0.42	0.32	0.32	0.44	0.44		0.45	0.45	
Clearance Time (s)	7.8	6.8		7.8	6.8	6.8	7.8	7.8		7.4	7.4	
Lane Grp Cap (vph)	388	527		507	588	499	425	769		534	809	
v/s Ratio Prot	0.00	0.09		c0.04	c0.16			0.09			0.16	
v/s Ratio Perm	0.01			0.11		0.05	0.02			c0.25		
v/c Ratio	0.05	0.32		0.34	0.51	0.15	0.05	0.20		0.56	0.35	
Uniform Delay, d1	28.6	39.2		26.0	39.0	34.4	22.1	23.7		28.5	25.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	1.6		1.8	3.1	0.6	0.2	0.6		4.2	1.2	
Delay (s)	28.8	40.8		27.8	42.1	35.0	22.4	24.3		32.7	26.5	
Level of Service	C	D		C	D	D	C	C		C	C	
Approach Delay (s)		39.5			36.2			24.0			29.7	
Approach LOS		D			D			C			C	

Intersection Summary

HCM 2000 Control Delay	32.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.4
Intersection Capacity Utilization	78.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
 89: Devine Farm Rd & Witt Dr

2018 Existing - PM
 05/12/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	41	39	0	0	6
Future Volume (Veh/h)	4	41	39	0	0	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	45	42	0	0	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	42				95	42
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	42				95	42
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	1567				902	1029
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	49	42	7			
Volume Left	4	0	0			
Volume Right	0	0	7			
cSH	1567	1700	1029			
Volume to Capacity	0.00	0.02	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.6	0.0	8.5			
Lane LOS	A		A			
Approach Delay (s)	0.6	0.0	8.5			
Approach LOS			A			
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			15.5%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis
 94: W Nine Mile Rd

2018 Existing - PM
 05/12/2021

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations					↑↑↑			↑↑				
Traffic Volume (vph)	0	0	0	0	1038	0	0	885	0	0	0	0
Future Volume (vph)	0	0	0	0	1038	0	0	885	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5			4.5				
Lane Util. Factor					0.91			0.95				
Frt					1.00			1.00				
Flt Protected					1.00			1.00				
Satd. Flow (prot)					5085			3539				
Flt Permitted					1.00			1.00				
Satd. Flow (perm)					5085			3539				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	1128	0	0	962	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1128	0	0	962	0	0	0	0
Turn Type					NA			NA				
Protected Phases					2			4				
Permitted Phases												
Actuated Green, G (s)					22.5			18.5				
Effective Green, g (s)					22.5			18.5				
Actuated g/C Ratio					0.45			0.37				
Clearance Time (s)					4.5			4.5				
Lane Grp Cap (vph)					2288			1309				
v/s Ratio Prot					c0.22			c0.27				
v/s Ratio Perm												
v/c Ratio					0.49			0.73				
Uniform Delay, d1					9.7			13.6				
Progression Factor					0.60			1.00				
Incremental Delay, d2					0.8			3.7				
Delay (s)					6.5			17.3				
Level of Service					A			B				
Approach Delay (s)		0.0			6.5			17.3			0.0	
Approach LOS		A			A			B			A	
Intersection Summary												
HCM 2000 Control Delay			11.5		HCM 2000 Level of Service						B	
HCM 2000 Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			50.0		Sum of lost time (s)						9.0	
Intersection Capacity Utilization			52.0%		ICU Level of Service						A	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2018 Existing - PM

96:

05/12/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 			 	
Traffic Volume (vph)	0	0	0	106	0	393	33	159	0	0	413	13
Future Volume (vph)	0	0	0	106	0	393	33	159	0	0	413	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5		4.5	4.5	4.5			4.5	4.5
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	1770	3539			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	115	0	427	36	173	0	0	449	14
RTOR Reduction (vph)	0	0	0	0	0	305	0	0	0	0	0	10
Lane Group Flow (vph)	0	0	0	115	0	122	36	173	0	0	449	4
Turn Type				Perm		Perm	Split	NA			NA	Perm
Protected Phases							2	2			6	
Permitted Phases				8		8						6
Actuated Green, G (s)				20.0		20.0	18.4	18.4			18.1	18.1
Effective Green, g (s)				20.0		20.0	18.4	18.4			18.1	18.1
Actuated g/C Ratio				0.29		0.29	0.26	0.26			0.26	0.26
Clearance Time (s)				4.5		4.5	4.5	4.5			4.5	4.5
Lane Grp Cap (vph)				980		452	465	930			915	409
v/s Ratio Prot							0.02	c0.05			c0.13	
v/s Ratio Perm				0.03		c0.08						0.00
v/c Ratio				0.12		0.27	0.08	0.19			0.49	0.01
Uniform Delay, d1				18.5		19.3	19.4	20.0			22.0	19.3
Progression Factor				1.00		1.00	0.46	0.46			1.00	1.00
Incremental Delay, d2				0.2		1.5	0.3	0.4			1.9	0.0
Delay (s)				18.7		20.8	9.2	9.6			23.9	19.3
Level of Service				B		C	A	A			C	B
Approach Delay (s)		0.0			20.4			9.5			23.8	
Approach LOS		A			C			A			C	
Intersection Summary												
HCM 2000 Control Delay			19.8		HCM 2000 Level of Service						B	
HCM 2000 Volume to Capacity ratio			0.31									
Actuated Cycle Length (s)			70.0		Sum of lost time (s)						13.5	
Intersection Capacity Utilization			36.2%		ICU Level of Service						A	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2018 Existing - PM

98:

05/12/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗		↖					↖↗	↖	↖↗	↖↗	
Traffic Volume (vph)	29	0	61	0	0	0	0	163	44	239	280	0
Future Volume (vph)	29	0	61	0	0	0	0	163	44	239	280	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5					4.5	4.5	4.5	4.5	
Lane Util. Factor	0.97		1.00					0.95	1.00	0.97	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433		1583					3539	1583	3433	3539	
Flt Permitted	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433		1583					3539	1583	3433	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	0	66	0	0	0	0	177	48	260	304	0
RTOR Reduction (vph)	0	0	49	0	0	0	0	0	35	0	0	0
Lane Group Flow (vph)	32	0	17	0	0	0	0	177	13	260	304	0
Turn Type	Perm		Perm					NA	Perm	Split	NA	
Protected Phases								2		6	6	
Permitted Phases	4		4						2			
Actuated Green, G (s)	18.5		18.5					19.5	19.5	18.5	18.5	
Effective Green, g (s)	18.5		18.5					19.5	19.5	18.5	18.5	
Actuated g/C Ratio	0.26		0.26					0.28	0.28	0.26	0.26	
Clearance Time (s)	4.5		4.5					4.5	4.5	4.5	4.5	
Lane Grp Cap (vph)	907		418					985	440	907	935	
v/s Ratio Prot								c0.05		0.08	c0.09	
v/s Ratio Perm	0.01		c0.01						0.01			
v/c Ratio	0.04		0.04					0.18	0.03	0.29	0.33	
Uniform Delay, d1	19.1		19.2					19.2	18.4	20.5	20.7	
Progression Factor	1.00		1.00					1.00	1.00	1.31	1.29	
Incremental Delay, d2	0.1		0.2					0.4	0.1	0.7	0.9	
Delay (s)	19.2		19.3					19.6	18.5	27.6	27.7	
Level of Service	B		B					B	B	C	C	
Approach Delay (s)		19.3			0.0			19.3			27.6	
Approach LOS		B			A			B			C	
Intersection Summary												
HCM 2000 Control Delay			24.6					HCM 2000 Level of Service		C		
HCM 2000 Volume to Capacity ratio			0.18									
Actuated Cycle Length (s)			70.0					Sum of lost time (s)		13.5		
Intersection Capacity Utilization			36.2%					ICU Level of Service		A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
111: W Nine Mile Rd

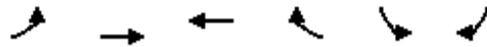
2018 Existing - PM
05/12/2021

														
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR		
Lane Configurations		↑↑									↑↑↑			
Traffic Volume (vph)	0	1169	0	0	0	0	0	0	0	0	500	0		
Future Volume (vph)	0	1169	0	0	0	0	0	0	0	0	500	0		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Total Lost time (s)		4.5									4.5			
Lane Util. Factor		0.95									0.91			
Frt		1.00									1.00			
Flt Protected		1.00									1.00			
Satd. Flow (prot)		3539									5085			
Flt Permitted		1.00									1.00			
Satd. Flow (perm)		3539									5085			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Adj. Flow (vph)	0	1271	0	0	0	0	0	0	0	0	543	0		
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0		
Lane Group Flow (vph)	0	1271	0	0	0	0	0	0	0	0	543	0		
Turn Type		NA									NA			
Protected Phases		2									4			
Permitted Phases														
Actuated Green, G (s)		22.5									18.5			
Effective Green, g (s)		22.5									18.5			
Actuated g/C Ratio		0.45									0.37			
Clearance Time (s)		4.5									4.5			
Lane Grp Cap (vph)		1592									1881			
v/s Ratio Prot		c0.36									c0.11			
v/s Ratio Perm														
v/c Ratio		0.80									0.29			
Uniform Delay, d1		11.8									11.1			
Progression Factor		0.73									1.00			
Incremental Delay, d2		3.6									0.4			
Delay (s)		12.2									11.5			
Level of Service		B									B			
Approach Delay (s)		12.2			0.0			0.0			11.5			
Approach LOS		B			A			A			B			
Intersection Summary														
HCM 2000 Control Delay			12.0									HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio			0.57											
Actuated Cycle Length (s)			50.0								9.0		Sum of lost time (s)	
Intersection Capacity Utilization			49.5%										ICU Level of Service	A
Analysis Period (min)			15											
c Critical Lane Group														

Intersection Sign configuration not allowed in HCM analysis.

HCM Unsignalized Intersection Capacity Analysis
 119: Devine Farm Rd/Frank Reeder Rd

2018 Existing - PM
 05/12/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↷	↶		↶↷	
Traffic Volume (veh/h)	0	90	60	0	0	0
Future Volume (Veh/h)	0	90	60	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	98	65	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	65				163	65
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	65				163	65
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1537				828	999
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	0	98	65	0		
Volume Left	0	0	0	0		
Volume Right	0	0	0	0		
cSH	1700	1700	1700	1700		
Volume to Capacity	0.00	0.06	0.04	0.00		
Queue Length 95th (ft)	0	0	0	0		
Control Delay (s)	0.0	0.0	0.0	0.0		
Lane LOS				A		
Approach Delay (s)	0.0		0.0	0.0		
Approach LOS				A		
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			8.1%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

2018 Existing - PM

4: Beulah Rd & Frank Reeder Rd

05/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	5	43	116	4	365	33	329	98	893	757	48
Future Volume (vph)	63	5	43	116	4	365	33	329	98	893	757	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	12	12	10	12	12	11	12	12	11	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Fr _t	1.00	0.86		1.00	0.85		1.00	1.00	0.85	1.00	0.99	
Fl _t Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1557		1770	1480		1626	3144	1455	1626	3116	
Fl _t Permitted	0.22	1.00		0.70	1.00		0.32	1.00	1.00	0.25	1.00	
Satd. Flow (perm)	407	1557		1304	1480		550	3144	1455	422	3116	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	69	5	47	127	4	401	36	362	108	981	832	53
RTOR Reduction (vph)	0	41	0	0	347	0	0	0	91	0	3	0
Lane Group Flow (vph)	69	11	0	127	58	0	36	362	17	981	882	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	11%	11%	11%	11%	11%	11%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	23.4	18.3		24.6	18.9		21.5	21.5	21.5	102.5	102.5	
Effective Green, g (s)	23.4	18.3		24.6	18.9		21.5	21.5	21.5	102.5	102.5	
Actuated g/C Ratio	0.17	0.13		0.18	0.13		0.15	0.15	0.15	0.73	0.73	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Grp Cap (vph)	117	203		248	199		84	482	223	966	2281	
v/s Ratio Prot	c0.02	0.01		0.02	0.04			0.12		c0.55	0.28	
v/s Ratio Perm	c0.08			0.07			0.07		0.01	c0.19		
v/c Ratio	0.59	0.05		0.51	0.29		0.43	0.75	0.07	1.02	0.39	
Uniform Delay, d ₁	51.3	53.3		51.6	54.5		53.7	56.7	50.7	25.1	7.0	
Progression Factor	1.00	1.00		1.02	1.53		1.00	1.00	1.00	1.77	2.42	
Incremental Delay, d ₂	20.0	0.5		7.3	3.6		15.2	10.3	0.6	23.9	0.2	
Delay (s)	71.2	53.8		59.9	86.9		68.9	67.0	51.4	68.3	17.2	
Level of Service	E	D		E	F		E	E	D	E	B	
Approach Delay (s)		63.7			80.5			63.8			44.1	
Approach LOS		E			F			E			D	

Intersection Summary

HCM 2000 Control Delay	54.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	100.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
5: Beulah Rd & W Nine Mile Rd

2018 Existing - PM
05/13/2021

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  			  			 		 	 		
Traffic Volume (vph)	151	755	16	108	84	99	24	210	626	533	253	130	
Future Volume (vph)	151	755	16	108	84	99	24	210	626	533	253	130	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	11	12	12	11	12	12	10	10	10	12	12	12	
Total Lost time (s)	7.6	7.6	7.6	7.5	7.5	7.5	6.7	6.7	6.7	6.8	6.8	6.8	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1616	4803	1495	1616	4803	1495	1518	3035	1358	1626	3252	1455	
Flt Permitted	0.56	1.00	1.00	0.21	1.00	1.00	0.58	1.00	1.00	0.61	1.00	1.00	
Satd. Flow (perm)	945	4803	1495	363	4803	1495	933	3035	1358	1045	3252	1455	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Adj. Flow (vph)	162	812	17	116	90	106	26	226	673	573	272	140	
RTOR Reduction (vph)	0	0	14	0	0	89	0	0	143	0	0	61	
Lane Group Flow (vph)	162	812	3	116	90	17	26	226	530	573	272	79	
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	11%	11%	11%	11%	11%	11%	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	
Protected Phases	1	6		5	2			4		3	8		
Permitted Phases	6		6	2		2	4		4	8		8	
Actuated Green, G (s)	38.2	25.7	25.7	28.2	20.7	20.7	53.7	53.7	53.7	72.3	72.3	72.3	
Effective Green, g (s)	38.2	25.7	25.7	28.2	20.7	20.7	53.7	53.7	53.7	72.3	72.3	72.3	
Actuated g/C Ratio	0.30	0.20	0.20	0.22	0.16	0.16	0.42	0.42	0.42	0.57	0.57	0.57	
Clearance Time (s)	7.6	7.6	7.6	7.5	7.5	7.5	6.7	6.7	6.7	6.8	6.8	6.8	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	349	968	301	154	780	242	393	1279	572	647	1845	825	
v/s Ratio Prot	c0.05	c0.17		0.04	0.02			0.07		c0.08	0.08		
v/s Ratio Perm	0.09		0.00	0.12		0.01	0.03		0.39	c0.42		0.05	
v/c Ratio	0.46	0.84	0.01	0.75	0.12	0.07	0.07	0.18	0.93	0.89	0.15	0.10	
Uniform Delay, d1	34.8	48.9	40.7	42.0	45.5	45.2	21.9	23.0	35.0	25.3	13.0	12.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.0	6.5	0.0	18.6	0.1	0.1	0.1	0.1	21.0	13.7	0.0	0.1	
Delay (s)	35.8	55.3	40.7	60.7	45.6	45.3	22.0	23.1	56.0	39.0	13.0	12.7	
Level of Service	D	E	D	E	D	D	C	C	E	D	B	B	
Approach Delay (s)		51.9			51.1			47.0			28.1		
Approach LOS		D			D			D			C		
Intersection Summary													
HCM 2000 Control Delay			43.1									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.92										
Actuated Cycle Length (s)			127.4									Sum of lost time (s)	28.6
Intersection Capacity Utilization			100.5%									ICU Level of Service	G
Analysis Period (min)			15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
6: Bell Ridge Dr & W Nine Mile Rd

2018 Existing - PM
05/13/2021

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 			 			 		
Traffic Volume (vph)	64	1835	3	5	766	570	43	0	26	222	0	21	
Future Volume (vph)	64	1835	3	5	766	570	43	0	26	222	0	21	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5		
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00		
Frt	1.00	1.00		1.00	0.94			0.95			0.99		
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.96		
Satd. Flow (prot)	1770	4802		1671	4607			1715			1760		
Flt Permitted	0.13	1.00		0.10	1.00			0.77			0.69		
Satd. Flow (perm)	239	4802		183	4607			1361			1269		
Peak-hour factor, PHF	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92	
Adj. Flow (vph)	70	2039	3	6	851	620	48	0	29	241	0	23	
RTOR Reduction (vph)	0	0	0	0	188	0	0	16	0	0	16	0	
Lane Group Flow (vph)	70	2042	0	6	1283	0	0	61	0	0	248	0	
Heavy Vehicles (%)	2%	8%	8%	8%	8%	2%	2%	2%	2%	2%	2%	2%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)	38.5	38.5		38.5	38.5			22.5			22.5		
Effective Green, g (s)	38.5	38.5		38.5	38.5			22.5			22.5		
Actuated g/C Ratio	0.55	0.55		0.55	0.55			0.32			0.32		
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5		
Lane Grp Cap (vph)	131	2641		100	2533			437			407		
v/s Ratio Prot		c0.43			0.28								
v/s Ratio Perm	0.29			0.03				0.05			c0.20		
v/c Ratio	0.53	0.77		0.06	0.51			0.14			0.61		
Uniform Delay, d1	10.0	12.3		7.3	9.8			16.9			20.0		
Progression Factor	0.56	0.53		1.00	1.00			1.00			1.00		
Incremental Delay, d2	11.7	1.8		1.1	0.7			0.7			6.7		
Delay (s)	17.4	8.3		8.5	10.6			17.6			26.7		
Level of Service	B	A		A	B			B			C		
Approach Delay (s)		8.6			10.5			17.6			26.7		
Approach LOS		A			B			B			C		
Intersection Summary													
HCM 2000 Control Delay			10.7									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.71										
Actuated Cycle Length (s)			70.0									Sum of lost time (s)	9.0
Intersection Capacity Utilization			69.8%									ICU Level of Service	C
Analysis Period (min)			15										

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
7: Foxtail Loop & W Nine Mile Rd

2018 Existing - PM
05/13/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑				↑			↑
Traffic Volume (veh/h)	0	2070	29	11	1333	134	0	0	103	0	0	2
Future Volume (Veh/h)	0	2070	29	11	1333	134	0	0	103	0	0	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.91	0.91	0.91	0.91	0.92	0.91	0.92	0.91	0.92	0.92	0.92
Hourly flow rate (vph)	0	2275	32	12	1465	146	0	0	113	0	0	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		549										
pX, platoon unblocked				0.67			0.67	0.67	0.67	0.67	0.67	0.67
vC, conflicting volume	1611			2307			2805	3926	774	2433	3869	561
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1611			1202			1952	3637	0	1392	3551	561
tC, single (s)	4.1			4.3			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			97			100	100	84	100	100	100
cM capacity (veh/h)	401			362			25	3	721	55	4	471
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1			
Volume Total	910	910	487	12	586	586	439	113	2			
Volume Left	0	0	0	12	0	0	0	0	0			
Volume Right	0	0	32	0	0	0	146	113	2			
cSH	1700	1700	1700	362	1700	1700	1700	721	471			
Volume to Capacity	0.54	0.54	0.29	0.03	0.34	0.34	0.26	0.16	0.00			
Queue Length 95th (ft)	0	0	0	3	0	0	0	14	0			
Control Delay (s)	0.0	0.0	0.0	15.3	0.0	0.0	0.0	10.9	12.7			
Lane LOS				C				B	B			
Approach Delay (s)	0.0			0.1				10.9	12.7			
Approach LOS								B	B			
Intersection Summary												
Average Delay			0.4									
Intersection Capacity Utilization			53.7%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

2018 Existing - PM

29:

05/13/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	30	658	213	544	1040	3
Future Volume (vph)	30	658	213	544	1040	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	3539	3538	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1770	3539	3538	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	715	232	591	1130	3
RTOR Reduction (vph)	0	224	0	0	0	0
Lane Group Flow (vph)	33	491	232	591	1133	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	51.1	51.1	23.5	79.9	51.9	
Effective Green, g (s)	51.1	51.1	23.5	79.9	51.9	
Actuated g/C Ratio	0.37	0.37	0.17	0.57	0.37	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Grp Cap (vph)	646	577	297	2019	1311	
v/s Ratio Prot	0.02		c0.13	0.17	c0.32	
v/s Ratio Perm		c0.31				
v/c Ratio	0.05	0.85	0.78	0.29	0.86	
Uniform Delay, d1	28.8	41.0	55.8	15.5	40.8	
Progression Factor	1.00	1.00	0.66	0.93	0.93	
Incremental Delay, d2	0.1	14.7	12.7	0.2	5.6	
Delay (s)	28.9	55.7	49.5	14.6	43.5	
Level of Service	C	E	D	B	D	
Approach Delay (s)	54.5			24.5	43.5	
Approach LOS	D			C	D	

Intersection Summary

HCM 2000 Control Delay	40.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
62: Devine Farm Rd/Frank Reeder Rd

2018 Existing - PM
05/13/2021



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→		←	→	↔	
Traffic Volume (veh/h)	59	262	32	75	108	20
Future Volume (Veh/h)	59	262	32	75	108	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	64	285	35	82	117	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			349		358	206
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			349		358	206
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		81	97
cM capacity (veh/h)			1210		622	834
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	349	35	82	139		
Volume Left	0	35	0	117		
Volume Right	285	0	0	22		
cSH	1700	1210	1700	648		
Volume to Capacity	0.21	0.03	0.05	0.21		
Queue Length 95th (ft)	0	2	0	20		
Control Delay (s)	0.0	8.1	0.0	12.1		
Lane LOS	A		B			
Approach Delay (s)	0.0	2.4		12.1		
Approach LOS					B	
Intersection Summary						
Average Delay			3.2			
Intersection Capacity Utilization			39.8%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis
83: Beulah Rd & Mobile Hwy

2018 Existing - PM
05/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗		↖	↗	
Traffic Volume (vph)	41	279	10	56	105	304	9	232	130	268	76	9
Future Volume (vph)	41	279	10	56	105	304	9	232	130	268	76	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.8	6.8		7.8	6.8	6.8	7.8	7.8		7.4	7.4	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.95		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1853		1770	1863	1583	1770	1762		1770	1833	
Flt Permitted	0.61	1.00		0.39	1.00	1.00	0.70	1.00		0.45	1.00	
Satd. Flow (perm)	1128	1853		729	1863	1583	1298	1762		841	1833	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	45	303	11	61	114	330	10	252	141	291	83	10
RTOR Reduction (vph)	0	1	0	0	0	249	0	14	0	0	3	0
Lane Group Flow (vph)	45	313	0	61	114	81	10	379	0	291	90	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6		6	4			8		
Actuated Green, G (s)	48.4	38.2		40.4	34.2	34.2	73.2	73.2		73.6	73.6	
Effective Green, g (s)	48.4	38.2		40.4	34.2	34.2	73.2	73.2		73.6	73.6	
Actuated g/C Ratio	0.35	0.27		0.29	0.24	0.24	0.52	0.52		0.53	0.53	
Clearance Time (s)	7.8	6.8		7.8	6.8	6.8	7.8	7.8		7.4	7.4	
Lane Grp Cap (vph)	436	505		256	455	386	678	921		442	963	
v/s Ratio Prot	0.01	c0.17		c0.01	0.06			0.21			0.05	
v/s Ratio Perm	0.03			0.06		0.05	0.01			c0.35		
v/c Ratio	0.10	0.62		0.24	0.25	0.21	0.01	0.41		0.66	0.09	
Uniform Delay, d1	30.8	44.6		37.1	42.6	42.1	16.1	20.3		24.1	16.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	5.6		2.2	1.3	1.2	0.0	1.4		7.5	0.2	
Delay (s)	31.3	50.2		39.3	43.9	43.4	16.1	21.7		31.6	16.7	
Level of Service	C	D		D	D	D	B	C		C	B	
Approach Delay (s)		47.8			43.0			21.5			28.0	
Approach LOS		D			D			C			C	

Intersection Summary

HCM 2000 Control Delay	35.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.4
Intersection Capacity Utilization	84.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
 89: Witt Dr & Devine Farm Rd

2018 Existing - PM
 05/13/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	59	0	96	72	0	15	0	15	0	0	0
Future Volume (Veh/h)	0	59	0	96	72	0	15	0	15	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	64	0	104	78	0	16	0	16	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	78			64			350	350	64	366	350	78
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	78			64			350	350	64	366	350	78
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			93			97	100	98	100	100	100
cM capacity (veh/h)	1520			1538			573	535	1000	551	535	983
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	64	182	32	0								
Volume Left	0	104	16	0								
Volume Right	0	0	16	0								
cSH	1520	1538	729	1700								
Volume to Capacity	0.00	0.07	0.04	0.00								
Queue Length 95th (ft)	0	5	3	0								
Control Delay (s)	0.0	4.5	10.2	0.0								
Lane LOS		A	B	A								
Approach Delay (s)	0.0	4.5	10.2	0.0								
Approach LOS			B	A								
Intersection Summary												
Average Delay			4.1									
Intersection Capacity Utilization			25.8%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis
 94: W Nine Mile Rd

2018 Existing - PM
 05/13/2021

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations					↑↑↑			↑↑				
Traffic Volume (vph)	0	0	0	0	2689	0	0	714	0	0	0	0
Future Volume (vph)	0	0	0	0	2689	0	0	714	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5			4.5				
Lane Util. Factor					0.91			0.95				
Frt					1.00			1.00				
Flt Protected					1.00			1.00				
Satd. Flow (prot)					5085			3539				
Flt Permitted					1.00			1.00				
Satd. Flow (perm)					5085			3539				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	2923	0	0	776	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	2923	0	0	776	0	0	0	0
Turn Type					NA			NA				
Protected Phases					2			4				
Permitted Phases												
Actuated Green, G (s)					43.0			18.0				
Effective Green, g (s)					43.0			18.0				
Actuated g/C Ratio					0.61			0.26				
Clearance Time (s)					4.5			4.5				
Lane Grp Cap (vph)					3123			910				
v/s Ratio Prot					c0.57			c0.22				
v/s Ratio Perm												
v/c Ratio					0.94			0.85				
Uniform Delay, d1					12.3			24.7				
Progression Factor					0.73			1.00				
Incremental Delay, d2					6.6			10.0				
Delay (s)					15.5			34.7				
Level of Service					B			C				
Approach Delay (s)		0.0			15.5			34.7			0.0	
Approach LOS		A			B			C			A	
Intersection Summary												
HCM 2000 Control Delay			19.6					HCM 2000 Level of Service			B	
HCM 2000 Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			70.0					Sum of lost time (s)		9.0		
Intersection Capacity Utilization			79.2%					ICU Level of Service			D	
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Signalized Intersection Capacity Analysis

2018 Existing - PM

96:

05/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖↗		↖	↖	↕			↕	↖
Traffic Volume (vph)	0	0	0	224	0	95	268	109	0	0	858	24
Future Volume (vph)	0	0	0	224	0	95	268	109	0	0	858	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5		4.5	4.5	4.5			4.5	4.5
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	1770	3539			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	243	0	103	291	118	0	0	933	26
RTOR Reduction (vph)	0	0	0	0	0	77	0	0	0	0	0	18
Lane Group Flow (vph)	0	0	0	243	0	26	291	118	0	0	933	8
Turn Type				Perm		Perm	Split	NA			NA	Perm
Protected Phases							2	2			6	
Permitted Phases				8		8						6
Actuated Green, G (s)				18.0		18.0	18.0	18.0			20.5	20.5
Effective Green, g (s)				18.0		18.0	18.0	18.0			20.5	20.5
Actuated g/C Ratio				0.26		0.26	0.26	0.26			0.29	0.29
Clearance Time (s)				4.5		4.5	4.5	4.5			4.5	4.5
Lane Grp Cap (vph)				882		407	455	910			1036	463
v/s Ratio Prot							c0.16	0.03			c0.26	
v/s Ratio Perm				c0.07		0.02						0.00
v/c Ratio				0.28		0.07	0.64	0.13			0.90	0.02
Uniform Delay, d1				20.8		19.6	23.1	20.0			23.8	17.6
Progression Factor				1.00		1.00	1.38	0.97			1.00	1.00
Incremental Delay, d2				0.8		0.3	6.4	0.3			12.3	0.1
Delay (s)				21.6		20.0	38.3	19.6			36.1	17.7
Level of Service				C		B	D	B			D	B
Approach Delay (s)		0.0			21.1			32.9			35.6	
Approach LOS		A			C			C			D	

Intersection Summary

HCM 2000 Control Delay	32.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

2018 Existing - PM

98:

05/13/2021

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	19	0	691	0	0	0	0	358	215	730	351	0	
Future Volume (vph)	19	0	691	0	0	0	0	358	215	730	351	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.5		4.5					4.5	4.5	4.5	4.5		
Lane Util. Factor	0.97		1.00					0.95	1.00	0.97	0.95		
Frt	1.00		0.85					1.00	0.85	1.00	1.00		
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3433		1583					3539	1583	3433	3539		
Flt Permitted	0.95		1.00					1.00	1.00	0.95	1.00		
Satd. Flow (perm)	3433		1583					3539	1583	3433	3539		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	21	0	751	0	0	0	0	389	234	793	382	0	
RTOR Reduction (vph)	0	0	470	0	0	0	0	0	169	0	0	0	
Lane Group Flow (vph)	21	0	281	0	0	0	0	389	65	793	382	0	
Turn Type	Perm		Perm					NA	Perm	Split	NA		
Protected Phases								2		6	6		
Permitted Phases	4		4						2				
Actuated Green, G (s)	18.5		18.5					19.5	19.5	18.5	18.5		
Effective Green, g (s)	18.5		18.5					19.5	19.5	18.5	18.5		
Actuated g/C Ratio	0.26		0.26					0.28	0.28	0.26	0.26		
Clearance Time (s)	4.5		4.5					4.5	4.5	4.5	4.5		
Lane Grp Cap (vph)	907		418					985	440	907	935		
v/s Ratio Prot								c0.11		c0.23	0.11		
v/s Ratio Perm	0.01		c0.18						0.04				
v/c Ratio	0.02		0.67					0.39	0.15	0.87	0.41		
Uniform Delay, d1	19.1		23.0					20.5	19.0	24.6	21.2		
Progression Factor	1.00		1.00					1.09	6.54	1.35	1.46		
Incremental Delay, d2	0.0		8.3					1.2	0.7	7.5	0.8		
Delay (s)	19.1		31.4					23.5	125.0	40.7	31.8		
Level of Service	B		C					C	F	D	C		
Approach Delay (s)		31.1			0.0			61.6			37.8		
Approach LOS		C			A			E			D		
Intersection Summary													
HCM 2000 Control Delay			41.6									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.64										
Actuated Cycle Length (s)			70.0									Sum of lost time (s)	13.5
Intersection Capacity Utilization			60.0%									ICU Level of Service	B
Analysis Period (min)			15										
c Critical Lane Group													

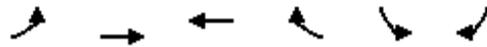
HCM Signalized Intersection Capacity Analysis
 111: W Nine Mile Rd

2018 Existing - PM
 05/13/2021

													
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR	
Lane Configurations		↑↑									↑↑↑		
Traffic Volume (vph)	0	1143	0	0	0	0	0	0	0	0	979	0	
Future Volume (vph)	0	1143	0	0	0	0	0	0	0	0	979	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.5									4.5		
Lane Util. Factor		0.95									0.91		
Frt		1.00									1.00		
Flt Protected		1.00									1.00		
Satd. Flow (prot)		3539									5085		
Flt Permitted		1.00									1.00		
Satd. Flow (perm)		3539									5085		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	1242	0	0	0	0	0	0	0	0	1064	0	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	0	1242	0	0	0	0	0	0	0	0	1064	0	
Turn Type		NA									NA		
Protected Phases		2									4		
Permitted Phases													
Actuated Green, G (s)		43.0									18.0		
Effective Green, g (s)		43.0									18.0		
Actuated g/C Ratio		0.61									0.26		
Clearance Time (s)		4.5									4.5		
Lane Grp Cap (vph)		2173									1307		
v/s Ratio Prot		c0.35									c0.21		
v/s Ratio Perm													
v/c Ratio		0.57									0.81		
Uniform Delay, d1		8.0									24.4		
Progression Factor		1.11									1.00		
Incremental Delay, d2		1.0									5.6		
Delay (s)		9.9									30.1		
Level of Service		A									C		
Approach Delay (s)		9.9			0.0			0.0			30.1		
Approach LOS		A			A			A			C		
Intersection Summary													
HCM 2000 Control Delay			19.2									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.64										
Actuated Cycle Length (s)			70.0									Sum of lost time (s)	9.0
Intersection Capacity Utilization			58.0%									ICU Level of Service	B
Analysis Period (min)			15										
c	Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
112: W Nine Mile Rd

2018 Existing - PM
05/13/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑↑	↑↑↑		↘	
Traffic Volume (vph)	160	1754	261	563	197	30
Future Volume (vph)	160	1754	261	563	197	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.91	0.91		1.00	
Frt	1.00	1.00	0.90		0.98	
Flt Protected	0.95	1.00	1.00		0.96	
Satd. Flow (prot)	1770	5085	4564		1753	
Flt Permitted	0.29	1.00	1.00		0.96	
Satd. Flow (perm)	544	5085	4564		1753	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	174	1907	284	612	214	33
RTOR Reduction (vph)	0	0	249	0	8	0
Lane Group Flow (vph)	174	1907	647	0	239	0
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	8		6	
Permitted Phases	4					
Actuated Green, G (s)	41.5	41.5	41.5		19.5	
Effective Green, g (s)	41.5	41.5	41.5		19.5	
Actuated g/C Ratio	0.59	0.59	0.59		0.28	
Clearance Time (s)	4.5	4.5	4.5		4.5	
Lane Grp Cap (vph)	322	3014	2705		488	
v/s Ratio Prot		c0.38	0.14		c0.14	
v/s Ratio Perm	0.32					
v/c Ratio	0.54	0.63	0.24		0.49	
Uniform Delay, d1	8.5	9.3	6.8		21.1	
Progression Factor	1.00	1.00	0.25		1.00	
Incremental Delay, d2	6.4	1.0	0.2		3.5	
Delay (s)	14.9	10.3	1.9		24.6	
Level of Service	B	B	A		C	
Approach Delay (s)		10.7	1.9		24.6	
Approach LOS		B	A		C	

Intersection Summary

HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 116: Devine Farm Rd/Frank Reeder Rd

2018 Existing - PM
 05/13/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	312	460	0	183	0	159	0	9	0	0	40
Future Volume (vph)	0	312	460	0	183	0	159	0	9	0	0	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.91			1.00			0.99			0.86	
Flt Protected		1.00			1.00			0.95			1.00	
Satd. Flow (prot)		1696			1863			1766			1611	
Flt Permitted		1.00			1.00			0.71			1.00	
Satd. Flow (perm)		1696			1863			1306			1611	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	339	500	0	199	0	173	0	10	0	0	43
RTOR Reduction (vph)	0	76	0	0	0	0	0	17	0	0	31	0
Lane Group Flow (vph)	0	763	0	0	199	0	0	166	0	0	12	0
Turn Type	Perm	NA		Perm	NA		Perm	NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		41.5			41.5			19.5			19.5	
Effective Green, g (s)		41.5			41.5			19.5			19.5	
Actuated g/C Ratio		0.59			0.59			0.28			0.28	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		1005			1104			363			448	
v/s Ratio Prot		c0.45			0.11						0.01	
v/s Ratio Perm								c0.13				
v/c Ratio		0.76			0.18			0.46			0.03	
Uniform Delay, d1		10.6			6.5			20.9			18.4	
Progression Factor		2.56			1.00			1.00			1.00	
Incremental Delay, d2		1.9			0.4			4.1			0.1	
Delay (s)		28.9			6.9			25.0			18.5	
Level of Service		C			A			C			B	
Approach Delay (s)		28.9			6.9			25.0			18.5	
Approach LOS		C			A			C			B	
Intersection Summary												
HCM 2000 Control Delay			24.5				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			70.0				Sum of lost time (s)			9.0		
Intersection Capacity Utilization			68.1%				ICU Level of Service				C	
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Unsignalized Intersection Capacity Analysis
 119: Devine Farm Rd/Frank Reeder Rd

2018 Existing - PM
 05/13/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	773	218	0	382	0	63	0	0	0	0	0
Future Volume (Veh/h)	0	773	218	0	382	0	63	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	840	237	0	415	0	68	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	415			1077			1374	1374	958	1255	1492	415
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	415			1077			1374	1374	958	1255	1492	415
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			45	100	100	100	100	100
cM capacity (veh/h)	1144			647			123	146	312	148	123	637
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	0	1077	0	415	68	0						
Volume Left	0	0	0	0	68	0						
Volume Right	0	237	0	0	0	0						
cSH	1700	1700	1700	1700	123	1700						
Volume to Capacity	0.00	0.63	0.00	0.24	0.55	0.00						
Queue Length 95th (ft)	0	0	0	0	67	0						
Control Delay (s)	0.0	0.0	0.0	0.0	65.7	0.0						
Lane LOS					F	A						
Approach Delay (s)	0.0		0.0		65.7	0.0						
Approach LOS					F	A						
Intersection Summary												
Average Delay			2.9									
Intersection Capacity Utilization			64.1%		ICU Level of Service		C					
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

2018 Existing - PM

4: Beulah Rd & Frank Reeder Rd

05/12/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗		↘	↗		↘	↑↑	↗	↘	↗↘	
Traffic Volume (vph)	43	1	35	190	1	764	58	704	101	362	543	59
Future Volume (vph)	43	1	35	190	1	764	58	704	101	362	543	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	12	12	10	12	12	11	12	12	11	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Fr _t	1.00	0.85		1.00	0.85		1.00	1.00	0.85	1.00	0.99	
Fl _t Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1537		1770	1478		1626	3144	1455	1626	3098	
Fl _t Permitted	0.09	1.00		0.67	1.00		0.40	1.00	1.00	0.10	1.00	
Satd. Flow (perm)	161	1537		1242	1478		685	3144	1455	168	3098	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	47	1	38	209	1	840	64	774	111	398	597	65
RTOR Reduction (vph)	0	25	0	0	305	0	0	0	82	0	6	0
Lane Group Flow (vph)	47	14	0	209	536	0	64	774	29	398	656	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	11%	11%	11%	11%	11%	11%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	51.4	46.4		61.0	51.5		37.0	37.0	37.0	70.0	70.0	
Effective Green, g (s)	51.4	46.4		61.0	51.5		37.0	37.0	37.0	70.0	70.0	
Actuated g/C Ratio	0.37	0.33		0.44	0.37		0.26	0.26	0.26	0.50	0.50	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Grp Cap (vph)	116	509		579	543		181	830	384	380	1549	
v/s Ratio Prot	0.01	0.01		c0.03	c0.36			0.25		c0.21	0.21	
v/s Ratio Perm	0.13			0.13			0.09		0.02	c0.31		
v/c Ratio	0.41	0.03		0.36	0.99		0.35	0.93	0.08	1.05	0.42	
Uniform Delay, d ₁	35.4	31.6		25.5	43.9		41.8	50.3	38.7	43.9	22.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.21	2.16	
Incremental Delay, d ₂	10.2	0.1		1.7	35.7		5.3	18.6	0.4	51.0	0.6	
Delay (s)	45.6	31.7		27.2	79.6		47.1	68.9	39.1	104.1	48.4	
Level of Service	D	C		C	E		D	E	D	F	D	
Approach Delay (s)		39.3			69.2			63.9			69.3	
Approach LOS		D			E			E			E	

Intersection Summary		
HCM 2000 Control Delay	66.8	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	1.02	E
Actuated Cycle Length (s)	140.0	Sum of lost time (s)
Intersection Capacity Utilization	98.1%	18.0
Analysis Period (min)	15	ICU Level of Service
		F
c Critical Lane Group		

HCM Signalized Intersection Capacity Analysis
5: Beulah Rd & W Nine Mile Rd

2018 Existing - PM
05/12/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (vph)	155	192	15	433	562	466	28	242	147	186	330	252
Future Volume (vph)	155	192	15	433	562	466	28	242	147	186	330	252
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	12	11	12	12	10	10	10	12	12	12
Total Lost time (s)	7.6	7.6	7.6	7.5	7.5	7.5	6.7	6.7	6.7	6.8	6.8	6.8
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1616	4803	1495	1616	4803	1495	1518	3035	1358	1626	3252	1455
Flt Permitted	0.41	1.00	1.00	0.42	1.00	1.00	0.49	1.00	1.00	0.59	1.00	1.00
Satd. Flow (perm)	702	4803	1495	706	4803	1495	782	3035	1358	1006	3252	1455
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	167	206	16	466	604	501	30	260	158	200	355	271
RTOR Reduction (vph)	0	0	13	0	0	315	0	0	135	0	0	195
Lane Group Flow (vph)	167	206	3	466	604	186	30	260	23	200	355	76
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	11%	11%	11%	11%	11%	11%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2			4		3	8	
Permitted Phases	6		6	2		2	4		4	8		8
Actuated Green, G (s)	27.4	15.3	15.3	55.9	36.2	36.2	14.4	14.4	14.4	27.2	27.2	27.2
Effective Green, g (s)	27.4	15.3	15.3	55.9	36.2	36.2	14.4	14.4	14.4	27.2	27.2	27.2
Actuated g/C Ratio	0.28	0.16	0.16	0.57	0.37	0.37	0.15	0.15	0.15	0.28	0.28	0.28
Clearance Time (s)	7.6	7.6	7.6	7.5	7.5	7.5	6.7	6.7	6.7	6.8	6.8	6.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	311	754	234	713	1785	555	115	448	200	319	908	406
v/s Ratio Prot	0.07	0.04		c0.22	0.13			0.09		c0.04	0.11	
v/s Ratio Perm	0.08		0.00	c0.15		0.12	0.04		0.02	c0.14		0.05
v/c Ratio	0.54	0.27	0.01	0.65	0.34	0.34	0.26	0.58	0.12	0.63	0.39	0.19
Uniform Delay, d1	28.1	36.2	34.7	12.9	22.0	22.0	36.8	38.7	36.0	31.6	28.4	26.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.8	0.2	0.0	2.2	0.1	0.4	1.2	1.9	0.3	3.8	0.3	0.2
Delay (s)	29.8	36.4	34.7	15.1	22.1	22.3	38.0	40.6	36.2	35.5	28.7	26.9
Level of Service	C	D	C	B	C	C	D	D	D	D	C	C
Approach Delay (s)		33.5			20.1			38.9			29.7	
Approach LOS		C			C			D			C	
Intersection Summary												
HCM 2000 Control Delay			26.8	HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			97.4	Sum of lost time (s)				28.6				
Intersection Capacity Utilization			77.3%	ICU Level of Service				D				
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
6: Bell Ridge Dr & W Nine Mile Rd

2018 Existing - PM
05/12/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	23	774	9	26	1585	206	8	0	14	359	0	0
Future Volume (vph)	23	774	9	26	1585	206	8	0	14	359	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	1.00		1.00	0.98			0.91			1.00	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.95	
Satd. Flow (prot)	1770	4794		1671	4751			1672			1770	
Flt Permitted	0.12	1.00		0.28	1.00			0.89			0.74	
Satd. Flow (perm)	228	4794		493	4751			1510			1380	
Peak-hour factor, PHF	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	25	860	10	29	1761	224	9	0	16	390	0	0
RTOR Reduction (vph)	0	2	0	0	23	0	0	14	0	0	0	0
Lane Group Flow (vph)	25	868	0	29	1962	0	0	11	0	0	390	0
Heavy Vehicles (%)	2%	8%	8%	8%	8%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	32.7	32.7		32.7	32.7			28.3			28.3	
Effective Green, g (s)	32.7	32.7		32.7	32.7			28.3			28.3	
Actuated g/C Ratio	0.47	0.47		0.47	0.47			0.40			0.40	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Grp Cap (vph)	106	2239		230	2219			610			557	
v/s Ratio Prot		0.18			c0.41							
v/s Ratio Perm	0.11			0.06				0.01			c0.28	
v/c Ratio	0.24	0.39		0.13	0.88			0.02			0.70	
Uniform Delay, d1	11.2	12.1		10.6	16.9			12.5			17.3	
Progression Factor	0.74	0.74		1.00	1.00			1.00			1.00	
Incremental Delay, d2	4.8	0.5		1.1	5.6			0.1			7.2	
Delay (s)	13.0	9.5		11.7	22.5			12.6			24.5	
Level of Service	B	A		B	C			B			C	
Approach Delay (s)		9.6			22.4			12.6			24.5	
Approach LOS		A			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			19.1			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			70.0			Sum of lost time (s)			9.0			
Intersection Capacity Utilization			69.3%			ICU Level of Service				C		
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
 7: Foxtail Loop & W Nine Mile Rd

2018 Existing - PM
 05/12/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑				↑			↑
Traffic Volume (veh/h)	0	1103	44	89	1818	49	0	0	54	0	0	0
Future Volume (Veh/h)	0	1103	44	89	1818	49	0	0	54	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.91	0.91	0.91	0.91	0.92	0.91	0.92	0.91	0.92	0.92	0.92
Hourly flow rate (vph)	0	1212	48	98	1998	53	0	0	59	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		549										
pX, platoon unblocked				0.90			0.90	0.90	0.90	0.90	0.90	0.90
vC, conflicting volume	2051			1260			2098	3483	428	2684	3480	692
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2051			885			1820	3365	0	2473	3362	692
tC, single (s)	4.1			4.3			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			85			100	100	94	100	100	100
cM capacity (veh/h)	270			649			38	6	972	11	6	386
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1			
Volume Total	485	485	290	98	799	799	453	59	0			
Volume Left	0	0	0	98	0	0	0	0	0			
Volume Right	0	0	48	0	0	0	53	59	0			
cSH	1700	1700	1700	649	1700	1700	1700	972	1700			
Volume to Capacity	0.29	0.29	0.17	0.15	0.47	0.47	0.27	0.06	0.00			
Queue Length 95th (ft)	0	0	0	13	0	0	0	5	0			
Control Delay (s)	0.0	0.0	0.0	11.5	0.0	0.0	0.0	8.9	0.0			
Lane LOS				B				A	A			
Approach Delay (s)	0.0			0.5				8.9	0.0			
Approach LOS								A	A			
Intersection Summary												
Average Delay			0.5									
Intersection Capacity Utilization			39.5%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

2018 Existing - PM

29:

05/12/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	364	659	851	601	24
Future Volume (vph)	5	364	659	851	601	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	3539	3519	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1770	3539	3519	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	396	716	925	653	26
RTOR Reduction (vph)	0	332	0	0	2	0
Lane Group Flow (vph)	5	64	716	925	677	0
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	22.5	22.5	68.5	108.5	35.5	
Effective Green, g (s)	22.5	22.5	68.5	108.5	35.5	
Actuated g/C Ratio	0.16	0.16	0.49	0.78	0.25	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Grp Cap (vph)	284	254	866	2742	892	
v/s Ratio Prot	0.00		c0.40	0.26	c0.19	
v/s Ratio Perm		c0.04				
v/c Ratio	0.02	0.25	0.83	0.34	0.76	
Uniform Delay, d1	49.4	51.4	30.7	4.8	48.3	
Progression Factor	1.00	1.00	0.77	0.41	0.94	
Incremental Delay, d2	0.1	2.4	3.1	0.1	5.5	
Delay (s)	49.6	53.7	26.8	2.1	51.0	
Level of Service	D	D	C	A	D	
Approach Delay (s)	53.7			12.9	51.0	
Approach LOS	D			B	D	

Intersection Summary

HCM 2000 Control Delay	28.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
62: Devine Farm Rd/Frank Reeder Rd

2018 Existing - PM
05/12/2021



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↙	↑	↘	
Traffic Volume (veh/h)	84	95	12	100	180	34
Future Volume (Veh/h)	84	95	12	100	180	34
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	91	103	13	109	196	37
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			194		278	142
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			194		278	142
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		72	96
cM capacity (veh/h)			1379		706	905
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	194	13	109	233		
Volume Left	0	13	0	196		
Volume Right	103	0	0	37		
cSH	1700	1379	1700	731		
Volume to Capacity	0.11	0.01	0.06	0.32		
Queue Length 95th (ft)	0	1	0	34		
Control Delay (s)	0.0	7.6	0.0	12.2		
Lane LOS	A		B			
Approach Delay (s)	0.0	0.8		12.2		
Approach LOS				B		
Intersection Summary						
Average Delay			5.4			
Intersection Capacity Utilization			28.9%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis
83: Beulah Rd & Mobile Hwy

2018 Existing - PM
05/12/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	143	15	160	273	264	21	113	75	361	266	50
Future Volume (vph)	18	143	15	160	273	264	21	113	75	361	266	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.8	6.8		7.8	6.8	6.8	7.8	7.8		7.4	7.4	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.94		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1837		1770	1863	1583	1770	1751		1770	1819	
Flt Permitted	0.40	1.00		0.54	1.00	1.00	0.48	1.00		0.62	1.00	
Satd. Flow (perm)	747	1837		1006	1863	1583	896	1751		1150	1819	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	155	16	174	297	287	23	123	82	392	289	54
RTOR Reduction (vph)	0	3	0	0	0	209	0	17	0	0	5	0
Lane Group Flow (vph)	20	168	0	174	297	78	23	188	0	392	338	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6		6	4			8		
Actuated Green, G (s)	46.1	35.9		50.7	38.2	38.2	69.2	69.2		69.6	69.6	
Effective Green, g (s)	46.1	35.9		50.7	38.2	38.2	69.2	69.2		69.6	69.6	
Actuated g/C Ratio	0.33	0.26		0.36	0.27	0.27	0.49	0.49		0.50	0.50	
Clearance Time (s)	7.8	6.8		7.8	6.8	6.8	7.8	7.8		7.4	7.4	
Lane Grp Cap (vph)	320	471		432	508	431	442	865		571	904	
v/s Ratio Prot	0.00	0.09		c0.04	c0.16			0.11			0.19	
v/s Ratio Perm	0.02			0.11		0.05	0.03			c0.34		
v/c Ratio	0.06	0.36		0.40	0.58	0.18	0.05	0.22		0.69	0.37	
Uniform Delay, d1	32.3	42.6		31.8	44.0	38.9	18.4	20.1		26.9	21.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	2.1		2.8	4.9	0.9	0.2	0.6		6.6	1.2	
Delay (s)	32.7	44.7		34.5	48.9	39.9	18.6	20.6		33.5	22.9	
Level of Service	C	D		C	D	D	B	C		C	C	
Approach Delay (s)		43.4			42.2			20.4			28.5	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			34.5								HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			140.0							22.4		
Intersection Capacity Utilization			82.9%								ICU Level of Service	E
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
 89: Witt Dr & Devine Farm Rd

2018 Existing - PM
 05/12/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	110	0	88	51	0	60	5	38	0	1	6
Future Volume (Veh/h)	4	110	0	88	51	0	60	5	38	0	1	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	120	0	96	55	0	65	5	41	0	1	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	55			120			382	375	120	418	375	55
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	55			120			382	375	120	418	375	55
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			93			88	99	96	100	100	99
cM capacity (veh/h)	1550			1468			541	518	931	490	518	1012
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	124	151	111	8								
Volume Left	4	96	65	0								
Volume Right	0	0	41	7								
cSH	1550	1468	639	904								
Volume to Capacity	0.00	0.07	0.17	0.01								
Queue Length 95th (ft)	0	5	16	1								
Control Delay (s)	0.3	5.0	11.8	9.0								
Lane LOS	A	A	B	A								
Approach Delay (s)	0.3	5.0	11.8	9.0								
Approach LOS			B	A								
Intersection Summary												
Average Delay			5.5									
Intersection Capacity Utilization			33.5%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis
 94: W Nine Mile Rd

2018 Existing - PM
 05/12/2021

													
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR	
Lane Configurations					↑↑↑			↑↑					
Traffic Volume (vph)	0	0	0	0	1428	0	0	1057	0	0	0	0	
Future Volume (vph)	0	0	0	0	1428	0	0	1057	0	0	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)					4.5			4.5					
Lane Util. Factor					0.91			0.95					
Frt					1.00			1.00					
Flt Protected					1.00			1.00					
Satd. Flow (prot)					5085			3539					
Flt Permitted					1.00			1.00					
Satd. Flow (perm)					5085			3539					
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	0	0	0	1552	0	0	1149	0	0	0	0	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	0	0	0	0	1552	0	0	1149	0	0	0	0	
Turn Type					NA			NA					
Protected Phases					2			4					
Permitted Phases													
Actuated Green, G (s)					34.4			26.6					
Effective Green, g (s)					34.4			26.6					
Actuated g/C Ratio					0.49			0.38					
Clearance Time (s)					4.5			4.5					
Lane Grp Cap (vph)					2498			1344					
v/s Ratio Prot					c0.31			c0.32					
v/s Ratio Perm													
v/c Ratio					0.62			0.85					
Uniform Delay, d1					13.0			19.9					
Progression Factor					0.78			1.00					
Incremental Delay, d2					1.2			7.1					
Delay (s)					11.4			27.0					
Level of Service					B			C					
Approach Delay (s)		0.0			11.4			27.0			0.0		
Approach LOS		A			B			C			A		
Intersection Summary													
HCM 2000 Control Delay			18.0		HCM 2000 Level of Service						B		
HCM 2000 Volume to Capacity ratio			0.72										
Actuated Cycle Length (s)			70.0		Sum of lost time (s)						9.0		
Intersection Capacity Utilization			64.3%		ICU Level of Service						C		
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis

2018 Existing - PM

96:

05/12/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖↗		↖	↖	↕			↕	↖
Traffic Volume (vph)	0	0	0	180	0	393	546	159	0	0	413	13
Future Volume (vph)	0	0	0	180	0	393	546	159	0	0	413	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5		4.5	4.5	4.5			4.5	4.5
Lane Util. Factor				0.97		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433		1583	1770	3539			3539	1583
Flt Permitted				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				3433		1583	1770	3539			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	196	0	427	593	173	0	0	449	14
RTOR Reduction (vph)	0	0	0	0	0	317	0	0	0	0	0	10
Lane Group Flow (vph)	0	0	0	196	0	110	593	173	0	0	449	4
Turn Type				Perm		Perm	Split	NA			NA	Perm
Protected Phases							2	2			6	
Permitted Phases				8		8						6
Actuated Green, G (s)				18.0		18.0	20.5	20.5			18.0	18.0
Effective Green, g (s)				18.0		18.0	20.5	20.5			18.0	18.0
Actuated g/C Ratio				0.26		0.26	0.29	0.29			0.26	0.26
Clearance Time (s)				4.5		4.5	4.5	4.5			4.5	4.5
Lane Grp Cap (vph)				882		407	518	1036			910	407
v/s Ratio Prot							c0.34	0.05			c0.13	
v/s Ratio Perm				0.06		c0.07						0.00
v/c Ratio				0.22		0.27	1.14	0.17			0.49	0.01
Uniform Delay, d1				20.5		20.8	24.8	18.4			22.1	19.4
Progression Factor				1.00		1.00	1.86	1.42			1.00	1.00
Incremental Delay, d2				0.6		1.6	81.1	0.3			1.9	0.0
Delay (s)				21.1		22.4	127.2	26.3			24.0	19.4
Level of Service				C		C	F	C			C	B
Approach Delay (s)		0.0			22.0			104.4			23.9	
Approach LOS		A			C			F			C	

Intersection Summary			
HCM 2000 Control Delay	56.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

2018 Existing - PM

98:

05/12/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↕↕		↕					↕↕	↕	↕↕	↕↕		
Traffic Volume (vph)	29	0	270	0	0	0	0	676	181	239	354	0	
Future Volume (vph)	29	0	270	0	0	0	0	676	181	239	354	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.5		4.5					4.5	4.5	4.5	4.5		
Lane Util. Factor	0.97		1.00					0.95	1.00	0.97	0.95		
Frt	1.00		0.85					1.00	0.85	1.00	1.00		
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3433		1583					3539	1583	3433	3539		
Flt Permitted	0.95		1.00					1.00	1.00	0.95	1.00		
Satd. Flow (perm)	3433		1583					3539	1583	3433	3539		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	32	0	293	0	0	0	0	735	197	260	385	0	
RTOR Reduction (vph)	0	0	218	0	0	0	0	0	139	0	0	0	
Lane Group Flow (vph)	32	0	75	0	0	0	0	735	58	260	385	0	
Turn Type	Perm		Perm					NA	Perm	Split	NA		
Protected Phases								2		6	6		
Permitted Phases	4		4						2				
Actuated Green, G (s)	18.0		18.0					20.5	20.5	18.0	18.0		
Effective Green, g (s)	18.0		18.0					20.5	20.5	18.0	18.0		
Actuated g/C Ratio	0.26		0.26					0.29	0.29	0.26	0.26		
Clearance Time (s)	4.5		4.5					4.5	4.5	4.5	4.5		
Lane Grp Cap (vph)	882		407					1036	463	882	910		
v/s Ratio Prot								c0.21		0.08	c0.11		
v/s Ratio Perm	0.01		c0.05						0.04				
v/c Ratio	0.04		0.19					0.71	0.12	0.29	0.42		
Uniform Delay, d1	19.5		20.3					22.1	18.2	20.9	21.7		
Progression Factor	1.00		1.00					1.97	6.32	1.41	1.36		
Incremental Delay, d2	0.1		1.0					3.9	0.5	0.8	1.3		
Delay (s)	19.6		21.3					47.4	115.3	30.2	30.9		
Level of Service	B		C					D	F	C	C		
Approach Delay (s)		21.1			0.0			61.8			30.6		
Approach LOS		C			A			E			C		
Intersection Summary													
HCM 2000 Control Delay			44.3									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.45										
Actuated Cycle Length (s)			70.0									Sum of lost time (s)	13.5
Intersection Capacity Utilization			58.1%									ICU Level of Service	B
Analysis Period (min)			15										
c Critical Lane Group													

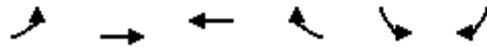
HCM Signalized Intersection Capacity Analysis
111: W Nine Mile Rd

2018 Existing - PM
05/12/2021

														
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR		
Lane Configurations		↑↑									↑↑↑			
Traffic Volume (vph)	0	1341	0	0	0	0	0	0	0	0	592	0		
Future Volume (vph)	0	1341	0	0	0	0	0	0	0	0	592	0		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Total Lost time (s)		4.5									4.5			
Lane Util. Factor		0.95									0.91			
Frt		1.00									1.00			
Flt Protected		1.00									1.00			
Satd. Flow (prot)		3539									5085			
Flt Permitted		1.00									1.00			
Satd. Flow (perm)		3539									5085			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Adj. Flow (vph)	0	1458	0	0	0	0	0	0	0	0	643	0		
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0		
Lane Group Flow (vph)	0	1458	0	0	0	0	0	0	0	0	643	0		
Turn Type		NA									NA			
Protected Phases		2									4			
Permitted Phases														
Actuated Green, G (s)		34.4									26.6			
Effective Green, g (s)		34.4									26.6			
Actuated g/C Ratio		0.49									0.38			
Clearance Time (s)		4.5									4.5			
Lane Grp Cap (vph)		1739									1932			
v/s Ratio Prot		c0.41									c0.13			
v/s Ratio Perm														
v/c Ratio		0.84									0.33			
Uniform Delay, d1		15.4									15.4			
Progression Factor		1.04									1.00			
Incremental Delay, d2		4.5									0.5			
Delay (s)		20.5									15.9			
Level of Service		C									B			
Approach Delay (s)		20.5			0.0			0.0			15.9			
Approach LOS		C			A			A			B			
Intersection Summary														
HCM 2000 Control Delay			19.1									HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio			0.62											
Actuated Cycle Length (s)			70.0								9.0			
Intersection Capacity Utilization			56.0%										ICU Level of Service	B
Analysis Period (min)			15											
c	Critical Lane Group													

HCM Signalized Intersection Capacity Analysis
112: W Nine Mile Rd

2018 Existing - PM
05/12/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↵	↑↑↑	↑↑↑		↵	
Traffic Volume (vph)	58	447	1389	204	359	34
Future Volume (vph)	58	447	1389	204	359	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.91	0.91		1.00	
Frt	1.00	1.00	0.98		0.99	
Flt Protected	0.95	1.00	1.00		0.96	
Satd. Flow (prot)	1770	5085	4988		1761	
Flt Permitted	0.10	1.00	1.00		0.96	
Satd. Flow (perm)	194	5085	4988		1761	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	486	1510	222	390	37
RTOR Reduction (vph)	0	0	28	0	5	0
Lane Group Flow (vph)	63	486	1704	0	422	0
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	8		6	
Permitted Phases	4					
Actuated Green, G (s)	38.5	38.5	38.5		22.5	
Effective Green, g (s)	38.5	38.5	38.5		22.5	
Actuated g/C Ratio	0.55	0.55	0.55		0.32	
Clearance Time (s)	4.5	4.5	4.5		4.5	
Lane Grp Cap (vph)	106	2796	2743		566	
v/s Ratio Prot		0.10	c0.34		c0.24	
v/s Ratio Perm	0.33					
v/c Ratio	0.59	0.17	0.62		0.75	
Uniform Delay, d1	10.5	7.8	10.8		21.2	
Progression Factor	1.00	1.00	0.32		1.00	
Incremental Delay, d2	22.2	0.1	0.5		8.7	
Delay (s)	32.7	8.0	3.9		29.9	
Level of Service	C	A	A		C	
Approach Delay (s)		10.8	3.9		29.9	
Approach LOS		B	A		C	

Intersection Summary

HCM 2000 Control Delay	9.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection Sign configuration not allowed in HCM analysis.

HCM Unsignalized Intersection Capacity Analysis
 119: Devine Farm Rd/Frank Reeder Rd

2018 Existing - PM
 05/12/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	351	79	0	684	0	248	0	0	0	0	0
Future Volume (Veh/h)	0	351	79	0	684	0	248	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	382	86	0	743	0	270	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	743			468			1168	1168	425	1125	1211	743
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	743			468			1168	1168	425	1125	1211	743
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			0	100	100	100	100	100
cM capacity (veh/h)	864			1094			170	193	629	182	182	415
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	0	468	0	743	270	0						
Volume Left	0	0	0	0	270	0						
Volume Right	0	86	0	0	0	0						
cSH	1700	1700	1700	1700	170	1700						
Volume to Capacity	0.00	0.28	0.00	0.44	1.59	0.00						
Queue Length 95th (ft)	0	0	0	0	452	0						
Control Delay (s)	0.0	0.0	0.0	0.0	337.8	0.0						
Lane LOS					F	A						
Approach Delay (s)	0.0		0.0		337.8	0.0						
Approach LOS					F	A						
Intersection Summary												
Average Delay			61.6									
Intersection Capacity Utilization			56.4%		ICU Level of Service				B			
Analysis Period (min)			15									