



Northshore Boulevard

US 190 to S. I-12 Service Road, Slidell, LA

Stage 0 Feasibility Study
January 2020

RPC Task No. SL-1.20 NSB •FY-20 UPWP
BKI NO.19.019



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This document and the information contained herein is prepared solely for the purpose of identifying, evaluating, and planning safety improvements on public roads which may be implemented utilizing federal aid highway funds; and is therefore exempt from discovery or admission into evidence pursuant to 23 U.S.C. 409. Contact the Traffic Safety Office at (225) 379-1871 before releasing any information.

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** - Delivered to RPC as part of a separate electronic submittal.*

INITIAL FINDINGS

This Stage 0 Feasibility Study, undertaken by the Regional Planning Commission (RPC) and the City of Slidell, evaluated the relative feasibility of a series of improvements to **Northshore Boulevard between the S. I-12 Service Road and US 190**.

As a Stage 0 study, this document presents initial findings only, which would be subject to further review and evaluation as part of the project development process.



Northshore Boulevard has a four-lane section with no shoulders within 65 feet of apparent right-of-way. There is a 16-foot-wide median in the corridor extending from the S. I-12 Service Road to US 190. A total of 7 median openings can be found along the corridor along with 20 driveways. Northshore Boulevard has three fully actuated traffic signals located at the north and south entrances to the Northshore Square Mall and in the center of the corridor maintained by the City of Slidell.

The purpose of this project is to find solutions which address existing traffic congestion, transportation mobility, and safety issues along Northshore Boulevard.

The need for this study includes a desire by the City and RPC to address the number of crashes found along the corridor. By way of the Local Road Safety Program (LSRP), Northshore Boulevard has the highest number of crashes of any locally owned roadway in St. Tammany Parish as of the 2014-2016 crash profile. Northshore Boulevard is a principal arterial and passes through one of the City's retail hubs. Proposed changes in land use and commercial activity along the corridor will likely increase traffic volumes on the corridor. This study examined three alternatives to improve safety, traffic operations, and access to Northshore Boulevard.

A Project Management Committee (PMC) met three times during the project to review analyses and provide input to initial findings. The PMC consisted of representatives from the RPC and the City of Slidell with invitations extended to LADOTD District 62, and St. Tammany Parish.

Initial recommendations for improvements on Northshore Boulevard, along with an estimate of their costs using DOTD unit or project costs for comparable work, include the following:

- ***Concept #1: Update to existing traffic signal timing*** – the current traffic signals in the corridor appear to favor driveways over corridor progression. As the levels of traffic generated by the mall have decreased, there may be an opportunity to ***retime signals*** at a minimal expense to the City.

This concept should be implemented as an initial step to improve traffic operations on Northshore Boulevard. The immediate benefit would be to





improve traffic flow and performance (decrease queue build-up in some areas) on Northshore Boulevard, but it would have no effect on the reduction of conflict points (Figure 1).

- **Concept #2: Superstreet/Roundabout Alternative 1** – a combination of **retiming signals with right out access, with driveway closures or limitations (right-in/right-out only) and J-turns as well as a roundabout** located at the southern limits near the current Northshore Boulevard at Northshore Square Mall South Driveway.

In this application, the roundabout will allow for better progression and reduce conflict points at the intersection; as well as removing the signal will help with the proximity of the existing signal spacing. It offers ***better flow and access to sites*** along Northshore Boulevard, as well as ***address safety issues at some driveways*** by ***reducing*** the number of potential ***traffic movements*** and ***reducing the greatest number of total conflict points*** along the corridor (Figure 1).

Constructing this improvement would require right-of-way to be acquired. The initial findings would be to ***shift the roundabout east toward Northshore Square Mall to avoid impacting businesses on the west side of the corridor.*** However, this would require adjustments to the retention pond in front of the Mall. Capacity lost in the pond would need to be gained elsewhere on the site. ***The existing north driveway at the Mall would likely remain, pending the outcome of the design and further traffic analysis phase, but be converted to right-out only. Access to the Mall site from US 190 would remain unaffected.***

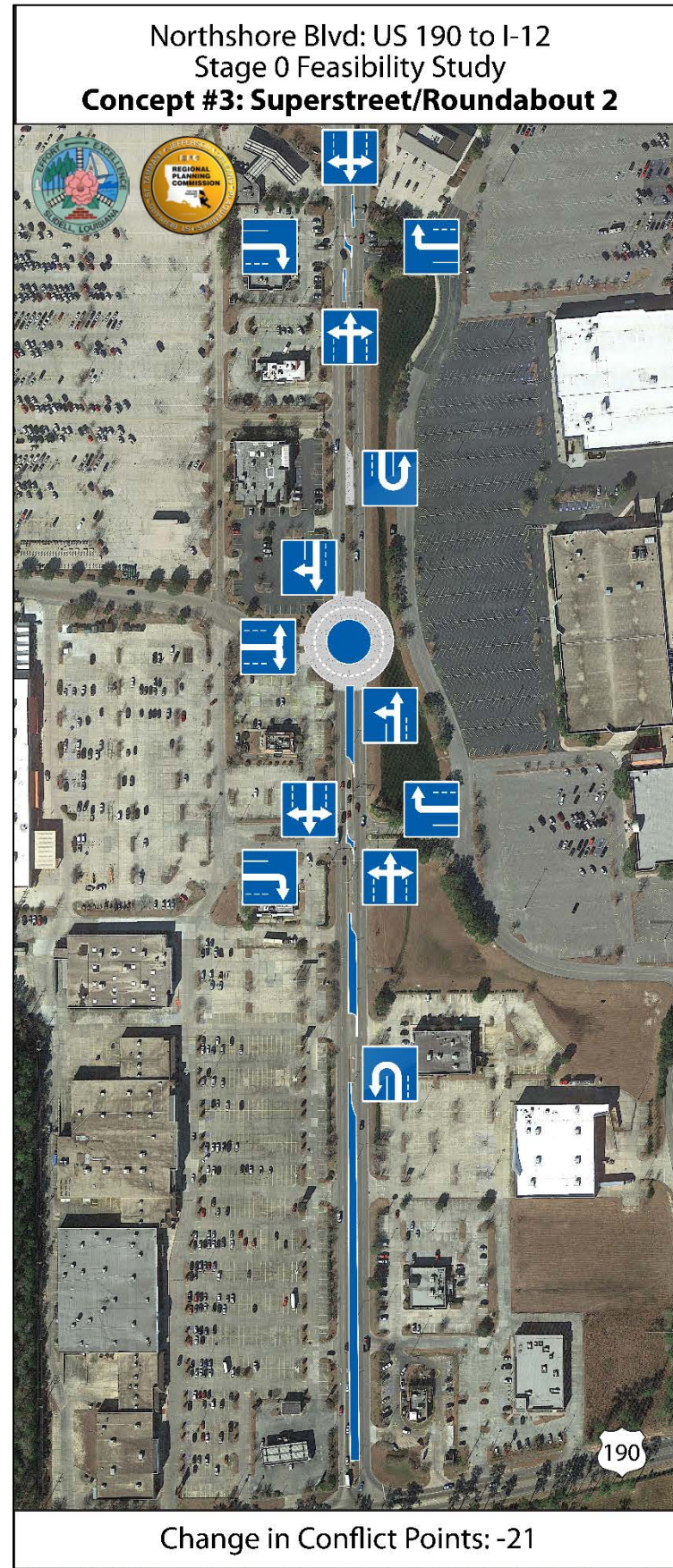
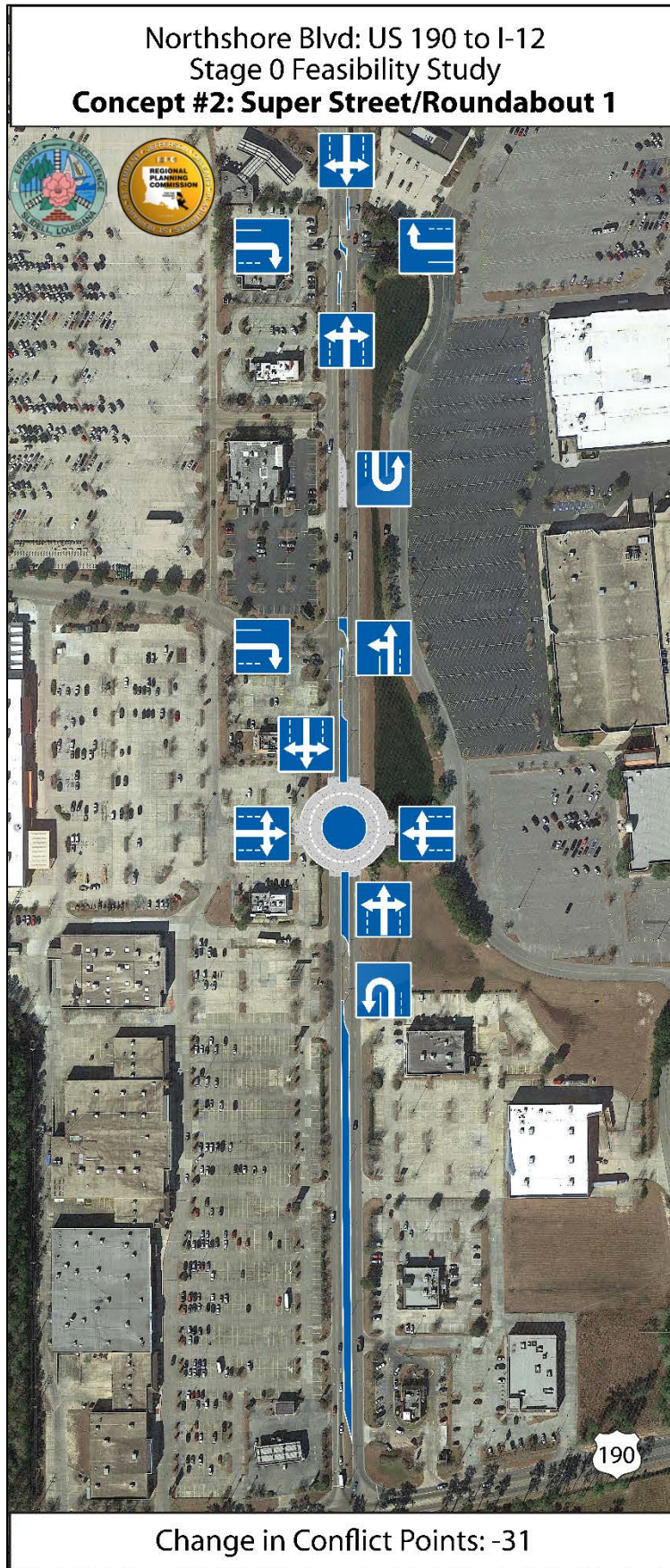
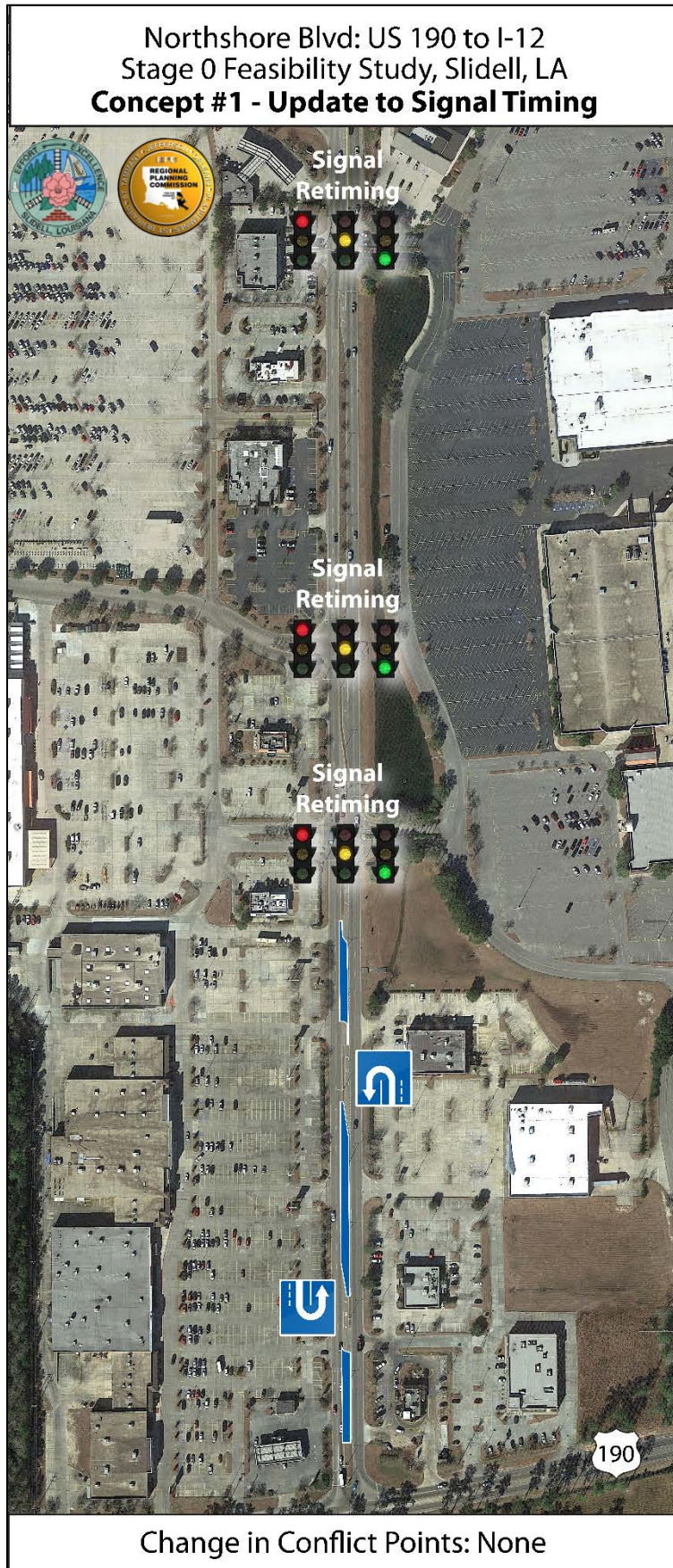
Northshore Boulevard would also shift slightly eastward to follow the roundabout location, the exact amount of shift and impact to other business driveways would need to be determined during design. Cost estimates shown for this improvement have been estimated using costs for the development of the roundabout intersection at Northshore Boulevard and US 190.

This project also offers an opportunity to extend pedestrian and cycle access along Northshore Boulevard to tie the corridor to the Tammany Trace south of US 190.



- **Concept #3: Superstreet/Roundabout Alternative 2** – a combination of **retiming signals with right out access, with driveway closures or limitations (right-in/right-out only) and J-turns as well as a roundabout** located near the current Northshore Boulevard at Shared Walmart / Home Depot Driveway.

In this application, the roundabout will allow for better progression and reduce conflict points at the intersection; as well as



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Table 1: Initial Cost Estimate of Improvement Concepts

Northshore Boulevard, S. I-12 Service Road to north of US 190

Category	<u>Concept #1</u> Re-Time Signals	<u>Concept #2</u> Superstreet Roundabout Alternative #1	<u>Concept #3</u> Superstreet Roundabout Alternative #2
Construction Costs	\$74,000	\$5,422,000	\$6,116,800
Engineering	\$20,000	\$435,000	\$490,000
Utilities	---	\$609,000	\$565,500
Right-of-Way	---	\$2,370,000	\$2,528,000
Contingency	\$18,500	\$1,355,500	\$1,529,200
Initial Cost Estimate	\$112,500	\$10,191,500	\$11,229,500

Notes: Based upon DOTD unit costs for comparable projects. Cost for roundabout construction based upon State Project No.H.012812, US 190 Northshore and Camp Villere, as posted in the St. Tammany Urbanized Area Transportation Improvement Program (TIP), as administered by the RPC.

removing the signal will help with the proximity of the existing signal spacing. It offers **better flow and access to sites** along Northshore Boulevard, as well as **address safety issues at some driveways** by **reducing** the number of potential **traffic movements** and **reducing a lower number of conflict points** along the corridor than Concept 2 (Figure 1).

Constructing this improvement would require right-of-way to be acquired. The initial findings would be to **shift the roundabout east toward Northshore Square Mall to avoid impacting businesses on the west side of the corridor.** However, this would require adjustments to the retention pond in front of the Mall. Capacity lost in the pond would need to be gained elsewhere on the site. **Existing driveways at the Mall would likely remain, pending the outcome of the design and further traffic analysis phase, but be converted to right-in on the south and right-out on the north only. Access to the Mall site from US 190 would remain unaffected.**

Northshore Boulevard would also shift slightly eastward to follow the roundabout location, the exact amount of shift and impact to other business driveways would need to be determined during design. Cost estimates shown for this improvement have been estimated using costs for the development of the roundabout intersection at Northshore Boulevard and US 190.

This project also offers an opportunity to extend pedestrian and cycle access along Northshore Boulevard to tie the corridor to the Tammany Trace south of US 190.

Analysis of these concepts impact on future traffic operations does incorporate **growth in local traffic as a result of some minor market driven redevelopment of commercial spaces along Northshore Boulevard.** The results of these analyses, documented in the Future Analysis section of the report, completed using VISTRO and SIDRA, indicate that the improvements shown **provide enough capacity to accommodate a minimal amount of future growth.**

Should a development of regional significance be added to the corridor, analysis of these additional trips' impact to Northshore Boulevard would need to be completed. In addition, should plans for a **future I-12 interchange between Lacombe and Northshore Boulevard come to fruition, this would provide an alternative** for residents of East Lacombe and Western Slidell to access the interstate corridor and **might lead to a decrease in some of the pass through traffic volumes** found on Northshore Boulevard.

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INTRODUCTION

Project Overview

This Stage 0 Feasibility Study, undertaken by the Regional Planning Commission (RPC) and the City of Slidell, evaluated the relative feasibility of a series of improvements to Northshore Boulevard between the S. I-12 Service Road and US 190, as illustrated on Figure 2.

Project Area Description

The project study area is a 0.5-mile corridor within the Slidell UZA. The study area encompasses approximately 233 acres of land adjacent to the corridor, all of which has been developed commercially. Although a combination of market forces and changing tastes has closed some of these retail spaces, including the interior of the Northshore Square Mall in 2018, many of the standalone commercial buildings and drive-up retail centers have retained almost full occupancy.

The posted speed limit on Northshore Boulevard is 40 miles per hour. The apparent right-of-way is 65 feet wide (between the outer pavement markings). The pavement, configured as a four-lane section with no shoulders, is approximately 22 feet wide, with two 10 to 11-foot travel lanes in each direction. There is a 16-foot-wide median in the corridor extending from the S. I-12 Service Road to US 190. A total of 7 median openings can be found along the corridor along with 20 driveways. Northshore Boulevard has three traffic signals located at the north and south entrances to the Northshore Square Mall and in the center of the corridor. All three are fully actuated traffic signals maintained by the City of Slidell.

Purpose and Need for this Project

The purpose of this project is to find solutions which address existing traffic congestion, transportation mobility, and safety issues along Northshore Boulevard.

The need for this study is as follows:

- 1) Northshore Boulevard is a roadway owned and maintained by the City of Slidell. It is a locally owned roadway on the National Highway System network and provides an important connection between US 190 and I-12.
- 2) Northshore Boulevard is functionally classified as an urban principal arterial on the functional class network for the Slidell Urbanized area.
- 3) By way of the Local Road Safety Program (LSRP), Northshore Boulevard has the highest number of crashes of any locally owned roadway in St. Tammany Parish as of the latest crash profile, 2014-2016.
- 4) Over the past several years, changes in land use and commercial activity along the corridor have provided an opportunity to reexamine operations of and access to Northshore Boulevard.

Management Committee Participation and Coordination

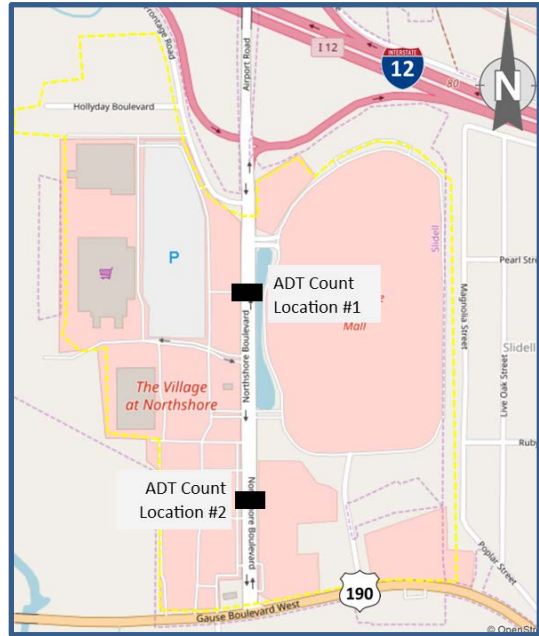
A Project Management Committee (PMC) was formed and met three times during the project. The PMC consisted of representatives from the RPC and the City of Slidell with invitations extended to LADOTD District 62, and St. Tammany Parish. Meeting Summaries and Communication Summaries are included as Appendix A.



SITE INVESTIGATION, DATA COLLECTION & ANALYSIS

Daily Traffic Data Collection

National Data and Surveying (NDS) collected 7-day, 24-hour counts on Northshore Boulevard between October 13 and October 19, 2019, while area schools were in session. These counts, collected at two locations, included total data by 15-minute, hour, day and by vehicle classification. Classification data followed the FHWA thirteen (13) category vehicle classifications currently used for most reporting requirements and serve as the basis for most vehicle classification counting efforts.



Count locations on Northshore Boulevard included one station between the North Mall driveway and the Walmart and Home Depot driveway, and south of the Walmart/Home Depot driveway and north of Gause Boulevard/US 190. RPC received detailed data within a separate Appendix B deliverable.

Table 2 provides a breakdown of data by day and general vehicle type (cars, buses, heavy trucks, pedestrians, and bicycles). Examination of this data led to the identification of the count period used for the peak-hour data collection effort on Northshore Boulevard described in the next section.

Table 2: Average Daily Traffic Count Data

Northshore Boulevard, S. I-12 Service Road to north of US 190

Location#1 – between North Mall driveway and Walmart/Home Depot driveway

Date	Northbound Total	Southbound Total	Daily Total
Sun 10/13	10,179	8,929	19,108
Mon 10/14	12,286	10,371	22,657
Tu 10/15	12,123	10,600	22,723
Wed 10/16	12,145	10,751	22,896
Th 10/17	12,936	11,123	24,059
Fr 10/18	14,117	12,160	26,277
Sat 10/19	13,135	11,532	24,667
7-day Average	12,417 (54%)	10,781 (46%)	23,198

Location#2 – between Walmart/Home Depot driveway and north of Gause Boulevard/US 190

Date	Northbound Total	Southbound Total	Daily Total
Sun 10/13	8,805	8,845	17,650
Mon 10/14	11,090	10,542	21,632
Tu 10/15	11,269	10,814	22,083
Wed 10/16	11,079	10,723	21,802
Th 10/17	11,541	11,086	22,627
Fr 10/18	12,561	11,999	24,560
Sat 10/19	11,512	11,085	22,597
7-day Average	11,122 (51%)	10,728 (49%)	21,850



STUDY AREA - Northshore Blvd: US 190 to I-12 S. Service Rd - Traffic Study
RPC Task SL-1.2NSB; FY-20 UPWP



Figure 2.
Northshore Boulevard Study Area
Graphic Source: Burk-Kleinpeter, Inc., 2019.

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Peak-Hour Traffic Turning Movement Counts

NDS collected peak-hour turning movement data on November 7, 2019 during the designated peak-hour windows of 7:00-8:45 am and 4:00-5:45 pm. Within these count windows, the actual peak hours of traffic were 7:45-8:45 am and 4:30-5:30 pm. Figure 3 provides a summary of the peak-hour data provided to the RPC within a separate Appendix C deliverable.

Peak-Period Traffic Observations

BKI completed individual intersection peak period observations during the period when traffic data collection took place. These observations took place at the three signalized intersections in the project limits:

- **Traffic Observation Location #1** - the intersections of Northshore Boulevard with Starbucks Coffee Shopping Center/Northshore Square North Driveway;
- **Traffic Observation Location #2** - the Walmart/Home Depot shared driveway;
- **Traffic Observation Location #3** - Northshore Square South Driveway (#3).

This discussion of each location includes photos taken at these locations at the time of the observations in order to illustrate the conditions witnessed.



Traffic Observation Location #1: Northshore @ Starbucks/Northshore Square North Driveway AM Peak Period Observation

The AM Peak Period Observation for the intersection of Northshore Boulevard and Starbucks/Northshore Square took place on November 6, 2019 from 7:00 AM to 9:00 AM. The posted speed limit for Northshore Boulevard is 40 MPH and the driveways for both Starbucks and Northshore Square are not signed but are commercial drives. Northshore Boulevard is a four-lane divided highway with left-turn pockets both Northbound and Southbound for traffic turning into Starbucks (Northbound) and Northshore Square (Southbound).



Northshore Boulevard southbound near Northshore Square Mall north driveway during AM Peak

The driveway at Starbucks is a one-lane entrance and a two-lane exit with a shared thru/right lane and a dedicated left lane with a median separation. The driveway at Northshore Square has a two-lane entrance and a two-lane exit with a shared thru/left lane and a dedicated right lane with a median separation. There were no pedestrian movements observed at the intersection.

During the AM peak period, each approach was observed for queue lengths, operational issues, and other noteworthy events. Southbound

Northshore Boulevard: US 190 to I-12
Stage 0 Feasibility Study, Slidell, LA



U-turn traffic at Northshore Square Mall north driveway during AM Peak



Queue of stopped traffic south of Starbucks/Northshore Mall north driveway during AM Peak



Queue of traffic departing Starbucks during AM Peak

Northshore experiences the longest queues during the peak period but only for a very brief period. During these periods, queues of stopped traffic can back up to the I-12 off/on ramp intersection (as shown in the picture to the left). This was observed on two occasions.

The Southbound left-turn lane acts as a de facto U-turn lane (as shown in the top photo to the left). Motorists choosing to make this maneuver have trouble completing the Southbound U-turn movement in a single turn. The current geometric layout of the location requires some motorists to make a 2 or 3-point turn in order to turn their vehicle through the intersection and complete the U-turn to travel north to the I-12 interchange.

Another issue that appears at this approach to the intersection is the backup from the downstream signal at the shared Home Depot / Walmart Driveway. Between 8:15 and 8:30 am, the queue from the downstream signal begins to back up into the Starbucks/Northshore Square North Driveway intersection and block the intersection (as shown in the middle photo to the left).

The approach has very little congestion and doesn't appear to have any unmet demand. Even when longer queues are present, the back of queue easily clears the intersection. The signal timing appears to allow good progression southbound from the I-12 signal through the Starbucks/Northshore Square Mall North driveway signal.

The Northbound approach to the intersection appears to operate well. Traffic appears to favor the required lane assignment movement following the intersection as I-12 East traffic needs to be in the right lane and all other traffic needs to be in the left due to the right lane drop after the intersection.

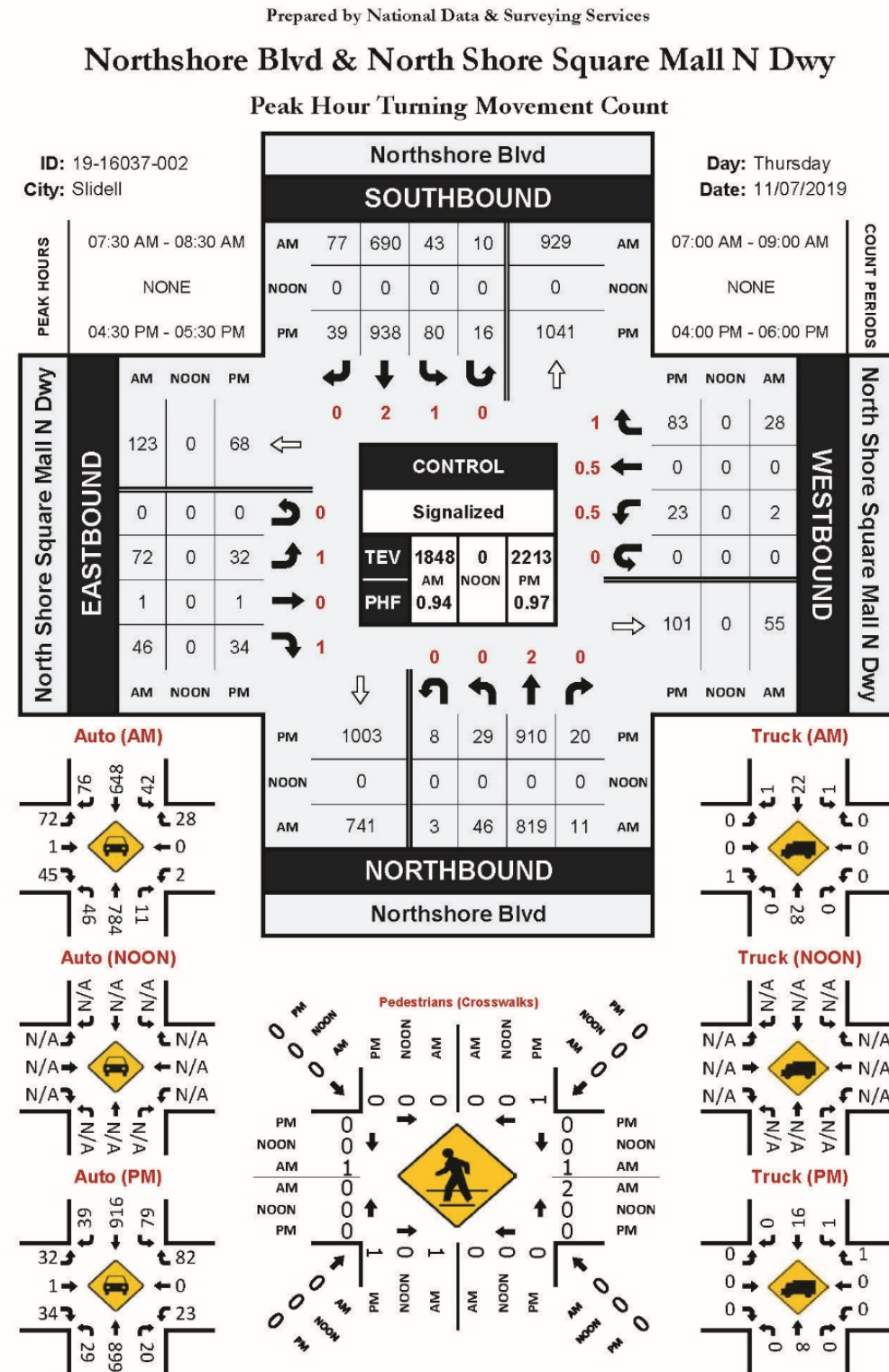
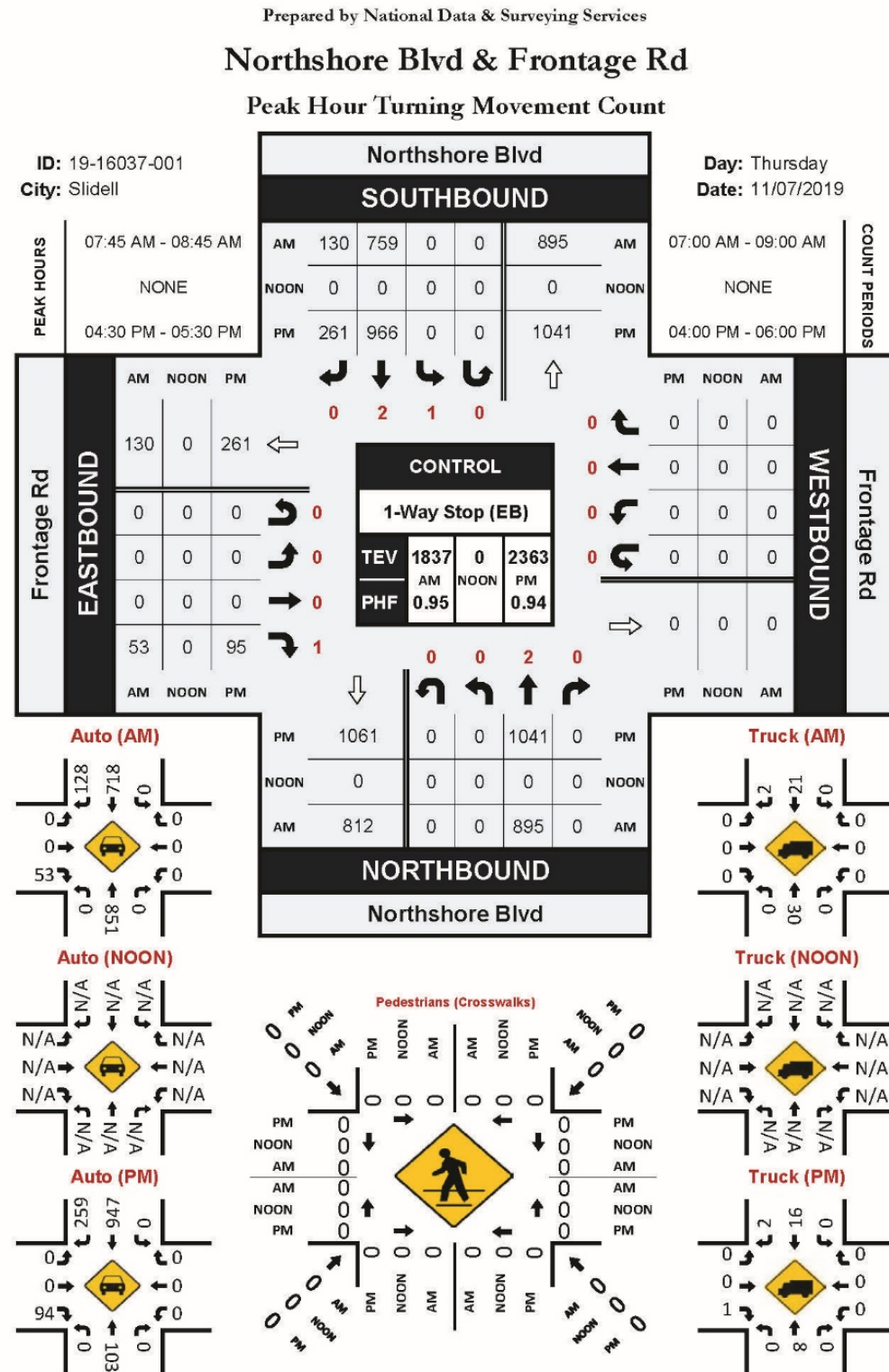
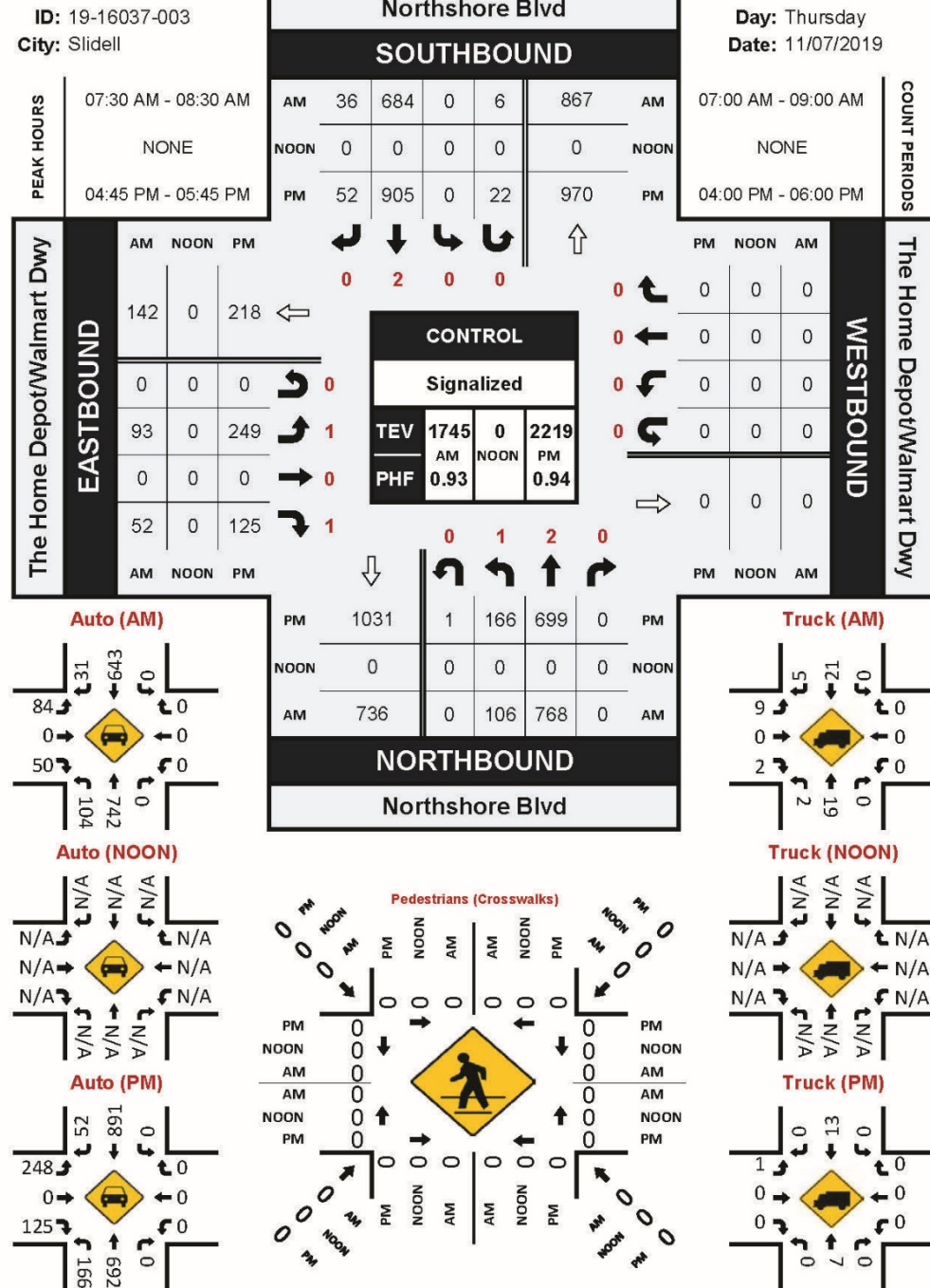


Figure 3.
 AM and PM Peak Hour Data Summary, Northshore Boulevard
 Graphic Source: National Data & Surveying Services, 2019.

Prepared by National Data & Surveying Services

Northshore Blvd & The Home Depot/Walmart Dwy

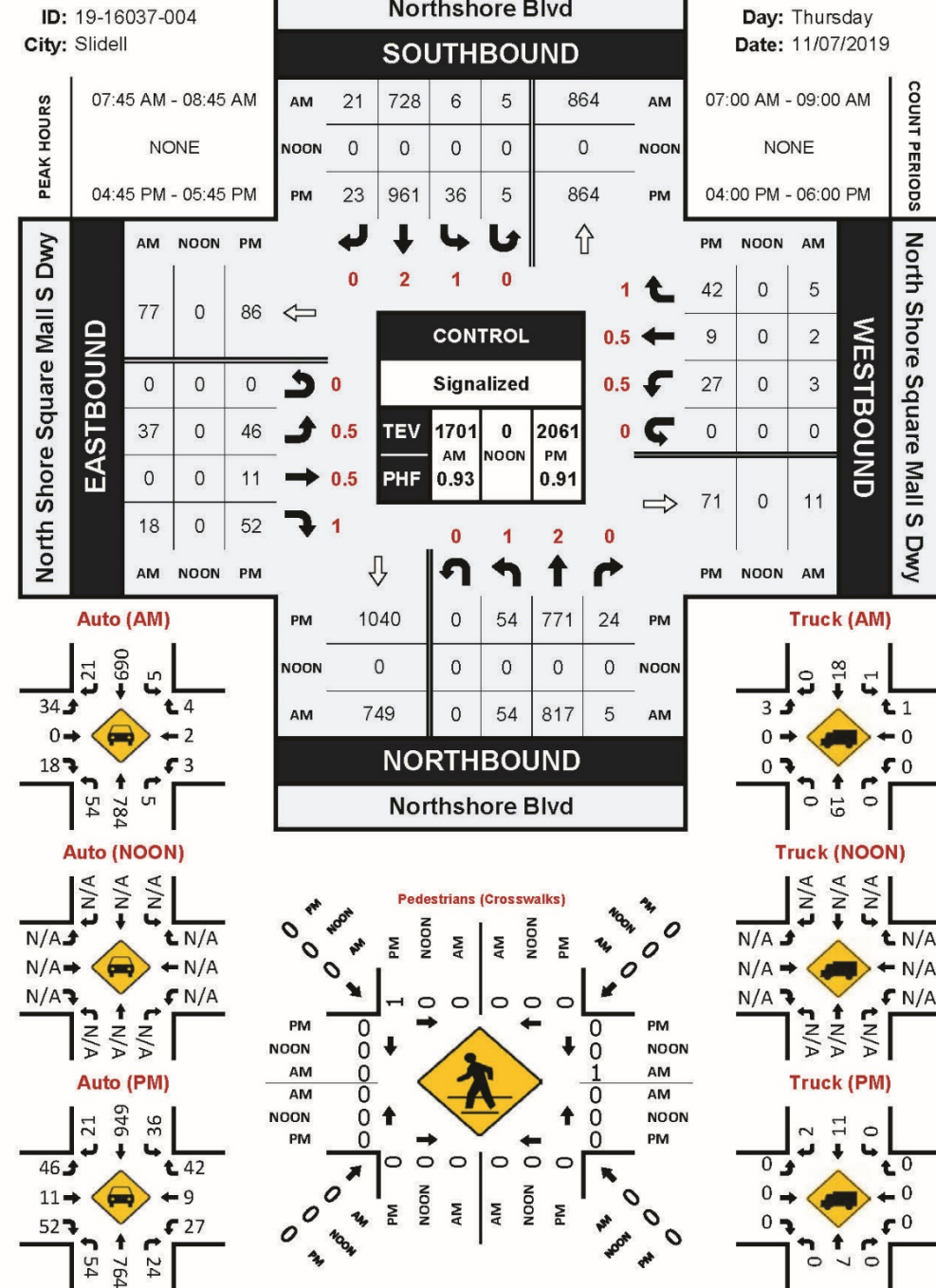
Peak Hour Turning Movement Count



Prepared by National Data & Surveying Services

Northshore Blvd & North Shore Square Mall S Dwy

Peak Hour Turning Movement Count



Northshore Boulevard: US 190 to I-12
Stage 0 Feasibility Study, Slidell, LA

There are no excessive or long queues as the longest queues were observed to be around 5 to 6 vehicles deep; however, there does appear to be quite a bit of a heavy vehicle presence.

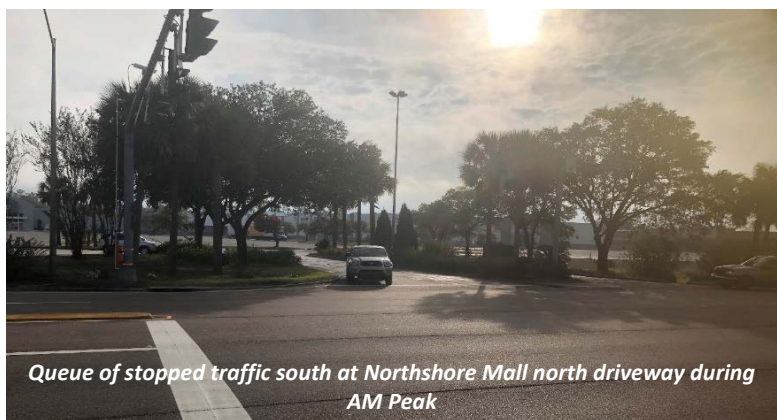
The approach has no congestion itself and doesn't appear to have any unmet demand. The signal timing appears to allow good progression Northbound from the downstream signalized shared Home Depot/Walmart intersection through the Starbucks/Northshore Square signal.

The Starbucks approach to the intersection sees quite a bit of traffic as can be expected; especially between 7:20 – 7:50 AM. The queue length can grow to 7 vehicles in length and wrap around the parking lot. Around 7:30 AM, there were several vehicles present at the approach and the signal skipped the phase for the approach causing a backup of cars in the queue (as shown in the top and middle photos to the right).

The approach had some congestion itself from the times stated above; however, there did not appear to be any unmet demand.

The Northshore Square approach has very little traffic from its approach, the max queue is about 2 vehicles and this approach thus has no operational issues. The approach has no congestion and no unmet demand (as shown in the bottom photo to the right).

The intersection itself during the AM peak appears to operate very well and has minimal congestion. The signal timing that appears on the Traffic Signal Inventory (TSI), provided by the City of Slidell, shows a -2 second cycle length for phases 4 and 8. The signal did appear to operate in the sequence provided on the TSI; however, it was noticed that on four occasions in the peak period the signal came out of the sequence and served phases 2 and 6 before phases 2 and 5. This occurred even when vehicles were present in the detection zone for phase 5. Also, it was noted that the timing plan from the TSI shows that the yellow time for all approaches is 5 seconds where it was noticed in the field that it is 4 seconds. It should be noted that the signal rests in phases 2 and 6 if there are no minor movement detection calls.





Queue of traffic south of S. I-12 Service Road during PM Peak

Traffic Observation Location #1:

Northshore @ Starbucks/Northshore Square North Driveway PM Peak Period Observation

The PM Peak Period Observation for the intersection of Northshore Boulevard and Starbucks/Northshore Square took place on November 6, 2019 from 4:00 to 6:00 PM. During the PM peak period, each approach was observed for queue lengths, operational issues, and other noteworthy events.



Queue of traffic at Starbucks/Northshore Mall north driveway during PM Peak

As in the AM observation period, Southbound Northshore experienced the longest queues during the peak period (as shown in the top and middle photo to the left).

The queues get back past the I-12 off/on ramp intersection, this was noticed to occur on four occasions. During these longer queueing events, the queue blocks the I-12 Frontage Road traffic from turning onto Northshore Boulevard. As in the AM period, observations confirmed the Southbound left-turn lane has a heavy U-turn movement (as shown in the bottom photo to the left).



U-turn traffic at Starbucks/Northshore Mall north driveway during PM Peak

The geometrical issue from the AM concerning the U-turns appears again in the PM as several cars have trouble completing the Southbound U-turn movement and several make 2 or 3-point turning maneuvers to complete the maneuver. One difference from the AM observation is that there appeared to be red light running to make the U-turn movement. This was observed to occur on 4 occasions.

Another issue that repeats from the AM Peak Period Observation is the backup from the downstream signal at the share Home Depot/Walmart driveway. It is a longer and more

lingering issue in the PM Peak as it happens over a longer period of time between 4:45 and 5:15; the queue from this signal begins to back up into the Starbucks intersection and blocks the intersection (as shown in the top photo to the right).

The approach has more congestion compared to the AM, but it doesn't appear to have any unmet demand due to signal timing. Even with some congestion issues there appears to be good progression Southbound from the I-12 off/on ramp signal through the Starbucks/Northshore Square signal.

The Northbound approach to the intersection appears to operate well and very similar to that of the AM Peak Period Observation. There are longer queues in the PM for the approach, as the longest queues were around 12 vehicles deep (as shown in the middle photo to the right).

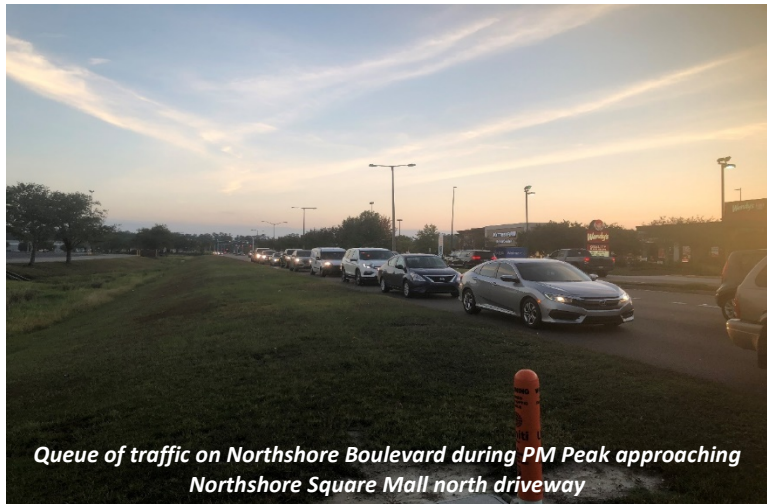
The approach has no congestion itself and doesn't appear to have any unmet demand. The signal timing appears to allow good progression Northbound from the downstream Taco Bell signal through the Starbucks/Northshore Square signal. For brief periods, there does appear to be some backup from the I-12 off/on ramp signal that gets within a few car lengths of blocking the intersection but never did during the observation.

The Starbucks approach to the intersection sees much less traffic volume compared to the AM and has very short queues--usually between 2 and 3 vehicles--with no unmet demand (as shown in the bottom photo to the right).

The Northshore Square approach saw more traffic volume in the PM; the max



Queue of traffic on Northshore Boulevard during PM Peak south of Starbucks driveway



Queue of traffic on Northshore Boulevard during PM Peak approaching Northshore Square Mall north driveway



Queue of traffic entering and departing Starbucks during PM Peak



Queue of traffic departing Northshore Square Mall during PM Peak

queue is about 6 vehicles. The approach did not see any operational issues; however, it was noticed that several vehicles that desired to make a Southbound U-Turn would turn left into Northshore Square and use the parking lot to U-turn and then proceed to turn right onto Northbound Northshore Boulevard. The approach has no congestion and no unmet demand (as shown in the top photo to the left).

The intersection itself during the PM peak appears to operate at an acceptable level for most of the time

but does have some minimal congestion issues. The signal timing appears to operate close to the sequence shown on the Traffic Signal Inventory provided by the City of Slidell; however, it was noted that the timing plan from the TSI shows that the yellow time for all approaches is 5 seconds where it was noticed in the field it is 4 seconds. The signal rests in phases 2 and 6 if there are no minor movement detection calls as observed in the AM.

Traffic Observation Location #2: Northshore @ Walmart/Home Depot shared driveway AM Peak Period Observation

The AM Peak Period Observation for the intersection of Northshore Boulevard and the shared driveway with Walmart/Home Depot took place on November 13, 2019 from 7:00 to 9:00 AM. The posted speed limit for Northshore Boulevard is 40 MPH and the Walmart/Home Depot shared driveway is not signed but is a commercial drive. Northshore Boulevard is a four-lane divided highway with a left-turn pocket Northbound for traffic turning into the Walmart/Home Depot entrance, etc. The Walmart/Home Depot approach is a one-lane entrance and a two-lane exit with a dedicated left turn lane and a dedicated right turn lane with a median separation. There is no pedestrian movement at the intersection.

During the AM peak period, each approach was observed for queue lengths, operational issues, and other noteworthy events. Southbound Northshore Boulevard experiences the longest queues during the peak period but very briefly. The queues get back close to the Starbucks/Northshore Square intersection, but



Queue of traffic southbound on Northshore Boulevard during AM Peak

more of the longer queues are back to in front of Wendy's (as labeled on the map on page 11 as shown in the bottom photo to the left). The approach had a little congestion and did not appear to have any unmet demand, just a long queue.

The Northbound approach to the intersection appears to have queues that go past the downstream Home Depot intersection at the longest. While these queues occur briefly

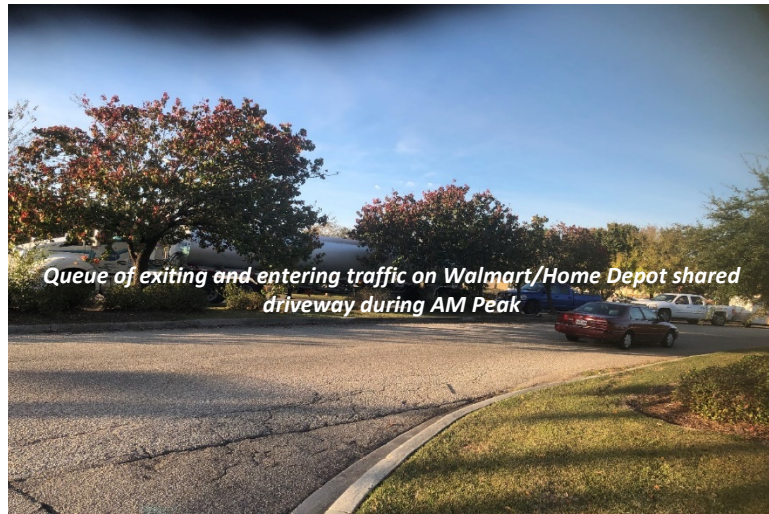
during the AM, they do provide an operational issue and block the Home Depot intersection (as shown in the top photo to the right). The approach had a little congestion and did not appear to have any unmet demand due to signal timing.

The Walmart/Home Depot shared driveway approach to the intersection saw very little traffic volume in the AM; however, this approach's signal timing appeared to cause the operational issues and longer queues on the other two approaches.

While the TSIs provided by the City shows a timing plan cycle length of 50 seconds and a Walmart/Home Depot shared driveway phase length of 9 seconds of green; the in-field conditions appear to be same of that of the PM timing plan provided on the TSI.

The Walmart/Home Depot shared driveway receives roughly 35 seconds of green no matter demand or detection calls. This is causing a lot of wasted time serving this very low volume phase in the morning; the cause of this is not known as it is obviously a controller issue. The max queue is about 6 vehicles in the AM, but with the signal timing there is no congestion or unmet demand coming out of the driveway (as shown in the lower picture to the right).

The signal appears to not be operating at all according to the provided TSI for the AM timing plan. The signal appears again to be in the PM timing plan including timings as well as in sequencing. It was also noticed that the signal has the signal heads for a right turn overlap from Walmart/Home Depot shared driveway to Southbound Northshore Boulevard but this overlap right never appeared. Also the timing plan states a yellow time of 5 seconds for each approach where the field conditions shows a 4 second yellow time for each approach.

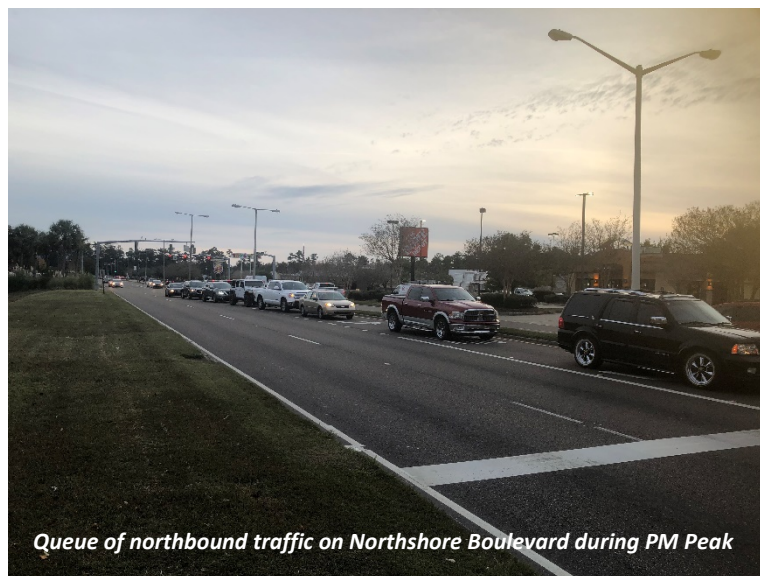




Queue of northbound traffic on Northshore Boulevard during PM Peak



Queue of northbound traffic on Northshore Boulevard during PM Peak



Queue of northbound traffic on Northshore Boulevard during PM Peak

Traffic Observation Location #2:
Northshore @ Walmart/Home Depot shared driveway PM Peak Period Observation

The PM Peak Period Observation for the intersection of Northshore Boulevard with the Walmart/Home Depot shared driveway took place on November 13, 2019 from 4:00 to 6:00 PM. During the PM peak period, each approach was observed for queue lengths, operational issues and other noteworthy events.

Southbound Northshore Boulevard experienced the longest queues during the peak period but very briefly. The queues are longer than in the AM peak and get back close to the Starbucks/Northshore Square intersection (as shown in the top photo to the left).

The approach had a little congestion during this time; however, the approach did not appear to have any unmet demand, just a long queue. The Northbound approach to the intersection appears to have queues that go past the upstream Home Depot intersection at its longest. While these queues occurred more frequently than the AM; the left turn pocket experienced queues that also blocked the left through lane on Northbound Northshore Boulevard. These queues blocked the Home Depot driveway (as shown in the middle and bottom photos to the left).

The approach has the periods of congestion mentioned above, the through movement did not appear to have any unmet demand due to signal timing; however, the left turn movement into the Taco Bell did have a small amount of unmet demand.

The Walmart/Home Depot shared driveway approach saw more traffic volume in the PM than in the AM peak period. Once again as from the AM observation, this approach's signal timing appeared to cause the operational issues and the longer queues on the other two approaches. While the TSI timings provided by the City match the timings observed in the field during the PM observation; the Walmart/Home Depot shared driveway still appears to receive too much green time for traffic using the approach. While there are longer queues in the PM than in the AM, there



is still quite a bit of wasted green time for the exit from the development (on average between 10-15 seconds). The longer queues get around 8 to 9 vehicles and can have some heavy vehicles (*as shown in the top photo to the right*). It was also noticed that the signal has the signal heads for a right turn overlap from Walmart/Home Depot shared driveway to Southbound Northshore Boulevard, but this overlap never appeared. Also, the timing plan states a yellow time of 5 seconds for each approach where the field conditions shows a 4 second yellow time for each approach.

Traffic Observation Location #3: Northshore @ Northshore Square South Driveway AM Peak Period Observation

The AM Peak Period Observation for the intersection of Northshore Boulevard and Northshore Square Mall South Driveway took place on November 20, 2019 from 7:00 to 9:00 AM. The driveways for the intersection of Northshore Boulevard and Northshore Square Mall South Driveway are not signed but are commercial drives. Northshore Boulevard is a four-lane divided highway with left-turn pockets both Northbound and Southbound for traffic turning into Home Depot (Northbound) and Northshore Square (Southbound). The commercial driveway across from the Mall (*which serves Home Depot and Burger King as labeled on page 11*) is a two-lane entrance and a two-lane exit with a shared thru/left lane and a dedicated right lane with a striped median separation. Northshore Square Mall South Driveway is a two-lane entrance and a two-lane exit with a shared thru/left lane and a dedicated right lane with a median separation. There is minor pedestrian movement at the intersection.

During the AM peak period, each approach was observed for queue lengths, operational issues, and other noteworthy events. Southbound



Northshore Boulevard experiences the longest queues during the peak period but very briefly. The queues get back close to the signalized Walmart/Home Depot shared driveway on three occasions. On most occasions however, the queue is very short and there appears to be good progression (as shown in the bottom picture to the right).

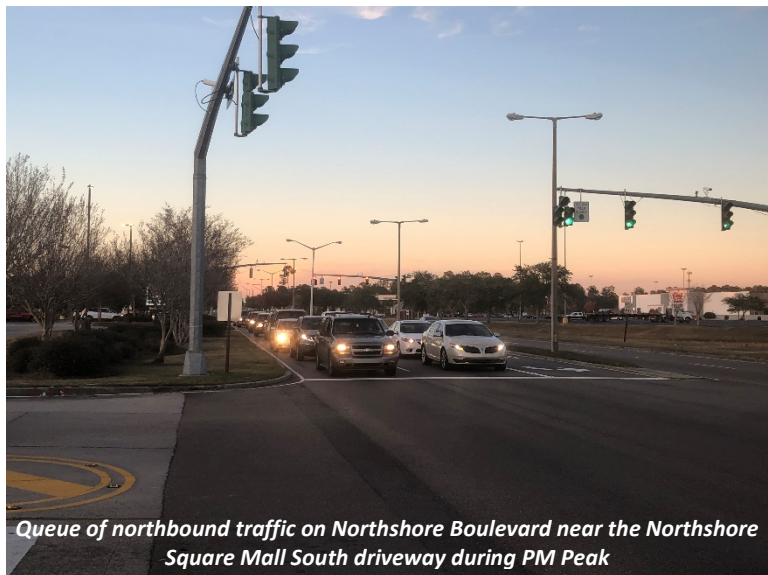
The approach had a little congestion during this time; however, the approach did not appear to have any unmet demand, just a long queue.

The Northbound approach to the intersection appears to have queues that are about 7 vehicles at its longest and there appears to be good progression from the US 190 intersection.

The intersection to the north (Northshore Boulevard @ Walmart/Home Depot shared driveway) has queuing that does back up and impedes the progress of Northbound traffic, this was noted to occur 9 times during the observation, with the longest queues observed occurring during this observation period (as shown in the top and middle photos to the left).

The approach had a little congestion during this time; however, the approach did not appear to have any unmet demand, just a long queue with some blockage.

The driveway serving Home Depot and Burger King did not have a lot of traffic during the observation, but the traffic signal timing forces off this phase in coordination sequence due to the timing plan even if there are calls on the approach. When the queue for the left turn from the approach gets a queue over 3-4 vehicles then the back



of queue will have a hard timing getting through the signal on green; thus, there is some unmet demand at the approach on some cycles. On most occasions however, there is about one or two car queues that easily clear the intersection.

The Northshore Square Mall South Driveway approach has very little traffic, the max queue is about 2 vehicles and thus has no operational issues. The approach has no congestion and no unmet demand.

The signal appears to be operating according to the provided TSI for the AM timing plan according to the sequencing. The signal appears to run the 50 sec designated cycle but gives extra time to phases 2 and 6. Also, the timing plan states a yellow time of 5 seconds for each approach where the field conditions shows a 4 second yellow time for each approach.

Traffic Observation Location #3: Northshore @ Northshore Square South Driveway PM Peak Period Observation

The PM Peak Period Observation for the intersection of Northshore Boulevard and Northshore Square Mall South Driveway took place on November 20, 2019 from 4:00 to 6:00 PM. During the PM peak period, each approach was observed for queue lengths, operational issues, and other noteworthy events. Northshore Boulevard experiences more traffic in the PM peak and sees longer queue lengths both Northbound and Southbound. The longest Southbound queue during the PM peak gets back to the shared Walmart/Home Depot driveway slows down the right turning traffic from the shared Walmart/Home Depot driveway onto Southbound Northshore, this was noticed to occur on three occasions during the observation (*as shown in the middle photo to the right*).



The northbound Northshore Boulevard approach (*as shown in the bottom photo to the right*) has longer queueing in the PM than in the AM, but the bigger operational issue comes from the shared Walmart/Home Depot driveway. Once again in the PM, as it was in the AM, queued traffic from the signal backs up into the Home Depot/Northshore Square intersection. The longer queues of the approach were about 7 to 8 vehicles (*as shown in the bottom photo to the right*).



The Southbound and Northbound approach had a little congestion during this time; however, the approaches did not appear to have any unmet demand,

just a long queue with some blockage. The Home Depot/Burger King approach does see substantially more traffic in the PM peak than in the AM peak, as can be expected. When the queue for the left turn from the approach gets a queue over 3-4 vehicles, then the back of queue will have a hard timing getting through the signal on green; thus, there is some unmet demand at the approach on some cycles.

The Northshore Square approach has very little traffic from its approach, the max queue is about 2 vehicles and has no operational issues. The approach has no congestion and no unmet demand.

The signal appears to be operating according to the provided TSI for the PM timing plan according to the sequencing. The signal appears to run the 50 sec designated cycle but gives extra time to phases 2 and 6. Also the timing plan states a yellow time of 5 seconds for each approach where the field conditions shows a 4 second yellow time for each approach.

EXISTING CONDITIONS (PEAK PERIOD TRAFFIC OPERATIONS)

VISTRO analyses were conducted to determine the existing levels of delay and level-of-service for the signalized intersections along Northshore Boulevard. It focused on the peak of traffic during the AM and PM peak periods. This analysis shows that all three intersections operate within an acceptable level-of-service (i.e. generally below capacity) during the AM peak period. Traffic during the AM Peak (*Figure 3*) remained higher northbound as a greater number of vehicles appear to travel from US 190 to I-12. Increased traffic demands on Northshore Boulevard during the PM peak southbound (*Figure 3*) creates a higher demand for left turns and through movements rendering also an acceptable level-of-service for all three intersections (*Table 3*). Detailed results for the analysis are in Appendix E.

Table 3: Existing Peak-Hour Traffic Operations Level-of-Service (LOS) and Delay
Northshore Boulevard, S. I-12 Service Road to north of US 190

Location	AM Peak Period		PM Peak Period	
	Delay/LOS	Queue	Delay/LOS	Queue
Northshore Boulevard @ Starbucks and Northshore Square Mall North Driveway	16.9 s(B)	227 ft	30.8 s (C)	441 ft
Northshore Boulevard @ Shared Driveway for Walmart and Home Depot	30.3 s (C)	469 ft	36.1 s (D)	600 ft
Northshore Boulevard @ Northshore Square Mall South Driveway	9.3 s (A)	71 ft	24.1 s (C)	291 ft

The unacceptable level-of-service in the existing condition occurs in some of the approaches to the intersections. The unacceptable delays occur at the Southbound Northshore Blvd. approach (*Table 4*) to the Northshore Boulevard @ Shared Driveway for Walmart and Home Depot Intersection. The approach results for the existing AM and PM condition are shown in Tables 3 and 4 respectively.

As noted in the data summaries (*Figure 2*), PM Peak traffic volumes on Northshore Boulevard are, on average, 36% higher southbound and 10% higher northbound than in the AM. Lower traffic volumes at the various signalized driveway approaches on the corridor also offer an opportunity to reallocate green time away from these minor movements and to Northshore Boulevard. Moving green time away from driveways will mean motorists waiting for the signal to turn on Northshore Boulevard will wait longer. Eventually, the number of stopped cars on these approaches will increase between cycles. Maintaining detection loops and cameras at these locations provides some assurance that the signal cycle will continue

to move and flush these driveways with some regularity and not hold cars in these driveways longer than necessary.

Table 4: Existing AM Peak-Hour Traffic Operations Level-of-Service (LOS) and Delay

Northshore Boulevard, S. I-12 Service Road to north of US 190

Location	Existing AM Peak Approach							
	NB		SB		EB		WB	
Northshore Boulevard @ Starbucks and Northshore Square Mall North Driveway	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	LOS
	13.7s (B)	153 ft	20.1s (C)	227 ft	17.5 s (B)	44 ft	16.9 s (B)	14 ft
Northshore Boulevard @ Shared Driveway for Walmart and Home Depot	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	LOS
	16.3s (B)	239 ft	48.0 s (D)	469 ft	21.0 s (C)	88 ft	-	-
Northshore Boulevard @ Northshore Square Mall South Driveway	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	LOS
	7.3s (A)	43 ft	11.4s (B)	71 ft	7.8 s (A)	4 ft	11.3 s (B)	4 ft

Table 5: Existing PM Peak-Hour Traffic Operations Level-of-Service (LOS) and Delay

Northshore Boulevard, S. I-12 Service Road to north of US 190

Location	Existing AM Peak Approach							
	NB		SB		EB		WB	
Northshore Boulevard @ Starbucks and Northshore Square Mall North Driveway	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	LOS
	26.1s (C)	358 ft	37.0s (D)	441 ft	25.8 s (C)	46 ft	20.8 s (C)	60 ft
Northshore Boulevard @ Shared Driveway for Walmart and Home Depot	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	LOS
	15.7s (B)	229 ft	59.7s (E)	600 ft	25.7s (C)	243 ft	-	-
Northshore Boulevard @ Northshore Square Mall South Driveway	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	LOS
	22.8s (C)	258 ft	25.4s (B)	291 ft	31.5 s (C)	85 ft	15.6 s (B)	31 ft

CRASH DATA SUMMARY, 2015-2017

Crash data for the study area was provided by the RPC for the years 2015-2017. An analysis of this data, prepared by Soll Planning in accord with the project scope, appears in Appendix D. It identified crash location, type, and severity. It demonstrated a concentration of crashes on Northshore Boulevard near the North Mall entrance and in the southern-most 600 feet of the road leading to US 190. Of the 211 crashes examined over the three years, *97.6% were either no injury or complaint*, while 2.4% were either moderate or severe.

The bulk of collisions included in the analysis were rear-end collisions (37.9%). Right-angle crashes were the second most common type (23.4%) and same-direction sideswipes (16.1%) were the third most common collision type. The remaining 22.5% included left-turns (same direction), left turns (opposite direction), right turns (across traffic), other types, and non-collision incidents. A reduction in conflict points will help eliminate some of these crash types and provide for better safety along the corridor. A conflict point comparison between the existing conditions and each concept in Table 6.

Table 6: Conflict Point Comparison

Northshore Boulevard, S. I-12 Service Road to north of US 190

Location	Number of Conflict Points			
	Existing	Concept #1	Concept #2	Concept #3
Northshore Boulevard @ Starbucks and Northshore Square Mall North Driveway	39	39	24	24
Northshore Boulevard @ Shared Driveway for Walmart and Home Depot	10	10	8	18
Northshore Boulevard @ Northshore Square Mall South Driveway	38	38	24	24

CONCEPT/ALTERNATIVES DEVELOPMENT

The purpose of the Stage 0 Feasibility Study is to identify and evaluate alternatives which appear to reduce crashes, improve safety, and solve deficiencies on the corridor identified as a result of the traffic data collection, observations, and future trip demand calculations. This level of study does not include recommendations, but offers an initial guide to specific projects which, with further development and review, could benefit traffic operations.

Based upon the review of existing traffic operations combined with review and input from the project steering committee, the following alternatives have been identified for consideration:

- **Concept #1: Update to traffic signal timing** – the current traffic signals in the corridor appear to favor driveways over corridor progression. As the levels of traffic generated by the mall have decreased, there may be an opportunity to re-evaluate signal timings to improve traffic flow and performance (decrease queue build-up in some areas) on Northshore Boulevard;
- **Concept #2: Superstreet/Roundabout Alternative 1** – a combination of retiming signals with right out access, with driveway closures or limitations (right-in/right-out only) and J-turns as well as a roundabout located at the southern limits near the current Northshore Boulevard at Northshore Square Mall South Driveway. This may offer better flow and access to sites along Northshore Boulevard on both sides of the Boulevard, as well as address safety issues at some driveways by reducing the number of potential traffic movements and reduce conflict points along the corridor;
- **Concept #3: Superstreet/Roundabout Alternative 2** – a combination of retiming signals with right out access, with driveway closures or limitations (right-in/right-out only) and J-turns as well as a roundabout located near the current Northshore Boulevard at Shared Walmart / Home Depot Driveway. This may offer better flow and access to sites along Northshore Boulevard, as well as address safety issues at some driveways by reducing the number of potential traffic movements and reduce conflict points along the corridor.

Concept/Alternative Evaluation and Analysis of Future Traffic Operations

A review of the potential impacts for these alternatives considered potential impacts as expressed using four variables across a range of apparent impacts from high to low. These variables, and the scale used appear as part of the evaluation table below (*Table 7*).

Table 7: Evaluation of Alternative Concepts

R.O.W.= right-of-way

Northshore Boulevard, S. I-12 Service Road to north of US 190

Concept	Utilities	Displacements	Safety	Impacts to Business Access
1 Update to Signal Timing				
2 Superstreet/Roundabout Atl. 1				
3 Superstreet/Roundabout Alt. 2				

Scale				
	Utilities	Displacements	Safety	Impacts to Business Access
High	Relocation required with easement	R.O.W. needed including taking/relocating buildings	Increase conflict points	Adverse impacts from project
Medium	Minimal impact on utilities (no easement required)	R.O.W. needed but with no adverse effect	No change in conflict points	Some impacts from project
Low	No Impact on utilities	Construction within existing R.O.W.	Reduce conflict points	No impacts from project

Concept #1 – Update to Signal Timing

As this concept occurs with no changes in equipment or facilities, the impact to adjacent areas is negligible. It will not impact utilities, require displacements (as no construction is required), or impact business access. This **alternative will have no change in conflict points**. The relative benefits of retiming the signals in the corridor include better coordination and movement of the north-south movements along the corridor as well as solving some of the unused times at a few of the intersections as mentioned in the peak period observations. This update to signal timing will also work with the current infrastructure in place and will not require any displacements or have adverse impacts on utilities and business access. While the signal retiming would greatly benefit the progression of north-south traffic in the future 2024 and 2049; it does adversely affect some of the side drive movements especially at the Northshore Boulevard at the Shared Driveway for Walmart and Home Depot intersection.



This update to signal timing will also work with the current infrastructure in place and will not require any displacements or have adverse impacts on utilities and business access. While the signal retiming would greatly benefit the progression of north-south traffic in the future 2024 and 2049; it does adversely affect some of the side drive movements especially at the Northshore Boulevard at the Shared Driveway for Walmart and Home Depot intersection.

Concept #2 – Super Street/Roundabout Alternative 1

This **concept will not fit in the existing right-of-way** at the southern intersection of the project as the required space needed for the roundabout will exceed the existing limits. The **impact to adjacent buildings will be minimal**; however, the parking at Taco Bell, Burger King and Raising Canes will be affected and will see a **reduction in parking spaces** depending on the size and exact final location of the proposed roundabout. **Utilities in the area of the roundabout will need to be replaced** and depending on the exact location of the roundabout a small portion of the detention pond to the west may need to

be filled in. There will be **some modifications to business access on the western side of Northshore Boulevard as most independent driveways would become right-in/right-out.**

This concept would **modify the northern intersection limits of Northshore Boulevard at Starbucks and Northshore Square Mall North Driveway into just right-out movements out of the driveways.** This will reduce conflict points at the intersection and allow for the removal of phases from the traffic signal providing better progression for the north and south movements but also still allow full access to the drives from the north and south movements. The inclusion of an **unsignalized U-turn (J-turn) southbound of the Northshore Boulevard at Starbucks and Northshore Square Mall North Driveway intersection** will provide the opportunity for a heavier left turn volume from the Starbucks drive approach to complete that maneuver away from the intersection with little delay. This concept would also modify the Northshore Boulevard at Shared Driveway for Walmart and Home Depot into just a right-out movement for the driveway. Once again, this will eliminate a phase from the signal, would not require the northbound thru movement to stop and will provide good progression north and south. The concept includes the replacement of the signal at the Northshore Boulevard at Northshore Square Mall South Driveway with a roundabout. The **roundabout will allow for better progression and reduce conflict points at the intersection; as well as removing the signal will help with the proximity of the existing signal spacing.** Placing the roundabout at his location will provide the same access to Dillard's and allow for a lower impact on the retention pond adjacent to the corridor to the east.

Concept #3 – Super Street/Roundabout Alternative 2

This **concept will not fit in the existing right-of-way** at the proposed roundabout location near the intersection of Northshore Boulevard and Shared Driveway for Walmart and Home Depot. The limits of the project required space for the roundabout will exceed the existing limits. The **impact to adjacent buildings will be minimal; however, the parking at Taco Bell, Mattress Firm and Dillard's will be affected** as these sites will see a reduction in parking. **Utilities near the roundabout location would see significant impact as well as a much larger portion of the detention pond to the west** would need to be adjusted. There will be **some modifications to business access on the western side of Northshore Boulevard** as most independent driveways would become right-in/right-out.

This concept would **modify the northern intersection limits of Northshore Boulevard at Starbucks and Northshore Square Mall North Driveway into just right-out movements** out of the driveways just as Concept #2. This will **reduce conflict points at the intersection and allow for the removal of phases from the traffic signal providing better progression for the north and south movements** but also still allow full access to the drives from the north and south movements. The inclusion of an **unsignalized U- turn (J-turn) southbound of the Northshore Boulevard at Starbucks and Northshore Square Mall North Driveway intersection will provide the opportunity for a heavier left turn volume** from the Starbucks drive approach to complete that maneuver away from the intersection with little delay. The concept includes the replacement of the signal at the Northshore Boulevard at Shared Driveway for Walmart and Home Depot with a roundabout. The roundabout will allow for better progression and reduce conflict points at the intersection; as well as removing the signal will help with the close proximity of the existing signal spacing; however placing the roundabout in this location would have more impacts on the detention pond to the west. This concept would also **modify the Northshore Boulevard at Taco Bell and Northshore Square Mall South Driveway into just a right-out movement for the driveways.** Once again, this will eliminate a phase from the signal. This will reduce conflict points at the intersection and allow for the removal of phases from the traffic signal providing better progression and improve lost signal time. This concept will still allow full access to the drives from the north and south movements. The proximity of the signal to the roundabout could however cause adverse effects on the roundabout.

FUTURE TRAFFIC OPERATIONS ANALYSIS

Change in Background Traffic Volumes

The RPC’s New Orleans Regional Travel Demand Model, which can provide forecast of travel demand based upon growth in population and employment combined with existing network capacity and committed improvement projects, estimates that existing traffic (without new development) would grow 1.3% annually. This value has been used to help calculate the baseline of future peak-period traffic without the addition of future development-based trips.

Traffic Impacts from Future Development Sites

The impact of future developments adjacent to Northshore Boulevard on the trip generation was evaluated using ITE *Trip Generation 10th Edition*. Details to accompany this analysis are in Appendix E. The methodology included identification of the potential development spots and estimating the anticipated number of trips associated with each.

The procedure for estimating these trips is briefly outlined here:

- Identifying developed and undeveloped sites (*as shown on Figure 3*).
- Developing three scenarios for future development (*as shown in Table 8 and detailed in Appendix E*).
- Using the fitted curve equations or trip rate variables for land use in the ITE *Trip Generation 10th Edition* an estimate of the number in-bound and out-bound trips during the peaks and Saturdays was prepared. As all new development is expected to be commercial or office, the analysis used a category appropriate to the description provided.
- The total number of trips generated during the peaks and Saturday were distributed through the adjacent driveways and intersections on the corridor using a proportionate split based upon the observed volume of traffic and to turning movements based upon the directionality percentages recorded in the traffic observations described above (*as detailed in Appendix E*).

Table 8: Anticipated Trip Generation Scenarios for Future Development

Northshore Boulevard, S. I-12 Service Road to north of US 190

Scenario 1. Toys R Us and 2 vacant storefronts fill in on West Side					
Weekday Peak AM Hour		Weekday Peak PM Hour		Saturday	
In	Out	In	Out	In	Out
20	12	63	67	783	784

Scenario 2. Offices fill in portion of Existing Mall on East Side					
Weekday Peak AM Hour		Weekday Peak PM Hour		Saturday	
In	Out	In	Out	In	Out
676	226	116	348	N/A	N/A

Scenario 3. Two Department Stores and Pier One Site become occupied with similar use (shopping)					
Weekday Peak AM Hour		Weekday Peak PM Hour		Saturday	
In	Out	In	Out	In	Out
70	40	182	184	2,374	2,376

Table compiled by Soll Planning, LLC. 2019.

Northshore Boulevard: US 190 to I-12
 Stage 0 Feasibility Study, Slidell, LA

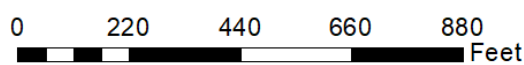
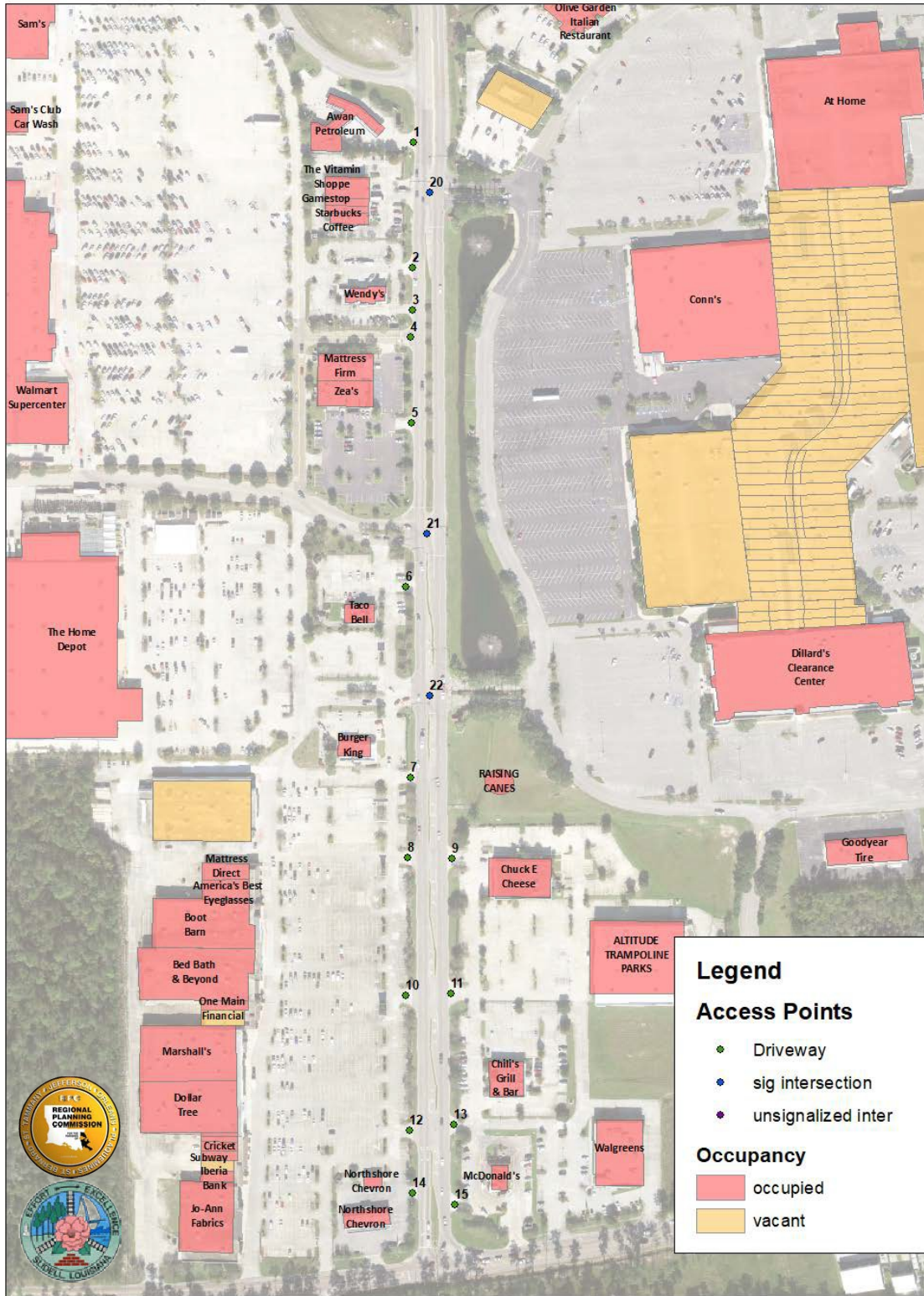


Figure 4.
 Developed vs. Undeveloped Sites, Northshore Boulevard
 Graphic Source: Soll Planning, LLC, 2019.

Traffic Operations Analysis (Microsimulation)

The future traffic operations analysis was conducted for each Concept with both the future traffic conditions from the provided RPC growth rate as well as the Trip Generation Numbers from Scenario 1. The analysis was conducted for the AM and PM peak hours in the years 2024 and 2049 with traffic being moved and redistributed as needed in the different Concepts depending upon movements that were no longer allowed, etc.

The traffic analysis was performed using both the VISTRO and SIDRA software packages and all analysis files may be found in the accompanying flash drive.

Concept #1 – Update to Signal Timing

The traffic operations analysis for Concept #1 was performed in VISTRO, the results for the delay and level of service for each intersection is shown in Table 9.

While Concept 1 provides acceptable levels of delay for the overall intersections, each approach needed a review for potential delay issues. A closer look at each approach revealed that there were unacceptable levels of delay at the Northshore Boulevard at Shared Driveway for Walmart and Home Depot Intersection in the 2024 PM Peak and unacceptable levels of delay at all three intersection in the 2049 PM Peak (Table 10).

Table 9: Future Peak-Hour Traffic Operations Level-of-Service (LOS) and Delay
Northshore Boulevard, S. I-12 Service Road to north of US 190

Analysis Year 2024

Location	AM Peak Period		PM Peak Period	
	Delay/LOS	Delay	Delay/LOS	Delay
Northshore Boulevard @Northshore Square Mall North Driveway	22.0s (C)	336 ft	23.7s (C)	493 ft
Northshore Boulevard @ Shared Driveway for Walmart and Home Depot	8.4s (A)	151 ft	16.4s (B)	303 ft
Northshore Boulevard @ Northshore Square Mall South Driveway	7.7s (A)	114 ft	12.7s (B)	169 ft

Analysis Year 2049

Location	AM Peak Period		PM Peak Period	
	LOS	Delay	LOS	Delay
Northshore Boulevard @ Northshore Square Mall North Driveway	25.9s (C)	550 ft	30.1s (C)	691 ft
Northshore Boulevard @ Shared Driveway for Walmart and Home Depot	12.8s (B)	239 ft	25.8s (C)	553 ft
Northshore Boulevard @ Northshore Square Mall South Driveway	8.2s (A)	124 ft	26.3s (C)	355 ft

Northshore Boulevard: US 190 to I-12
Stage 0 Feasibility Study, Slidell, LA

Table 10: Peak-Hour Traffic Operations Level-of-Service (LOS) and Delay, Year 2024 and 2049
Northshore Boulevard Concept 1

Location	2024 AM Peak Concept 1							
	Approach							
Northshore Boulevard @ Starbucks and Northshore Square Mall North Driveway	NB		SB		EB		WB	
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue
	16.8s (B)	222 ft	27.1s (C)	336 ft	21.6 (C)	64 ft	24.9s (C)	24 ft
Northshore Boulevard @ Shared Driveway for Walmart and Home Depot	NB		SB		EB		WB	
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue
	3.4s (A)	46 ft	9.2s (A)	151 ft	33.7s (C)	105 ft	-	-
Northshore Boulevard @ Northshore Square Mall South Driveway	NB		SB		EB		WB	
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue
	6.2s (A)	107 ft	7.0s (A)	114 ft	31.3s (C)	42 ft	26.4s (C)	9 ft
Location	2024 PM Peak Concept 1							
	Approach							
Northshore Boulevard @ Starbucks and Northshore Square Mall North Driveway	NB		SB		EB		WB	
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue
	16.8s (B)	325 ft	29.1s (C)	493 ft	32.4s (C)	54 ft	31.1s (C)	101 ft
Northshore Boulevard @ Shared Driveway for Walmart and Home Depot	NB		SB		EB		WB	
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue
	7.6s (A)	155 ft	14.7s (B)	303 ft	42.2s (D)	319 ft	-	-
Northshore Boulevard @ Northshore Square Mall South Driveway	NB		SB		EB		WB	
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue
	11.4s (B)	156 ft	12.6s (B)	169 ft	22.8s (C)	56 ft	16.5s (B)	28 ft
Location	2049 AM Peak Concept 1							
	Approach							
Northshore Boulevard @ Starbucks and Northshore Square Mall North Driveway	NB		SB		EB		WB	
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue
	17.1s (B)	353 ft	33.3s (C)	550 ft	33.3s (C)	132 ft	37.9s (D)	48 ft
Northshore Boulevard @ Shared Driveway for Walmart and Home Depot	NB		SB		EB		WB	
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue
	5.7s (A)	66 ft	18.9s (B)	239 ft	23.2s (C)	88 ft	-	-
Northshore Boulevard @ Northshore Square Mall South Driveway	NB		SB		EB		WB	
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue
	7.5s (A)	111 ft	8.5s (A)	124 ft	16.1s (B)	14 ft	21.3s (C)	10 ft
Location	2049 PM Peak Concept 1							
	Approach							
Northshore Boulevard @ Starbucks and Northshore Square Mall North Driveway	NB		SB		EB		WB	
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue
	21.5s (C)	501 ft	37.6s (D)	691 ft	36.3s (D)	80 ft	34.8s (C)	152 ft
Northshore Boulevard @ Shared Driveway for Walmart and Home Depot	NB		SB		EB		WB	
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	LOS	Delay/LOS	LOS
	16.6s (B)	285 ft	26.5s (C)	553 ft	47.0s (D)	450 ft	-	-
Northshore Boulevard @ Northshore Square Mall South Driveway	NB		SB		EB		WB	
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue
	25.2s (C)	348 ft	27.2s (C)	355 ft	35.4s (D)	108 ft	18.8s (B)	50 ft

Concept #2 – Superstreets/Roundabout Alternative 1

The traffic operations analysis for Concept #2 was performed in SIDRA, the results for the delay and level of service for each intersection is shown in Table 11.

Table 11: Future Peak-Hour Traffic Operations Level-of-Service (LOS) and Delay

Northshore Boulevard Concept 2

Analysis Year 2024

Location	AM Peak Period		PM Peak Period	
	Delay/LOS	Queue	Delay/LOS	Queue
Northshore Boulevard @ Northshore Square Mall North Driveway	14.8s (B)	204 ft	20.8s (C)	272 ft
Northshore Boulevard @ Shared Driveway for Walmart and Home Depot	3.2s (A)	76 ft	3.7s (A)	76 ft
Northshore Boulevard @ Northshore Square Mall South Driveway	1.1s (A)	5 ft	3.9s (A)	66 ft

Analysis Year 2049

Location	AM Peak Period		PM Peak Period	
	Delay/LOS	Queue	Delay/LOS	Queue
Northshore Boulevard @ Northshore Square Mall North Driveway	17.0s (B)	417 ft	22.5s (C)	480 ft
Northshore Boulevard @ Shared Driveway for Walmart and Home Depot	6.1s (A)	201 ft	8.6s (A)	249 ft
Northshore Boulevard @ Northshore Square Mall South Driveway	1.5s (A)	53 ft	11.9s (B)	31 ft

While Concept #2 provides acceptable levels of delay for the overall intersections, each approach needed a review for potential delay issues. A closer look at each approach revealed that there were acceptable levels of delay at all approaches within the study limits in both the AM and PM Peak periods for both the 2024 traffic and 2049 traffic (Table 12).

Table 12: Peak-Hour Traffic Operations Level-of-Service (LOS) and Delay, Year 2024 and 2049

Northshore Boulevard Concept 2

Location	2024 AM Peak Concept 2 Approach							
	NB		SB		EB		WB	
Northshore Boulevard @ Starbucks and Northshore Square Mall North Driveway	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue
		17.4s (B)	204 ft	13.9s (B)	161 ft	2.9 (A)	20 ft	3.2s (A)
Northshore Boulevard @ Shared Driveway for Walmart and Home Depot	NB		SB		EB		WB	
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue
	0.8s (A)	39 ft	4.5s (A)	76 ft	13.1s (B)	27 ft	-	-
Northshore Boulevard @ Northshore Square Mall South Driveway	NB		SB		EB		WB	
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue
	1.2s (A)	34 ft	0.8s (A)	26 ft	4.0s (A)	5 ft	5.1s (A)	34 ft

Table 12: Peak-Hour Traffic Operations Level-of-Service (LOS) and Delay, Year 2024 and 2049
Northshore Boulevard Concept 2

Location		2024 PM Peak Concept 2							
		Approach							
Northshore Boulevard @ Starbucks and Northshore Square Mall North Driveway	NB		SB		EB		WB		
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	
	24.2s (C)	272 ft	19.6s (B)	234 ft	3.7s (A)	12 ft	4.2s (A)	16 ft	
Northshore Boulevard @ Shared Driveway for Walmart and Home Depot	NB		SB		EB		WB		
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	
	0.9s (A)	46 ft	2.1s (A)	68 ft	16.7s (B)	76 ft	-	-	
Northshore Boulevard @ Northshore Square Mall South Driveway	NB		SB		EB		WB		
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	
	4.6s (A)	61 ft	2.7s (A)	66 ft	6.6s (A)	15 ft	7.8s (A)	16 ft	
Location		2049 AM Peak Concept 2							
		Approach							
Northshore Boulevard @ Starbucks and Northshore Square Mall North Driveway	NB		SB		EB		WB		
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	
	20.6s (C)	417 ft	14.8s (B)	272 ft	4.3s (A)	40 ft	6.5s (A)	11 ft	
Northshore Boulevard @ Shared Driveway for Walmart and Home Depot	NB		SB		EB		WB		
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	
	0.9s (A)	62 ft	10.8s (B)	202 ft	18.0s (B)	48 ft	-	-	
Northshore Boulevard @ Northshore Square Mall South Driveway	NB		SB		EB		WB		
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	
	1.7s (A)	53 ft	1.1s (A)	40 ft	4.3s (A)	7 ft	6.3s (A)	3 ft	
Location		2049 PM Peak Concept 2							
		Approach							
Northshore Boulevard @ Starbucks and Northshore Square Mall North Driveway	NB		SB		EB		WB		
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	
	24.6s (C)	480 ft	22.5s (C)	443 ft	6.9s (A)	26 ft	8.1s (A)	35 ft	
Northshore Boulevard @ Shared Driveway for Walmart and Home Depot	NB		SB		EB		WB		
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	LOS	Delay/LOS	LOS	
	1.5s (A)	80ft	9.4s (A)	249 ft	29.1s (C)	156 ft	-	-	
Northshore Boulevard @ Northshore Square Mall South Driveway	NB		SB		EB		WB		
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	
	14.8s (B)	173 ft	9.2s (A)	181 ft	12.0s (B)	31 ft	16.4s (B)	34 ft	

Concept #3 – Superstreets/Roundabout Alternative 2

The traffic operations analysis for Concept #3 was performed in SIDRA, the results for the delay and level of service for each intersection is shown in Table 13.

The operational analysis of Concept #3 shows acceptable levels of service and delay for each intersection in the 2024 peak conditions; however, in the 2049 peak conditions the Northshore Boulevard at Shared Driveway for Walmart and Home Depot experienced unacceptable levels of delay in the PM Peak.

Looking at the results by approaches for each intersection in 2024 for the peak periods shows acceptable levels of delay in 2024; however, a look at 2049 peak periods (*Table 14*) shows unacceptable delays at the Northshore Boulevard at Shared Driveway for Walmart and Home Depot intersection as well as the

Northshore Boulevard at Northshore Square Mall South Driveway. In 2049, it appears as though the volume of traffic becomes large that it breaks down the roundabout as well as with the proximity of the traffic signal to the south will cause backup as well.

Table 13: Future Peak-Hour Traffic Operations Level-of-Service (LOS) and Delay

Northshore Boulevard Concept 3

Analysis Year 2024

Location	AM Peak Period		PM Peak Period	
	Delay/LOS	Queue	Delay/LOS	Queue
Northshore Boulevard @ Northshore Square Mall North Driveway	19.4s (B)	321 ft	20.0s (C)	410 ft
Northshore Boulevard @ Shared Driveway for Walmart and Home Depot	1.1s (A)	30 ft	2.6 sec (A)	48 ft
Northshore Boulevard @ Northshore Square Mall South Driveway	18.9s (B)	190 ft	15.2s (B)	227 ft

Analysis Year 2049

Location	AM Peak Period		PM Peak Period	
	Delay/LOS	Queue	Delay/LOS	Queue
Northshore Boulevard@ Northshore Square Mall North Driveway	19.3s (B)	509 ft	18.6s (B)	686 ft
Northshore Boulevard @ Shared Driveway for Walmart and Home Depot	1.4s (A)	43 ft	69.3s (E)	706 ft
Northshore Boulevard @ Northshore Square Mall South Driveway	16.8s (B)	341 ft	30.0s (C)	630 ft

Northshore Boulevard: US 190 to I-12
Stage 0 Feasibility Study, Slidell, LA

Table 14: Peak-Hour Traffic Operations Level-of-Service (LOS) and Delay, Year 2024 and 2049
Northshore Boulevard Concept 3

2024 AM Peak Concept 3								
Location	Approach							
	NB		SB		EB		WB	
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue
Northshore Boulevard @ Starbucks and Northshore Square Mall North Driveway	30.1s (C)	321 ft	11.3s (B)	175 ft	2.7 (A)	35 ft	4.1s (A)	7 ft
Northshore Boulevard @ Shared Driveway for Walmart and Home Depot	0.9s (A)	29 ft	1.0s (A)	30 ft	3.2s (A)	6 ft	-	-
Northshore Boulevard @ Northshore Square Mall South Driveway	22.1s (C)	190 ft	16.3s (B)	142 ft	2.2s (A)	7 ft	2.8s (A)	2 ft
2024 PM Peak Concept 3								
Location	Approach							
	NB		SB		EB		WB	
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue
Northshore Boulevard @ Starbucks and Northshore Square Mall North Driveway	29.2s (C)	410 ft	12.9s (B)	261 ft	3.0s (A)	15 ft	5.6s (A)	24 ft
Northshore Boulevard @ Shared Driveway for Walmart and Home Depot	2.4s (A)	39 ft	2.0s (A)	48 ft	4.5s (A)	18 ft	-	-
Northshore Boulevard @ Northshore Square Mall South Driveway	15.0s (B)	195 ft	17.7s (B)	227 ft	3.1s (A)	19 ft	2.7s (A)	13 ft
2049 AM Peak Concept 3								
Location	Approach							
	NB		SB		EB		WB	
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue
Northshore Boulevard @ Starbucks and Northshore Square Mall North Driveway	28.1s (C)	509 ft	12.3s (B)	282 ft	3.9s (A)	46 ft	6.9s (A)	12 ft
Northshore Boulevard @ Shared Driveway for Walmart and Home Depot	1.1s (A)	43 ft	1.3.s (A)	42 ft	3.7s (A)	8 ft	-	-
Northshore Boulevard @ Northshore Square Mall South Driveway	19.4s (B)	341 ft	14.5s (B)	234 ft	3.2s (A)	13 ft	4.7s (A)	4 ft

Table 14: Peak-Hour Traffic Operations Level-of-Service (LOS) and Delay, Year 2024 and 2049
Northshore Boulevard Concept 3

Location	2049 PM Peak Concept 3							
	Approach							
	NB		SB		EB		WB	
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue
Northshore Boulevard @ Starbucks and Northshore Square Mall North Driveway	25.5s (C)	686 ft	20.6s (C)	525 ft	7.4s (A)	39 ft	10.2s (B)	56 ft
Northshore Boulevard @ Shared Driveway for Walmart and Home Depot	NB		SB		EB		WB	
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	LOS	Delay/LOS	LOS
	39.2s (D)	380 ft	122.9s (F)	706 ft	13.2s (B)	52 ft	-	-
Northshore Boulevard @ Northshore Square Mall South Driveway	NB		SB		EB		WB	
	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue	Delay/LOS	Queue
	47.2s (D)	630 ft	11.4s (B)	369 ft	4.3s (A)	63 ft	47.2s (D)	138 ft

Stage Zero Environmental Checklist and Preliminary Scope and Budget Worksheet

The Stage Zero Environmental Checklist was completed for the project study area (Northshore Boulevard, south of the S. I-12 Service Road, to north of the US 190 Intersection). This checklist, along with the Preliminary Scope and Budget Worksheet are included in Appendix F of this report. No sites or areas of concern were identified using the Stage Zero Environmental Checklist and accompanying database search. Database search did identify underground storage tanks adjacent to the corridor at two gas stations.

Appendices

- A. Project Management Committee Meeting Summaries
- B. Average Daily Traffic (ADT) Data
- C. Peak-Hour Traffic Data
- D. Crash Analysis
- E. HCM Analysis Results
- F. Stage 0 Environmental Checklist and DOTD/MPO Preliminary Scope and Budget Checklist

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Appendix A: Project Management Committee Meeting Summaries

BURK-KLEINPETER, INC.

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4176 CANAL STREET, NEW ORLEANS, LA 70119
(504) 486-5901 - FAX (504) 488-1714

M E E T I N G S U M M A R Y

Job No.: NO.19.019 **Date:** October 1, 2019

Job Title: Northshore Boulevard Stage 0 Feasibility Study

Meeting Location: City of Slidell, Engineering Department (250 Buscaran St, Suite 302)

Participants: BKI- Kester Holler, Kate McKesson, Ed Elam
 Soll Planning – Ellen Soll
 Please see attached sign-in list for all attendees

Summary: This meeting served as the initial project advisory committee meeting. Attendees for this meeting discussed the scope of the project, along with external developments which need to be considered within the context of the Stage 0 Feasibility Study. Following this meeting, a group of individuals, including representatives of the consultant and RPC adjourned to the Northshore Boulevard corridor for a visual inspection of the area and review of the Stage 0 Feasibility Study checklist items.

Project Purpose – the meeting started with a review of the project purpose by the RPC (J Roesel). This was followed by a review of the scope of services, including additional guidance and clarification on the scope items as provided by the RPC during the consultant/RPC start meeting (BKI).

Discussion of Issues and Opportunities – the meeting continued with a roundtable discussion of issues and opportunities in the corridor area. This discussion included points made by the City of Slidell (M Noto, B Clancy) and the RPC (J Roesel, C Laborde). These include:

- **Land Use** – the consultant team needs to be aware of planned and promoted development in the corridor and north of I-12 along Airport Road as this may have an impact on future traffic demands and access needs. This includes a major athletic facility north of the I-12, and commercial development opportunities along Northshore Boulevard. Both are likely to increase traffic on the corridor and demand for restaurants and hotel space (long-term).
- **Safety** – the project will look at measures to address safety as reported in accident reviews. It was noted that data for this analysis was tabulated by the RPC for 2014-2016. Data for previous three years (2016, 2017, 2018) may now be available for use (RPC to confirm).
- **Access Management** – the project can look at improvements to driveway access along the corridor, including relocation, in order to improve safety. The Mall site and Mall merchants requiring specific driveway locations are no longer in business at the site.
- **Drainage** – the retention pond in front of the Mall is used to catch runoff on the site. Any adjustments in the pond will require like improvements elsewhere on the site to add capacity for runoff.
- **City Streets**- the project will remain focus on the city-owned roads and not review the proposed improvements at Northshore Boulevard and US 190. It was noted that the City has (or is in the process) of acquiring the S. Frontage Road via road swap. Also, the interior road on the west side of Northshore Boulevard remains a private road used by Walmart. Traffic signals in the corridor are City-maintained and signal inventory information is available from the City's Public Works Department.
- **Engineering Department Coordination** – the team can coordinate questions regarding public works and engineering data with Blaine Clancy and Christi Lambertson.
- **Planning Department Review** – the team adjourned to the field for review, stopping first at the Planning Department to met Theresa Alexander. Discussions in the Planning Department focused on corridor zoning and identification of available GIS data. The point of contact for GIS data acquisition is John Kramer in the Engineering Department.
- **Field Review** – Inspection of the corridor yielded little new information regarding the adjacent land uses, environmental concerns and existing traffic conditions. The corridor contains 4 traffic signals, two of which are less than 400 feet apart from each other. There are two gas stations on the corridor. With the exception of the large detention pond in front of the mall, drainage and utilities are subsurface. Traffic was moderate at the time of the review (mid-afternoon, off peak).

Next Steps: Receive data from City GIS; Complete Stage 0 Feasibility Study Checklist; Document field conditions; Secure/start traffic count data collection; Plan next meeting for late October/early November.

REGIONAL PLANNING COMMISSION

JEFFERSON, ORLEANS, PLAQUEMINES, ST. BERNARD, ST. CHARLES, ST. JOHN THE BAPTIST,
ST. TAMMANY AND TANGIPAHOA PARISHES

Northshore Blvd Traffic Study Meeting with City of Slidell, Tues, Oct 1, 2019

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Name	Representing	Phone	E-mail
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Follow-up meeting:			
THE RESA ALEXANDER	SLIDELL PLANNING DEPT	985-646-4320	TALAXANDER@CITYOFSLIDELL.ORG



Northshore Boulevard Stage 0 Feasibility Study, US 190 to S. I-12 Service Road

Task SL-1.20 NSB; FY-20 UPWP • SPN H.972353.1 • BKI NO.19.019

Project Management Committee Meeting

Monday, November 18, 2019

2:00 pm • City of Slidell

City of Slidell Engineering Dept, Suite 302, Conf Room, 250 Bouscaren St, Slidell, LA

WORKING AGENDA

- I. **Introductions**
 - Review summary from October 1st meeting
- II. **Project Overview**
 - Initial data review findings & remaining tasks
 - Stage 0 Checklist
- III. **Potential Alternatives**
 - Initial suggestions
 - Feedback
- IV. **Conclusion**

In association with



*Please do not forget to sign in to record your attendance!
Today's meeting should last no more than 60 minutes.*

BURK-KLEINPETER, INC.

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(504) 486-5901 - FAX (504) 488-1714

M E E T I N G S U M M A R Y

Job No.: NO.19.019 **Date:** November 18, 2019

Job Title: Northshore Boulevard Stage 0 Feasibility Study

Meeting Location: City of Slidell, Engineering Department (250 Buscaran St, Suite 302)

Participants: BKI- Kester Holler, Kate McKesson
Soll Planning – Ellen Soll
Please see attached sign-in list for all attendees

Summary: This meeting served as the second project advisory committee meeting. Attendees for this meeting discussed the preliminary results of traffic counts, crash data analysis, and environmental checklist, along with modeling assumptions which need to be considered within the context of the traffic demand model.

Project Purpose – the meeting started with an overview of the initial impression of traffic performance on the corridor based on the results of traffic counts conducted since the last meeting and reported to the team the week prior. This was followed by a review of the findings from crash data and a summary of environmental issues from the checklist.

Discussion of Assumptions and Alternatives – the meeting continued with a roundtable discussion of assumptions and alternatives for the preliminary crash and traffic issues identified so far. This discussion included points made by the City of Slidell (C Lambertson) and the RPC (J Roesel, C Laborde). These include:

- **Traffic signal timing** – traffic signals at the two mall entrances appear to be favorable to the mall and could be retimed for better performance
- **Safety** – the crash data was compatible with what was previously known. The Cat Scan Analysis indicated right angle crashes and left-turn crashes were higher than the state average.
- **Land Use** – the consultant team should consider the currently vacant mall as a potential retail and/or office space for trip generation modeling. There are no plans for residential redevelopment. Square footage for general office space was identified in a press announcement to be 200,000 sq ft. The team should be aware of traffic generated by the Raising Cane's and that ingress/egress do not provide direct access to the restaurant, at present.
- **Access Management** – project can look at improvements to driveway access along the corridor, including relocation, in order to improve safety. A near term solution could include some re-timing, some access management, prohibiting certain J-turns, signage, etc. A second alternative might include a round about at the southern mall entrance or at the current three legged intersection at the Home Depot/Walmart entrance, but the size would depend on the traffic analysis to see how it would perform.

Next Steps: Analyze traffic count data; Develop trip generation numbers; Identify alternatives for discussion; Plan next meeting for mid December or January.

REGIONAL PLANNING COMMISSION

JEFFERSON, ORLEANS, PLAQUEMINES, ST. BERNARD, ST. CHARLES, ST. JOHN THE BAPTIST,
ST. TAMMANY AND TANGIPAHOA PARISHES

Northshore Blvd Traffic Study Meeting with City of Slidell, Tues, Oct 1, 2019

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Kester Hollier	BKI	504-486-5901	Khollier@bkusa.com
Ellen Soll	Soll Planning	504-610-3765	ellen@sollplanning.com
MICHAEL NOTO	COS	985-646-4330	MNOTO@CITYOFSLIDELL.ORG
Follow-up meeting:			
THE RESA ALEXANDER	SLIDELL PLANNING DEPT	985-646-4320	TALAXANDER@CITYOFSLIDELL.ORG

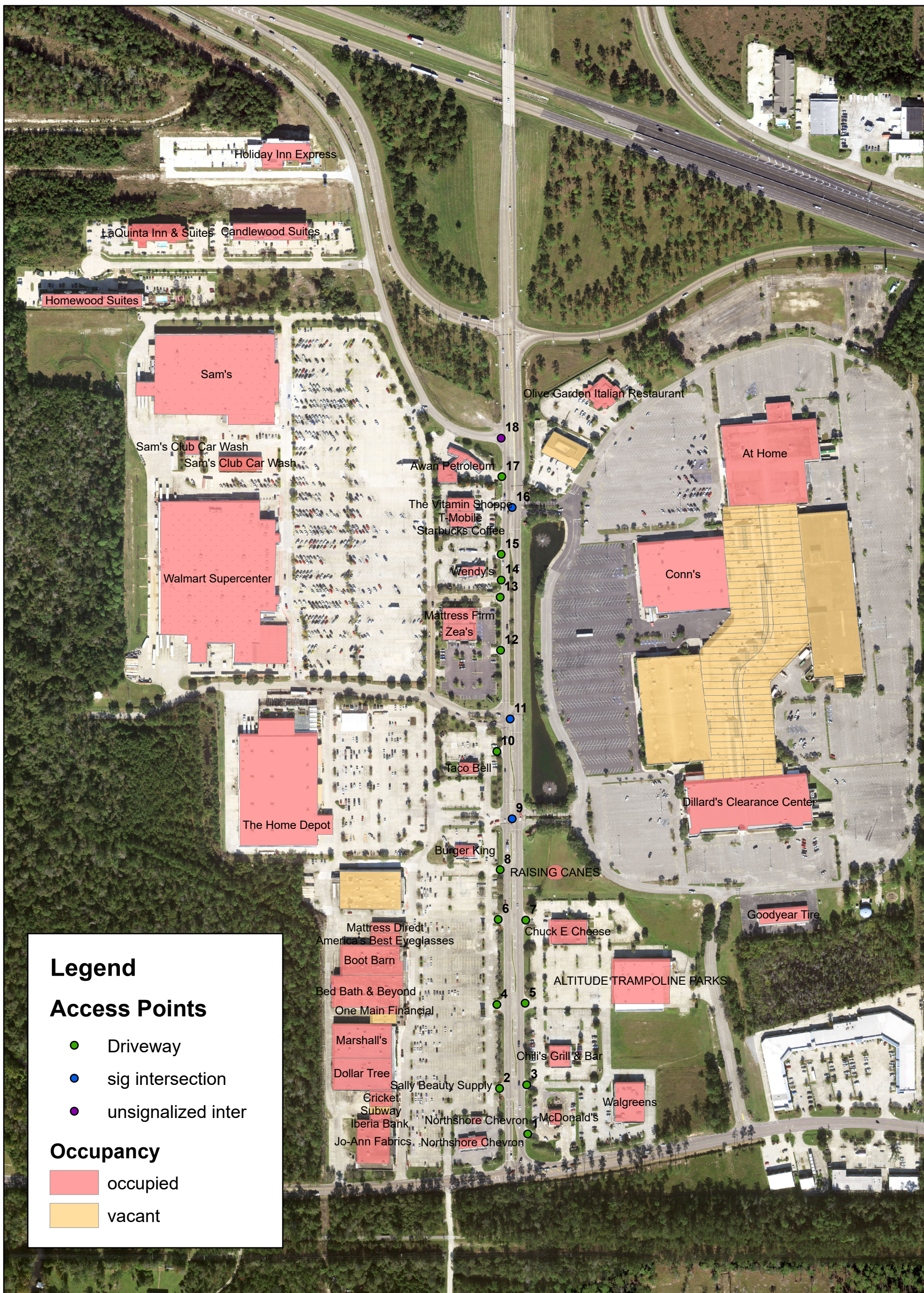
Northshore Boulevard Stage 0 Feasibility Study, US 190 to S. I-12 Service Road
Task SL-1.20 NSB; FY-20 UPWP • SPN H.972353.1 • BKI NO.19.019

Agenda Item II, Scope Task 2-4 items; Initial and Final Data Collection & Safety Analysis:

- ✓ Visual inspections/initial field review (completed 10/01/19)
- ✓ Data collection:
 - ✓ Collect 7 day/24-hour traffic counts with classifications at two locations along Northshore Boulevard: (week of 10/13/2019)
 - Station #1 between the North Shore Mall Driveway (north) and the Home Depot/Walmart Entrance Road;
 - Station #2 between the Home Depot/Walmart Entrance Road and US 190
 - ✓ Peak Hour Turning Movement Counts with Demand at the following intersections for weekday AM & PM Peak Hours identified by BKI (completed 11/07/2019)
 - Northshore Boulevard at North Shore Square Mall North driveway;
 - Northshore Boulevard at Home Depot/Walmart Entrance Road;
 - Northshore Boulevard at North Shore Square Mall South Driveway.
 - ✓ Fifteen (15) minute driveway counts (completed 11/07/2019)
 - All business driveways along Northshore Boulevard between S. I-12 Service Road and the last driveway north of the US 190/Northshore Boulevard intersection (15 driveways total).
 - ✓ Collection of traffic signal timings and inventory for locations on Northshore Boulevard (combined with field verification in week of 11/11/19)
 - ✓ Accident Review/Safety Analysis using CATSCAN
 - ✓ Stage 0 Checklist/Database review completed
 - ✓ Initial Land Use and Trip Generation Identification started at sites along Northshore Boulevard between S. I-12 Service Road and north of the US 190 intersection

LEGEND

✓ = complete



Legend

Access Points

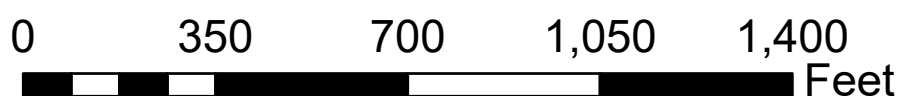
- Driveway
- sig intersection
- unsignalized inter

Occupancy

- occupied
- vacant

Northshore Boulevard: US 190 to I-12 S. Service Road

Trip Generation Inputs



BURK-KLEINPETER, INC.

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M E E T I N G S U M M A R Y

Job No.: NO.19.019 **Date:** January 24, 2020

Job Title: Northshore Boulevard Stage 0 Feasibility Study

Meeting Location: City of Slidell, Engineering Department (250 Buscaran St, Suite 302)

Participants: BKI- Kester Holler, Kate McKesson, Ed Elam
 Soll Planning – Ellen Soll
 Please see attached sign-in list for all attendees

Summary - This meeting served as the third and final project advisory committee meeting. Attendees for this meeting discussed the three concepts developed by the project team to address congestion and safety issues in the corridor, along with the costs associated with each alternative. Review comments on the draft report were collected to be incorporated into the final document.

Discussion of Alternatives – Kester Hollier provided an overview of each of the three alternatives developed. The first alternative is a re-timing of signals and access management improvements to improve flow and decrease delays in the corridor. The second concept is a “superstreet”, with access management improvements and a roundabout located at the southern limits near the current Northshore Boulevard at Northshore Square Mall South Driveway. The third concept is also a “superstreet” with access management improvements and a roundabout located at the current Northshore Boulevard at Shared Walmart/Home Depot Driveway.

Concept #1 provides the most immediate opportunity for improvement in the corridor at the lowest cost. While the overall improvement is not as great, it provides an opportunity for a near-term solution. When comparing the second and third concepts, it was noted that Concept #2 provides more traffic congestion relief, with lesser impacts to the built environment than Concept #3.

All three concepts are anticipated to improve safety in the corridor by mitigating congestion and reducing the number of rear-end crashes (the primary crash type in the corridor).

Jeff Roesel noted that the selected alternative will require 20% match from the City of Slidell.

Draft Report Comments – Some copy edit comments were provided to the project team for inclusion in the final report. Jeff Roesel noted that the team should also clarify the connection between congestion relief and roundabouts as a safety counter measure for rear end crashes and left turn crashes. The project team expects to provide the required number of documents and digital report copies the first week of February.

TRAFFIC OPERATIONS ANALYSIS KEY POINTS

An analysis of existing conditions including existing signal timing for both the defined AM and PM peak hours, indicated each intersection appeared to operate at acceptable levels. Field conditions and observations shows that there is unacceptable delay southbound along Northshore Blvd. at the Shared Driveway for Walmart and Home Depot. Current signal timing at the intersection is causing this issue.

Three potential Improvement Concepts were developed to determine what may be best for future traffic operations with growth in traffic demand in the horizon years 2024 and 2049.

- **Concept #1: Update to traffic signal timing** – re-evaluate signal timings to improve traffic flow and performance (decrease queue build-up in some areas) on Northshore Boulevard;
- **Concept #2: Superstreet/Roundabout Alternative 1** – a combination of retiming signals with right out access, with driveway closures or limitations (right-in/right-out only) and J-turns as well as a roundabout located at the southern limits near the current Northshore Boulevard at Northshore Square Mall South Driveway. This may offer better flow and access to sites along Northshore Boulevard, as well as address safety issues at some driveways by reducing the number of potential traffic movements and conflict points;
- **Concept #3: Superstreet/Roundabout Alternative 2** – a combination of retiming signals with right out access, with driveway closures or limitations (right-in/right-out only) and J-turns as well as a roundabout located near the current Northshore Boulevard at Shared Walmart / Home Depot Driveway. This may offer better flow and access to sites along Northshore Boulevard, as well as address safety issues and reduce conflict points.

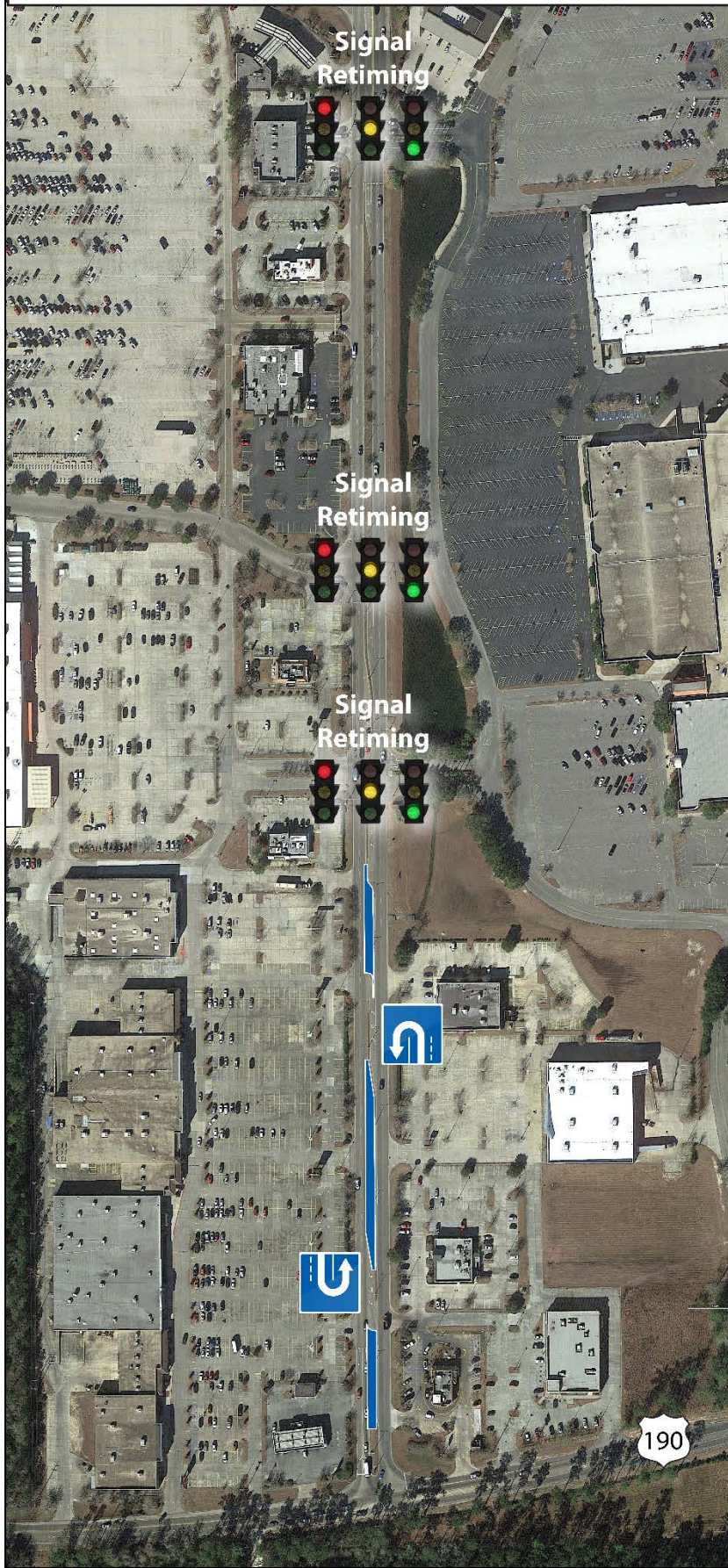
From the traffic analysis please consult detailed findings as documented in the Final Report distributed by the RPC prior to the meeting and the conflict point comparisons, Concept #2 appears to provide acceptable levels of delay both at the overall intersection level as well as by each approach to the intersections. Concept #2 also reduces the number of conflict points at all intersections in the corridor study, as shown in the table below.

Location	Number of Conflict Points			
	Existing	Concept #1	Concept #2	Concept #3
Northshore Boulevard @ Starbucks and Northshore Square Mall North Driveway	39	39	24	24
Northshore Boulevard @ Shared Driveway for Walmart and Home Depot	10	10	8	18
	38	38	24	24

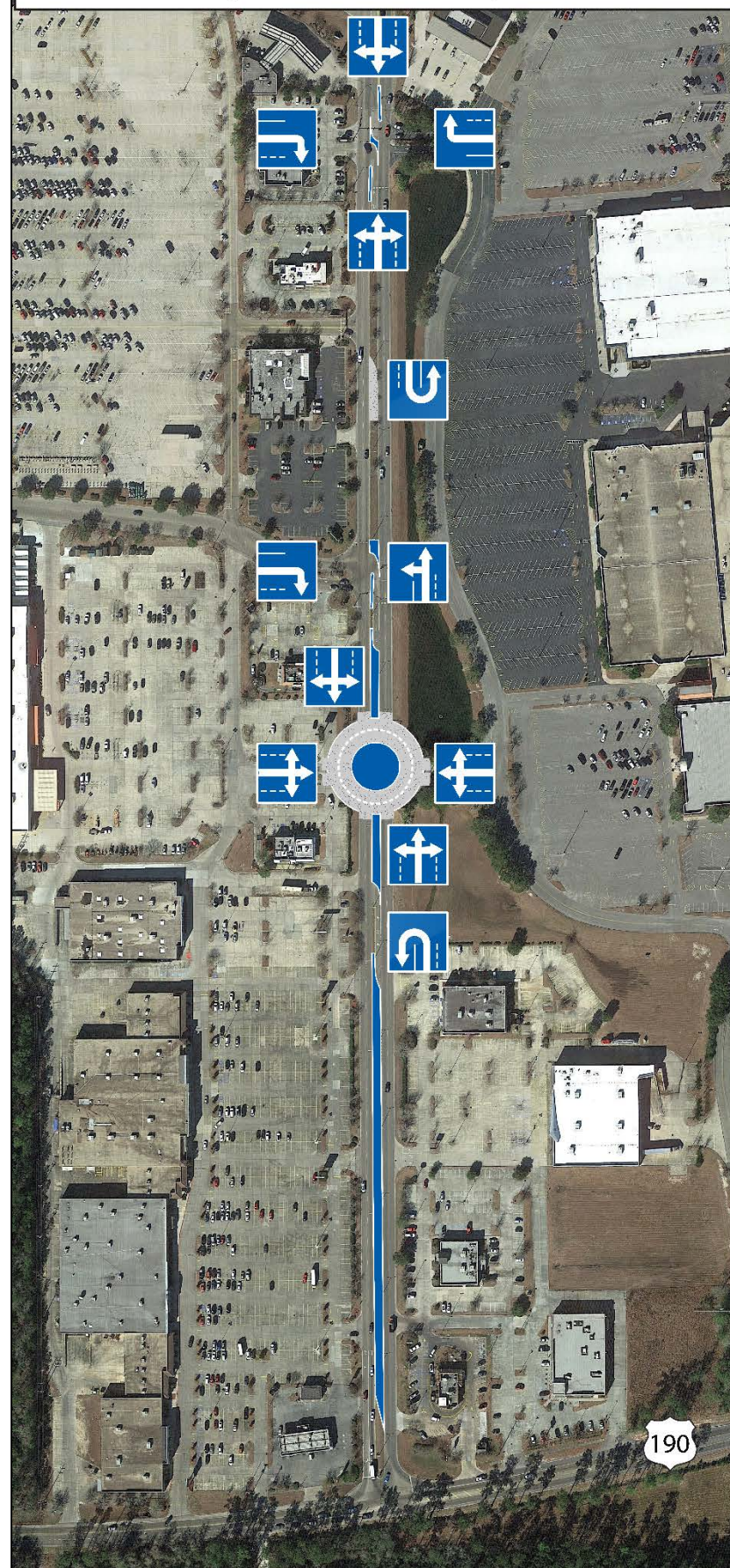
Northshore Boulevard: US 190 to I-12
Stage 0 Feasibility Study, Slidell, LA

Northshore Boulevard @ Northshore Square Mall South Driveway				
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Northshore Blvd: US 90 to I-12
Stage 0 Feasibility Study
Improvement Concept #1



Northshore Blvd: US 90 to I-12
Stage 0 Feasibility Study
Improvement Concept #2



Northshore Blvd: US 90 to I-12
Stage 0 Feasibility Study
Improvement Concept #3



Appendix B: Average Daily Traffic Data

(made via electronic submittal to RPC)

Appendix C: Peak-Hour Traffic Data
(made via electronic submittal to RPC)

Appendix D: Crash Analysis

To: Ed Elam, Burk-Kleinpeter, Inc.

From: Ellen Soll, Soll Planning, LLC

Date: November 5, 2019

Re: Crash Data Analysis for Northshore Boulevard (2015-2017)

Introduction

The purpose of this memorandum is to provide an overview of existing safety conditions on the Northshore Boulevard Corridor from US Highway 190 and I-12 in Slidell, LA, through an evaluation of existing resources, observed field conditions and analysis of traffic crash data from 2015-2017.

Background Information

Northshore Boulevard is a North – South roadway connecting US 190 and I-12. It is a 0.5 mile urban principal arterial on the National Highway System network that is locally-owned and operated by the City of Slidell. According to previous research by the Local Road Safety Program (LRSP), it has the highest number of crashes of any locally owned roadway in St. Tammany Parish.

The roadway consists of four travel lanes with a narrow median and left turn lanes providing access to the commercial businesses on both sides of the roadway. Travel lanes are approximately 10-11 ft. wide. There are no sidewalks or bicycle facilities present. The Average Annual Daily Traffic (AADT) is 22,525 according to data collected in October 2019. The posted speed limit is 40 MPH.

There are five signalized intersections:

- I-12 Ramp
- North Mall Entrance
- Walmart/Home Depot Entrance
- South Mall Entrance
- US Hwy 190

In addition, there are numerous access points/driveways for the commercial businesses on both sides.

Crash Data Evaluation

The 211 reported crashes occurring on the corridor in the years 2015, 2016, and 2017 were evaluated to identify patterns and subsequently inform recommendations to improve safety on the corridor. For the purpose of this study, the I-12 ramp and US Hwy 190 intersections are not included, reducing the number of crashes evaluated to 151. Table 1, next page, shows the reported crashes and evaluated crashes by year for the corridor.

This document and the information contained herein is prepared solely for the purpose of identifying, evaluating and planning safety improvements on public roads which may be implemented utilizing federal aid highway funds; and is therefore exempt from discovery or admission into evidence pursuant to 23 U.S.C. 409.

Table 1. Northshore Boulevard Reported Crashes, 2015-2017

Year	Number of Crashes on Corridor	Crashes Evaluated
2015	67	45
2016	68	51
2017	76	55
Three year total	211	151

Figure 1. Northshore Boulevard Reported and Evaluated Crashes, 2015-2017



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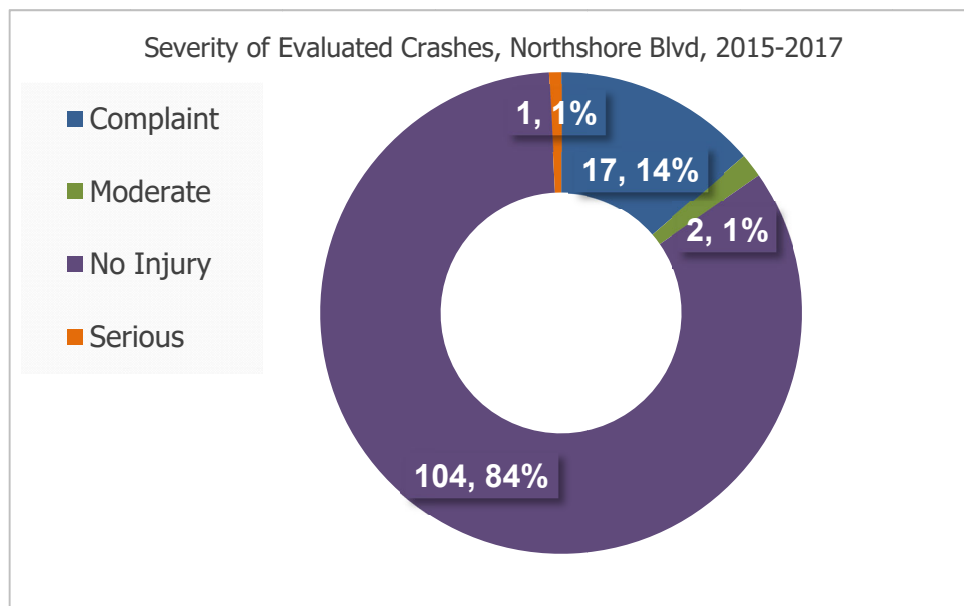
Severity

Though the overall number of crashes on Northshore Boulevard is considered high when compared to other local roads in St. Tammany Parish, they are typically not very severe. In the three years of data examined, 97.6% of crashes were either no injury or complaint, while 2.4% were either moderate or severe.

Table 2. Severity of Crashes on Northshore Boulevard, 2015-2017

Category of Severity	Number	Percent
No Injury	104	83.9%
Complaint	17	13.7%
Moderate	2	1.6%
Serious	1	0.8%
Total	124	100%

Figure 2. Severity of Crashes on Northshore Boulevard, 2015-2017



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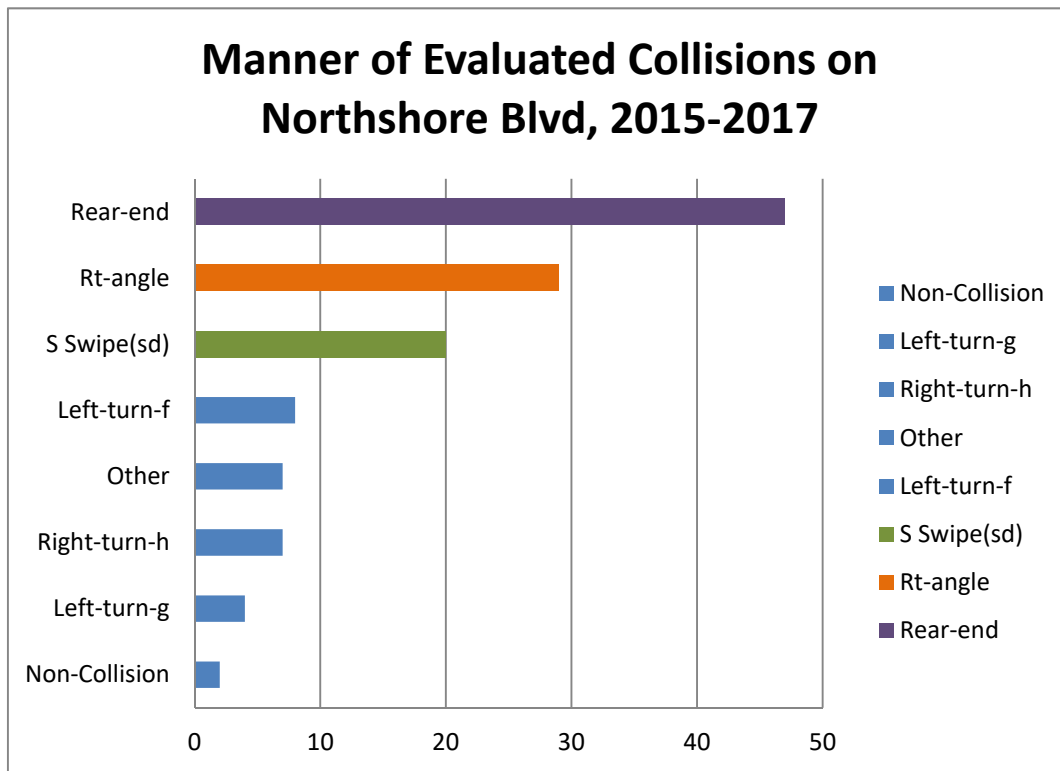
Manner of Collision

The three predominant collision types occurring are rear end crashes (37.9%), right angle crashes (23.4%) and side-swipe (same direction) crashes (16.1%). Rear-end and side-swipe crashes are seen throughout the corridor, with some concentration towards the northern and southern ends of the study area. Right-angle crashes appear at intersections and driveways throughout the corridor.

Table 3. Manner of Evaluated Crashes on Northshore Boulevard, 2015-2017

Manner of Collision	Number	Percent
Rear End	47	37.9%
Right Angle	29	23.4%
Side Swiped (SD. Same Direction)	20	16.1%
Left Turn (F. Opposite Direction)	8	6.5%
Other	7	5.6%
Right Turn (H. Cross Traffic)	7	5.6%
Left Turn (G. Same Direction)	4	3.2%
Non-collision	2	1.6%
Total	124	100%

Figure 3. Manner of Evaluated Crashes on Northshore Boulevard, 2015-2017



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Figure 4. Major Types of Evaluated Crashes on Northshore Boulevard, 2015-2017



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Cumulative Time of Day

Figures 4 and 5, below, show that crashes tend to be greatest on Thursday, Friday, and Saturday between the hours of 9AM and 6PM. This is unsurprising, given the commercial/retail nature of the adjacent land uses.

Figure 4. Cumulative Time of Day (Weekdays) for Evaluated Crashes on Northshore Boulevard, 2015-2017

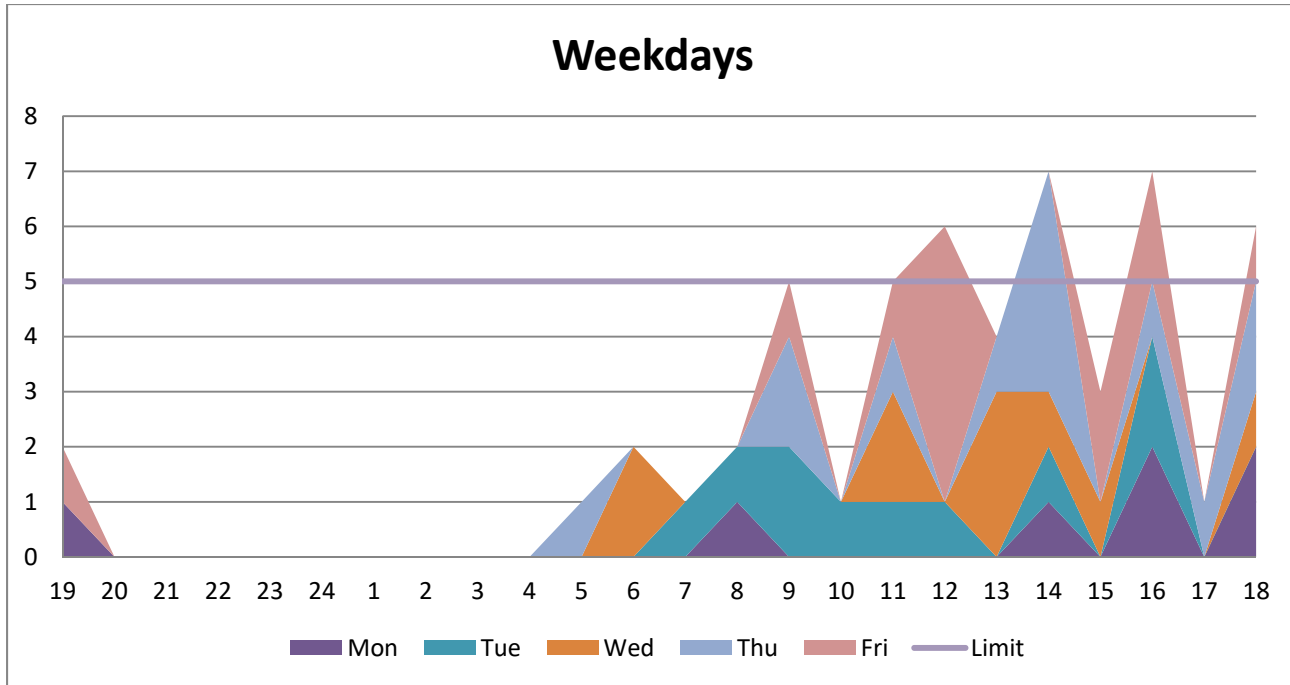
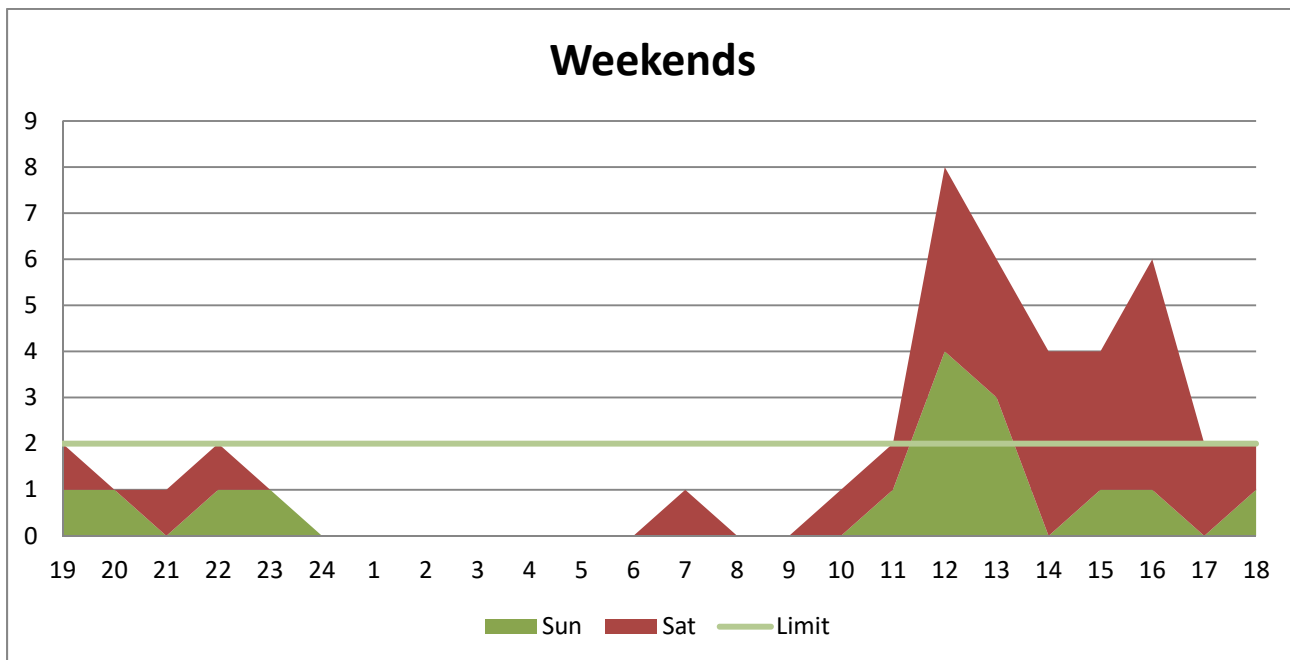


Figure 5. Cumulative Time of Day (Weekends) for Evaluated Crashes on Northshore Boulevard, 2015-2017

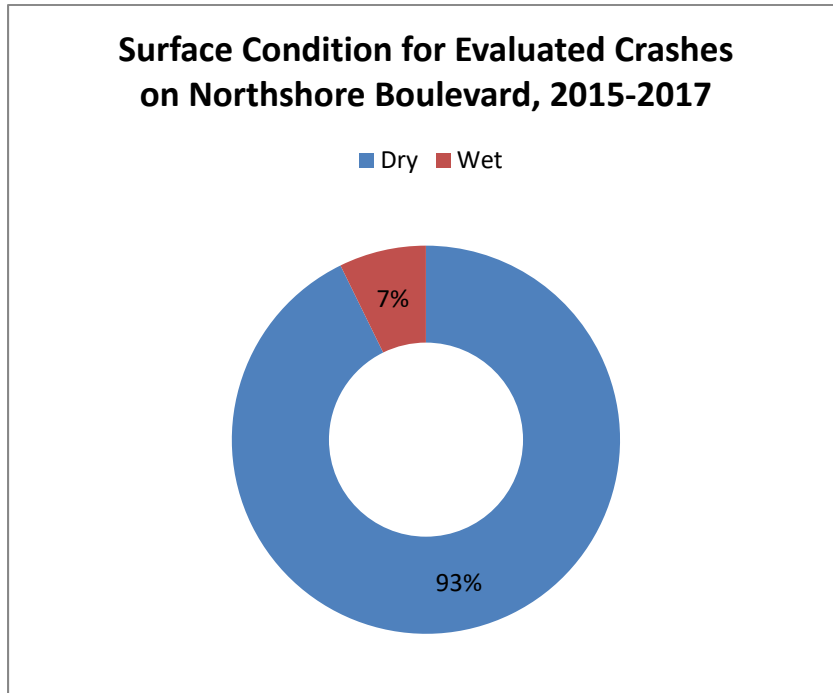


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Surface Condition

In most cases (92.7%), the roadway surface at the time of the crash was dry. See Figure 6, below.

Figure 6. Surface Condition for Evaluated Crashes on Northshore Boulevard, 2015-2017



Conclusions

Project recommendations to improve safety should be focused on the major collision types: Rear-end crashes, Right-angle crashes, and side-swipe same direction crashes. There is some clustering of crashes near the North Mall entrance intersection and in the southern-most 600 feet leading up to US 190. Weather and lighting do not appear to be a major factor in the crashes evaluated. Given the lack of severe injury, crashes appear to be occurring at lower speeds.

This document and the information contained herein is prepared solely for the purpose of identifying, evaluating and planning safety improvements on public roads which may be implemented utilizing federal aid highway funds; and is therefore exempt from discovery or admission into evidence pursuant to 23 U.S.C. 409.

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Appendix E: HCS Results

(made via electronic submittal to RPC of the VISTRO and SIDRA files)

**Appendix F: Stage 0 Feasibility Study Checklist and
DOTD/MPO Stage 0 Preliminary Scope and Budget Checklist**

**STAGE 0
Environmental Checklist**

Route 103 - Northshore Blvd Parish: St. Tammany

C.S. _____ Begin Log mile 0.00 End Log mile 0.61

ADJACENT LAND USE: Commercial, retail, vacant (undeveloped)

Any property owned by a Native American Tribe?
(Y or N or Unknown) If so, which Tribe? No

Any property enrolled into the Wetland Reserve Program?
(Y or N or Unknown) If so, give the location Unknown

Are there any other known wetlands in the area?
(Y or N) If so, give the location Freshwater pond – stormwater retention area. East side of Northshore Blvd extending the full length of the road between the two mall entrances.

Community Elements: Is the project impacting or adjacent to any (if the answer is yes, list names and locations):

(Y or N) Cemeteries No

(Y or N) Churches No

(Y or N) Schools No

(Y or N) Public Facilities (i.e., fire station, library, etc.) No

(Y or N) Community water well/supply No

Section 4(f) issue: Is the project impacting or adjacent to any (if the answer is yes, list names and locations):

(Y or N) Public recreation areas No

(Y or N) Public parks No

(Y or N) Wildlife Refuges No

(Y or N) Historic Sites No

Is the project impacting, or adjacent to, a property listed on the National Register of Historic Places?
(Y or N) **Is the project within a historic district or a national landmark district?** (Y or N) If the answer is yes to either question, list names and locations below:

No

Do you know of any threatened or endangered species in the area? (Y or N)

If so, list species and location. Unknown

Does the project impact or adjacent to a stream protected by the Louisiana Scenic Rivers Act? (Y or N) If yes, name the stream. No

Are there any Significant Trees as defined by EDSM I.1.1.21 within proposed ROW? (Y or N) If so, where? No

What year was the existing bridge built? N/A

Are any waterways impacted by the project considered navigable? (Y or N) If unknown, state so, list the waterways: No

**STAGE 0
Environmental Checklist**

Hazardous Material: Have you checked the following DEQ and EPA databases for potential problems? (If the answer is yes, list names and locations.)

(Y or N) Leaking Underground Storage Tanks No

(Y or N) CERCLIS No

(Y or N) ERNS No

(Y or N) Enforcement and Compliance History No

Underground Storage Tanks (UST): Are there any Gasoline Stations or other facilities that may have UST on or adjacent to the project? (Y or N) Yes

If so, give the name and location: Chevron: 101 Northshore Blvd; Express #7: 181 Northshore Blvd; Sam's Club #6220: 181 Northshore Blvd

Any chemical plants, refineries or landfills adjacent to the project? (Y or N) **Any large manufacturing facilities adjacent to the project?** (Y or N) **Dry Cleaners?** (Y or N) If yes to any, give names and locations: No

Oil/Gas wells: Have you checked DNR database for registered oil and gas wells? (Y or N) List the type and location of wells being impacted by the project. Yes

Are there any possible residential or commercial relocations/displacements? (Y or N)

How many? No

Do you know of any sensitive community or cultural issues related to the project? (Y or N)

If so, explain No

Is the project area population minority or low income? (Y or N) No

What type of detour/closures could be used on the job? Construction would require that driveways remain open to provide for merchant access. Most merchant spaces along Northshore Boulevard have numerous driveway access points. The only exception is the shopping center with Starbucks, Vitamin Shoppe, T Mobile, and Game Stop. It is separated from this service road by an existing landscaped buffer. Creating a connection for this site to the service road during construction on Northshore Boulevard (in order to maintain access) could require temporary removal of this buffer and loss of up to six (6) pine trees.

Did you notice anything of environmental concern during your site/windshield survey of the area? If

so, explain below.

None.

Kate McKesson

Point of Contact

(504)486-5901

Phone Number

11/18/2019

Date

STAGE 0 Environmental Checklist

General Explanation:

To adequately consider projects in Stage 0, some consideration must be given to the human and natural environment which will be impacted by the project. The Environmental Checklist was designed knowing that some environmental issues may surface later in the process. This checklist was designed to obtain basic information, which is readily accessible by reviewing public databases and by visiting the site. It is recognized that some information may be more accessible than other information. Some items on the checklist may be more important than others depending on the type of project. It is recommended that the individual completing the checklist do their best to answer the questions accurately. Feel free to comment or write any explanatory comments at the end of the checklist.

The Databases:

To assist in gathering public information, the previous sheet includes web addresses for some of the databases that need to be consulted to complete the checklist. As of February 2011, these addresses were accurate.

Note that you will not have access to the location of any threatened or endangered (T&E) species. The web address lists only the threatened or endangered species in Louisiana by Parish. It will generally describe their habitat and other information. If you know of any species in the project area, please state so, but you will not be able to confirm it yourself. If you feel this may be an issue, please contact the Environmental Section. We have biologist on staff who can confirm the presence of a species.

Why is this information important?

Land Use? Indicator of biological issues such as T&E species or wetlands.

Tribal Land Ownership? Tells us whether coordination with tribal nations will be required.

WRP properties? Farmland that is converted back into wetlands. The Federal government has a permanent easement which cannot be expropriated by the State. Program is operated through the Natural Resources Conservation Service (formerly the Soil Conservation Service).

Community Elements? DOTD would like to limit adverse impacts to communities. Also, public facilities may be costly to relocate.

Section 4(f) issues? USDOT agencies are required by law to avoid certain properties, unless a prudent or feasible alternative is not available.

Historic Properties? Tells us if we have a Section 106 issue on the project. (Section 106 of the National Historic Preservation Act) See <http://www.achp.gov/work106.html> for more details.

Scenic Streams? Scenic streams require a permit and may require restricted construction activities.

Significant Trees? Need coordination and can be important to community.

Age of Bridge? Section 106 may apply. Bridges over 50 years old are evaluated to determine if they are eligible for the National Register of Historic Places.

Navigability? If navigable, will require an assessment of present and future navigation needs and US Coast Guard permit.

Hazardous Material? Don't want to purchase property if contaminated. Also, a safety issue for construction workers if right-of-way is contaminated.

STAGE 0

Environmental Checklist

Oil and Gas Wells? Expensive if project hits a well.

Relocations? Important to community. Real Estate costs can be substantial depending on location of project. Can result in organized opposition to a project.

Sensitive Issues? Identification of sensitive issues early greatly assists project team in designing public involvement plan.

Minority/Low Income Populations? Executive Order requires Federal Agencies to identify and address disproportionately high and adverse human health and environmental effects on minority or low income populations. (Often referred to as Environmental Justice)

Detours? The detour route may have as many or more impacts. Should be looked at with project. May be unacceptable to the public.

STAGE 0 Environmental Checklist

Louisiana Governor's Office of Indian Affairs:

<http://www.indianaffairs.com/tribes.htm>

Louisiana Wetlands Reserve Program:

<http://www.nrcs.usda.gov/programs/wrp/states/la.html>

Community Water Well/Supply

<http://sonris.com/default.htm>

Louisiana Department of Wildlife and Fisheries – Wildlife Refuges

<http://www.wlf.louisiana.gov/refuges>

<http://www.fws.gov/refuges/profiles/ByState.cfm?state=LA>

<http://www.fws.gov/refuges/refugelocatormaps/Louisiana.html>

U.S. Fish & Wildlife Service – National Wetlands Inventory:

<http://www.fws.gov/wetlands/>

Louisiana State Historic Sites:

<http://www.crt.state.la.us/parks/ihistoricsiteslisting.aspx>

National Register of Historic Places (Louisiana):

<https://www.nps.gov/maps/full.html?mapId=7ad17cc9-b808-4ff8-a2f9-a99909164466>

National Historic Landmarks Program:

<http://www.nps.gov/history/nhl/>

Threatened and Endangered Species Databases:

http://www.wlf.louisiana.gov/wildlife/species-parish-list?tid=263&type_1=fact_sheet_animal

Louisiana Scenic Rivers:

<http://www.wlf.louisiana.gov/wildlife/scenic-rivers>

<http://media.wlf.state.la.us/experience/scenicrivers/louisiananaturalandscenicriversdescriptions/>

<http://www.legis.state.la.us/lss/lss.asp?doc=104995>

Significant Tree Policy (EDSM I.1.1.21)

<http://notes1/ppmemos.nsf>

(Live Oak, Red Oak, White Oak, Magnolia or Cypress, aesthetically important, 18" or greater in diameter at breast height and has form that separates it from surrounding or that which may be considered historic.)

CERCLIS (Superfund Sites):

<http://www.epa.gov/superfund/sites/cursites/>

http://www.epa.gov/enviro/html/cerclis/cerclis_query.html

ERNS - Emergency Response Notification System - Database of oil and hazardous substances spill reports: <http://www.epa.gov/region4/r4data/erns/index.htm>

Enforcement & Compliance History (ECHO)

<http://www.epa-echo.gov/echo/>

DEQ – Underground Storage Tank Program Information:

<http://www.deq.louisiana.gov/portal/tabid/2674/Default.aspx>

Leaking Underground Storage Tanks:

<http://www.deq.state.la.us/portal/tabid/79/Default.aspx>

STAGE 0
Environmental Checklist

SONRIS – Oil and Gas Well Information & Water Well Information
<http://sonris.com/default.htm>

Environmental Justice (minority & low income)
<http://www.fhwa.dot.gov/environment/ej2000.htm>

Demographics
<http://www.census.gov/>

FHWA’s Environmental Website
<http://www.fhwa.dot.gov/environment/index.htm>

Additional Databases Checked
<http://ldeq-agsserver.deq.louisiana.gov>
<https://echo.epa.gov/>
https://echo.epa.gov/tools/map_service
<https://www3.epa.gov/myem/envmap>
<https://www.epa.gov/enviro/sems-search>
<http://www.wlf.louisiana.gov/louisiana-natural-and-scenic-rivers-descriptions-and-map>
<https://www.rivers.gov/mapping-gis.php>

Other Comments:

STAGE 0
Preliminary Scope and Budget Checklist
Urban Systems Program
MPO Area: Slidell UZA

A. Project Background

Project Name (40 characters max.) Northshore Boulevard Stage 0 Feasibility Study

District DOTD District 62 Parish St. Tammany

City/Town Slidell Local Road Name Northshore Boulevard

If project is on a state route: Route: No Control Section: _____

Begin Log Mile: _____ End Log Mile: _____

List study team members: Burk-Kleinpeter, Inc. and Soll Planning, LLC

Who is the sponsor of the study? NO Regional Planning Commission; City of Slidell, LA

Has someone on the sponsor's staff attended the LPA Certification class? _____

Sponsor DUNS#: _____

Date Study Completed: 1/31/2020

Describe the existing facility:

Functional classification: Principal Arterial Number and width of lanes: 4, 10-11 ft lanes

Shoulder width and type: None Mode: Highway

Access control: Median in some areas ADT: 22,520 (2019) Posted Speed: 40 MPH

Describe any existing pedestrian facilities (ADA compliance should be considered for all improvements that include pedestrian facilities): None

Describe the adjacent land use: Commercial

Will this project be adding miles to the state highway system (new alignment, new facility)? If yes, has a transfer of ownership been initiated with the appropriate entity? No

Are there recent, current or near future planning studies or projects in the vicinity? Yes

If yes, please describe the relationship of this project to those studies/projects. _____

A separate planning study and TIP project has identified a roundabout for installation at US 190 and Northshore Boulevard. As a result, analysis of this intersection was not included in the Northshore Boulevard Stage 0 Study.

Provide a brief chronology of these planning study activities: _____

2013 Stage 0 Study completed through the NORPC; 2018 – TIP projects identified for Northshore Boulevard at US 190 for FY2021.

B. Purpose and Need

State the Purpose (reason for proposing the project) and Need (problem or issue)/Corridor Vision and a brief scope of the project. Also, identify any additional goals and objectives for the project.

The purpose of this project is to find solutions which address existing traffic congestion, transportation mobility, and safety issues along Northshore Boulevard.

The need for this study is as follows: _____

1. Northshore Boulevard is a roadway owned and maintained by the City of Slidell. It is a locally owned roadway on the National Highway System network and provides an important connection between US 190 and I-12.
2. Northshore Boulevard is functionally classified as an urban principal arterial on the functional class network for the Slidell Urbanized area.
3. By way of the Local Road Safety Program (LSRP), Northshore Boulevard has the highest number of crashes of any locally owned roadway in St. Tammany Parish as of the latest crash profile, 2014-2016.
4. Over the past several years, changes in land use and commercial activity along the corridor have provided an opportunity to reexamine operations of and access to Northshore Boulevard.

C. Agency Coordination

Provide a brief synopsis of coordination with federal, tribal, state, and local environmental, regulatory and resource agencies.

Completed Stage 0 Feasibility Study – coordination consisted of database search and checklist development for corridor area to determine potential impacts.

What transportation agencies were included in the agency coordination effort?

NO Regional Planning Commission, DOTD District 62 invited to participate

Describe the level of participation of other agencies and how the coordination effort was implemented.

Project Steering Committee formed to review project area issues and discuss alternatives for improvements in corridor. Committee met a total of 3 times during project development. Records of meetings kept (summary of discussions, sign-in list and agendas). This information has been included in the project report.

What steps will need to be taken with each agency during NEPA scoping?

Project alternatives include two items which can be completed in existing right-of-way – no impacts to adjacent properties identified. One alternative does require additional right-of-way and this would be subject to the Uniform Act requirements. Discussion with DOTD required to determine course of environmental action (CE or EA) and need for solicitation of views associated with project.

D. Public Coordination

Provide a synopsis of the coordination effort with the public and stakeholders; include specific timelines, meeting details, agendas, sign-in sheets, etc. (if applicable).

Project Steering Committee formed including representatives of NORPC, Slidell, with invitations extended to St. Tammany Parish and DOTD District 62. Records of these meetings provided as an appendix within the Stage 0 report.

E. Project Scope, Range of Alternatives, Alternative Evaluation and Screening

Provide a project scope and give a description of the project concept for each alternative studied.

What are the major design features of the proposed facility? Attach a vicinity map showing project limits. If applicable also attach an aerial photo with concept layout.

Consult Stage 0 Feasibility Study report

Will design exceptions be required? _____

Follow this link to view LADOTD Minimum Design Guidelines:

http://www.dotd.louisiana.gov/highways/project_devel/design/road_design/Memoranda/English_Design_Guidelines.pdf

What impact would this project have on freight movements? Project would improve traffic flow and could improve freight movements in this area including deliveries.

Does this project cross or is it near a railroad crossing? No

DOTD's "Complete Streets" policy should be taken into consideration. Per the policy, any exception for not accommodating bicyclists, pedestrians and transit users will require the approval of the DOTD chief engineer. For exceptions on Federal-aid highway projects, concurrence from FHWA must also be obtained. In addition any exception in an urbanized area, concurrence from the MPO must also be obtained. Follow this link to view the policy: http://www.dotd.la.gov/programs_grants/completestreets/documents/cs-la-dotpolicy.pdf

- Describe how the project will implement the policy or include a brief explanation of why implementing the policy would not be feasible. Northshore Boulevard has no complete streets amenities. Proposed improvements would add pedestrian and cyclist amenities to connect to nearby Tammany Trace south of US 190. Improvements on Northshore Boulevard would end south of I-12. Extension north to Airport Road would be a separate project.

E. Project Scope, Range of Alternatives, Alternative Evaluation and Screening (Continued)

How are Context Sensitive Solutions (CSS) being incorporated into the project? For more information on CSS follow this link: http://www.dotd.la.gov/administration/policies/DOTD_CSS_Policy_20060526.pdf.

Improvements shown include several which would hold all construction to existing right-of-way.

Was the DOTD's "Access Management" policy taken into consideration? If so, describe how. (See EDSM IV.2.1.4 for more information.) Yes, the improvements included minimizing cross corridor connections to select points and creating j-turns to assist with traffic circulation.

Were any safety analyses performed? If so describe results and attach documentation. For safety analysis guidance follow this link: http://www.dotd.la.gov/planning/highway_safety/home.aspx?key=3

Yes, a review of accidents in the corridor has been prepared and included in the Stage 0 Feasibility Study. The date examined covered 2015-2017. It documented a concentration of crashes on Northshore Boulevard near the North Mall entrance and in the southern-most 600 feet of the road leading to US 190. Of the 211 crashes examined over the three years, 97.6% were either no injury or complaint, while 2.4% were either moderate or severe.

Are there any abnormal crash locations or overrepresented crashes within the project limits? _____

What future traffic analyses are anticipated? Traffic Engineering Process and Report (TEP&R) for corridor improvements would likely occur if DOTD funding involvement required with project implementation.

Will fiber optics be required? If so, are there existing lines to tie into? _____

Are there any future ITS/traffic considerations? _____

What is the required Transportation Management Plan (TMP) level as defined by EDSM No. VI.1.1.8? _____

- Is this project considered significant as defined in EDSM No. VI.1.1.4? _____
 - If yes, describe the mobility and safety analysis and assessment that was conducted as required in the development of a TMP. _____
 - What further data will need to be collected to address the content and scope of the TMP in the design stage/phase of this project? _____
-

Was Construction Transportation Management/Property Access taken into consideration? Impacts to Property Access was taken into consideration as one of the alternatives screening criteria.

Were alternative construction methods considered to mitigate work zone impacts? _____

Describe screening criteria used to compare alternatives and from what agency the criteria were defined. The Stage 0 Feasibility Study documents the evaluation criteria used to screen alternatives: Utilities, Displacement, Safety, Impacts to Business Access.

Give an explanation for any alternative that was eliminated based on the screening criteria.

Which alternatives should be brought forward into NEPA and why? Three alternative concepts were documented in the Stage 0 Feasibility Study. The Stage 0 does not include a recommendation (as per the purpose of the initial feasibility study). Two of the three recommendations occur within the apparent limits of the existing right-of-way. The third alternative will require right-of-way but would not impact structures or sensitive sites, as outlined in the Stage 0 study.

E. Project Scope, Range of Alternatives, Alternative Evaluation and Screening (Continued)

Did the public, stakeholders and agencies have an opportunity to comment during the alternative screening process? The Project Steering Committee, which includes stakeholders, had the opportunity to make comments on the screening of alternatives.

Describe any unresolved issues with the public, stakeholders and/or agencies.

F. Planning Assumptions and Analytical Methods

What is the forecast year used in the study? 2049 (30-year projected growth)

What method was used for forecasting traffic volumes? RPC provided an annual growth rate of 1.3% based upon traffic model outputs for St. Tammany and Slidell UZA.

Are the planning assumptions and the corridor vision/purpose and need statement consistent with the long-range transportation plan? Yes, the assumptions follow those contained in the long-range transportation plan.

What future year policy and/or data assumptions were used in the transportation planning process as they are related to land use, economic development, transportation costs and network expansion? _____

Process following assumptions from the NO RPC travel demand model. Future year (2049) is the horizon year of the regional travel demand model. This horizon year includes projections on population, land use/consumption, employment and network expansion based upon accepted thresholds of activity and development. Assumptions for future development and population growth developed by RPC based upon historical trends and input changes made as a result of local comprehensive planning activities. Consultation with Project Steering Committee (City of Slidell) indicated that some short-term activity in the Northshore Boulevard corridor may change employment and activity at two sites. This information has been incorporated into the forecast of traffic.

G. Potential Environmental Impacts

See the attached Stage 0 Environmental Checklist

H. Schedule Planner Worksheet

Please attach a completed schedule worksheet

I. Budget/Cost Estimate

Provide a cost estimate for each feasible alternative:

Phase	Total Estimated Cost	Funding Source (STP>200K, STP<200K, CMAQ, DEMO, DOTD Priority Program, Local)	Match Provided By (City, Parish, State, Other)	TIP Fiscal Year
Environmental (document, mitigation, etc.)				
Engineering Design				
R/W Acquisition (C of A if applicable)				
Utility Relocations				
Construction				
Construction Engineering & Inspection Services				
TOTAL COST				

ATTACH ANY ADDITIONAL DOCUMENTATION

Disposition (circle one): (1) Advance to Stage 1 (2) Hold for Reconsideration (3) Shelf



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