

SR 85 from John King Road to Airport Road

PRELIMINARY FREIGHT CORRIDOR SCREENING SR 85 (John King Road to Airport Road)

INTRODUCTION

A preliminary freight corridor screening evaluation was conducted on SR 85 from John King Road to Airport Road, located within the boundaries of Okaloosa County, Florida, on October 18, 2011. This screening is part of a broader effort to screen a sample of the regional freight corridors as designated in the Regional Freight Network Plan: Highways of Commerce, adopted April 2010, for freight-related operational and physical issues. **Figure 1** shows the corridor location map and the segmentation used during the evaluation. The total distance of the corridor is 5.5 miles and includes 11 signalized intersections.

As shown in **Table 1** below, the project was divided into four segments.

**TABLE 1
PROJECT SEGMENTATION**

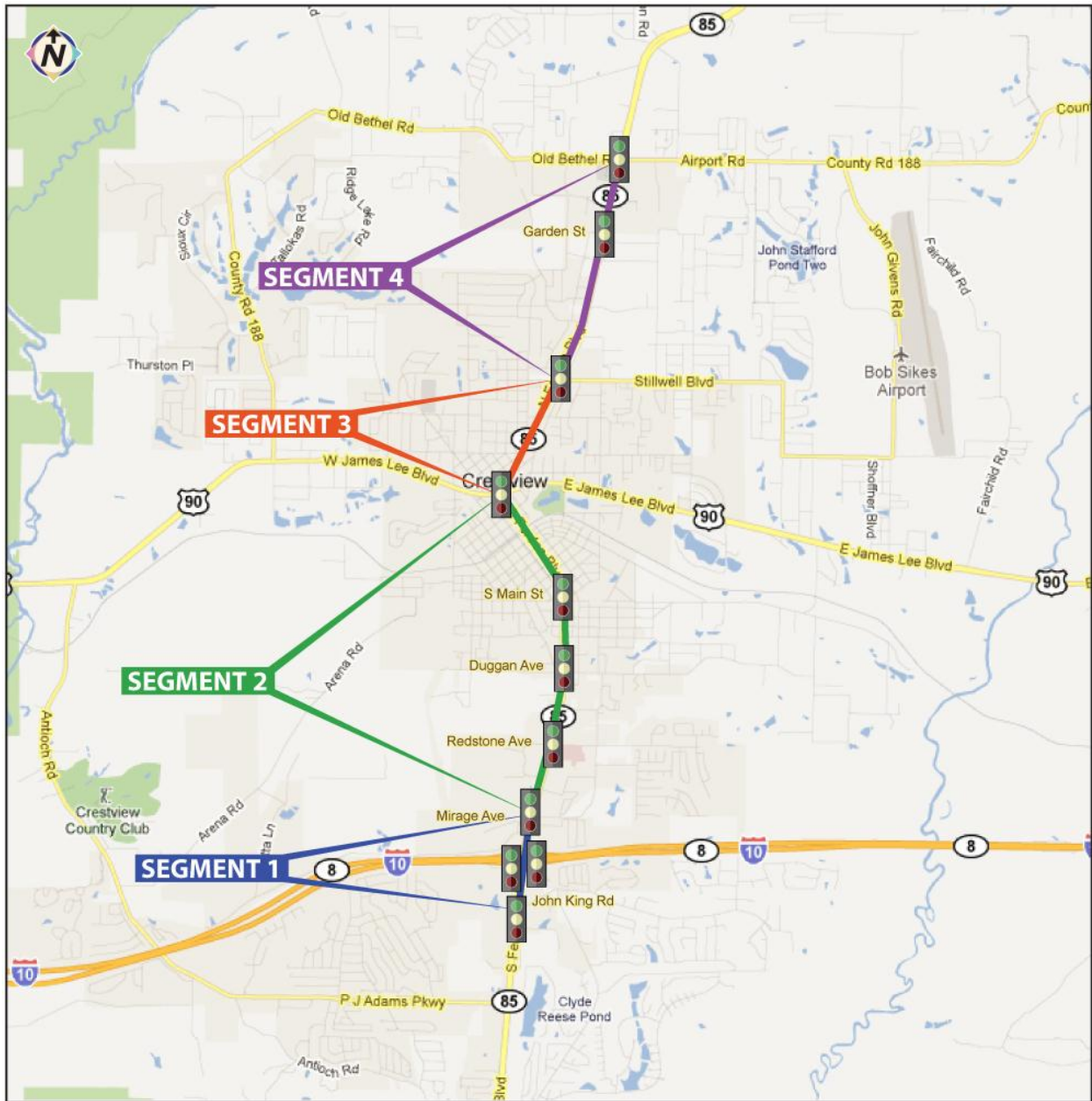
Segment	From	To	Distance (miles)	Intersections	Signalized Intersections	Estimated Driveways
1	John King Road	Mirage Avenue	0.6	6	4	9
2	Mirage Avenue	US 90	2.4	20	4	64
3	US 90	Stillwell Boulevard	0.9	8	1	34
4	Stillwell Boulevard	Airport Road	1.6	10	2	31

RELEVANT FREIGHT-RELATED ISSUES

The freight-related issues associated with this corridor are as follows:

- Heavy congestion is between John King Road and Duggan Avenue due to Interstate 10 (I-10) on/off ramps at signalized intersections, as well as intense commercial development including shopping, restaurants, and hotels.
- Heavy congestion within the City of Crestview from S. Main Street to north of the US 90 intersection.
- Right turning trucks from westbound US 90 to northbound SR 85 get blocked by vehicles in the outside lane that are stopped at the intersection due to the lack of a dedicated right-turn lane.
- There is a potential line-of-sight issue at John King Road and at Mirage Avenue due to elevation changes of the roadway.

**FIGURE 1
PROJECT LOCATION MAP**



PHYSICAL CHARACTERISTICS

General Characteristics

John King Road to Mirage Avenue

The segment between John King Road and Mirage Avenue is a four-lane divided suburban typical section with 30-foot-wide medians, right- and left-turn lanes at the signalized intersections, as well as at some directional median breaks at minor streets and major commercial driveways. There are signalized intersections at John King Road, the north and south I-10 ramps, and Mirage Avenue. The intersection at John King Road includes a northbound dedicated right-turn lane and a southbound dedicated left-turn lane (see Aerial 1 in Appendix 1). John King Road includes a combination through/left-turn lane and a dedicated right-turn lane. Opposite John King Road is a commercial driveway leading to a fast food restaurant and a gasoline station/convenience store.

At the I-10 ramps, there are dedicated left- and right-turn lanes, as well as two through lanes in each direction (see Aerial 2 in Appendix 1). The exit ramp from eastbound I-10 includes signal controlled double left-turn lanes and a dedicated unsignalized continuous right-turn lane. The westbound I-10 exit ramp includes a signal controlled left-turn lane and an unsignalized continuous right-turn lane.

At Mirage Avenue, there are dedicated left- and right-turn lanes in both directions, as well as a dedicated southbound right-turn lane into a commercial driveway and a dedicated left-turn lane to a commercial driveway via a directional median opening immediately to the south of the intersection (see Aerial 3 in Appendix 1). The westbound approach on Mirage Avenue includes a painted median, a combination through/right-turn lane, and a dedicated left-turn lane. The eastbound approach includes a single lane. Recent improvements include a replacement of the grass medians with raised concrete medians and the conversion to an urban typical section.

Mirage Avenue to US 90

The segment between Mirage Avenue and Brock Avenue is a four-lane divided urban typical section with a raised concrete median for approximately 600 feet north of Mirage Avenue and a grass median to the north of this point. The median opening at Brookmead Drive was closed when the median was improved to a concrete structure resulting in a right in/out only connection. There are right- and left-turn lanes at the signalized intersections, as well as at some directional median breaks at minor streets and major commercial driveways. Sidewalks are present on both sides of the highway from Mirage Drive north to Brock Avenue.

There is a signalized intersection at W. Redstone Avenue/Redstone Drive (see Aerial 4 in Appendix 1) with two through lanes, dedicated signalized left-turn lanes, and dedicated right-turn lanes in the northbound and southbound directions. On W. Redstone Avenue/Redstone Drive there are dedicated left-turn lanes and combination through/right-turn lanes in both directions.

There is a signalized intersection at Duggan Avenue/County Road (see Aerial 5 in Appendix 1) with two through lanes in each direction and dedicated left-turn lanes. There are no right-turn lanes at this intersection. Duggan Avenue has a single lane in each direction. The southbound left-turn lane was recently lengthened including a new raised concrete median. The divided typical section continues north

to Brock Avenue where it changes to a five-lane typical with a continuous left-/right-turn lane in the center striped for dedicated left turns at all the major signalized and unsignalized cross streets and includes curb and gutter drainage and sidewalks on both sides of the roadway.

There is a signalized intersection at S. Main Street (see Aerial 6 in Appendix 1) which intersects at an acute angle with southbound SR 85. There are dedicated left-turn lanes in each direction; however, there are no right-turn lanes. S. Main Street includes double right-turn lanes with no turns permitted on red. There is a single through lane/left-turn lane. Opposite S. Main Street, E. Cane Avenue is a two-lane street with no dedicated lanes. There is a grade separated railroad crossing on S. Main Street, located between Railroad Avenue and Brooker Street. Immediately south of US 90, there is a right in and a right access to SR 85 from Courthouse Terrace.

US 90 to Stillwell Boulevard/8th Avenue

SR 85 forms a skewed intersection with US 90 (see Aerial 7 in Appendix 1). Each leg of the intersection includes two through lanes and a dedicated left-turn lane. Although this is a major intersection, there are no right-turn lanes with the exception of the westbound direction of US 90. The dedicated right-turn lane is channelized by a raised concrete island with pedestrian controls mounted on a concrete strain pole. North of the intersection, the corridor continues as a five-lane urban typical section with continuous left-/right-turn lanes in the center, north to Stillwell Boulevard/8th Avenue. There is a school crossing located immediately south of Long Drive that includes pavement warnings in both directions, as well as overhead flashing signals that operate during school crossing times.

Stillwell Boulevard and 8th Avenue form a non-aligned signalized intersection. The centerlines are offset by 50 feet (see Aerial 8 in Appendix 1). On SR 85, there are dedicated left-turn lanes in each direction, but no right-turn lanes. Stillwell Boulevard and 8th Avenue are both two-lane streets with no dedicated turn lanes.

Stillwell Boulevard/8th Avenue to Airport Road/Old Bethel Road

From Stillwell Boulevard to Jones Road the roadway changes to a five-lane suburban typical section with a continuous left-/right-turn lane in the center, curb and gutters, sidewalks on both sides, and open drainage. North of Jones Road, the typical changes to a five-lane rural roadway with a continuous left-/right-turn lane in the center, soft shoulders, and open drainage. There is a sidewalk along the west side of the roadway.

There is a signalized intersection at Garden Street which provides access to Crestview High School (see Aerial 9 in Appendix 1). There is a 650-foot northbound left-turn lane that appears sufficient to hold the queue entering the school during the peak periods at this intersection. North of the intersection is another northbound unsignalized left-turn lane that provides access to the front parking lot of the high school and to a school bus holding area. There is also a dedicated right-turn lane to Commerce Drive.

The signalized intersection at Airport Road/Old Bethel Road includes dedicated northbound left- and right-turn lanes and two through lanes (see Aerial 10 in Appendix 1). The southbound approach includes a dedicated left-turn lane, a through lane, and a combination through/right-turn lane. Airport Road includes dual left-turn lanes and a combination through lane with a continuous channelized right-turn off

to northbound SR 85. Old Bethel Road has a similar configuration with the exception of a single left-turn lane.

Pavement Condition

The pavement along the through lanes is in generally good condition throughout the entire corridor with only minor rutting noted, mainly at the signalized intersections.

Infrastructure

There is some minor soft shoulder rutting at the southeast and northeast quadrants of John King Road (see Photo 1 in Appendix 3) that can be mitigated by extending the pavement 4 to 5 feet around the corner of the shoulder. Truck turning movements at this intersection are minimal, mostly servicing restaurants and a gas station. Traffic signals are strain pole mounted and the concrete strain poles are located away from the corners. There are power poles and various utility boxes and underground cable and pipe markers also located on the corners.

The intersections at the north and south I-10 ramps include strain pole mounted traffic signals and painted truck-friendly medians. The I-10 bridge infrastructure is protected by solid raised concrete barrier with crash absorbing metal guardrails at the approach ends. There are 10-foot paved shoulders located between the inside lanes and the concrete barrier.

The infrastructure at Mirage Avenue was recently upgraded (the aerial does not show these improvements) to include new curbing and a sidewalk along the east side of the roadway; however, the sidewalk does not extend along the cross streets. There are pedestrian crossings at all four quadrants with ADA prescribed wheelchair ramps (see Photo 2 in Appendix 3). Note that the ramps that lead to the crosswalks at the northeast quadrant are separated by a raised curb. This curb is showing signs of off-tracking and since there is no drainage opening, consideration should be given to removing this small section of curb.

The W. Redstone Avenue/Redstone Drive intersection was also improved and includes sidewalks along both sides of SR 85 that do not extend along Redstone Drive. The concrete bull noses of the medians include street level pedestrian ramps on both the north and south medians. Traffic signals are mounted on metal mast arms located at all quadrants.

Duggan Avenue provides utility truck access to a power substation as well as a pole storage yard. There appears to be no truck-related damage at this intersection. Traffic signals are mounted on concrete strain poles at the southeast and northwest quadrants.

S. Main Street forms an acute angle with southbound SR 85 (see Aerial 6 in Appendix 1); however, S. Main Street has been designed as a pedestrian-friendly facility that is not conducive to truck movements so there is little chance that trucks would be making routine turns at this signalized intersection and the infrastructure at all four quadrants is in good condition. Traffic signals are mounted from concrete strain pole located at the northeast and southwest quadrants.

SR 85 forms an angled intersection with US 90 (see Aerial 7 in Appendix 1). Additionally, there is a right in only street that radiates from the southeast quadrant leading to the courthouse area (see Photo 3 in Appendix 3). The northeast quadrant includes a raised concrete island that is used to channel the right-turn traffic from westbound US 90 to northbound SR 85 (see Photo 4 in Appendix 3). The island includes a concrete pole with a pedestrian activation feature. Traffic signals are hung from concrete strain poles located at the southeast and northwest quadrants. The crosswalk across US 90 does not lead to the associated pedestrian ramp. This needs to be corrected by restriping the crosswalk to the correct position. The acute angle of the channelized right-turn lane at the northeast quadrant results in truck off-tracking onto the sidewalk. The sidewalk has been replaced and there is already new cracking of the concrete (see Photo 5 in Appendix 3). Modification of the turning radius would be beneficial but may not be possible due to the location of a concrete monument sign located at the corner. Additionally, there is no dedicated right-turn lane at this location resulting in operational problems that will be discussed in that section of this report.

The east and west legs of Stillwell Boulevard are not aligned forming an offset intersection with SR 85 (see Aerial 8 in Appendix 1). The centerlines are offset by approximately 50 feet. The concrete strain poles for the traffic signals are located opposite the centerlines of each leg of the intersection. There are also pedestrian activation features mounted on concrete poles located at the northeast and southwest corners. Note that while there are pedestrian activation controls for crossing all four legs of the intersection, there is only a single crosswalk located across SR 85 on the south side of the intersection (see Photo 6 in Appendix 3). Truck-related infrastructure damage (see Photos 7 and 8 in Appendix 3) appears to be related to construction type trucks in support of new residential areas to the east, as well as by dump trucks and cement trucks serving the Crestview Ready Mix plant off Farmer Road. There are no freight-related facilities on Stillwell Boulevard or 8th Avenue.

Infrastructure at Airport Road/Old Bethel Road includes raised concrete pedestrian islands located within larger painted right turn channelization islands at the northeast and southwest quadrants (see Photo 9 in Appendix 3). Located on the concrete islands are pedestrian activated crossing signals mounted on metal poles. A sidewalk extends from the northwest corner south along the west side of the roadway (see Photo 10 in Appendix 3). There are no other sidewalks but there are concrete landing pads at each crosswalk. The location of the median bull noses and the stop bars on the cross street approaches are located far enough back to permit truck turns without encroachment with opposing vehicles. Off-tracking damage was noted at the southeast (see Photo 11 in Appendix 3) and northeast corners, although the northeast corner has been designed to reduce or eliminate this problem. Additionally, the intersection includes street lighting at all four quadrants.

Land Use

The land use includes intense commercial use parcels consisting of hotels, shopping plazas, big box plazas, restaurants, gasoline stations/convenience stores, and some office buildings due to the location near the I-10 interchange. North of W. Redstone Avenue/Redstone Drive the existing uses change to a less dense mixture of light commercial/small office and residential to Woodruff Avenue.

From Woodruff Avenue the land use is primarily city/town center with commercial, office, and government buildings. The remainder of the corridor consists mostly of small commercial and light industrial sites as well as Crestview High School/Davidson Middle School, a U.S. Post Office, the Chamber of Commerce complex, and a shopping center.

Existing Right-of-Way

The existing right-of-way (ROW) along the corridor is maxed out and added capacity would not be possible without the purchase of additional ROW. The ROW varies between 85 and 100 feet south of Woodruff Avenue. From Woodruff Avenue to south of US 90, the ROW is approximately 75 feet and continues on to Jones Road. At this point, the ROW of SR 85 and Industrial Drive, a parallel service road, are combined to Richburg Lane with a total width of 190 feet. From Richburg Lane to Garden Street the ROW returns to 80 feet. North of Garden Street, the ROW gradually increases to a width of 150 feet to Airport Road.

OPERATIONAL CHARACTERISTICS

Although there are numerous intersections along the corridor, there are only a few that would be used by turning trucks. The following is a list of the signalized intersections located within the corridor (listed from south to north with a high probability of truck turning movements on cross streets).

- I-10 ramp south (interstate access)
- I-10 ramp north (interstate access)
- Mirage Road (deliveries to intense commercial area)
- W. Redstone Avenue (deliveries to intense commercial area)
- US 90 (major east-west alternative to I-10)
- Stillwell Boulevard (leads back to Crestview Ready Mix concrete plant)
- Airport Road/Old Bethel Road (access to airport and associated industrial area)

The opposite side of the intersection from John King Road leads to a driveway to Arby's restaurant and a gas station. Immediately south of this driveway is another driveway to the Baymont Inn. Vehicles wishing to access the hotel have to make a partial U-turn because the parking lots are not interconnected. There are other commercial facilities to the north on the same side with access via an unsignalized median opening and five more facilities to the south of the Baymont Inn and others under development. Consideration should be given to constructing a frontage road connecting all of these commercial facilities with access via the signalized intersection at John King Road. All median openings between P.J. Adams Parkway and I-10 could then be closed improving the flow of traffic through this area. A similar frontage road should be considered for the east side of the highway.

Congestion is a major issue for through trucks in this corridor. SR 85 provides a link between I-10 and Alabama. The short segment that includes the interstate ramps, Mirage Avenue, and W. Redstone Road is the most congested area on the corridor due to the intense commercial development that includes shopping centers, big box stores, and dining facilities. Median improvements that include the closing of some openings and the channelization of other openings appear to have a positive effect on the traffic flow through the area. Additionally, new sidewalks have provided a safer environment for pedestrians in the area.

The intersection at US 90 results in the most large truck turning movements (see Photo 12 in Appendix 3) within the corridor but the exact impact is hard to determine due to the lack of turning movement counts; however, based on the traffic counts north and south, as well as east and west of the intersection, it is estimated that there are 150-200 truck turning movements in each direction at this intersection with 600-800 north-south through movements. Although congested, the intersection is operating a Level of Service (LOS) of "C." Signal timing appears to be adequate with 45 seconds allotted for through traffic and 25 seconds for left turns on SR 85. Courthouse Terrace forms a fifth leg at this intersection and is located within the acute right-turn movement to southbound SR 85. However, this is an inbound only street and helps to widen the corner turning radius for the eastbound to southbound right-turn movement for trucks. Although there is a channelized right turn at the northeast quadrant, there is no associated dedicated right-turn lane. As a result, it only takes a minimum of two to three vehicles stopped for the signal in the westbound direction to block this turning movement resulting in unnecessary delay. The addition of a short right-turn lane should be evaluated to improve the performance at this intersection. The stop bars in the eastbound direction of US 90 are placed far enough back from the intersection to allow for turns by trucks without encroaching on the eastbound left-turn lane. The same is true for the westbound stop bars.

The primary truck movements at Stillwell Boulevard are through traffic, however, this facility provides access to the Crestview Ready Mix Concrete plant. As a result, there are numerous turning movements by dump trucks and concrete mix trucks at this intersection. The signal timing is such that the through traffic receives 65 seconds of green in the signal progression; however, only 10 seconds are allotted for left turns. This may not be sufficient for a loaded truck to clear the intersection. The position of the stop bars on SR 85 are set back sufficiently to allow for turning trucks without encroaching on the northbound and southbound left-turn lanes. However, the stop bar on Stillwell Boulevard should be moved back to facilitate both left and right turning trucks from SR 85. In addition, a small modification to the turning radii at the northeast and southeast corners would improve truck operations and reduce the damage to the curbs and sidewalks at these corners.

The intersection at Airport Road/Old Bethel Road has been improved and the new geometry is truck-friendly with wide turning radii and location of the median bull noses.

Traffic

Figures 2 and 3 show the average annual daily traffic (AADT) and the average annual daily truck traffic (AADTT) along the corridor, respectively. The AADT ranges from a high of 47,000 vehicles per day (vpd) south of I-10 to 23,000 vpd. south of Airport Road. The truck traffic ranges from 2,284 trucks per day

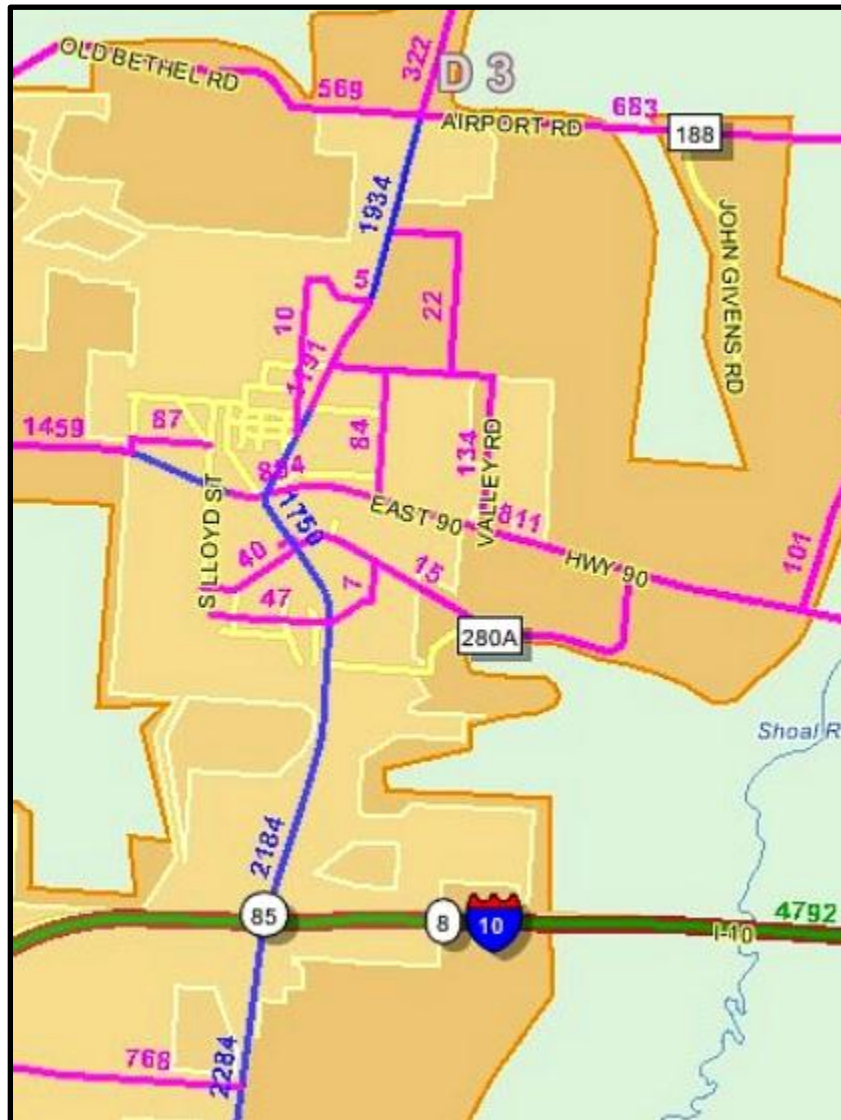
(tpd) south of I-10 to 1,750 tpd at SR 90. It appears that the north-south truck traffic splits at US 90 with the highest totals on the north-south leg and the second highest going to or coming from the west on US 90. Truck traffic seems to be equally split north and south of I-10, as well as east and west on Airport Road/Old Bethel Road.

**FIGURE 2
SR 85 AADT**



Source: Florida Department of Transportation (FDOT) Traffic Online, 2010.

FIGURE 3
SR 85 AADTT



Source: FDOT Traffic Online, 2010.

NEARBY FREIGHT FACILITIES

The area around Bob Sikes Airport is a planned technology park that currently has several small businesses and L3 Communications a subsidiary of Aerospace Corporation. Crestview Ready Mix operates a cement plant to the east of the corridor on Farmer Street with access provided by Stillwell Boulevard.

PLANNED IMPROVEMENTS

There are no planned improvements scheduled in the 2011/2012 FDOT Five Year Work Program for this segment of SR 85.

RECOMMENDATIONS

The following actions are recommended:

- Evaluate the construction of a short dedicated right-turn lane at the northeast quadrant of US 90 and SR 85. (OW1)
- Evaluate improving the turning radii at the northeast and southeast quadrants of Stillwell Boulevard to facilitate trucks turning movements and reduce the damage to the corner infrastructure. (OW2)
- Ensure the signal progression from Mirage Avenue to Duggan Avenue permits through truck traffic to proceed without having to stop at each traffic signal. (OW3)
- Move the stop bar on Stillwell Boulevard back sufficiently enough to allow trucks to turn without encroaching on the opposing traffic lane. (OW4)
- Extend the pavement at the northeast and southeast quadrants of John King Road to prevent deep rutting of the soft shoulders. If possible, relocate the power pole at the northeast corner away from the roadway. (OW5)
- Remove the curbs between the pedestrian ramps at the corners of Mirage Avenue and W. Redstone Avenue/Redstone Drive. Trucks off-tracking on these curbs result in unnecessary structural damage to the curb and sidewalks, as well as mechanical and tire damage to trucks. (OW6)
- Consider constructing frontage roads on both sides of SR 85 from P.J. Adams Parkway north to I-10 to facilitate access to the commercial properties along both sides of the highway. This will allow the closing of four median openings, which should improve the efficiency in this area. (OW7)

APPENDICES

1. Intersection Aerials
2. Screening Checklist
3. Photos

APPENDIX 1
INTERSECTION AERIALS

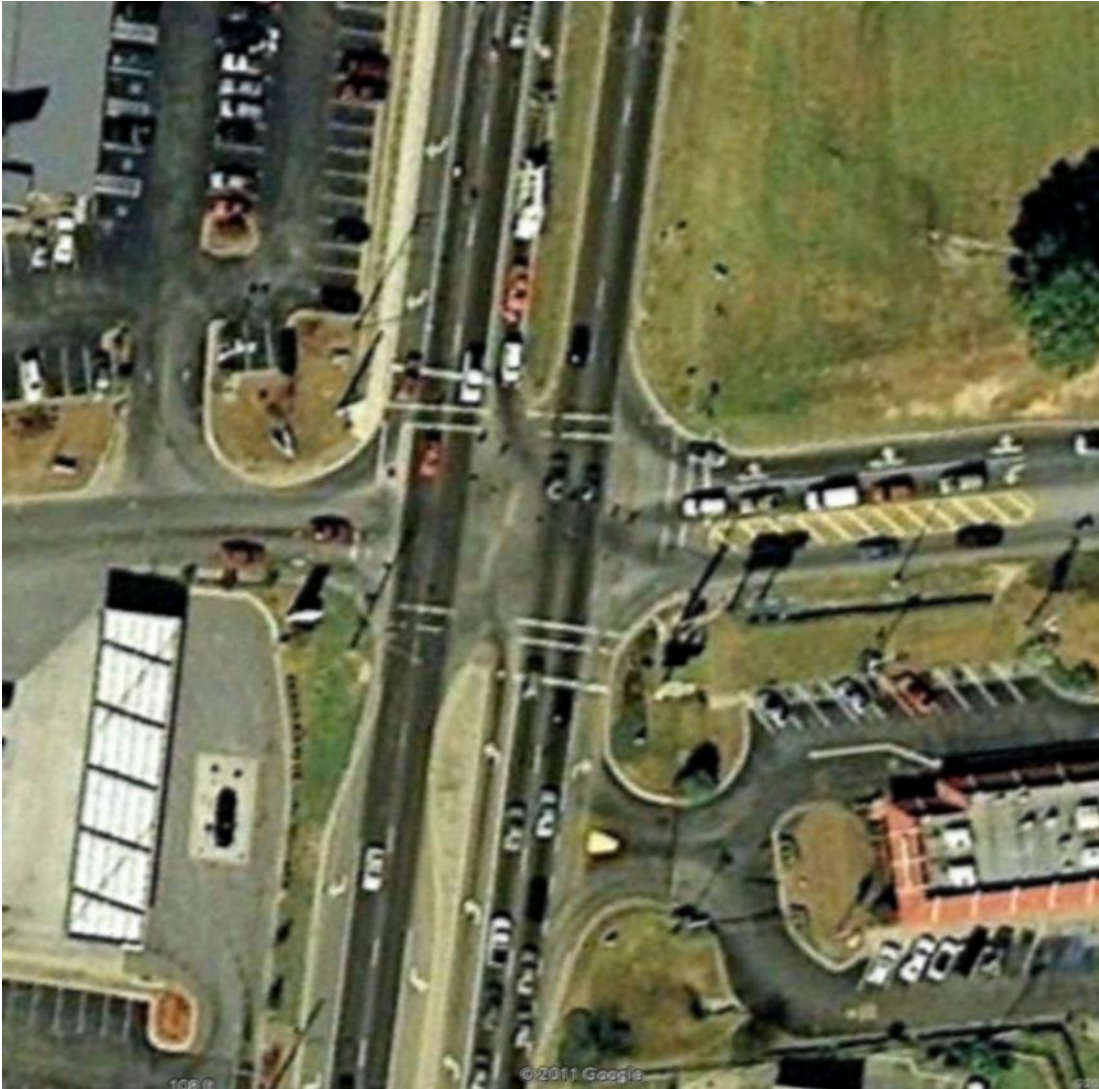
Aerial 1
John King Road at SR 85



Aerial 2
I-10 at SR 85



Aerial 3
Mirage Avenue at SR 85



Aerial 4
W. Redstone Avenue/Redstone Drive at SR 85



Aerial 5
Duggan Avenue/County Road at SR 85



Aerial 6
S. Main Street at SR 85



Aerial 7
US 90 at SR 85



Aerial 8
Stillwell Boulevard/8th Avenue at SR 85



Aerial 9
Garden Street at SR 85



Aerial 10
Airport Road/Old Bethel Road at SR 85



APPENDIX 2
SCREENING CHECKLIST

APPENDIX 3

PHOTOS

Photo 1
Soft shoulder damage at southeast corner of John King Road



Photo 2
Pedestrian ramps at northeast corner of Mirage Avenue. Raised curb between ramps is not truck-friendly.

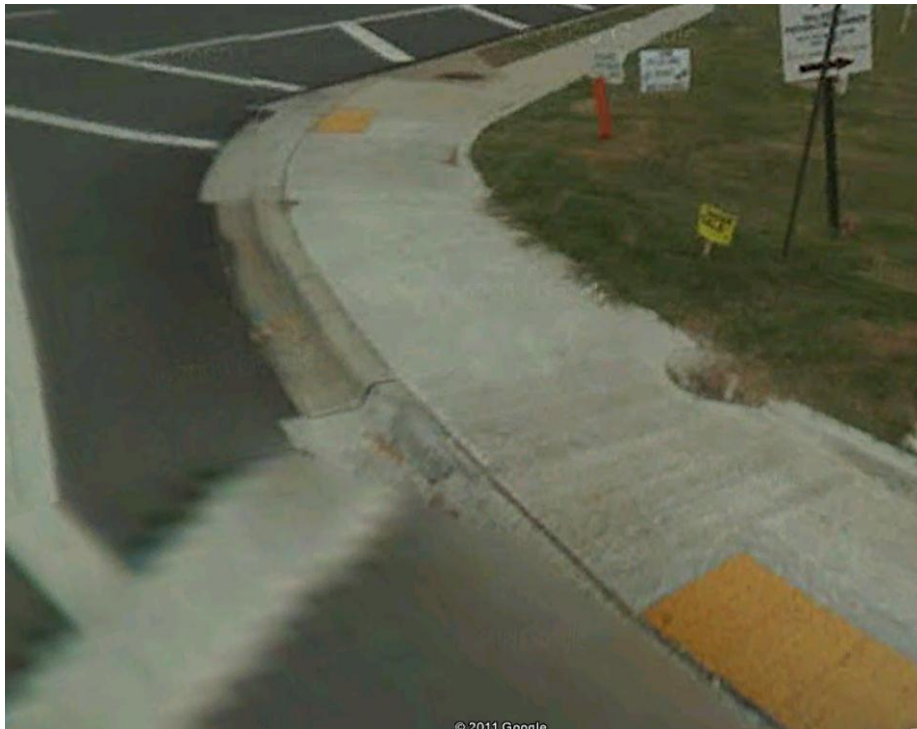


Photo 3
Courthouse Terrace, right in only intersection at southwest corner of US 90 and SR 85



Photo 4
Channelized right-turn lane at northeast corner of US 90 and SR 85, note the raised concrete pedestrian island and cracked pavement



Photo 5
Tire marks from off-tracking trucks at northeast corner of US 90 and SR 85



Photo 6
Stillwell Boulevard has pedestrian controls at all four quadrants but only one crosswalk on the south side of the intersection



Photo 7

Damaged curbing and cracked sidewalk at the southeast corner of Stillwell Boulevard due to off-tracking trucks



Photo 8

Shoulder damage due to off-tracking trucks at the northeast corner of Stillwell Boulevard



Photo 9
Channelized right-turn lane and raised concrete island at the northeast corner of Airport Road



Photo 10
Sidewalk from southwest corner of Airport Road extending south on west side of SR 85



Photo 11
Damaged storm drain at the southeast corner of Airport Road



Photo 12
Truck making wide left turn at US 90



US 98 from the Destin Bridge to the Walton County Line

PRELIMINARY FREIGHT CORRIDOR SCREENING US 98 (Destin Bridge to Walton County Line)

INTRODUCTION

A preliminary freight corridor screening evaluation was conducted on US 98 from the Destin Bridge to the Walton County line, located within the boundaries of Okaloosa County, Florida, on October 24, 2011. This screening is part of a broader effort to screen a sample of the regional freight corridors as designated in the Regional Freight Network Plan: Highways of Commerce, adopted April 2010, for freight-related operational and physical issues. **Figure 1** shows the corridor location map and the segmentation used during the evaluation. The total distance of the corridor is 7 miles and includes 14 signalized intersections.

As shown in **Table 1** below the project was divided into four segments.

**TABLE 1
PROJECT SEGMENTATION**

Segment	From	To	Distance	Intersections	Signalized Intersections	Estimated Driveways
1	Destin Bridge	Main Street	1.8	11	4	137
2	Main Street	Airport Road	1.1	15	2	44
3	Airport Road	Danny Wuerffel Way (SR 293)	2.4	13	5	27
4	Danny Wuerffel Way (SR 293)	Walton County line	1.7	11	3	14

RELEVANT FREIGHT-RELATED ISSUES

The freight-related issues associated with this corridor are as follows:

- Congestion during the summer tourist season due to 50 intersections (7.1 per mile), 14 signalized intersections (2 per mile), and approximately 222 driveways (31.7 per mile).
- Low speed limit (35 miles per hour (mph)) west of Airport Road.
- Corner radii at Matthew Boulevard, Danny Wuerffel Way (SR 293), Main Street, and Gulf Shore Drive.
- Traffic signal at Scenic Highway 98 would be more appropriately located at Restaurant Road.
- Pavement rutting at most intersections throughout the corridor.

**FIGURE 1
PROJECT LOCATION MAP**



PHYSICAL CHARACTERISTICS

General Characteristics

Destin Bridge to East of Scenic Highway 98

The corridor is a four-lane, urban typical section with right- and left-turn lanes, with 18-foot-wide grass medians with concrete curbs, curb and gutter drainage, and sidewalks on both sides of the highway to approximately 650 feet east of the signalized Scenic Highway 98 intersection. Median openings are generally uniformly spaced with short left-turn holding lanes to provide access to the commercial properties that line the corridor. As shown in Table 1, driveways are numerous which contribute to congested conditions during the summer tourist season (Segments 1 and 2).

East of Scenic Highway 98 to Matthew Boulevard

The typical section along this segment changes to a rural, five-lane divided highway with 40-foot grassed medians, 4-foot paved shoulders, open drainage, a sidewalk located away from the edge of pavement (EOP) on the south side, and a continuous right-turn only lane on the north side that provides access to the numerous minor side streets and driveways of the commercial properties along the corridor.

Matthew Boulevard to Regions Way

The typical section expands to a six-lane divided facility with six through lanes, a dedicated continuous right-turn lane on the north side and right-turn lanes on the south side, and 4-foot paved shoulders. The intersection of Danny Wuerffel Way (SR 293)/Hutchinson Street includes double left-turn lanes on all approaches. There is a sidewalk on the north side along the front of the Destin Commons Mall.

Regions Way to Walton County Line

The typical section gradually returns to a rural, four-lane divided highway with 40-foot grass medians, open drainage, and left- and right-turn lanes at side streets and major driveway access points.

Pavement Condition

The pavement is in generally good condition with rutting noted at Main Street (see Photo 1 in Appendix 3) and Beach Drive (Segment 1), minor rutting on Gulf Shore Drive and Airport Road (Segment 2), minor rutting in the through lanes, as well as shoulder damage in the outside westbound lanes of Segment 3. The pavement in Segment 4 is in good condition.

While some side street radii could use pavement extensions, these intersections are not commonly used by trucks.

Infrastructure

There were indications of curb and sidewalk damage caused by off-tracking trucks at Beach Drive (see Photo 2 in Appendix 3) and Main Street (see Photos 3 in Appendix 3).

At Matthew Boulevard, the turning radii are very tight at the southeast and southwest quadrants. At both locations, the sidewalk abruptly ends and there is a sharp drop-off from the corner to a drainage ditch

along the south side of the highway (see Photos 4 and 5 in Appendix 3). The culverts at these four corners should be extended away from the EOP or a guardrail should be installed to prevent trucks from off-tracking too far resulting in a potential trailer turn-over.

The northeast and northwest quadrants of Danny Wuerffel Way (SR 293) also show signs of truck off-tracking. Tire marks are clearly shown in Photos 6 through 8 in Appendix 3, as well as rutting beyond the sidewalk areas. Complicating the truck turns is the raised concrete pedestrian island that channels the right turn movement at both quadrants and a steel mast arm signal pole (see Photos 9 and 10 in Appendix 3) located on the island at the northwest quadrant. During non-congested conditions this is probably not a big issue because trucks can make wide turns into the westbound outside through lane; however, during congested conditions this may be impossible. Since this intersection leads north to the Mid-Point Bridge and experiences numerous truck turning movements, improvements to the turning radii should be evaluated and implemented.

Land Use

From the Destin Bridge to Main Street, the land use is a mixture of restaurants, small hotels, and commercial properties. East of Main Street to Crystal Beach Drive, the north side of the highway includes big box stores, shopping centers, recreational facilities, restaurants, and the Destin Commons Mall. The south side is mostly vacation condominiums (see Photo 11 in Appendix 3) and resort hotels with associated restaurants. East of Crystal Beach Drive, the land use changes to mostly residential away from the corridor with small commercial sites immediately along the highway.

Existing Right-of-Way

From the Destin Bridge to Gulf Shore Drive the right-of-way (ROW) is maxed-out and capacity improvements would require the purchase of additional ROW. East of Gulf Shore Drive, the ROW expands to 130 feet and capacity improvements are possible within the existing ROW with only small additions, primarily at intersections required. From west of Indian Bayou Trail, the ROW ranges from 150 to 200 feet. Capacity improvements within this ROW are possible without additional purchases.

OPERATIONAL CHARACTERISTICS

The primary truck-related issue on this corridor is congestion during the summer months due to the 50 intersections (14 signalized) and 222 driveway access points. However, there were no truck-related operational problems noted during the field review, which was conducted after the summer tourist season.

None of the signalized intersections permit U-turns in the eastbound direction from the Destin Bridge to Main Street; however, evidence indicates otherwise with median bull nose damage, curb scuffing, and over-running rutting occurring beyond the curbing at Benning Drive. At Main Street, the northeast quadrant has a wide radius that makes it easy for right-turning trucks. However, the northwest quadrant has a tight radius and there is evidence of off-tracking resulting in cracked sidewalks and drainage openings.

The eastbound to northbound right turn at Gulf Shore Drive is inadequate for large trucks and there is a large raised concrete structure (see Photo 12 in Appendix 3) immediately adjacent to the corner curb that shows evidence of tire rubs. Trucks use this road to access a small industrial area off Industrial Road north of the corridor. At Airport Road, U-turns are not permitted in the eastbound direction. At Scenic Highway 98 there is a signalized left-turn lane for making U-turns only. Scenic Highway 98 serves several beach front properties and dead-ends into Restaurant Road, which connects back to US 98. It might be more appropriate to remove this signal, close the median opening, and make Scenic Highway 98 right in/out only intersection. A new signal could be installed at Restaurant Road, 1/3 mile east, to replace the existing signal at Scenic Highway 98. Restaurant Road is a full intersection that would provide better access to businesses, new commercial development, resorts, and residential areas on both sides of the corridor.

Signal timing

The field review was completed during the non-summer tourist season and as a result no signal delay issues were noted. As shown in the table, the signal timing for the through lanes was observed from 95 seconds at Danny Wuerffel Drive to 349 seconds at the Home Depot entrance. The cross street timing was short and in most cases vehicle actuated, which accounts for the long green cycles on the US 98 through lanes. The green cycles for the through lanes are very favorable for truck movement within the corridor during the off-season. **Table 2** shows the signal timings for the signalized intersections and the corresponding Aerial number in Appendix 1.

**TABLE 2
APPROXIMATE SIGNAL TIMING
(IN SECONDS)**

Aerial Number	Intersection	Primary Through	Primary Left Turn	Cross Street Through	Cross Street Left Turn
1	Stahlman Avenue	120	N/A	8	N/A
2	Benning Drive	135	N/A	15	N/A
3	Beach Drive	130	10	10	N/A
4	Main Street	140	N/A	18	N/A
5	Gulf Shore Drive	120	N/A	15	N/A
6	Airport Road	125	N/A	12	N/A
7	Scenic Highway 98	140	N/A	10	N/A
8	Henderson Beach Road	170	N/A	15	N/A
9	Triumph Road (Home Depot Entrance)	349	N/A	10	N/A
10	Matthew Boulevard	135	N/A	12	N/A
11	Danny Wuerffel Way (SR 293)	95	15	15	N/A
12	Crystal Beach Drive/Legendary Drive	120	15	22*	N/A
13	Regatta Boulevard	130	N/A	10	14
14	Tequesta Drive	110	7	10	N/A

* 40 seconds if the pedestrian crossing is not activated.

Note: Yellow cycles were timed at 4 seconds throughout the corridor.

Traffic

The overall traffic within the corridor is highly dependent on the time of year. The traffic is highest in the summer months during the tourist season and much lower during the winter. While a certain amount of truck traffic can be expected throughout the year to service the commercial businesses along the corridor, the through truck traffic is expected to be higher during the winter (non-season) months. US 98 is the shortest route between Panama City on the east and Pensacola on the west but it is not a practical route from a trucking standpoint during the congested summer months when traffic and pedestrians are the highest. The Texas Transportation Institute provides a congestion cost for trucks annually. For the year 2010, the latest available, the cost of truck delay was estimated to be \$88.12 per hour of delay. Consequently any route that results in significant delay will encourage truckers to find less congested routes, even if they are longer. At the time of the field review, the field team noted that congestion was minimal to none throughout this corridor. To get a true picture of truck use on the corridor vehicle classification counts should be taken in both the summer and winter seasons. Table 3, shows the annual average daily traffic (AADT) in vehicles per day (vpd) and the annual average daily truck traffic (AADTT) in trucks per day (tpd) along the corridor, as well as the percentage of trucks. Note that the highest traffic is associated with the portion of the corridor that contains the resort hotels and condominiums.

**TABLE 3
US 331 TRAFFIC**

Segment	From	To	AADT (vpd)	AADTT (tpd)	Percent Trucks
1	Destin Bridge	Main Street	37,500	1,700	4.3
2	Main Street	Airport Road	45,000	1,620	3.6
3	Airport Road	Danny Wuerffel Way (SR 293)	45,000	1,620	3.6
4	Danny Wuerffel Way (SR 293)	Walton County line	46,500	1,674	3.6

Source: Florida Department of Transportation (FDOT) Traffic Online, 2010.

NEARBY FREIGHT FACILITIES

There is a small industrial area that includes a county water treatment plant located along Industrial Drive, north of the corridor between Main Street and Airport Drive. This area is not expected to generate significant truck traffic.

PLANNED IMPROVEMENTS

There are no planned improvements for this segment of US 98 in the current FDOT 5-year Work Program.

OTHER FACTORS

Pedestrians, especially during the busy tourist season are an issue. Jaywalking is common and vehicle traffic is reduced to a slow crawl. Side street signal activations are more common and signal progressions are increased. For this reason, most through trucks would avoid this route using longer alternative routes during the summer months to increase their reliability and reduce delay as much as possible.

Unfortunately, local trucks cannot avoid the congestion and delivery reliability is a problem that adds to the cost of transportation in the area.

RECOMMENDATIONS

The recommendations for this corridor are:

- Conduct an engineering evaluation to see if it is possible to change the corner radius at the southeast quadrant of Matthew Boulevard. There is currently a steep drop-off from the corner pavement, an abrupt end to the sidewalk, and a concrete culvert opening below. There is a potential for any truck turning at this intersection to off-track to the point that the rear wheels would drop into the ditch and over-turn the trailer. (OW8)
- Conduct a study of the intersections at Scenic Highway 98 and at Restaurant Road. Evaluate the possibility of relocating the traffic signal at Scenic Highway 98 0.5 mile east to Restaurant Road, which is a full intersection. Scenic Highway 98 would become a right in/out only and traffic wishing to go east on US 98 would be directed to Restaurant Road. Close the median opening at Scenic Highway 98 and remove the U-Turn lane. (OW9)
- Consider relocating the mast arm currently located within the concrete pedestrian island at the northwest quadrant of Danny Wuerffel Way to a safer location. It is located dead center on the southbound right-turn lane and poses a potential crash issue. (OW10)

APPENDICES

1. Intersection Aerials
2. Screening Checklist
3. Photos

APPENDIX 1
INTERSECTION AERIALS

Aerial 1
Stahlman Avenue



**Aerial 2
Benning Drive**



**Aerial 3
Beach Drive**



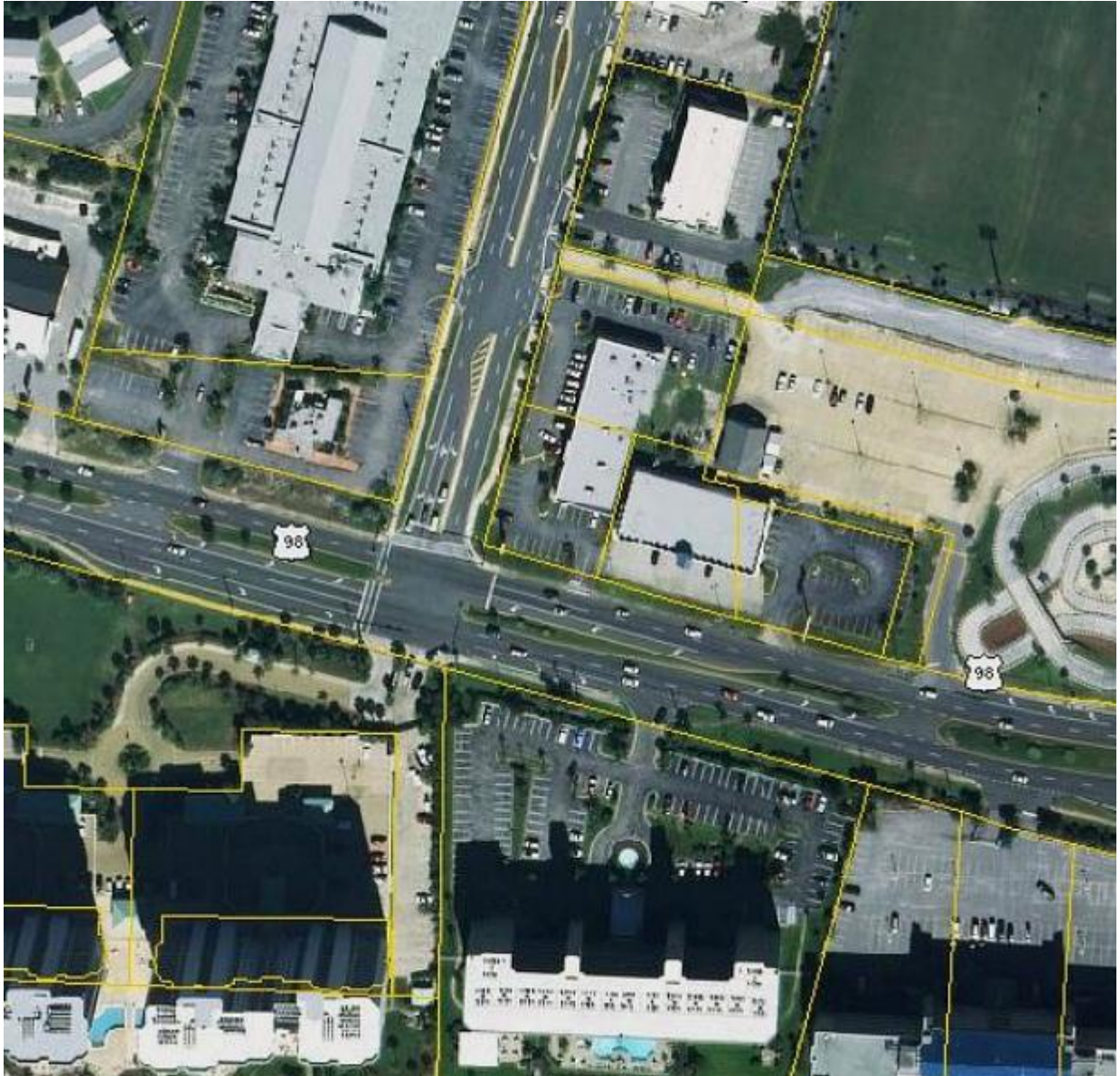
**Aerial 4
Main Street**



Aerial 5
Gulf Shore Drive



**Aerial 6
Airport Road**



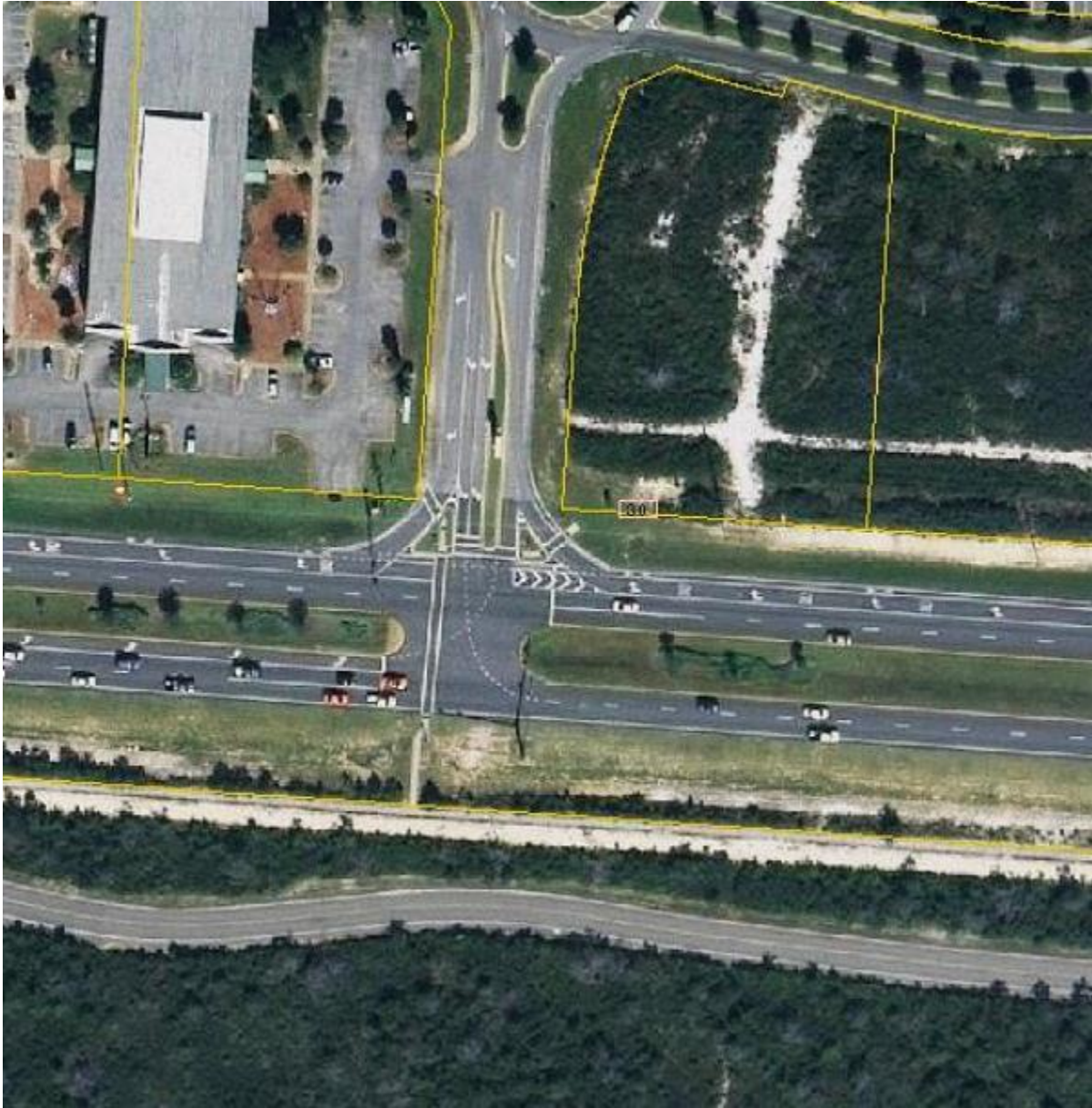
Aerial 7
Scenic Highway 98



**Aerial 8
Henderson Beach Road**



**Aerial 9
Triumph Road (Home Depot Entrance)**



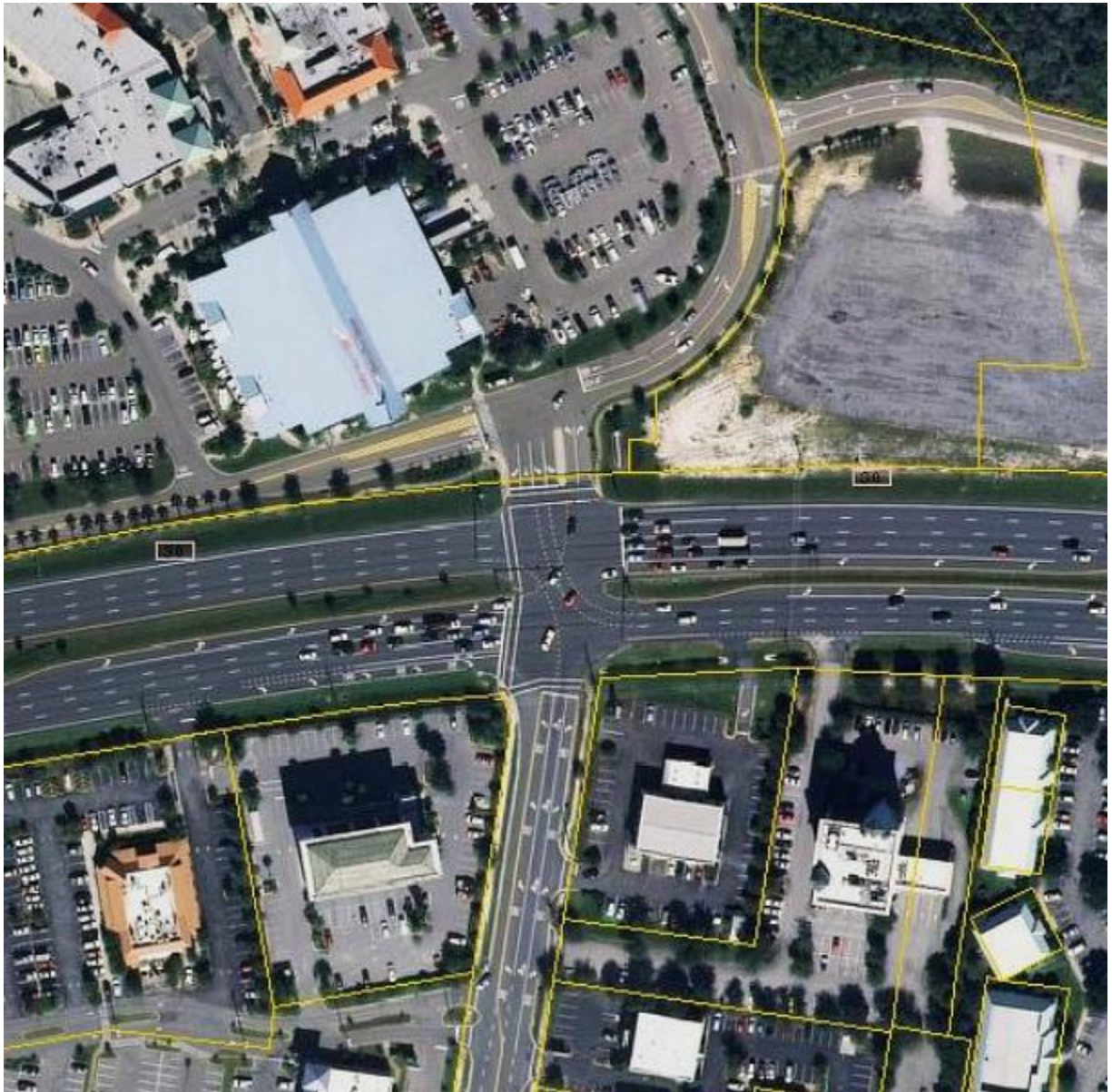
**Aerial 10
Matthew Boulevard**



Aerial 11
Danny Wuerffel Way (SR 293)



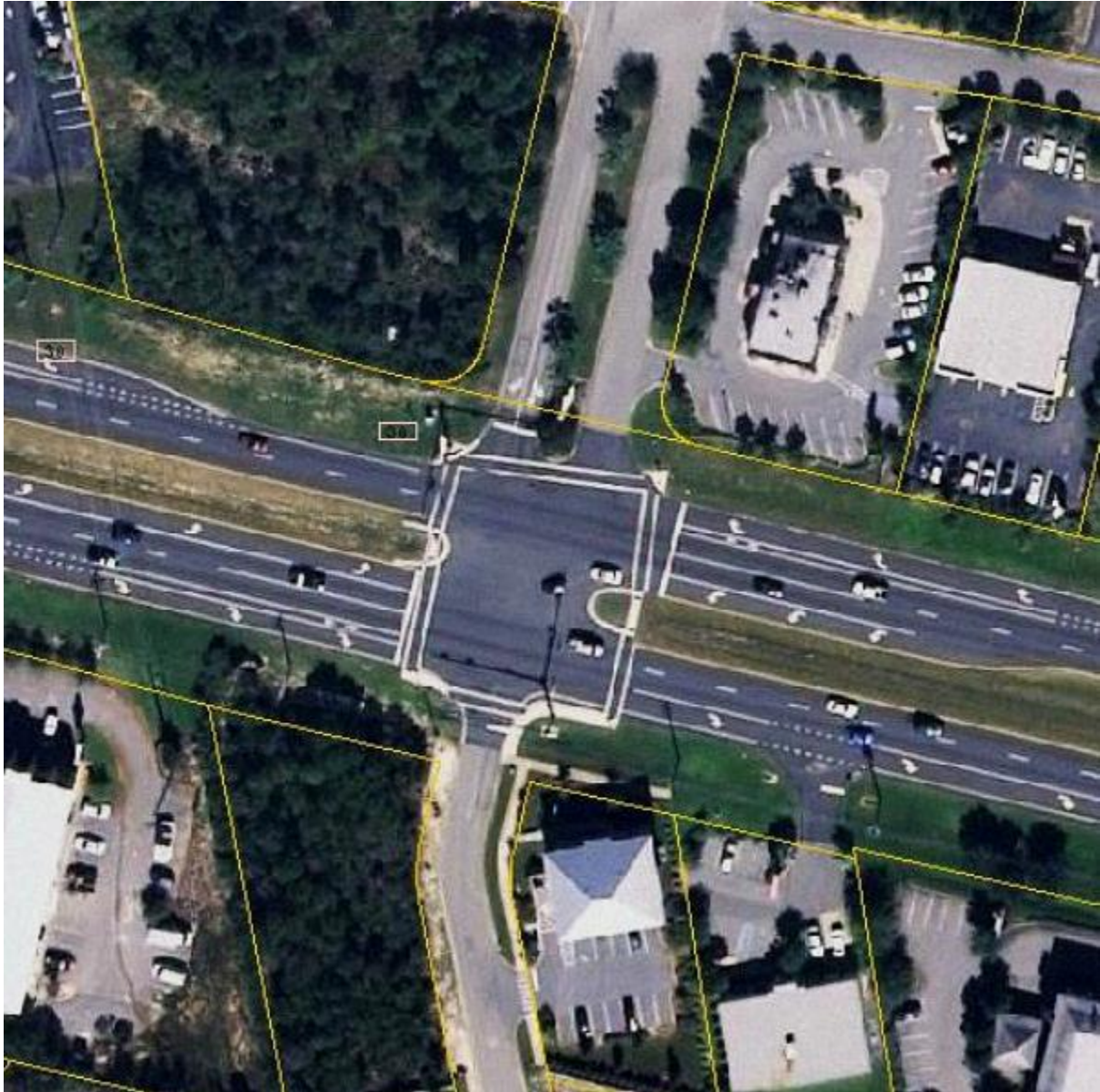
Aerial 12
Crystal Beach Drive/Legendary Drive



Aerial 13
Regatta Boulevard



Aerial 14
Tequesta Drive



APPENDIX 2
SCREENING CHECKLIST

APPENDIX 3

PHOTOS

Photo 1
Through lane rutting was noted at intersections in Segments 1-3 of the corridor.
This photo shows rutting at Main Street.



Photo 2
Off-tracking indicated by the damaged storm drain and tire tracks on the sidewalk at Beach Drive



Photo 3
Cracked sidewalk caused by off-tracking trucks at Main Street



Photo 4
Matthew Boulevard safety issues. The culvert should be extended further away from the EOP or a guardrail installed to prevent trucks leaving the road and over-turning.



Photo 5
Southwest corner of Matthew Boulevard showing unsafe concrete culvert and sidewalk



Photo 6
Danny Wuerffel Way showing off-tracking. The sidewalk is truck mountable but should be extended to include the rutted area.



Photo 7

Danny Wuerffel Way. Tire tracks are for beyond the EOP and the curbing is not mountable.



Photo 8

Danny Wuerffel Way. Raised concrete island and pedestrian signal pole forces trucks to off-track as can be seen by the rutting of the soft areas beyond the shoulder.



Photo 9

The mast arm pole at the northwest corner of Danny Wuerffel Way is centered on the right-turn lane that is channeled to the right by the concrete island.



Photo 10

Wide view of mast arm at the northwest corner of Danny Wuerffel Way



Photo 11

Predominant land use on the south side of the corridor is condominiums and resort hotels



Photo 12

Raised concrete structure at the northeast corner of Gulf Shore Drive



US 331 from Edgewood Circle to US 331 North

PRELIMINARY FREIGHT CORRIDOR SCREENING US 331 (Edgewood Circle to US 331 North)

INTRODUCTION

A preliminary freight corridor screening evaluation was conducted on US 331 from Edgewood Circle to US 331 North (intersection of US 331/Airport entrance and US 90), located within the boundaries of Walton County, Florida, on October 24, 2011. This screening is part of a broader effort to screen a sample of the regional freight corridors as designated in the Regional Freight Network Plan: Highways of Commerce, adopted April 2010, for freight-related operational and physical issues. **Figure 1** shows the corridor location map and the segmentation used during the evaluation. The total distance of the corridor is 8.7 miles and includes seven signalized intersections.

As shown in **Table 1** below, the project was divided into four segments.

**TABLE 1
PROJECT SEGMENTATION**

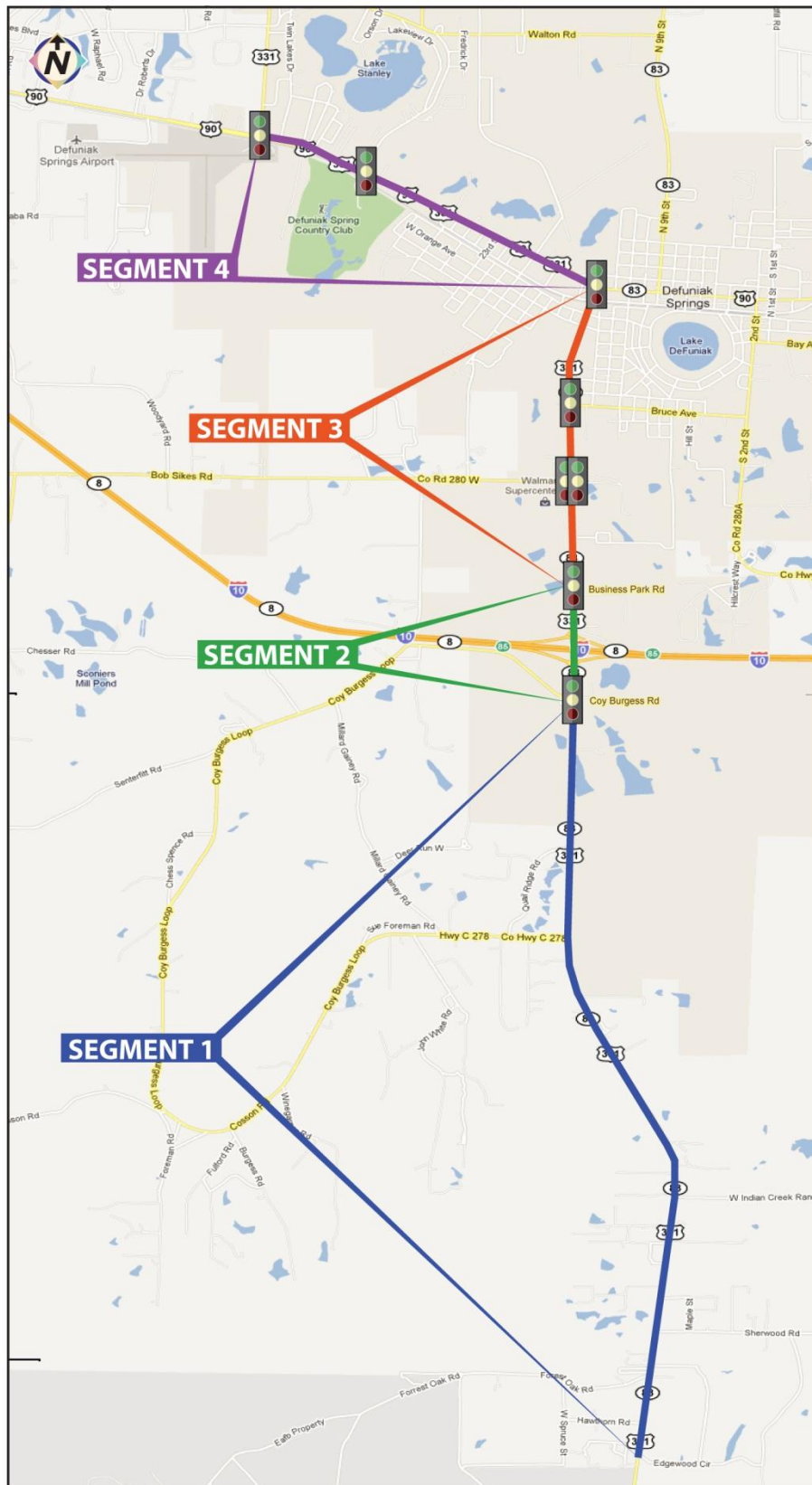
Segment	From	To	Distance	Intersections	Signalized Intersections	Estimated Driveways
1	Edgewood Circle	Coy Burgess Road	4.4	9	0	51
2	Coy Burgess Road	Business Park Road	0.6	3	2	0
3	Business Park Road	US 90	1.8	10	4	43
4	US 90	US 331 North	1.9	15	2	54

RELEVANT FREIGHT-RELATED ISSUES

The freight-related issues associated with this corridor are as follows:

- Limited passing opportunities on the two lanes section from Edgewood Circle to Coy Burgess Road.
- Expansion of the commercial properties north and south of Interstate 10 (I-10) will add to congestion in the area resulting in increased delay due to longer traffic signal progressions and the probability of new signals being added in the future at the north and south interchange ramps.
- Numerous intersections (6.5 per mile), signalized intersections (2 per mile), and driveways (22.5 per mile) between Coy Burgess Road and US 331 North reduce the efficiency of the through traffic lanes.
- The corner geometry, at some intersections is inadequate and result in off-tracking or lane encroachment by turning trucks.

**FIGURE 1
PROJECT LOCATION MAP**



PHYSICAL CHARACTERISTICS

General Characteristics

Edgewood Circle to Coy Burgess Road

The highway is a rural, two-lane typical section with 5-foot paved shoulders, open drainage, and no pedestrian enhancements. The typical section widens to a two-lane divided for a distance of 1,750 feet with a short southbound left-turn lane and a northbound right-turn lane at the entrance to the Healthmark Regional Medical Center facility, located 2.2 miles south of I-10 on the east side of the highway. The terrain is slightly rolling and there are several small elevation changes along the segment that result in no-passing zones. There are no signalized intersections along this segment.

Coy Burgess Road to Business Park Road

At Coy Burgess Road (see Aerial 1 in Appendix 1), the typical section becomes a rural, four-lane divided highway with 5-foot paved shoulders and open drainage. The intersections with the I-10 ramps include right- and left-turn lanes (see Aerial 2 in Appendix 1). The medians are grass with mountable curbs north and south of the interchange and painted pavement between the north and south interchange ramps.

Business Park Road to US 90

Business Park Road (see Aerial 3 in Appendix 1) is a newly signalized intersection (not shown on Aerial 3) with a southbound left-turn lane, a northbound right-turn lane, and key-hole bike lane. Opposite of Business Park Road is a private residential driveway with signal activation (see Photo 1 in Appendix 3). This signal serves no other parcel except the residential parcel.

Immediately north of the intersection, the roadway widens to form an access point to a gas station/convenience store followed by a bump-out and a new right-turn lane access (right in/out only) to a new Lowes home center. A northbound left-turn lane extends from the Lowes access to a median opening leading to a Burger King restaurant. A second left-turn lane to the north provides access to a Sonics restaurant.

The typical section changes to an urban, four-lane divided highway, with curb and gutter drainage, grass medians with mountable curbs, and left-turn lanes at major driveway entrances. There are signal controlled left-turn lanes at Bob Sykes Road (County Road (CR) 280 W.) (see Aerial 4 in Appendix 1), the Winn Dixie Plaza entrance (see Aerial 5 in Appendix 1), Bruce Avenue (see Aerial 6 in Appendix 1), Live Oak Avenue W. (see Aerial 7 in Appendix 1), and US 90. The northbound approach to US 90 (a "T" intersection) includes dedicated left- and right-turn lanes and a combination left-/right-turn lane in the center (see Aerial 8 in Appendix 1). There are sidewalks located on both sides of the highway immediately adjacent to the curbs.

US 90 to US 331 North

This portion of the corridor lies along US 90 for 1.9 miles to the west of the US 331 South intersection. The typical section on US 90/US 331 is a suburban, five-lane (see Photo 2 in Appendix 3) with a continuous center left-turn lane, outside curbs, open drainage, and a sidewalk along the north side. West of Country Club Drive (see Aerial 9 in Appendix 1), the typical changes to a rural, four-lane divided

highway with a grass median, open drainage, and no curbs or sidewalks. The CSX railroad main line runs parallel to the corridor approximately 55 feet from the edge of pavement (EOP) on the south side of the highway. The only crossings are at Country Club Drive and US 331 at the entrance to DeFuniak Springs Airport (see Aerial 10 in Appendix 1).

Pavement Condition

The pavement is in average condition for the most part throughout the corridor with rutting in the through lanes at Business Park Road and portions of the through lanes at intersection north of Business Park Road. The entire road surface between Edgewood Circle and Coy Burgess Road is rutted. At Coy Burgess Road, the corners are rutted at all quadrants and consideration should be given to extending the pavement at the corners to keep off-tracking vehicles from leaving the pavement. Rutting is also evident on the through lanes at the signalized entrance to the Winn Dixie Plaza. The eastbound lanes of US 90 at the intersection with US 331 South are deeply rutted (see Photo 3 in Appendix 3) and the pavement markings are worn and need to be restriped. Additionally, the roadway surface of US 90 is rutted in both directions; however, this segment between US 331 North and US 331 South is scheduled for resurfacing. The pavement at the northeast and northwest quadrants of US 331 North is deteriorated to the point of needing to be replaced (see Photo 4 in Appendix 3). It appears that trucks and other vehicles cut this corner over a poorly paved driveway in order to avoid encroaching on the southbound left-turn lane. Consider extending the roadway pavement within the right-of-way (ROW). Because this is a signalized intersection, the stop bar for the left-turn lane could be moved back to help trucks avoid this encroachment.

Infrastructure

The signals at Coy Burgess Road were recently installed and are hung from strain pole cables. There are pedestrian features including ramps and signal buttons on all four corners with crosswalks on the east, west, and south approaches (see Photo 5 in Appendix 3).

Business Park Road has been recently signalized and includes mast arms (see Photo 6 in Appendix 3) at the northeast and the north and south sides of the driveway opposite Business Park Road, as well as a single-mounted signal on a single pole at the southeast corner that serves the driveway. A new, short sidewalk has been added to the northeast quadrant and there is a concrete pedestrian corner ramp on the west side of the roadway.

Traffic signals at Bob Sykes Road are mast arm mounted. The southwest and northwest corners of Bob Sykes Road show signs of off-tracking. The northwest corner includes a drain opening and a pedestrian ramp with a raised curb along the back and one side (see Photo 7 in Appendix 3). Off-tracking trucks will eventually crush the top of the drain opening and the curbing on the pedestrian ramp at the Winn Dixie Plaza the signals are strain pole mounted. Curb damage is minor and probably not caused by trucks which access Winn Dixie from a driveway off Bob Sykes Road. New mast arm mounted signals (see Photo 8 in Appendix 3) have been installed at the intersection of Bruce Road (previously un-signalized). The northeast corner was improved as part of the installation and is in good condition. Bruce Road leads back to a residential area and a school and is an unlikely road for truck use. Minor damage at the southeast corner is probably due to turning school busses.

There are also new, mast arm-mounted traffic signals located on US 90/US 331 at Country Club Drive/Shoemaker Drive (see Photo 9 in Appendix 3). The mast arm poles are located at all four quadrants of the intersection and there are pedestrian activation buttons located at all quadrants. In addition, there is a railroad crossing located approximately 50 feet to the south of the intersection with crossing gates that extend across the entire roadway to prevent vehicles from circumventing the gates. Since this road leads to a private country club, it is unlikely that trucks would be accessing this road on a routine basis. At US 331 North signals are hung from concrete strain poles located at the southeast and northwest quadrants. Significant shoulder rutting was noted at the northwest quadrant from off-tracking trucks; however, this intersection is scheduled for improvements as part of a paving project in 2014.

Land Use

South of Coy Burgess Road, the land use is farmland and open space with some residential and small commercial sites mixed in along the corridor. There is also regional medical center located 2.2 miles south of I-10. North of I-10, the land use becomes a mixture of commercial and residential with the latter mostly north of Bruce Avenue. The City of DeFuniak Springs government offices are located at the southeast corner of US 90. The US 90/US 331 segment is dominated by commercial uses the entire distance. There is a golf country club located south of the corridor at Country Club Drive/Shoemaker Drive that extends west to the DeFuniak Springs Airport. The airport is a non-commercial facility that serves small private aircraft including small jets.

Existing Right-of-Way

The existing ROW varies between 60 feet at Eastwood Drive to 319 feet at Business Park Road. However, the urban typical section from Business Park Road to US 90 varies between 80 and 100 feet and the urban typical section on US 331 east of Country Club Drive is 80 feet while west of this point the rural typical section is 218 feet.

OPERATIONAL CHARACTERISTICS

The corridor appears to be operating satisfactorily, although passing opportunities on the two-lane segment from Edgewood Circle to Coy Burgess Road are few and only for short distances due to vertical site lines and blind driveways. Additionally, newly installed traffic signals at Coy Burgess Road and Business Park Road along with new commercial properties like Lowes and several fast food restaurants will contribute to future congestion. Most truck turns south of US 90 will occur at the streets and driveway access points to the commercial properties as there are no other truck generators along the corridor. Nearly all of the median openings to these facilities include left-turn lanes, as well as some right-turn lanes that are adequate to keep turning traffic off the through lanes.

The right turn into Business Park Road is a truck-friendly compound curve that should prevent serious off-tracking of large trucks; however, some encroachment into the westbound left-turn lane is likely and consideration should be given evaluating the location of the left-turn lane stop bar (see Photo 10 in Appendix 3). Also, Hugh Adams Road intersects with Business Park Road 80 feet east of US 331. In the future, traffic from the commercial properties to the east as well as from the small industrial area to the east will make it difficult for vehicles to make left turns from this intersection. Although not necessary

now, it is recommended that a new right in/out only access be evaluated to the south of Business Park Road and that the existing right-turn lane be extended beyond this point as future development occurs.

As shown in Table 1, the primary truck related issue on the US 90 segment (Segment 4) is the 15 minor street intersections and 54 driveways that result in numerous vehicles crossing, turning on to and tuning off of the corridor. As previously noted, there is a new traffic signal at Country Club Drive/Shoemaker Drive that is loop activated and impact to trucking operations should be minimal.

Traffic

As shown in **Table 2**, the annual average daily traffic (AADT) on US 331 varies from a low of 12,200 vehicles per day (vpd) at US 331 North to 18,400 vpd at Business Park Road. The annual average daily truck traffic (AADTT) varies from 726 trucks per day (tpd) at US 331 North to 1,298 tpd at US 90.

**TABLE 2
US 331 TRAFFIC**

Segment	From	To	AADT (vpd)	AADTT (tpd)	Percent Trucks
1	Edgewood Circle	Coy Burgess Road	16,000	1,280	8.0
2	Coy Burgess Road	Business Park Road	18,400	1,288	7.0
3	Business Park Road	US 90	17,300	1,298	7.5
4	US 90	US 331 North	12,100	726	6.0

Source: Florida Department of Transportation (FDOT) Traffic Online, 2010.

NEARBY FREIGHT FACILITIES

There are no major freight generating facilities located within close proximity to this corridor. The business park located north of I-10 is in its initial stages of development and should be considered as a future freight generator. The majority of the trucks on this corridor are making connections to I-10 from either US 98 to the south or to Alabama. US 331 is a Strategic Intermodal System corridor and a designated Regional Highway of Commerce. Even though the overall numbers of trucks on this facility is small compared to other regional corridors of commerce, the percentage of the truck traffic is average or slightly above average based on the total traffic.

PLANNED IMPROVEMENTS

Project ID 424105-2 will add left-turn lanes to US 331 South (SR 83) at Sherwood Road. The preliminary engineering (PE) is scheduled for 2012, ROW in 2013, and construction in 2015. *Note: No recommendations for this intersection. Sherwood Road is not a normal turning location for trucks.*

Project ID 424105-1 will add turning lanes to the Coy Burgess Road. The PE, ROW, and construction are all scheduled for 2012. *Note: Ensure the left-turn lanes are long enough to hold the queue including long tractor trailer trucks without blocking the inside through lanes.*

Project ID 424105-3 will add a right-turn lane on southbound US 331 at Bruce Avenue. The PE is scheduled for 2012, ROW for 2013, and construction for 2015. *Note: No recommendations for this intersection. Bruce Avenue is a designated truck route.*

Project ID 428845-1 will resurface US 331 from the intersection of US 90 on the west side of DeFuniak Springs Airport to the Alabama state line. PE is scheduled for 2012, ROW for 2013, and construction for 2014. *Note: Recommend that truck-friendly improvements be included in the construction of this project including improved turn radius from westbound US 90 to northbound US 331. Any above ground infrastructure should be located away from the corner to prevent damage from turning trucks. Relocate the southbound left-turn stop bar to a position that will allow turning trucks to make wide turns without encroaching on the opposing traffic lanes.*

OTHER FACTORS

As future traffic increases on US 331, the intersection at the entrance to the medical center may need improvement including signals.

RECOMMENDATIONS

The recommendations for this corridor are:

- When US 331 North is repaved, ensure that the corner geometries are designed to reduce the amount of off-tracking and off-road rutting. Since this is a signalized intersection, the southbound left-turn lane stop bar should be located further back from the current location to allow trucks to turn north onto US 331 without encroaching on the left-turn lane. (OW11)
- Evaluate the functionality of the Hugh Adams Road intersection with Business Park Road located immediately east (less than 100 feet) of US 331. As traffic increases on Business Park Road, it will become difficult to make a left turn from Hugh Adams Road, especially for trucks. Consider adding a new right in/out access point further south on US 331 and extending the right-turn lane. Hugh Adams Road should be converted to a right in/out only intersection. (OW12)
- Ensure that the left-turn lanes to all commercial properties are long enough to accommodate trucks and that the signal timing for left turns is sufficient to allow trucks to complete turns within the allotted time. (OW13)
- The intersection of US 90 and US 331 South should be milled and resurfaced to remove the deep rutting on the through lanes and the worn out pavement markings. (OW14)
- Extend the roadway pavement at all four quadrants of Coy Burgess Road. (OW15)
- The segment of US 90 and US 331 between US 331 North and US 331 South should be milled and resurfaced to remove deep rutting on through lanes. (OW16)

APPENDICES

- 1 Intersection Aerials
2. Screening Checklist
3. Photos

APPENDIX 1
INTERSECTION AERIALS

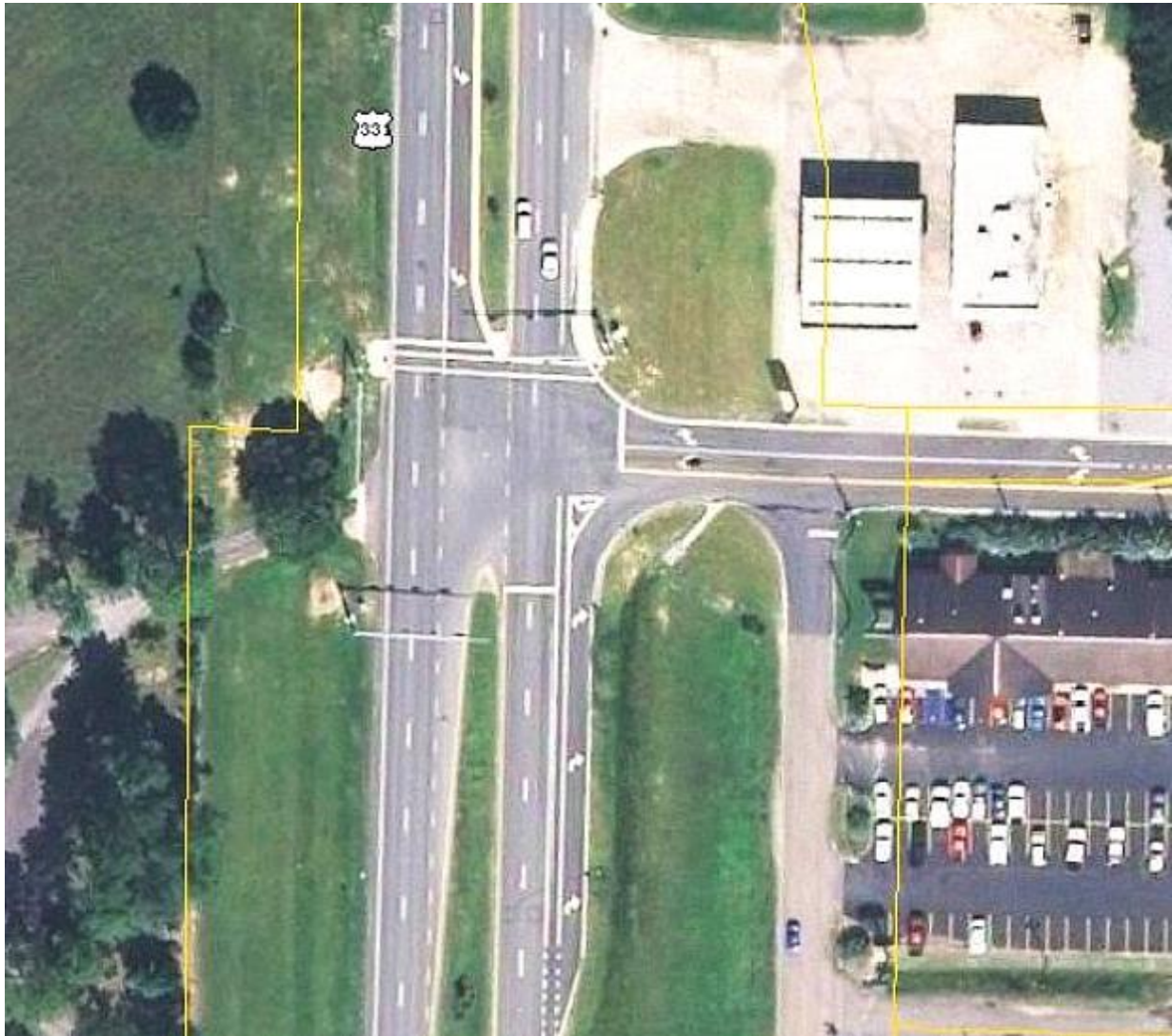
Aerial 1
Coy Burgess Road



Aerial 2
I-10 at US 331 South



**Aerial 3
Business Park Road**



**Aerial 4
Bob Sikes Road**



**Aerial 5
Winn Dixie Entrance**



Aerial 6
Bruce Avenue



Aerial 7
Live Oak Avenue



Aerial 8
US 331 South at US 90



Aerial 9
Country Club Drive



Aerial 10
US 331 North at US 90



APPENDIX 2
SCREENING CHECKLIST

APPENDIX 3

PHOTOS

Photo 1
Signalized private driveway opposite Business Park Road (note the loop detector and stop bar)



Photo 2
Five-lane typical section on US 90/US 331



Photo 3
Deep rutting in the eastbound lanes of US 90 at US 331 South



Photo 4
Shoulder deterioration due to off-tracking at the northwest corner of US 331 and US 90



Photo 5
New traffic signals and pedestrian features at Coy Burgess Road (also note off-tracking damage at the northbound corner)



Photo 6
New signal at Business Park Road (looking northeast)



Photo 7

Pedestrian ramps and storm drain opening at Bob Sikes Road. Trucks off-track onto the sidewalk as noted by tire marks and cracked curb of the pedestrian ramp.



Photo 8

New mast arm signal at Bruce Avenue, which was previously un-signalized



Photo 9

New mast arm signals at Country Club Drive/Shoemaker Drive and US 90, which was previously un-signalized



Photo 10

Trucks turning left into Business Park Road (note that 53-foot-long trailers are now commonly used for deliveries to large businesses, as well as to smaller sites such as fast food restaurants and convenience stores)

