ADDENDUM 1

May 27, 2020

RFQ PW 38-20

Northwest Crestview Bypass

This addendum is to answer questions provided by the vendors:

1. Is the intent to focus on Old Bethel Road as a corridor, or should alternative corridors connecting the logical termini be considered? The intent is for the Old Bethel corridor to be one possible alignment. Other alignments that meet the purpose and need will be looked at as well.

2. Could you please provide a copy of 425832-2-12-05 Feasibility Study for Eastern Crestview Bypass? See attached.

The opening date for this RFQ remains June 4, 2020 at 3:00 PM CST.

Florida Department of
TRANSPORTATION

FINAL
FEASIBILITY REPORT

S.R. 85 Eastern Crestview Bypass
Okaloosa County, Florida

ETDM Number: 2891

Florida Department of Transportation
District Three

July 2019

EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) is conducting a Feasibility Study to evaluate the potential for an Eastern Crestview Bypass with the intent of improving the capacity of the existing State Road (S.R.) 85 corridor in Okaloosa County, Florida. This Feasibility Study documents the need for improvements; the fatal flaws; the logical termini; the analysis completed to develop a purpose and need for the project; and whether the project should advance to the Project Development and Environment (PD&E) Study.

The project limits begin along S.R. 85 north of Shoal River, extend north with S.R. 85 as the western boundary, Shoal River and Bob Sikes Airport as the eastern boundary, and finish at Airport Road as the northern terminus. I-10 and U.S. 90 are major east-west routes located within the study area. S.R. 85, within the project limits, features a four-lane roadway with disconnected multimodal features. As outlined in the 2018 Minor Update of the Okaloosa-Walton Transportation Planning Organization's (OK-WA TPO's) Congestion Management Process Plan, the S.R. 85 segments from Antioch Road to I-10 and from I-10 to U.S. 90 have been congested and have functioned at a Level of Service (LOS) F since 2007. They are projected to continue with that LOS through the document's 2027 analysis. The segment from U.S. 90 to Airport Road/C.R. 188 is shown as a LOS C and projected to continue as a LOS C through 2027. In addition, the lack of both capacity and effective bicycle/pedestrian features has led S.R. 85 to have more crashes than other similar roadways within the State of Florida.

To better analyze adjacent impacts associated with an Eastern Crestview Bypass, three alternative alignments were generated. The Build Alternatives were developed in accordance with previous FDOT coordination with Eglin Air Force Base and Okaloosa County. The Build Alternative will provide a 4-lane urban typical section throughout the project length. The improvements analyzed include 11-foot wide travel lanes and 7-foot buffered bicycle lanes.

Alternative 1 is the longest of the proposed alignments. It has a southern terminus at S.R. 85 and Antioch Road/Shoal River Drive and a northern terminus of S.R. 85 at the intersection of Airport Road/C.R. 188. Two options were considered for Alternative 1: Alternative 1A, which included an interchange with I-10, and Alternative 1B which included an overpass at I-10. Alternative 2 is the second longest of the proposed alignments. It has a southern terminus at S.R. 85 and Southcrest Drive and a northern terminus similar to Alternative 1. Alternative 2 includes an overpass at I-10. Alternative 3 is the shortest of the proposed alignments, beginning with an interchange on I-10 and ending with a northern terminus similar to Alternatives 1 and 2.

In order to weigh the relative merits of each of the corridor alternatives a numerical/descriptive matrix was prepared which illustrates, describes and evaluates the features of the Build Alternatives and the No Build Alternative. For this study, the No Build Alternative includes all current and planned projects outlined in the FDOT Work Program and in the OK-WA TPO's Cost Feasible Plan. These planned projects include significant changes to the roadway network in the study area including capacity improvements to S.R. 85, a new interchange and a western bypass around the City of Crestview. The results obtained from the evaluation matrix (**Table 5-7**) show that although all the build alternatives do generally improve the traffic and safety conditions along S.R. 85 north of I-10, these benefits are not enough to justify the negative environmental, socio-economic and cost impacts at this time.

It should also be noted that the initial analysis of the build alternatives included a 2-lane typical section to minimize costs and impacts; however, the projected traffic along the new corridor would result in a LOS

F. A 4-lane roadway was then modeled which provided for an acceptable LOS in the design year. However, the congestion along S.R. 85 south of U.S. 90 would still be present with the addition of the Eastern Crestview Bypass.

In summary, to address the failing traffic service along S.R. 85, an Eastern Crestview Bypass was evaluated. Through a desktop planning level analysis of the proposed impacts associated with the three alternatives, it was determined that the project would not result in a significant enough reduction in congestion along S.R. 85 to justify the social, environmental, construction, and right-of-way costs associated with the three build alternatives. It is the recommendation of this feasibility study to continue with the Project Development and Environment Studies for a Western Crestview Bypass and the capacity improvements along S.R. 85 shown currently within the OK-WA TPO Cost Feasible Plan. As these ongoing projects advance to stages where operational improvements can be analyzed, further coordination should continue with local planning partners to determine if the regional traffic concerns are addressed by these existing projects, or if a more detailed traffic analysis related to the Eastern Bypass should be completed.

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List of Acronyms

AADT	Average Annual Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
APE	Area of Potential Effect
BMAP	Basin Management Action Plan
CAC	Citizen’s Advisory Committee
CARS	Crash Analysis Reporting System
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFP	Cost Feasible Plan

DOJ	Department of Justice
ECAT	Escambia County Area Transit
EFH	Essential Fish Habitat
EOP	Edge of Pavement
ETDM	Efficient Transportation Decision Making
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FGDL	Florida Geographic Data Library
FHWA	Federal Highway Administration
FL-AL TPO	Florida-Alabama Transportation Planning Organization
FMSF	Florida Master Site File
FPIDs	Financial Project ID's
GIS	Geographic Information System
LCS	Lane Control Signals
LEP	Limited English Proficiency
LOS	Level of Service
LRTP	Long Range Transportation Plan
MHW	Mean High Water
NAC	Noise Abatement Criteria
NMFS	National Marine Fisheries Service
NPL	National Priorities List
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NSR	Noise Study Report
NWFWMD	Northwest Florida Water Management District
OFW	Outstanding Florida Waters
PD&E	Project Development and Environment
PGL	Profile Grade Point
PIP	Public Involvement Program
PTAR	Project Traffic Analysis Report
RCRA	Resource Conservation and Recovery Act
SHPO	State Historic Preservation Officer
STIP	Statewide Transportation Improvement Program
TCC	Technical Coordinating Committee
TIP	Transportation Improvement Program
TMDL	Total Maximum Daily Loads
TSM&O	Transportation Systems Management and Operations
UAO	Utility Agency/Owner
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard

1 INTRODUCTION

S.R. 85 (S. Ferdon Boulevard) is the primary north-south corridor in Okaloosa County, Florida serving local and regional transportation needs. This roadway is a Strategic Intermodal System key freight highway which serves as the only hurricane evacuation route in the County to connect cities along the southern part of Okaloosa County to I-10. The majority of the S.R. 85 corridor, south of I-10, traverses through Eglin Air Force Base (AFB) property. S.R. 85 in the study area of the project, from Shoal River Road through the City of Crestview is currently functioning at a Level of Service (LOS) F, and has a higher crash rate than other similar roadways in Florida.

The Okaloosa-Walton Transportation Planning Organization's (OK-WA TPO) 2035 Needs Assessment Plan outlined three main improvements needed to improve capacity on S.R. 85: operational improvements at the S.R. 85 and I-10 interchange, the provision of additional capacity between S.R. 123 and I-10, and the provision of alternative route(s) around the City of Crestview. Within the 2035 Needs Plan, an Eastern and Western Crestview Bypass were shown. The Eastern Crestview Bypass was a new addition to the 2035 Needs Plan; however, the Western Crestview Bypass was also shown in the 2030 Needs Plan. In the 2040 Long Range Transportation Plan (LRTP), the OK-WA TPO removed the Eastern Crestview Bypass with the intent of focusing on the Western Bypass options.

During a 2040 LRTP amendment, which occurred December 14, 2017, the OK-WA TPO reinstated the Eastern Crestview Bypass into the Needs Plan. In February 2018, the TPO added the Eastern Crestview Bypass into the Cost Feasible Plan for the PD&E and Design phases. After public meetings associated with the LRTP amendment, the initial Eastern Crestview Bypass project map was updated as provided by Okaloosa County. See **Appendix A** the map.

Okaloosa County has applied for a variety of funding sources for area projects. Regarding the Western Crestview Bypass, Okaloosa County applied for the Transportation Regional Improvement Program (TRIP). These improvements include widening PJ Adams Parkway to 4 lanes, a new alignment with a new interchange east of the current overpass which ties into C.R. 188 at U.S. 90, then improving C.R. 188 from U.S. 90 to S.R. 85.

The County also applied for Triumph funding. In response to the 2010 Deepwater Horizon oil spill, Triumph Gulf Coast, Inc. was established to oversee the expenditure of 75 percent of all funds recovered by the Florida attorney general for economic damages to the state. The Triumph Board is required, by state law, to administer the distribution of funds which are to be used for the recovery, diversification, and enhancement of eight counties which were affected by the oil spill. Okaloosa County submitted preapplications for partial funding related to the Eastern Crestview Bypass, PJ Adams Phase IV, and the Rasberry Road Connector in November 2017. In February 2018, the Triumph Board sent responses regarding all three projects that they met the necessary criteria and to submit full applications. As a response, the City of Crestview and Okaloosa County initiated a partnership to apply for the Triumph funding.

The PJ Adams Phase IV and Rasberry Road Connector projects were then combined into one application called the Southwestern Crestview Bypass and Rasberry Road Connector and the full application was submitted May 22, 2018. Included in that application was a joint resolution between the Okaloosa Board of County Commissioners and the City Council of Crestview which stated that in reaction to the "traffic crisis" along S.R. 85, they consider the Southwestern Crestview Bypass and Rasberry Road Connector as their top infrastructure project for Triumph Funding opportunities in Okaloosa County. Within the Triumph application, was a letter dated March 30, 2018 from Brigadier General Evan C. Dertien which outlined the impact to Eglin AFB's civilian and military workforce to a degree which adversely affects the base's core mission. As of March 2019, Okaloosa County has not submitted a full application to the Triumph Board for the Eastern Crestview Bypass. See **Appendix B** for Triumph funding applications.

See **Figure 1-1** for a location map. In an effort to address the area commuter's needs, the FDOT is conducting this Feasibility to evaluate the potential for improving the capacity of the existing S.R. 85 corridor by providing an eastern bypass.

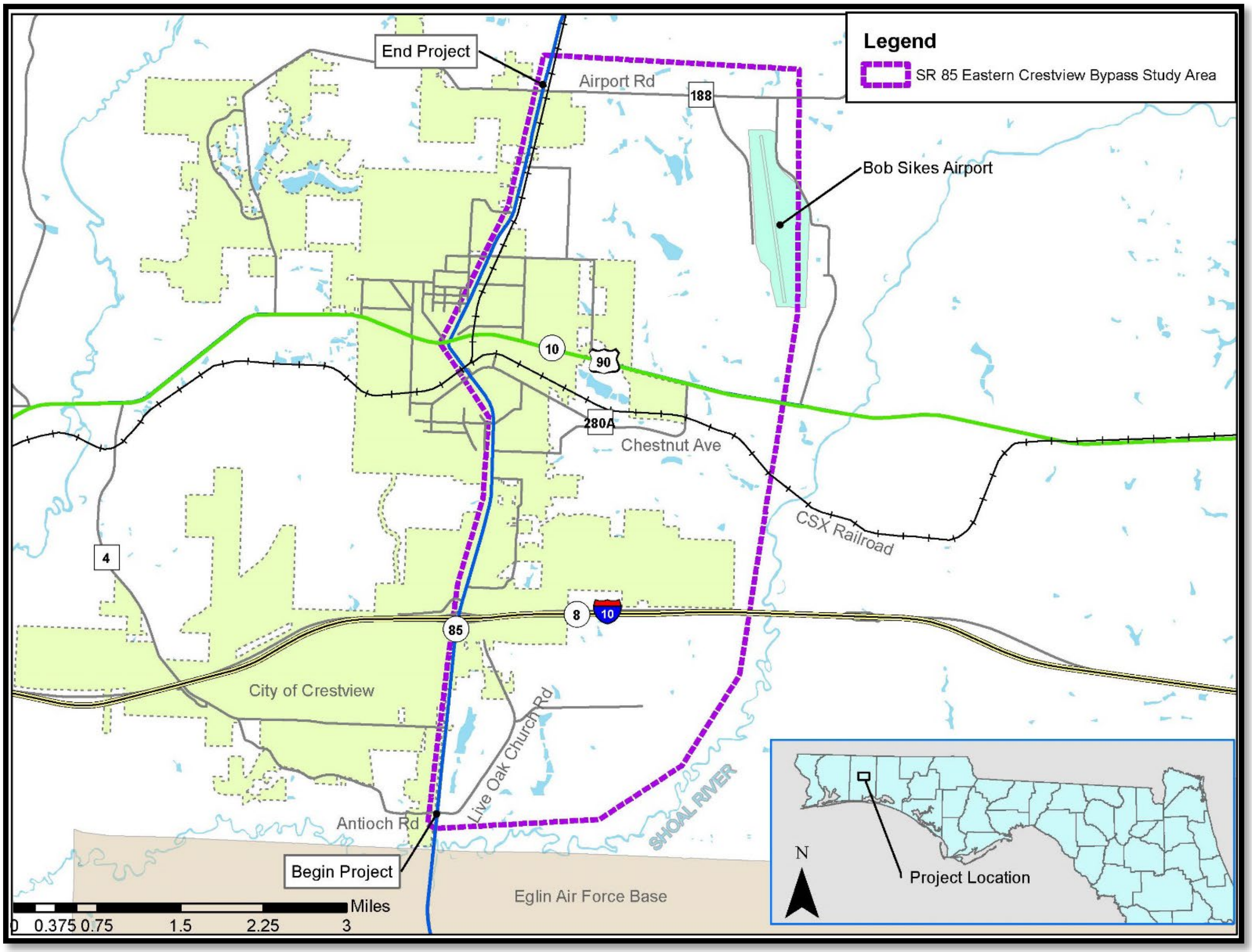


Figure 1-1: Location Map

1.1 Purpose and Need

The genesis of the project is outlined above; however, the main objective is to alleviate congestion along the S.R. 85 corridor through Crestview with an eastern bypass. This Feasibility study provides documentation which will help to define a Purpose and Need which can also be used during the PD&E phase.

1.2 Efficient Transportation Decision Making (ETDM)

A Planning Screen, ETDM #2891, was conducted in 2009, which included three alternatives: a western bypass, an eastern bypass east of Shoal River, and an eastern bypass farther to the east near Shoal River Ranch Development of Regional Impact. The western bypass alternative moved into the programming screen; however, the eastern options did not. Within the summary of public comments associated with #2891 is a reference that Eglin AFB had expressed opposition to alignments proposed on their property. All alternatives shown in this planning screen received a substantial degree of effect for water quality, wetlands, wildlife and habitat, and historic and archaeological sites.

1.3 Planning Consistency

The Eastern Crestview Bypass was originally shown in the 2035 OK-WA TPO's Long Range Transportation Plan Needs Plan, published October 10, 2012. The 2040 Needs Plan, published June 1, 2017, outlined that the project was not included due to shifting of focus to the western bypass options mentioned previously.

The Eastern Crestview Bypass was added to the OK-WA TPO's LRTP as an amendment in February 2018. The PD&E and Design phases for a new four lane roadway from S.R. 85 (south of Crestview) to S.R. 85 (north of Auburn Road) with an interchange at I-10 were included in the Needs Plan and the Cost Feasible Plan within year band 2031-2040. However, an updated map was approved by the TPO which stopped the alignments at C.R. 188/Airport Road.

Funding for the Eastern Crestview Bypass is currently not shown in the State Transportation Improvement Program (STIP) or the TPO's Transportation Improvement Program (TIP).

2 EXISTING CONDITIONS

2.1 Traffic

As outlined in the 2018 Minor Update of the OK-WA TPO's Congestion Management Process Plan, the S.R. 85 segments from Antioch Road to I-10 and from I-10 to U.S. 90 are congested and have functioned at a Level of Service (LOS) F since 2007, and are projected to continue with that LOS through the document's 2027 analysis. The segment from U.S. 90 to Airport Road/C.R. 188 is shown as a LOS C and projected to continue as a LOS C through 2027.

In reaction to the congestion experienced along the S.R. 85 corridor, the City of Crestview and Okaloosa County initiated a Joint Resolution (Resolution 18-13), approved May 1, 2018, which outlined strategies to alleviate traffic congestion, such as petitioning the Triumph Board for the Southwestern Crestview Bypass and Rasberry Road Connector project. The previously mentioned letter dated March 30, 2018, from Brigadier General Evan Dertien, Commander of the 96th Test Wing, was included. It outlined the need for traffic relief to better complete Eglin AFB's mission statement. The letter included additional information about response time and concerns about the affect of traffic on Eglin AFB/Duke Field's responsiveness.

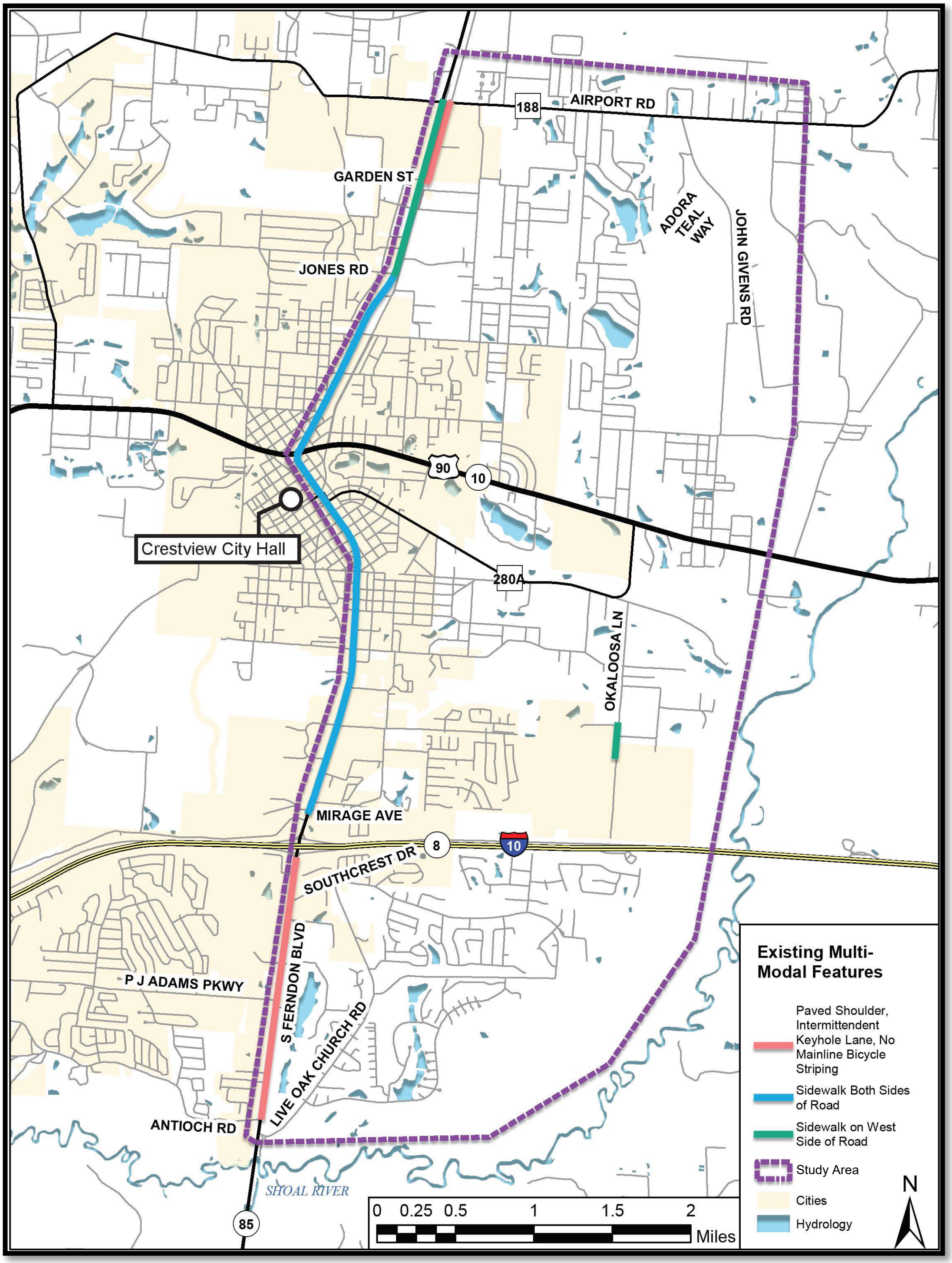
2.2 Multi-Modalism

The majority of the study area lacks bicycle features and has partial pedestrian features (see **Figure 2-1**). S.R. 85, from the beginning of the study area, north of Shoal River, to the eastbound on and off I-10 ramps, has paved shoulders with intermittently striped bicycle and keyhole lanes at auxiliary lanes. North of the I-10 interchange, the existing S.R. 85 facility transitions into an urban roadway without bicycle lanes. Sidewalk resumes north of Mirage Avenue on both sides of the roadway. The sidewalks vary from 5-foot wide with a grassed utility strip to 6-foot wide located at the back of curb. Sidewalks continue on both sides of S.R. 85 to Jones Road where the eastern sidewalk stops, but the western sidewalk continues through to C.R. 188/Airport Road. North of Garden Street, a rural typical section resumes with varying width paved shoulders which are not striped as bicycle lanes. Approaching the north end of the study area, at C.R. 188, the northbound right turn lane features a striped keyhole bicycle lane.

Other significant roadways within the study area, such as: Live Oak Church Road, Southcrest Drive, and Adora Teal Way do not have bicycle or pedestrian features. Okaloosa Lane, located north of I-10, does have existing sidewalk on the west side of the road adjacent to Riverside Elementary School, but the remainder of the road has no pedestrian or bicycle facilities. C.R. 188/Airport Road, which intersects S.R. 85 near the end of the study limits, has paved shoulders. However, they are not striped as bicycle lanes and no pedestrian facilities exist.

Emerald Coast Rider provides transit services along S.R. 85, Monday through Friday. Route 14 connects Uptown Station in Fort Walton Beach with the Crestview City Hall. There are two stops located within the study area. Both are located at the Crestview City Hall, west of S.R. 85 and south of U.S. 90, with inbound and outbound times. Coordination with EC Rider in February 2019 has indicated that expansion of Route 14 as well as potential new routes have been considered; however, an implementation timeframe has not been issued.

Figure 2-1 : Existing Multi-Modal Features



2.3 Safety

The existing safety of the corridor was analyzed using three years' crash data from the Crash Analysis Reporting (CAR) system. Crashes from January 1, 2014 through December 31, 2016 were reviewed for I-10 from MM 56 (just west of the S.R. 85 interchange) to the Shoal River Bridge, U.S. 90 from S.R. 85 to Fairchild Road, and S.R. 85 from the Shoal River Bridge to C.R. 188.

I-10

I-10 had 31 crashes overall, with a crash rate that was below the statewide average for rural interstates. A third of these crashes were contributed to wet roadways, and approximately four out of ten of the crashes occurred at night. Fortunately, none of the crashes were fatal, though seven of the crashes did result in an injury. No particular crash trends were found; the crashes were spread throughout the study area and occurred in both directions of traffic. Five of the 31 crashes analyzed occurred on the ramps of the S.R. 85 interchange.

U.S. 90

U.S. 90 experienced 67 total crashes in the three years reviewed. Much like I-10, the crash rate for the section of U.S. 90 studied is lower than for similar roads statewide. There was one fatality that occurred on U.S. 90 which was the result of a pedestrian collision at Tyner Drive. The three documented pedestrian crashes all occurred in the vicinity of Valley Road and Tyner Drive.

Forty percent of the crashes along U.S. 90 were angle crashes (see **Table 2-1**). This could be attributed to the road's five-lane cross section. There was a cluster of angle crashes (ten total) at McCaskill Street and Industrial Drive. Some of these crashes could be attributed to queued westbound traffic in the center lane of the roadway. The queues for the westbound to southbound left turn movement onto S.R. 85 from U.S. 90 stretch back to McCaskill Street. This presents the opportunity for "Good Samaritan" crashes, where queued traffic leaves a gap to let a motorist out of the side street; however, the queues themselves block the side street motorist's view of oncoming traffic. If traffic were diverted from S.R. 85 at its intersection with U.S. 90, such queuing and the subsequent crashes could be reduced.

S.R. 85

S.R. 85 had almost 1,000 crashes over the three-year period. Unlike the other two roadways analyzed as part of this safety review, S.R. 85 does have a higher than average crash rate throughout most of the study section. There were two fatal crashes: an angle crash and a lane departure crash where the driver hit a utility pole, both of which occurred on the section of S.R. 85 north of U.S. 90. There were thirteen bicycle and pedestrian crashes, all of which occurred in the more urbanized portion of S.R. 85 between Mirage Avenue and Garden Street. None of these crashes were fatal.

Table 2-1: Percent Rear Ends and Angle Crashes

	Percent Rear Ends	Percent Angle Crashes	Combined Rear Ends and Angle Crashes
I-10	22.58	3.22	25.8
U.S. 90	13.43	40.29	53.72
S.R. 85	53.32	21.01	74.33

*Rear end and angle crashes can often be attributed to congestion.

A number of northbound rear end crashes occurred at the signal at Antioch Road/Live Oak Church Road, which could likely be attributed to it being the first signal in almost ten miles for northbound drivers as they exit the higher speed rural section of S.R. 85. This trend continues northbound as the road enters a more developed setting. In all, over 80 northbound rear end crashes occurred from Live Oak Church Road to Southcrest Drive. A majority of the northbound crashes occurred in the evening peak period, suggesting that drivers heading home are hitting congested traffic.

Multiple angle crashes occurred at the unsignalized intersection of S.R. 85 with Southcrest Drive/ Cracker Barrel Road. Traffic from I-10 mixes with local traffic at this location. Drivers entering S.R. 85 from the side streets have to contend with a large intersection and consistently heavy traffic (this section of S.R. 85 stays consistently busy from the AM peak through the PM peak). There were fourteen angle crashes here; the eastbound or westbound motorist was typically at fault.

Another trend was noted involving southbound rear end crashes just north of the I-10 interchange. The intersection of S.R. 85 with Mirage Avenue lies just north of I-10. Mirage Avenue serves a variety of traffic generators, including a Walmart, Lowes, restaurants and neighborhoods. There were approximately 50 southbound rear ends that occurred from the I-10 on ramp to just north of Mirage Avenue. North of Mirage Avenue to U.S. 90, there are consistent northbound and southbound rear ends throughout the corridor. Angle crashes are also prevalent; naturally, these crashes increase in prevalence when S.R. 85 transitions into a five-lane section north of Brock Avenue.

In summary, (see **Table 2-2**) historical crash trends on I-10 and U.S. 90 are not as significant as those on S.R. 85. The most notable trend on U.S. 90 are in the approaches to its intersection with S.R. 85. The most significant crash trends to note in the study area occurred on S.R. 85 itself, and consisted of a high rate of rear end and angle crashes. These crash types can generally be attributed to congestion. The prevalence of these crashes was consistent along the corridor from Live Oak Church Road to the north end of the study section at C.R. 188. This four-lane corridor carries as much as 52,000 vehicles per day. Although there are no crash modification factors associated with rerouting traffic onto new roadways, it can be surmised that if a bypass were to divert traffic off of S.R. 85 in the area of I-10 and Crestview, that the decreased congestion through the corridor would also have a positive impact of reducing crashes.

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Table 2-2: Average Crash Rate

Roadway	Segment	Length (Miles)	Actual Crash Rate	Average Crash Rate	Percent of Average
I-10	W of SR 85 Interchange to Shoal River Bridge	2.871	0.493	0.591	83.42%
U.S. 90	S.R. 85 to Sikes Drive	1.426	2.405	4.81	50.00%
	Sikes Drive to Del Cerro Camino	0.138	2.368	2.741	86.39%
	Del Cerro Camino to Cavalier Drive	1.405	1.047	1.786	58.62%
	Cavalier Drive to W of Piney Woods Creek	0.159	1.028	3.374	30.47%
	W of Piney Woods Creek to Fairchild Road	0.118	1.786	2.42	73.80%
	Weighted Average		1.726	3.256	53.00%
S.R. 85	N of Shoal River Bridge to Southcrest Drive	1.769	3.175	1.786	177.77%
	Southcrest Drive to I-10 Underpass	0.133	7.933	3.374	235.12%
	S.R. 85 at I-10 Underpass	0.096	8.502	2.741	310.18%
	I-10 Underpass to Raspberry Road	0.117	5.615	1.786	314.39%
	Rasberry Road to N of Hospital Drive	0.385	5.447	3.374	161.44%
	N of Hospital Drive to N of Redstone Avenue	0.102	1.035	4.81	21.52%
	N of Redstone Avenue to Brock Avenue	1.033	4.18	3.374	123.89%
	Brock Avenue to S of Railroad Overpass	0.593	2.107	4.81	43.80%
	S of Railroad Overpass to S of Oakdale Avenue	0.195	0.752	3.374	22.29%
	S of Oakdale Avenue to U.S. 90	0.186	10.118	4.81	210.35%
	U.S. 90 to Garden Street	1.914	3.829	4.81	79.60%
	Garden Street to C.R. 188	0.51	2.385	1.786	133.54%
	Weighted Average		3.766	3.395	110.94%

2.4 Structures

Three bridge structures are located on or over S.R. 85 within the study limits. The first two are the eastbound (570052) and westbound (570008) bridges serving I-10. And the third bridge (570083) is servicing S.R. 85 over the CSX Railroad located just south of U.S. 90.

The I-10 Bridges over S.R. 85 were constructed in 1969. The 2016 Inspection Report of these facilities indicated that they have a sufficiency rating of 98.00 for both structures. These structures do not meet the minimum vertical clearance outlined in the 2019 Florida Design Manual and are currently being evaluated as part of the PD&E 220171-2-22-01. The bridge which carries S.R. 85 over the CSX Railroad was constructed in 1978. The 2017 Inspection Report of this facility indicated that it has a sufficiency rating of 62.00.

Regarding other significant roadways within the study area: one box culvert is located on Live Oak Church Road, just east of S.R. 85. Three box culverts are located on Okaloosa Lane. The first one, located between both ends of Earl Kennedy Road was recently replaced. The second is located between Aplin Road and Chestnut Avenue, while the third is located between Chestnut Avenue and U.S. 90. Bridge culverts, box culverts, or bridge structures were identified along Southcrest Drive, Adora Teal Way, John Givens Road, and C.R. 188/Airport Road.

2.5 Utilities and Railroads

Through Sunshine One Call, it has been determined that 18 utility agency/owners (UAOs) have facilities along the Eastern Crestview Bypass study area. **Table 2-3** outlines those utility owners and the facility type along the corridor.

Table 2-3: Existing Utility Owners

Utility Owner	Facility Type
AT&T	Fiber, Communication Lines
Auburn Water System	Water
Chelco, Inc.	Electric
CenturyLink	Fiber, Telephone
City of Crestview	Public Services
Cox Communications	Fiber, CATV
Consolidated Communication	Communication Line
Gulf Power – Northern	Electric
CenturyLink	Fiber
MCI	Fiber, Communication Lines
Okaloosa County Traffic Signals	Traffic Signals
Okaloosa County Information Technology	Fiber
Okaloosa Gas	Gas
Okaloosa County Water and Sewer	Water, Sewer
AT&T/Distribution	Telephone
Uniti Fiber LLC	Fiber
Transcore	Fiber, Electric
Sprint	Fiber

There is one railroad line within the project limits, owned by CSX. The railroad line enters the study area west of Shoal River. It is located between C.R. 280A/Chestnut Avenue and U.S. 90. The railroad facility parallels C.R. 280A throughout most of the study area. S.R. 85 crosses over the railroad along the previously mentioned bridge (570083). There is an at grade crossing of the railroad on Okaloosa Lane which includes vehicular traffic barricades, but no standard railroad striping.

2.6 Environmental

The following section outlines the environmental features along the Eastern Crestview Bypass study area.

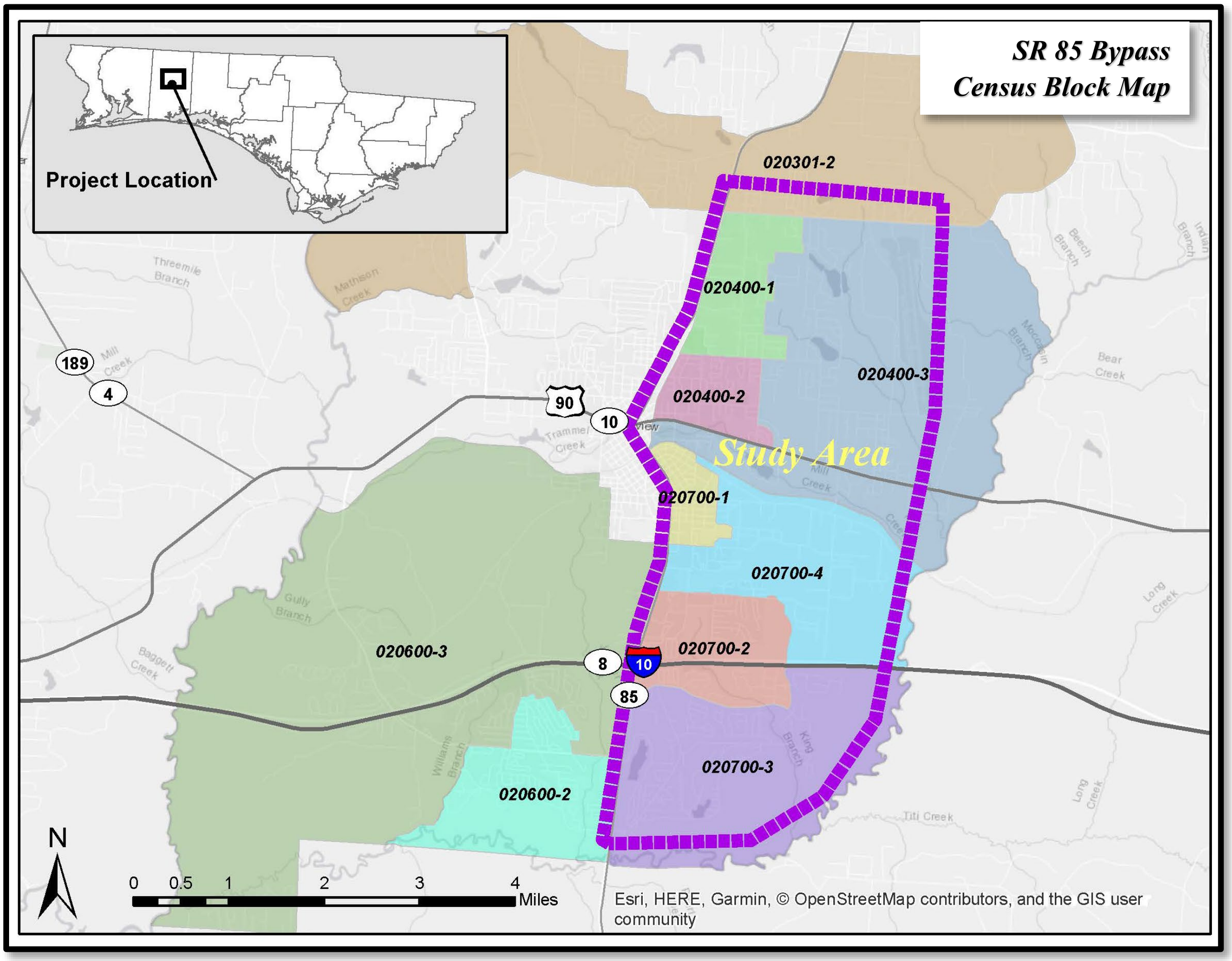
2.6.1 Sociocultural

Social

"It is the policy of the Florida Department of Transportation, under ***Title VI of the Civil Rights Act of 1964; Section 504 of the Rehabilitation Act of 1973; Age Discrimination Act of 1975; Section 324 of the Federal-Aid Highway Act of 1973; Civil Rights Restoration Act of 1987***; and related statutes and regulations, that no person in the United States shall, on the basis of race, color, national origin, sex, age, disability/handicap, or income status, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination or retaliation under any federally or non-federally funded program or activity administered by the Department or its sub-recipients".

For the existing conditions analysis, a review of the county wide census information was compared to the study area information. The study area contains or partially contains 10 census blocks (see **Figure 2-2**).

Figure 2-2: S.R. 85 Bypass Study Area Census Blocks



A few potential locations that warranted noting concerning the demographics of the study area are outlined below. The GIS analysis indicated areas of low income or minority populations within the study area. In these areas, noise and safety should be closely studied, along with targeted public involvement during the PD&E phase to ensure there are no disproportionate effects on protected populations.

To better understand the study area and the locations of these special populations, a review of the Okaloosa County Census information was completed. The following is a summary of the census data found. This data was obtained from the U.S. Census Bureau *(2015 CENSUS BLOCK GROUPS IN FLORIDA-WITH SELECTED FIELDS FROM THE 2011-2015 AMERICAN COMMUNITY SURVEY dated February 2017)* and consists of current updates to the Census data and includes Race, Ethnicity, Limited English Population, Age, and Income.

Population and Income

Okaloosa County has a total population of 192,237. There are 10 Census Blocks impacted by the study area, and they include a total population of 30,918, with 10,994 households.

In Okaloosa County, the average population below the poverty level is lower than the Florida average (17.39%) at 15.18%. As shown in **Table 2-4,** there are 5 out of the 10 impacted census blocks that have a higher than the county average of residents living in poverty. These blocks are 20400-1, 20400-2, 20600-2, 20700-1, and 20700-4.

Table 2-4: Eastern Crestview Bypass Study Area Census Blocks and Poverty Level

Tract-Block	Percent Population with income in the past 12 months below poverty level (%)
20301-2	4.38
20400-1	**22.15**
20400-2	**34.90**
20400-3	7.65
20600-2	**15.31**
20600-3	8.26
20700-1	**35.40**
20700-2	14.50
20700-3	10.50
20700-4	**17.53**

Race and Ethnicity

Okaloosa County averages for race and ethnicity are as follows:

Table 2-5: Okaloosa County Race and Ethnicity

Race							*Ethnicity*	
White	**Black or African American**	**American Indian and Alaska Native**	**Asian**	**Native Hawaiian and Other Pacific Islander**	**Other**	**Two or More Races**	**Hispanic or Latino**	**Non-Hispanic White**
79.33%	9.14%	0.58%	2.93%	0.20%	2.91%	4.91%	9.78%	90.22%

The Census Blocks that are within or intersect study area have a total population of 30,918. The averages for race and ethnicity are as follows:

Table 2-6: S.R. 292 Study Area Race and Ethnicity

Race							*Ethnicity*	
White	**Black or African American**	**American Indian and Alaska Native**	**Asian**	**Native Hawaiian and Other Pacific Islander**	**Other**	**Two or More Races**	**Hispanic or Latino**	**Non-Hispanic White**
76.20%	14.75%	0.84%	2.36%	0%	0.31%	5.54%	6.38%	93.62%

As a result, the project study area is not significantly different than the surrounding county area. There is a slightly higher population of Black or African American, and a lower population of Hispanic/Latino in the study area. The individual census blocks that were dissimilar than the county average with regards to a higher minority population were located along the S.R. 85 corridor.

Limited English Population

Based on U.S. DOT Policy Guidance, the FDOT has identified four factors to help determine if Limited English Proficiency (LEP) services would be required as listed in the FDOT PD&E Manual, Part 1, Chapter 11, Section 11.1.2.2. The Limited English Population or LEP (speaks English "Less than Very Well") for the Blocks that intersect the study area is as follows:

Table 2-7: S.R. 292 Study Area Limited English Population

Tract-Block	Residents over 5 Years of Age	Speaks English Less than Very Well	Other Language - Spanish	Other Language - Europe	Other Language - Asian	Other Language - Other
20301-2	*3943*	*95*	*191*	*71*	*33*	*0*
20400-1	*928*	*0*	*20*	*0*	*0*	*0*
20400-2	*2415*	*17*	*93*	*57*	*0*	*0*
20400-3	*2813*	*108*	*38*	*61*	*24*	*0*
20600-2	*3817*	*57*	*44*	*233*	*79*	*0*
20600-3	*5376*	*51*	*99*	*83*	*197*	*0*
20700-1	*1166*	*55*	*168*	*0*	*0*	*0*
20700-2	*3209*	*78*	*88*	*68*	*68*	*2*
20700-3	*3483*	*18*	*109*	*73*	*12*	*0*
20700-4	*1498*	*40*	*107*	*0*	*142*	*0*

Based on reviews of the previously mentioned four factors and the information outlined in **Table 2-7**, LEP services may not be required. The U.S. DOT has adopted the Department of Justice's (DOJ's) Safe Harbor Provision which stipulates that public involvement efforts should include the written translation of vital documents for each LEP language group that constitutes five percent (5%) or 1,000 persons, whichever is less, of the total population of persons eligible to be served or likely to be affected or encountered by this project. The impacted Census Blocks include a total of 519 (1.81%) total persons above the age of 5 that would fall into the definition of Limited English Population.

Refinement of the LEP population totals, requirements, and the need for interpretation services will be further evaluated in the PD&E stage as part of the public involvement efforts for this project. As illustrated in **Table 2-7**, Spanish is the most common single language group within the LEP for the study area with Other European the next largest group specifically in block 020600-2. Though the Safe Harbor Threshold has not been met on this project, translators fluent in Spanish will attend every public meeting to ensure the project team can effectively communicate any necessary information about this project.

Age and Disability

The median age is 36, and persons age 65 and over comprise 3,119 or 10.09% of the population within the impacted census blocks. There is an average of 9.87% of the population in the 10 blocks between the ages of 20 and 64 that have a disability.

Housing

There are 12,575 housing units in the study area Census Blocks. The housing consists of single-family units (10,619), multi-family units (1,248), mobile home units (661) and other (47). These units are owner occupied (7,442), renter occupied (3,552) and vacant units (1,581).

Community Facilities

The EST Geographic Information System (GIS) analysis identified the following within 500 ft. of each proposed corridor:

- Bob Sikes Airport and Industrial Complex,
- Disabled American Veterans Chapter 57,
- North Okaloosa Fire Department Station 82,
- Shoffner Park,
- Bill Duggan Jr. Park,
- Three religious centers and
- One group home facility.

Land Use

The study area crosses both the City of Crestview and Okaloosa County. The NWFWMD Florida Land Use and Land Cover dataset identified Hydric Pine Flatwoods; Low Density, Mixed Units (Fixed and Mobile Home Units); Upland Coniferous Forests; and Airports as the four major existing land uses within 500-foot of the proposed corridors, see **Figure 2-3**. The densely developed commercial area along the S.R. 85 Corridor north of the interstate is not expected to be impacted by this project.

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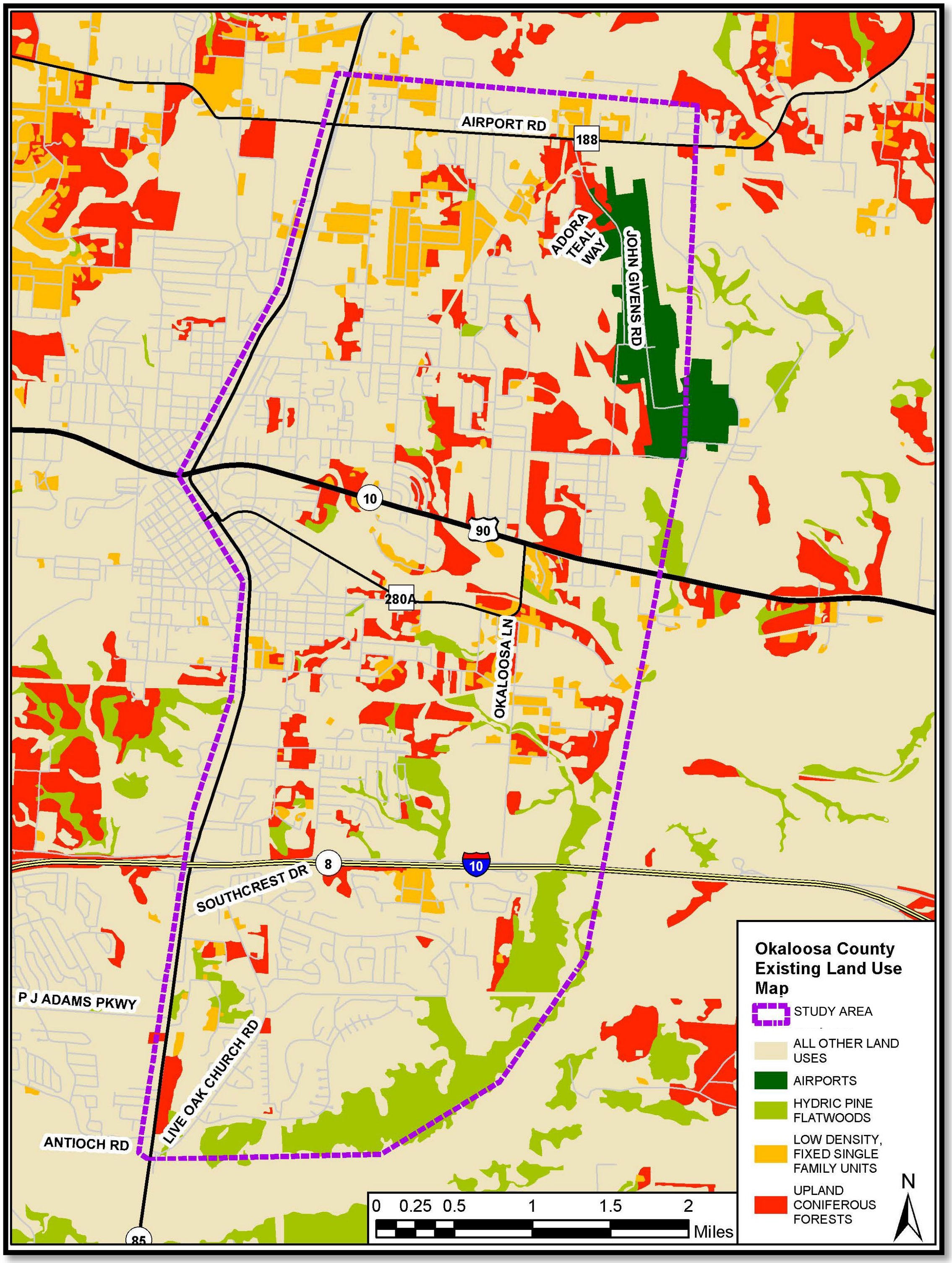
Figure 2-3: Predominate Land Uses

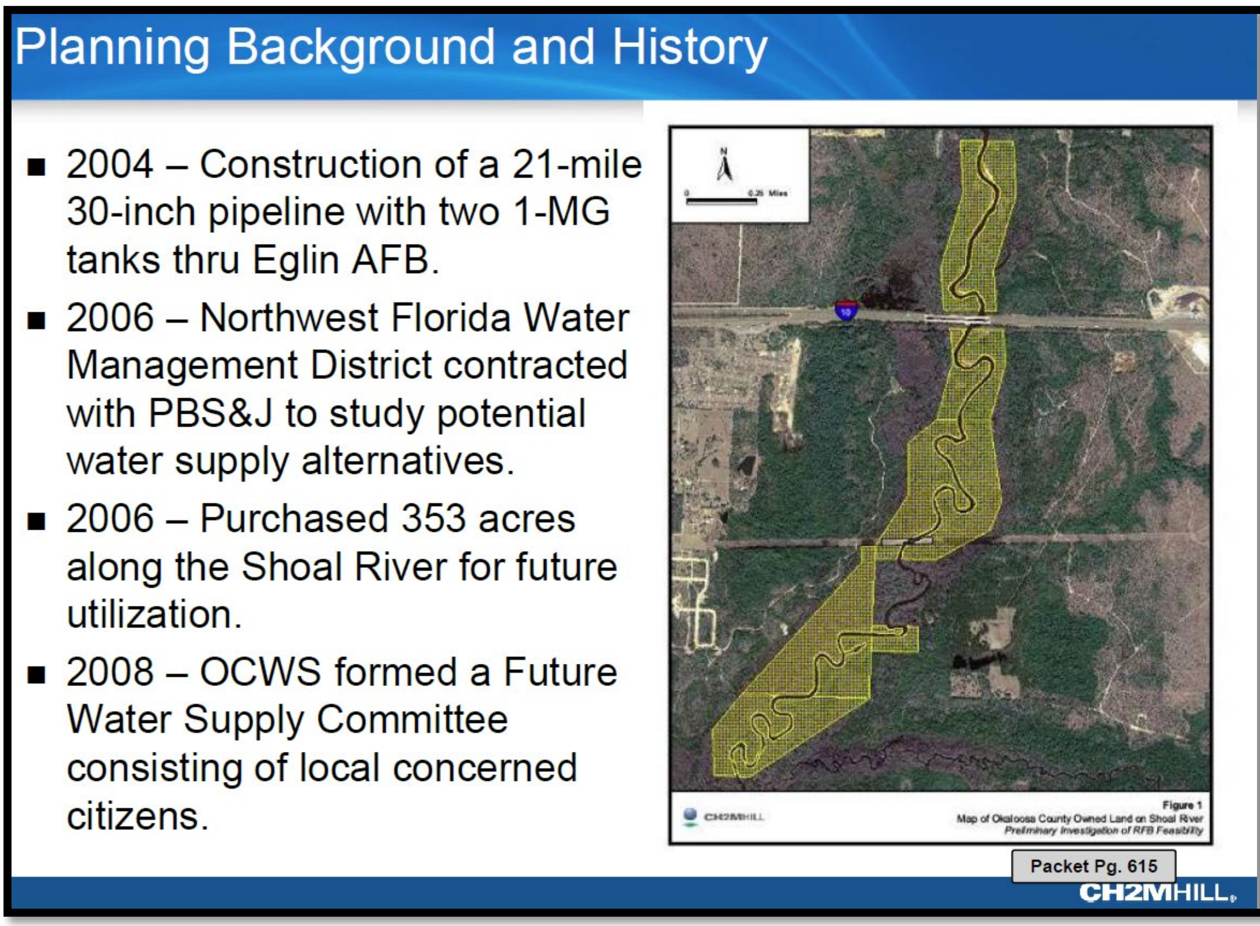


Okaloosa County has designated a special overlay zone named the Eglin AFB "North Encroachment Protection Zone". This zone includes lands and waters between I-10 and the northern boundary of Eglin

AFB. The intent of this overlay zone is to encourage compatible land uses and help prevent encroachment from incompatible urban development.

In 2009, Eglin AFB completed a Joint Land Use Study. The study outlined recommendations for Eglin AFB, City of Crestview, and also for Okaloosa County. One of the recommendations was to support and propose state and federal land acquisition in Shoal River floodplains and tributaries. As a result, Okaloosa County executed a Defense Infrastructure Grant Agreement with Enterprise Florida for the Shoal River Military Installation Buffer Project. The project was slated as a benefit for both Eglin AFB (a buffer of the Duke Field flight path) and Okaloosa County (as watershed protection for future water supply). The location of this buffer is around Shoal River, south of I-10. **Figure 2-4** was included during a presentation to the Okaloosa County Board of County Commissioners which outlined the watershed protection benefit of the Shoal River Buffer.

Figure 2-4: Shoal River Buffer



Aesthetics

The S.R. 85 Eastern Crestview Bypass study area traverses through a variety of settings, from undeveloped lands adjacent to the Shoal River, to the Crestview Community Redevelopment Area (CRA), to the Bob Sikes Airport. A few notable visual features within the study area may include Office of Greenway and Trails Multi-use trail areas, Shoal River floodplains, creeks and tributaries, and Piney Woods Creek Crossing. A more thorough review of the aesthetic features will be evaluated during the PD&E stage of this study. The ETDM Planning Screen review did not receive comments related to the adjacent corridor aesthetics.

Shoal River

The Shoal River is located to the east of Crestview and curves to the south to connect to the Yellow River. Shoal River is known as a recreational opportunity for kayaking and canoeing. The Shoal River is a designated Outstanding Florida Water.

Crestview CRA

The Crestview CRA was formally adopted by the City in 1995. In 1997, the City applied to be a participant in the Main Street Program, which is a designation by the Secretary of State. The goal of the Main Street Program is to cultivate and enhance downtown redevelopment. The CRA has increased its boundaries three times since its inception. In 2001, the City designated a Historic Preservation District which included approximately 200 structures that qualified as historically significant. In 2006, an area of downtown Crestview, bounded by Industrial Drive, S.R. 85, North Wilson Street, and James Lee Boulevard, was designated as the Crestview Commercial Historic District, a Historic District within the National Register of Historic Places (NRHP).

Bob Sikes Airport

The Bob Sikes Airport is a public-use airport owned by Okaloosa County. The airport supports a mix of general aviation and aerospace corporations performing mechanic work on military aircraft. The airport also supports military training from several prominent facilities in the area: Eglin AFB, Duke Field, Hurlburt Field, Naval Air Station (NAS) Pensacola, NAS Whiting Field, and Ft. Rucker. Adjacent to the airport, is the Okaloosa Industrial Air Park, which is a designated Florida First Site. Florida First Sites, launched by Gulf Power, are locations that have been identified for industrial sites which have already included minimum qualifications (such as water, sewer, and communications) to entice business development.

2.6.2 Cultural

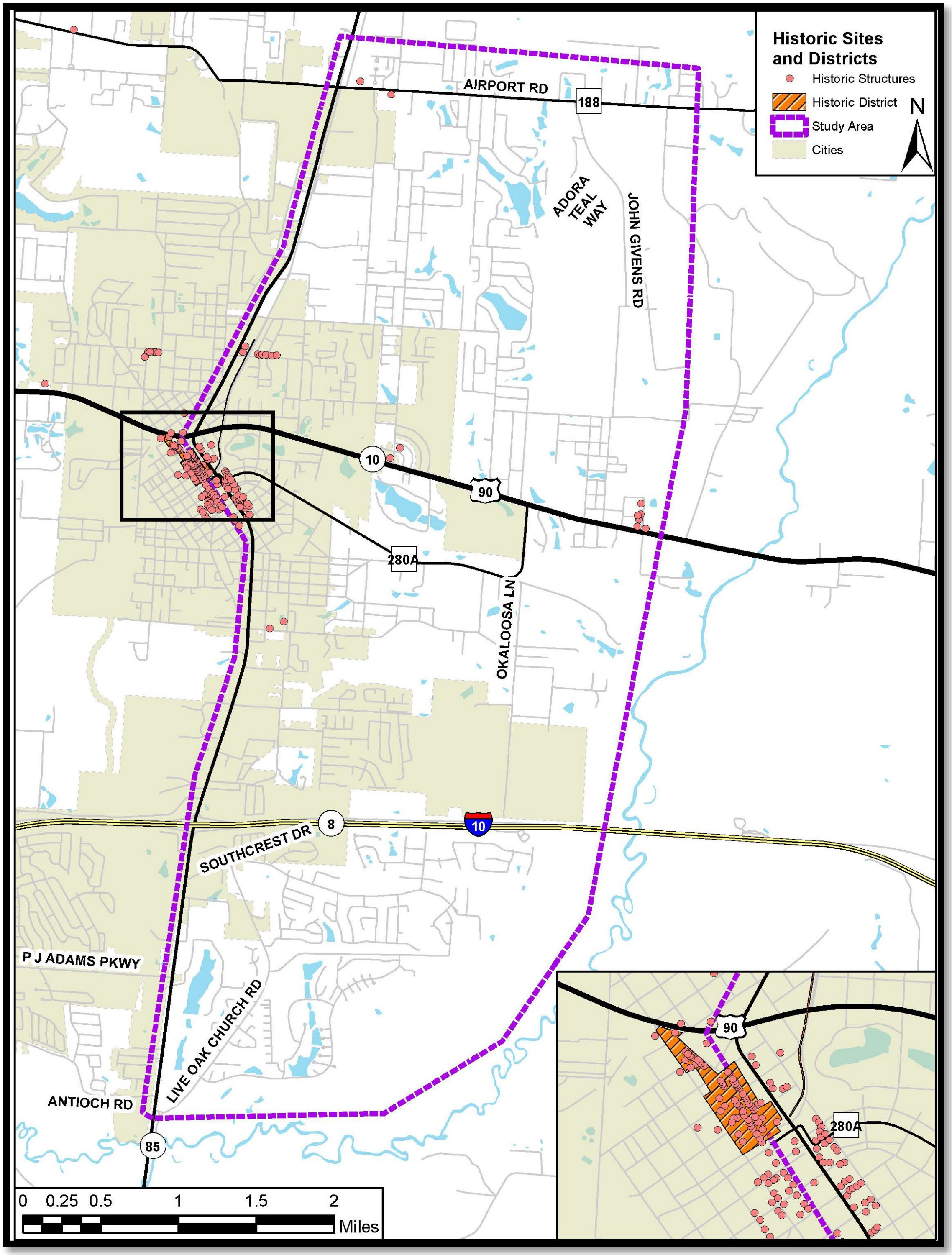
Historic Sites/Districts

The Feasibility study desktop analysis was conducted with the purpose of identifying cultural resource potential and previously recorded historic properties that are listed, or may be eligible for listing, in the NRHP.

A total of 72 previously recorded historic structures lie within the S.R. 85 Eastern Crestview Bypass study area. Of these, one (OK02249) is eligible for NRHP listing, 69 are ineligible for NRHP listing, and 2 remain either unassessed or require additional survey. One resource group (OK02514), the Crestview Commercial Historic District, mentioned in **Section 2.6.1** intersects the APE. See **Figure 2-5** for those locations.

A review of the Okaloosa County GIS Map Viewer (http://webgis.myokaloosa.com/webgis/) indicated that there is one archeological site located within the S.R. 85 Eastern Crestview Bypass study area. However, this location has not been evaluated by SHPO.

Figure 2-5: Historic Sites and Districts

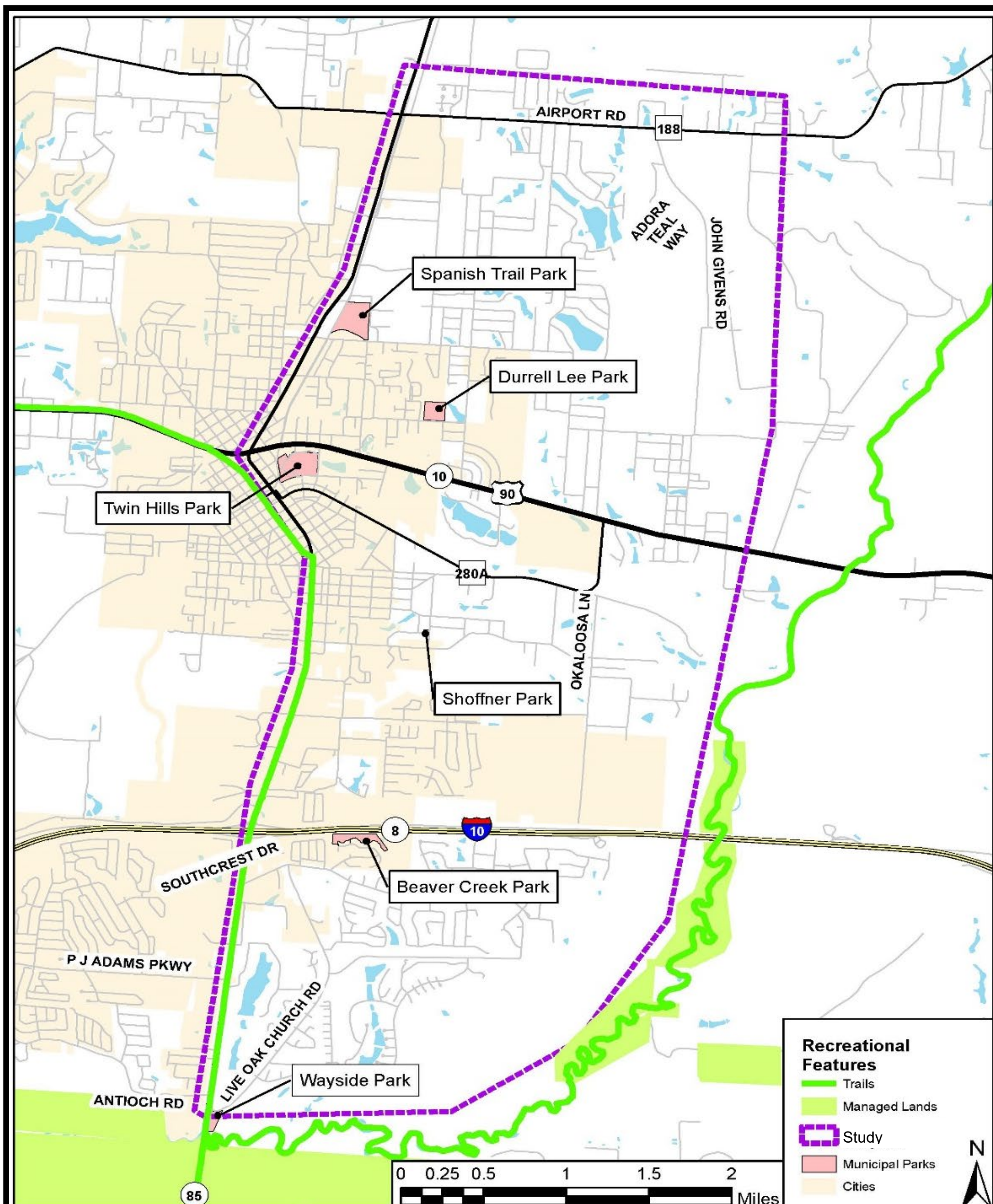


Recreational Areas

Six local municipal parks are located within the S.R. 85 Eastern Crestview Bypass study area: Shoal River Wayside Park, Beaver Creek Park, Twin Hills Park/Childrens Park, Shoffner Park, Durell Lee Park, and Spanish Trail Park. All except Shoffner Park have facilities such as playgrounds, ball fields, picnic tables, and are open to the public. Shoffner Park is labeled as undeveloped open space and not open to the public.

One Florida Department of Environmental Protection recognized trail is located within the study area. The Eglin AFB to Highway 90 Connector is shown as unpaved and follows S.R. 85 through the study area until Main Street, where it veers out of the study area. See **Figure 2-6** for recreational features within the study area.

Figure 2-6: Recreational Features

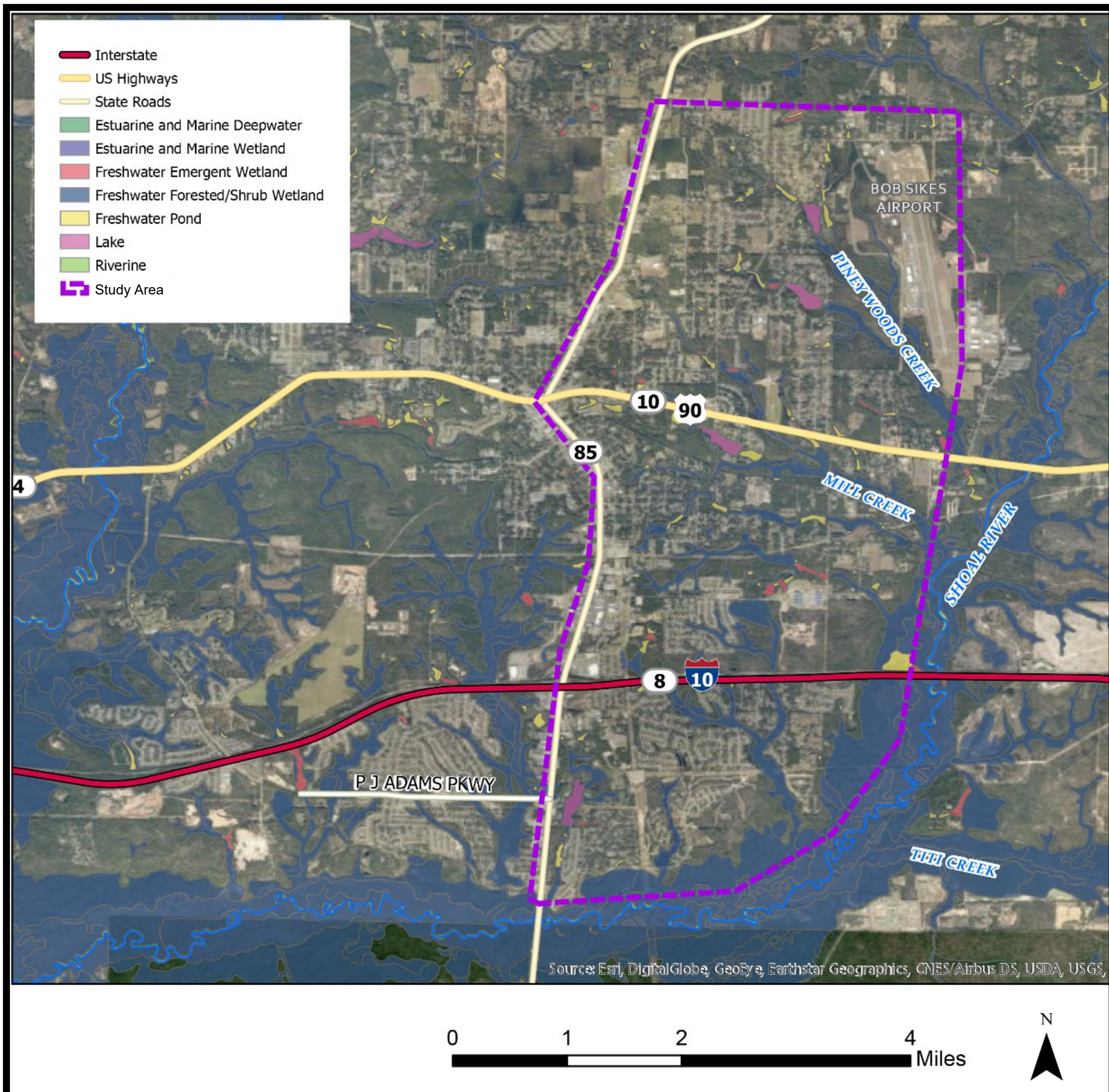


2.6.3 Natural

Wetlands

Within the S.R. 85 Eastern Crestview Bypass study area, wetlands are present to the east and the south. See **Figure 2-7**. These wetlands are associated with the Shoal River and its tributaries. Wetlands, both forested and non-forested, were identified using Northwest Florida Water Management District (NWFWMD) (2016) land use cover data. These wetlands were identified as: freshwater emergent, freshwater forested/shrub, freshwater pond, lake, and riverine.

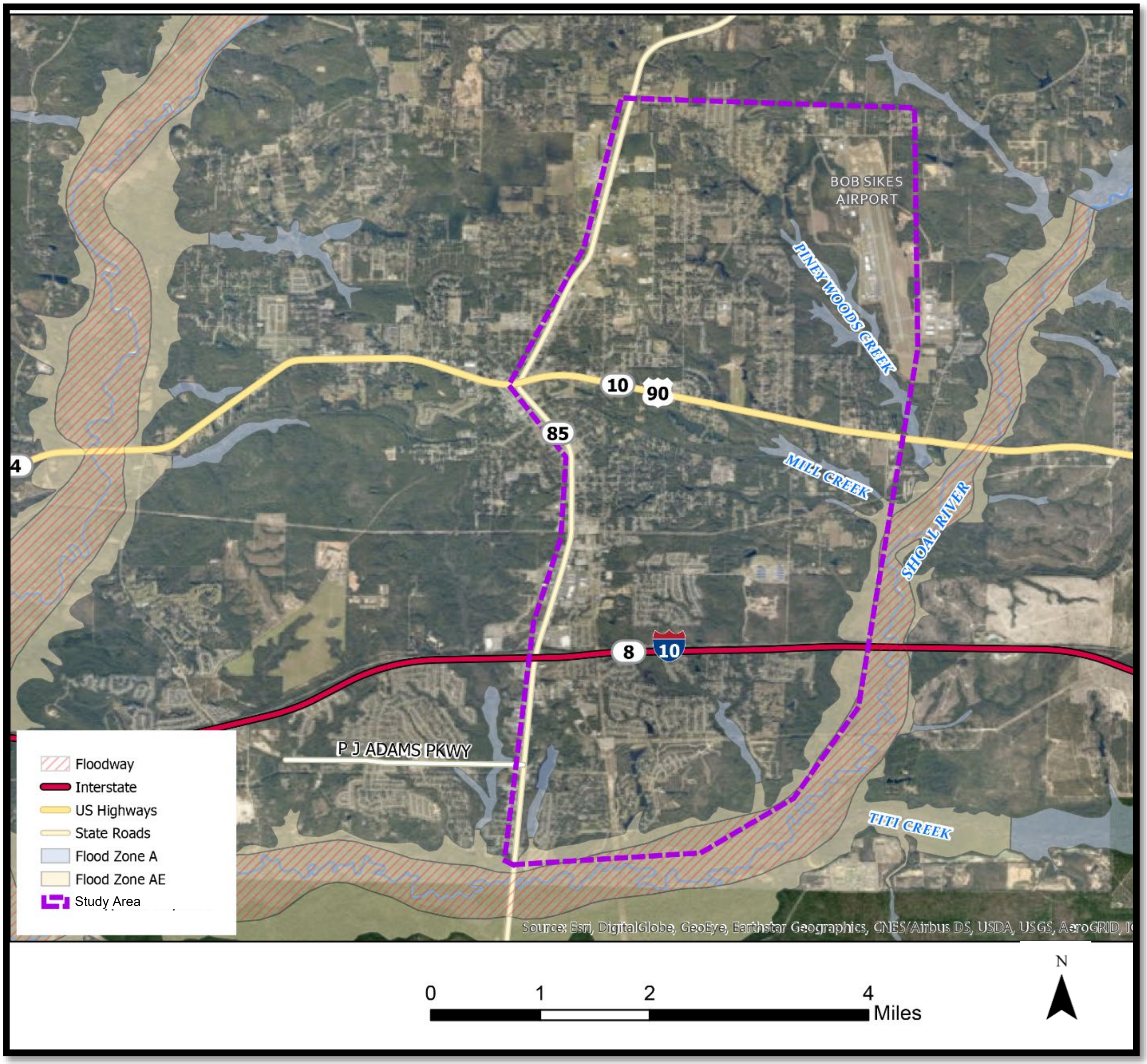
Figure 2-7 : Wetlands Within Study Area



Floodplains

Floodplains associated with Shoal River and its tributaries cross the study area on the eastern and southern boundaries, see **Figure 2-8**. These include flood zones A and AE, as well as the FEMA regulated floodway. The base flood elevation varies from 87 feet on the eastern side of the study area to 62 feet south of Antioch Road. These elevations were taken from the adopted 2002 FEMA maps. In 2016, FEMA published preliminary maps which outline the base flood elevation rising along Shoal River approximately four feet in most locations. It should be noted that these 2016 preliminary maps have not been adopted.

Figure 2-8 : Floodplain Within Study Area



Waterways

The Shoal River, an Outstanding Florida Water is located outside of the project's study area to the east and south. Though alternative corridors were developed to avoid Shoal River, several tributaries of the Shoal River, such as King Branch, Mill Creek, and Piney Woods Creek, are located within the study area. All of the previously mentioned tributaries are considered non-navigable.

Protected Species and Habitat

There is no critical habitat in the project area. The Shoal River is critical habitat for Southern Sandshell, Choctaw Bean, Narrow Pigtoe and Fuzzy Pigtoe mussels. **Table 2-8** contains a list of the federally-protected species that have potential to occur in the project area.

Table 2-8: Federally Protected Species Potentially Within the Project Area

Group	Common Name	Scientific Name	FWS Status	State Status
Mollusk	Fuzzy Pigtoe	*Pleurobema Strodeanum*	T	T
Mollusk	Narrow Pigtoe	*Fusconaia escambia*	T	T
Mollusk	Southern Sandshell	*Hamiota australis*	T	T
Mollusk	Chactaw Bean	*Obovaria (=Villosa) choctawensis*	T	T
Mollusk	Tapered pigtoe	*Fusconaia burkei*		
Reptile	Eastern indigo snake	*Drymarchon corais couperi*	T	T
Reptile	Gopher Tortoise	*Gopherus polyphemus*	C	T
Amphibian	Reticulated Flatwoods Salamander	*Ambystoma bishopi*	E	E

E=endangered, T=threatened, P=proposed, C=candidate, SSC=species of special concern, ce=consideration encouraged, CH=Critical Habitat, BGEPA=Bald and Golden eagle protection act, Petition= has been petitioned for listing.

Essential Fish Habitat

No Essential Fish Habitat exists within the study area.

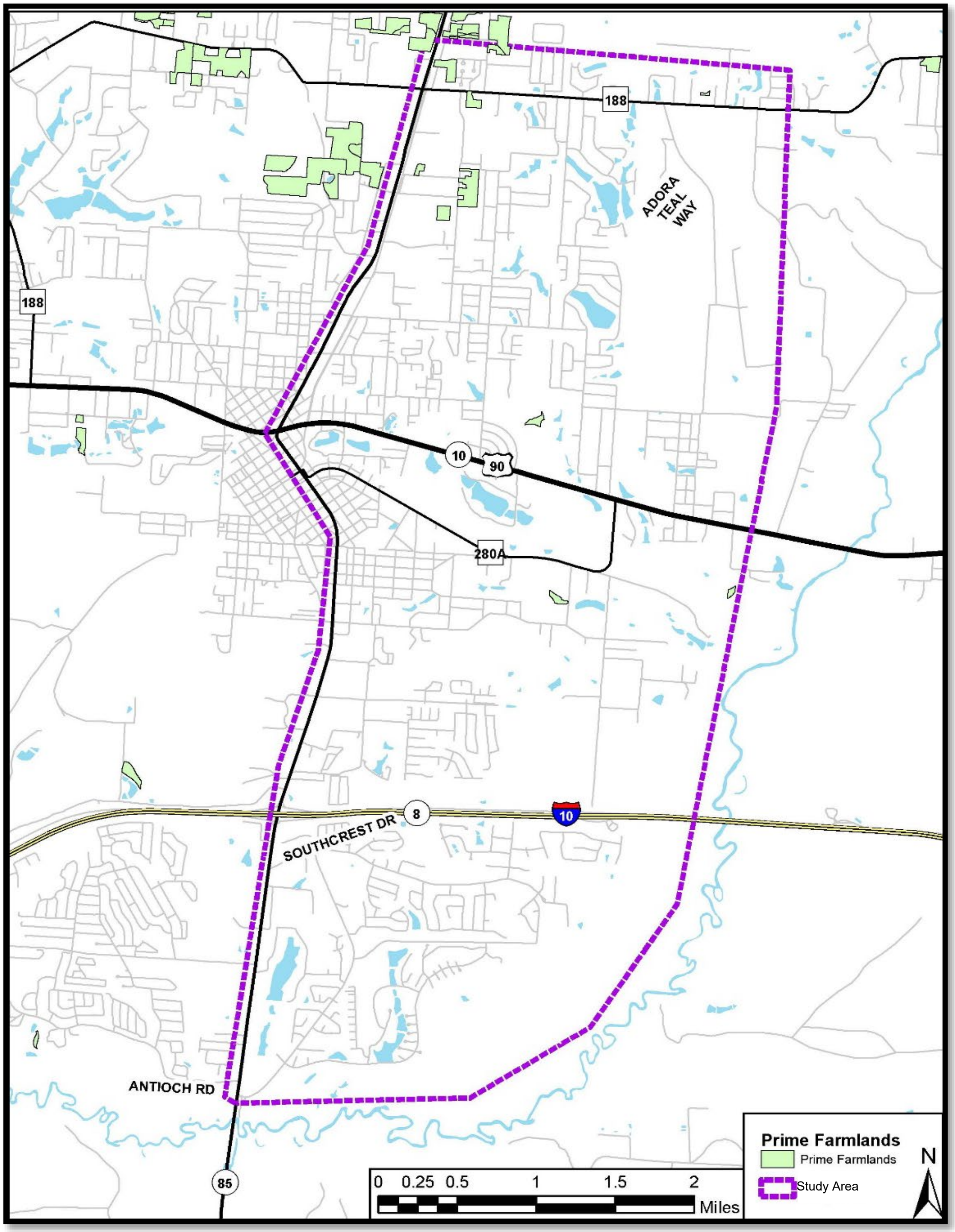
Special Designation

The Shoal River is a designated Outstanding Florida Water. An Outstanding Florida Water (OFW) is a water designated worthy of special protection because of its natural attributes. This special designation is applied to certain waters and is intended to protect existing good water quality. While the Shoal River does not cross the project area, its floodplain and tributaries are within the project areas.

Farmlands

Twelve farmland tracts are located within the project area. One is listed as tree crops, another is other open lands (rural), while the rest are cropland and pastureland. The smallest parcel is 0.58 acres while the largest is 16.15 acres. See **Figure 2-9** for prime farmlands within the study area.

Figure 2-9: Prime Farmlands



2.6.4 Physical

Noise

Noise sensitive sites along the Eastern Crestview Bypass study area were identified to evaluate the potential for traffic noise impacts due to the new roadway. Land use plays an important role in traffic noise analyses. To determine which land uses are "noise-sensitive," the noise impact analysis used the FHWA Noise Abatement Criteria (NAC). These criteria, see **Table 2-9**, are divided into individual land use activity categories. For each of those categories, FHWA has established noise levels at which noise abatement must be considered.

Table 2-9: Noise Abatement Criteria

Activity Category	Description of Activity Category
A	Lands on which serenity and quiet are of extraordinary significance and serve an important public need; and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	Residential.
C	Active sports areas, amphitheaters, auditoriums, campgrounds, cemeteries, daycare centers, hospitals, libraries, medical facilities, parks, picnic areas, golf courses, places of worship, playgrounds, public meeting rooms, public/non-profit institutional structures, radio studios, recording studios, recreational areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	Auditoriums, daycare centers, hospitals libraries, medical facilities, places of worship, public meeting rooms, public/nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical) and warehousing.
G	Undeveloped lands that are not permitted.

Contamination

A desktop review for contaminated sites in the project area was performed using the FDOT Environmental Screening Tool (EST) Area of Interest (AOI) feature. Features such as hazardous waste facilities, onsite sewage, super act risk sources, and storage tank monitoring was found. Impacts associated with each alternative alignment can be found in **Section 3.3.4**.

3 CORRIDOR FEASIBILITY ANALYSIS

3.1 Alternatives

3.1.1 No Build

The No-Build alternative assumes no proposed unplanned improvements and serves as a baseline for comparison against the other alternatives. It, however, includes on-going construction projects and all funded or programmed improvements scheduled to be opened to traffic in the analysis year being considered. These improvements must be part of the OK-WA TPO Cost Feasible (CFP) LRTP, and any developer-funded transportation improvements specified in approved development orders. For this study, this benchmark alternative incorporates significant changes to the roadway network in the study area including capacity improvements to S.R. 85, a new interchange and a western bypass around the City of Crestview. This alternative will be maintained throughout the Feasibility Study.

3.1.2 Build Alternatives

In response to the initial planning screen comment that Eglin AFB did not want an alternative through their land, the proposed build alternatives were considered north of Shoal River. Existing roads and railroad crossings were utilized to the furthest extent possible. Avoidance of the Bob Sikes Airport property was also taken into consideration.

Alternative 1

Alternative 1 begins at the intersection of S.R. 85 and Antioch Road/Live Oak Church Road and goes toward the east, resulting in a realignment of Live Oak Church Road. The alignment then goes to the south of Chanan Drive skirting the existing residential developments in the area. Alternative 1 then curves to the north, west of Shoal River, and follows the most western parcels associated with the Shoal River Buffer area (see **Section 2.6.1**). Alternative 1 crosses I-10 and curves to follow Okaloosa Lane north to U.S. 90. It then goes north through timberland and follows Adora Teal Way until C.R. 188/Airport Road where it turns west and ends at S.R. 85. An option that was considered during the analysis for Alternative 1 was an interchange with I-10 (Alternative 1A) and an overpass at I-10 (Alternative 1B).

Alternative 2

Alternative 2 begins at the intersection of S.R. 85 and Southcrest Drive and goes towards the east, following the existing I-10 right-of-way line. After Primrose Street, Alternative 2 curves to the north, crosses I-10 and follows Okaloosa Lane, Adora Teal Way, and C.R. 188/Airport Road similar to Alternative 1.

Alternative 3

Alternative 3 begins as an interchange at I-10 near the crossing of Alternative 1. It then goes north, follows Okaloosa Lane, Adora Teal Way, and C.R. 188/Airport Road like Alternatives 1 and 2.

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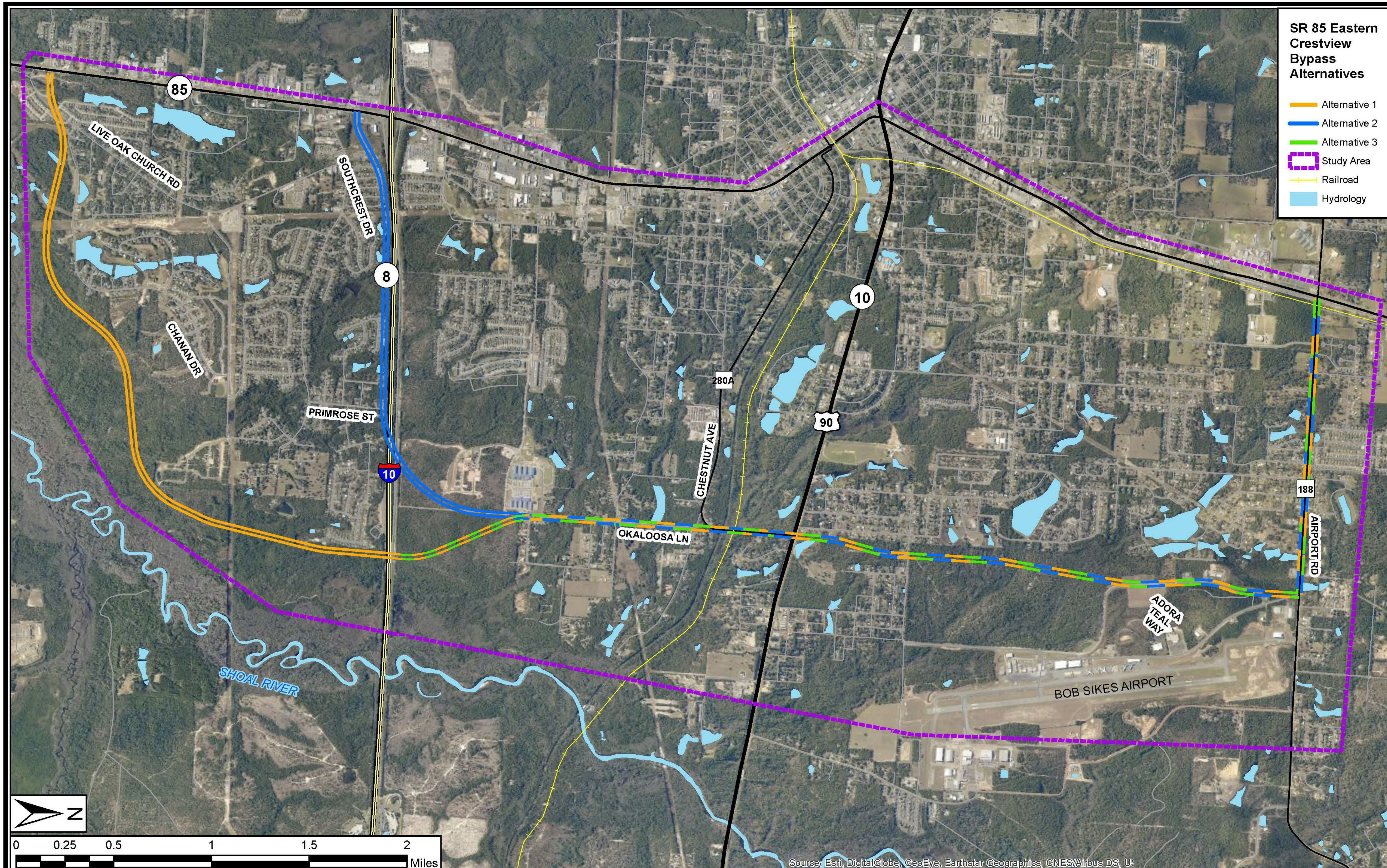
Figure 3-1: Build Alternatives



3.2 Engineering Considerations

3.2.1 Traffic

The existing and forecasted traffic conditions were analyzed for this Eastern Crestview Bypass Feasibility study for the No Build Alternative, and the three Build Alternatives described in **Section 3.1.2**. All build alternatives were initially analyzed as a two-lane roadway, then modified based off the expected volumes along the new corridor. Please see the individual alternatives for an expanded explanation.

Future year conceptual level traffic analysis was based on the FDOT's generalized Level of Service (LOS) volume table for Florida's transitioning areas. **Table 3-1** to **Table 3-5** show the level of service analysis for each alternative based on AADTs. For each segment, the posted speed data was obtained from the FDOT Roadway Characteristics Inventory and Google Street view to help determine the level of service threshold for each segment. The interim year LOS was determined by interpolating the AADTs to interim year and then applying the LOS table threshold accordingly. Please see **Appendix C** for the detailed traffic analysis.

No Build

The No-Build alternative assumes no unplanned improvements and serves as a baseline for comparison against the other alternatives. It includes on-going construction projects and all funded or programmed improvements scheduled to be opened to traffic in the analysis year being considered. These improvements must be part of the OK-WA TPO Cost Feasible (CFP) LRTP, and any developer-funded transportation improvements specified in approved development orders. For this study, this benchmark alternative incorporates significant changes to the roadway network in the study area including capacity improvements to S.R. 85, a new interchange and a western bypass around the City of Crestview. This alternative will be maintained throughout the Feasibility Study.

The year 2040 No-Build model network within the study area was reviewed to ensure that the southern end of the Western Crestview Bypass from Wild Horse Drive to I-10 and the widening of S.R. 85 to six lanes were incorporated as outlined in the adopted 2040 CFP. The 2040 network was then updated to include the new interchange west on I-10 and the Western Bypass realignment from PJ Adams Pkwy to the new interchange according to the latest Cost Feasible Plan amendment report and the discussion with the Department. The addition of these planned projects within the model during the 2040 year resulted in an improvement of the LOS along S.R. 85 south of Antioch Road from 2040 to 2050, as shown in **Table 3-1**.

To develop the year 2050 No-Build model network, the updated 2040 No-Build network which included the 6-lane SR 85 and the Western Bypass (southern end) addition, was used as the starting point. A potential northern segment of the Western Bypass from U.S. 90 to S.R. 85 was added to the 2050 network. See **Figure 3-2** for a figure of the previously mentioned model additions.

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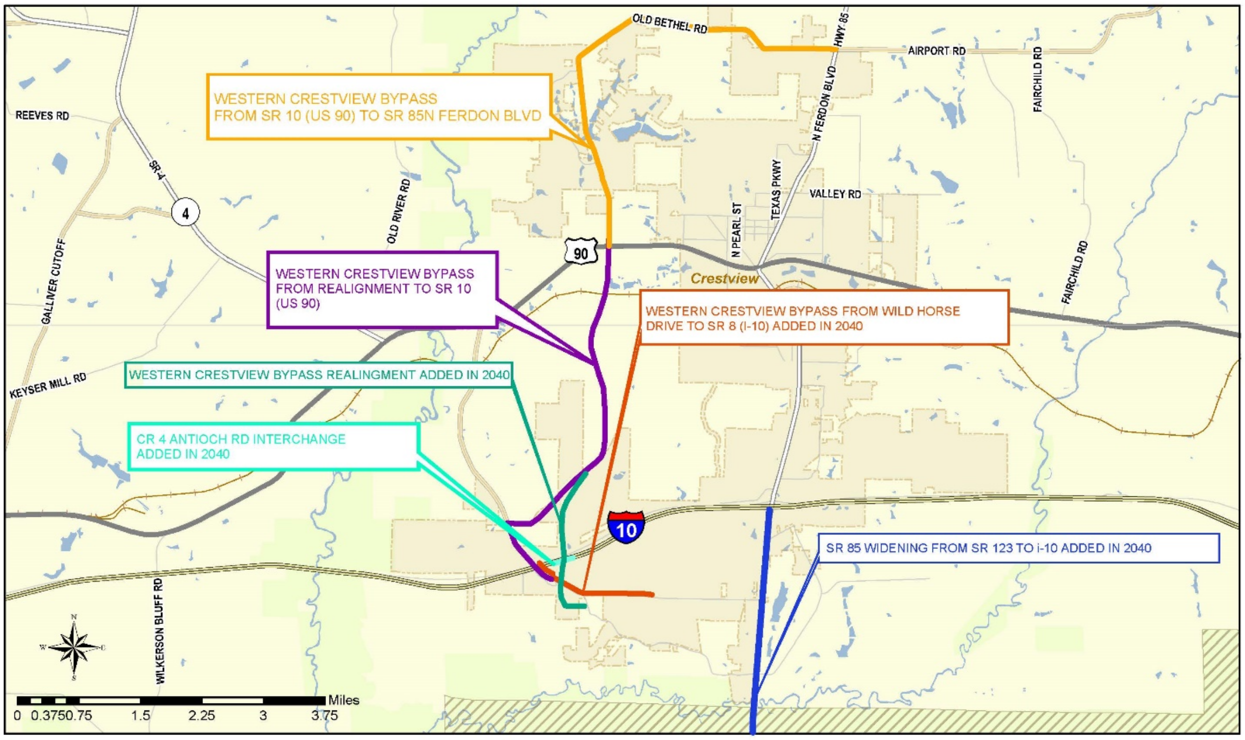
Figure 3-2: Model Additions



Build Alternative 1

Alternative 1 is the longest of the proposed alignments. It has a southern terminus at S.R. 85 and Antioch Road/Shoal River Drive and a northern terminus of S.R. 85 at the intersection of Airport Road/C.R. 188. As mentioned before, two options were considered for Alternative 1: Alternative 1A which included an interchange with I-10 and Alternative 1B which included an overpass at I-10.

The initial iteration of Alternative 1, which was modeled as a 2-lane roadway, resulted in segments of the new corridor to be at a LOS F. For Alternative 1A (interchange), the failing segment was from I-10 to U.S. 90. This substandard LOS began in the opening year 2030 and went through the design year 2050. For Alternative 1B (overpass), two segments had a failing LOS in 2030: S.R. 85 to I-10 and I-10 to U.S. 90. Then in the year 2048, the segment from U.S. 90 to C.R. 188/Airport Road showed a LOS F.

The second iteration of Alternative 1 had varying laneage for Alternatives 1A and 1B. Alternative 1A was coded as two lanes south of I-10, four lanes from I-10 to U.S. 90, and two lanes from U.S. 90 to S.R. 85. This modification resulted in a LOS F from S.R. 85 to I-10 beginning in year 2044 through 2050. A second segment, U.S. 90 to C.R. 188/Airport Road began showing a LOS F in year 2042 to 2050 from U.S. 90 to Airport Road.

Regarding Alternative 1B, the second iteration coded the alternative with four lanes from S.R. 85 to U.S. 90, and two lanes from U.S. 90 to S.R. 85. This resulted in a LOS F beginning in 2043 through 2050 from U.S. 90 to Airport Road.

The third iteration of Alternatives 1A and 1B included four lanes from S.R. 85 to Airport Road.

For Alternative 1A, the LOS on I-10 in the study area remained level B from 2030 to 2050, which is the same as the No-Build alternative. The LOS on S.R. 85 north of U.S. 90 was improved from F to D and E from year 2030 to year 2050 compared to No-Build. The LOS on S.R. 85 north of Long Dr and north of 3rd Ave was also improved from the No-Build scenario. However, the LOS on S.R. 85 south of Duggan Avenue remained a failing LOS. The LOS on U.S. 90 east of S.R. 85 was improved from D to C from year 2031 to year 2039. The new corridors will generally remain level of service C or D.

For Alternative 1B, the LOS on I-10 in the study area remained level B from 2030 to 2050, which is the same as the No-Build alternative. The LOS on S.R. 85 north of U.S. 90 was improved from F to D and E from year 2030 to year 2046 compared to No-Build. The LOS on S.R. 85 north of Long Dr and north of 3rd Ave was also improved from the No-Build scenario. However, the LOS on S.R. 85 south of Duggan Avenue remained a failing LOS. The LOS on U.S. 90 east of Fairchild Rd changed from C to D from year 2038 to year 2049, and to LOS F in year 2050. The new corridors will generally remain level of service C or D.

Build Alternative 2

Alternative 2 is the second longest of the proposed alignments. It has a southern terminus at S.R. 85 and Southcrest Drive and a northern terminus similar to Alternative 1. Alternative 2 includes an overpass at I-10.

The initial iteration of Alternative 2, which was modeled as a 2-lane roadway, resulted in segments of the corridor to be at a LOS F. For Alternative 2, the failing segments were from S.R. 85 to I-10 and I-10 to U.S. 90. This substandard LOS began in year 2031 and went through the design year 2050.

Regarding Alternative 2, the second iteration coded the alternative with four lanes from S.R. 85 to U.S. 90, and two lanes from U.S. 90 to S.R. 85. This resulted in a LOS F beginning in 2046 through 2050 from U.S. 90 to Airport Road.

The third iteration of Alternative 2 included four lanes from S.R. 85 to Airport Road.

For Alternative 2, the LOS on I-10 in the study area remained level B from 2030 to 2050, which is the same as the No-Build alternative. The LOS on S.R. 85 north of U.S. 90 was improved from F to E from year 2030 to year 2050 compared to No-Build. The LOS on S.R. 85 north of Long Dr and north of 3rd Ave was also improved from the No-Build scenario. However, the LOS on S.R. 85 south of Duggan Avenue remained a failing LOS. The LOS on U.S. 90 east of S.R. 85 was improved from D to C from year 2031 to year 2041, while the LOS on U.S. 90 east of Fairchild Rd changed from C to D from year 2037 to year 2046, and to LOS F in year 2047 to year 2050. The new corridors will generally remain level of service C or D.

Build Alternative 3

Alternative 3 is the shortest of the proposed alignments, beginning with an interchange on I-10 and ending with a northern terminus similar to Alternatives 1 and 2.

The initial iteration of Alternative 3, which was modeled as a 2-lane roadway, resulted in segments of the corridor to be at a LOS F. For Alternative 3, the failing segment was from I-10 to U.S. 90. This substandard LOS began in the opening year 2030 and went through the design year 2050.

Regarding Alternative 3, the second iteration coded the alternative with four lanes from I-10 to U.S. 90, and two lanes from U.S. 90 to S.R. 85. This resulted in a LOS F in the 2050 year from U.S. 90 to Airport Road.

The third iteration of Alternative 3 included four lanes from I-10 to Airport Road.

For Alternative 3, the LOS on I-10 in the study area remained level B from 2030 to 2050, which is the same as the No-Build alternative. The LOS on S.R. 85 north of U.S. 90 was improved from F to E from year 2030 to year 2040 compared to No-Build. The LOS on S.R. 85 north of Long Dr and north of 3rd Ave was also improved from the No-Build scenario. However, the LOS on S.R. 85 south of Duggan Avenue remained a failing LOS. The LOS on U.S. 90 east of S.R. 85 was improved from D to C from year 2031 to year 2033. The new corridors will generally remain level of service C or D.

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Table 3-1: Year 2030 – 2050 No-Build Alternative Level of Service Analysis

Roadway	Location	2030 No-Build	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040 No-Build	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050 No-Build
I-10	Mainline West of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Mainline East of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
SR 85	South of Antioch Rd	D	D	F	F	F	F	F	F	F	F	C	C	C	C	C	C	C	C	C	C	C
	South of I-10	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	South of Duggan Ave	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Cobb Ave	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
	South of US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	North of US 90	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Long Dr	E	E	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of 3rd Ave	C	C	C	D	D	D	D	D	D	D	F	D	D	D	D	D	F	F	F	F	F
US 90	West of SR 4 (Baker Hwy)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2 Mile West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Lindberg St	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Main St (East of Lloyd St)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	350 Ft West of SR 85 (Ferdon Blvd)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	375 Ft East of SR 85 (West of McCaskill)	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	West of Valley Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	East of Fairchild Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
PJ Adams Pkwy	850 Ft West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Antioch Rd	300 Ft West of SR 85	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	South of US 90	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
New Corridor	Segment South of I-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Segment from I-10 to US 90	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Segment from US 90 to Airport Rd	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Airport Road East of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

Table 3-2: Year 2030 – 2050 Build Alternative 1A Level of Service Analysis

Roadway	Location	2030 Alt 1A	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040 Alt 1A	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050 Alt 1A
I-10	Mainline West of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Mainline East of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
SR 85	South of Antioch Rd	F	F	F	F	F	F	F	F	F	F	C	C	C	C	C	C	C	C	C	C	C
	South of I-10	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	South of Duggan Ave	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Cobb Ave	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	South of US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	North of US 90	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	E	E	E	E
	North of Long Dr	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	North of 3rd Ave	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
US 90	West of SR 4 (Baker Hwy)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2 Mile West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Lindberg St	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Main St (East of Lloyd St)	D	D	D	D	D	D	D	D	D	D	E	D	D	D	D	D	D	D	D	D	D
	350 Ft West of SR 85 (Ferdon Blvd)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	375 Ft East of SR 85 (West of McCaskill)	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D
	West of Valley Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	East of Fairchild Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
PJ Adams Pkwy	850 Ft West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Antioch Rd	300 Ft West of SR 85	E	E	E	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	South of US 90	D	D	D	D	E	E	E	E	E	E	F	E	F	F	F	F	F	F	F	F	F
New Corridor	Segment South of I-10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Segment from I-10 to US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D
	Segment from US 90 to Airport Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Airport Road East of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D

Table 3-3: Year 2030 – 2050 Build Alternative 1B Level of Service Analysis

Roadway	Location	2030 Alt 1B	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040 Alt 1B	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050 Alt 1B
I-10	Mainline West of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Mainline East of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
SR 85	South of Antioch Rd	F	F	F	F	F	F	F	F	F	F	C	C	C	C	C	C	C	C	C	C	C
	South of I-10	F	F	F	F	F	F	F	F	F	F	D	D	F	F	F	F	F	F	F	F	F
	South of Duggan Ave	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Cobb Ave	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	South of US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	North of US 90	D	D	D	D	D	E	E	E	E	E	E	E	E	E	E	E	E	F	F	F	F
	North of Long Dr	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E
	North of 3rd Ave	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
US 90	West of SR 4 (Baker Hwy)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2 Mile West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Lindberg St	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Main St (East of Lloyd St)	D	D	D	D	D	D	D	D	D	D	E	D	D	D	D	D	D	D	D	D	D
	350 Ft West of SR 85 (Ferdon Blvd)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	375 Ft East of SR 85 (West of McCaskill)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	West of Valley Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	East of Fairchild Rd	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	F
PJ Adams Pkwy	850 Ft West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Antioch Rd	300 Ft West of SR 85	E	E	E	E	E	E	E	E	E	F	E	F	F	F	F	F	F	F	F	F	F
	South of US 90	D	E	E	E	E	E	E	E	E	E	F	F	F	F	F	F	F	F	F	F	F
New Corridor	Segment South of I-10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Segment from I-10 to US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Segment from US 90 to Airport Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Airport Road East of SR 85	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D

Table 3-4: Year 2030 – 2050 Build Alternative 2 Level of Service Analysis

Roadway	Location	2030 Alt 2	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040 Alt 2	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050 Alt 2
I-10	Mainline West of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Mainline East of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
SR 85	South of Antioch Rd	F	F	F	F	F	F	F	F	F	F	C	C	C	C	C	C	C	C	C	C	C
	South of I-10	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	South of Duggan Ave	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Cobb Ave	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	South of US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	North of US 90	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
	North of Long Dr	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	North of 3rd Ave	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
US 90	West of SR 4 (Baker Hwy)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2 Mile West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Lindberg St	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Main St (East of Lloyd St)	D	D	D	D	D	D	D	D	D	D	E	D	D	D	D	D	D	D	D	D	D
	350 Ft West of SR 85 (Ferdon Blvd)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	375 Ft East of SR 85 (West of McCaskill)	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D
	West of Valley Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	East of Fairchild Rd	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	F	F	F	F
PJ Adams Pkwy	850 Ft West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Antioch Rd	300 Ft West of SR 85	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	South of US 90	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
New Corridor	Segment South of I-10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Segment from I-10 to US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Segment from US 90 to Airport Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Airport Road East of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D

Table 3-5: Year 2030 – 2050 Build Alternative 3 Level of Service Analysis

Roadway	Location	2030 Alt 3	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040 Alt 3	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050 Alt3
I-10	Mainline West of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Mainline East of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
SR 85	South of Antioch Rd	D	F	F	F	F	F	F	F	F	F	C	C	C	C	C	C	C	C	C	C	C
	South of I-10	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	South of Duggan Ave	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Cobb Ave	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E
	South of US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	North of US 90	E	E	E	E	E	E	E	E	E	E	E	F	F	F	F	F	F	F	F	F	F
	North of Long Dr	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	E	E	E
	North of 3rd Ave	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D
US 90	West of SR 4 (Baker Hwy)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2 Mile West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Lindberg St	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Main St (East of Lloyd St)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	350 Ft West of SR 85 (Ferdon Blvd)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	375 Ft East of SR 85 (West of McCaskill)	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	West of Valley Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	East of Fairchild Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
PJ Adams Pkwy	850 Ft West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Antioch Rd	300 Ft West of SR 85	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	South of US 90	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	E
New Corridor	Segment South of I-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Segment from I-10 to US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Segment from US 90 to Airport Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Airport Road East of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

3.2.2 Highway Design

As shown in **Section 3.2.1**, the Build Alternatives will provide a 4-lane typical section from the beginning of each alternative to Airport Road. Airport Road is being proposed to maintain as a 2-lane roadway. To reduce the need for right-of-way acquisition adjacent to residential areas, an urban typical section is being proposed for the 4-lane segments. The improvements analyzed for the four lane segments will include 11-foot wide travel lanes, 7-foot buffered bicycle lanes, and 6-foot wide sidewalks. This typical is similar to that which is being proposed for the PJ Adams/Antioch Road Western Bypass south of I-10. The typical section for the new corridor is shown in **Figure 3-3**. The typical section for C.R. 188/Airport Road is shown in **Figure 3-4**.

The design criteria utilized for the build alternatives is the current Florida Greenbook (FGB), since the expectation is that the proposed alternatives will be a County road, similar to the PJ Adams/Antioch Western Bypass. In order to provide a rural typical section and meet some of the constraints of the adjacent properties, the proposed roadway would be required to be superelevated along all of the curves. The first curve located along Alternative 2 should be posted at a lower speed due to the curvature. The remainder of the other curves along all the Alternatives would not exceed a 0.05 superelevation rate.

The typical section shown in **Figure 3-3**, includes the criteria outlined in **Table 3-6** which was drawn from the FGB. Since this roadway is anticipated to be a locally owned and maintained route, context classification designation is not applicable. However, if this roadway becomes a state road, the typical section aspects shown in this section correspond to a context classification of Suburban Residential (C3R). Concept Plans are shown in **Appendix D**.

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Figure 3-3: Build Alternative 4 Lane Preliminary Typical Section

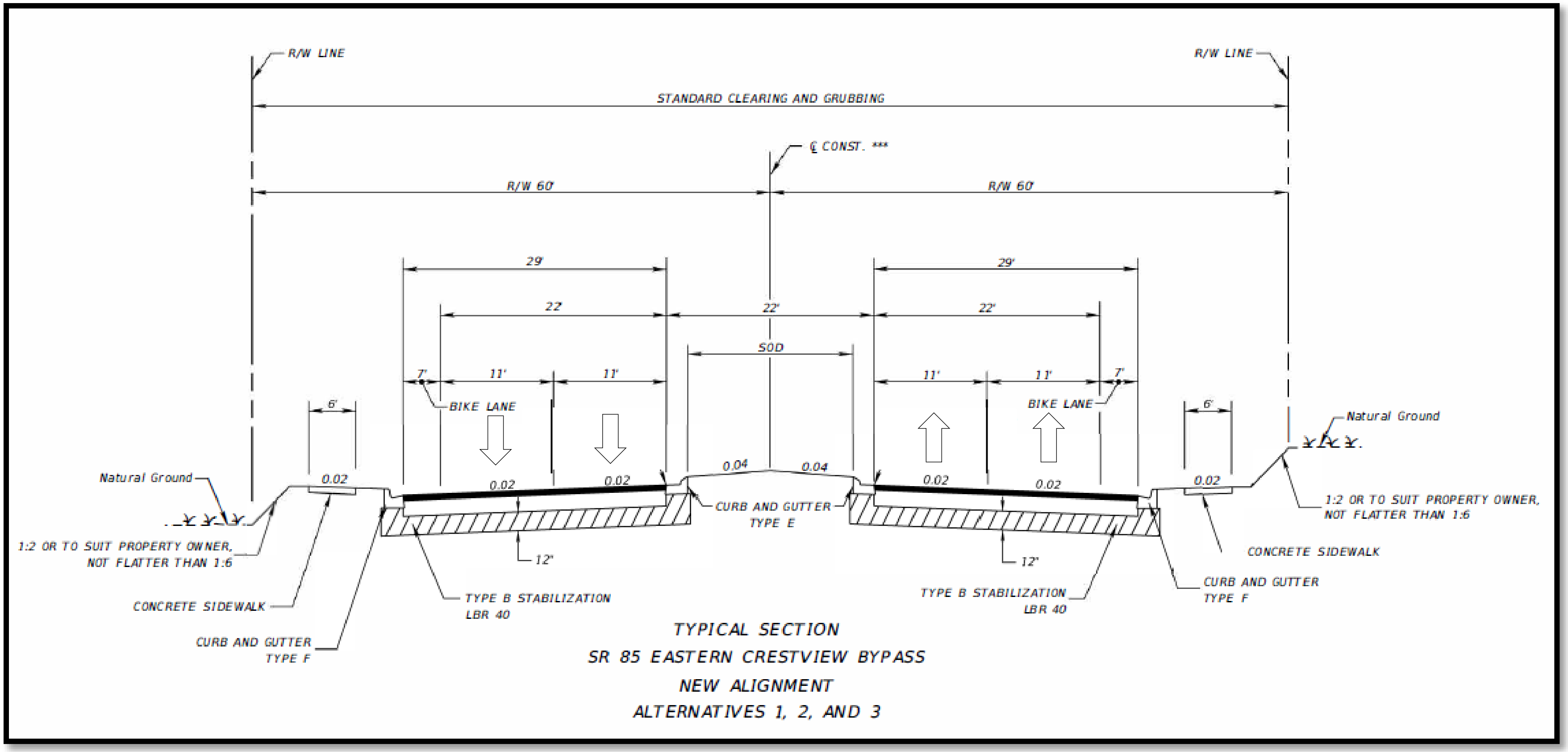


Figure 3-4: C.R. 188/Airport Road Typical Section

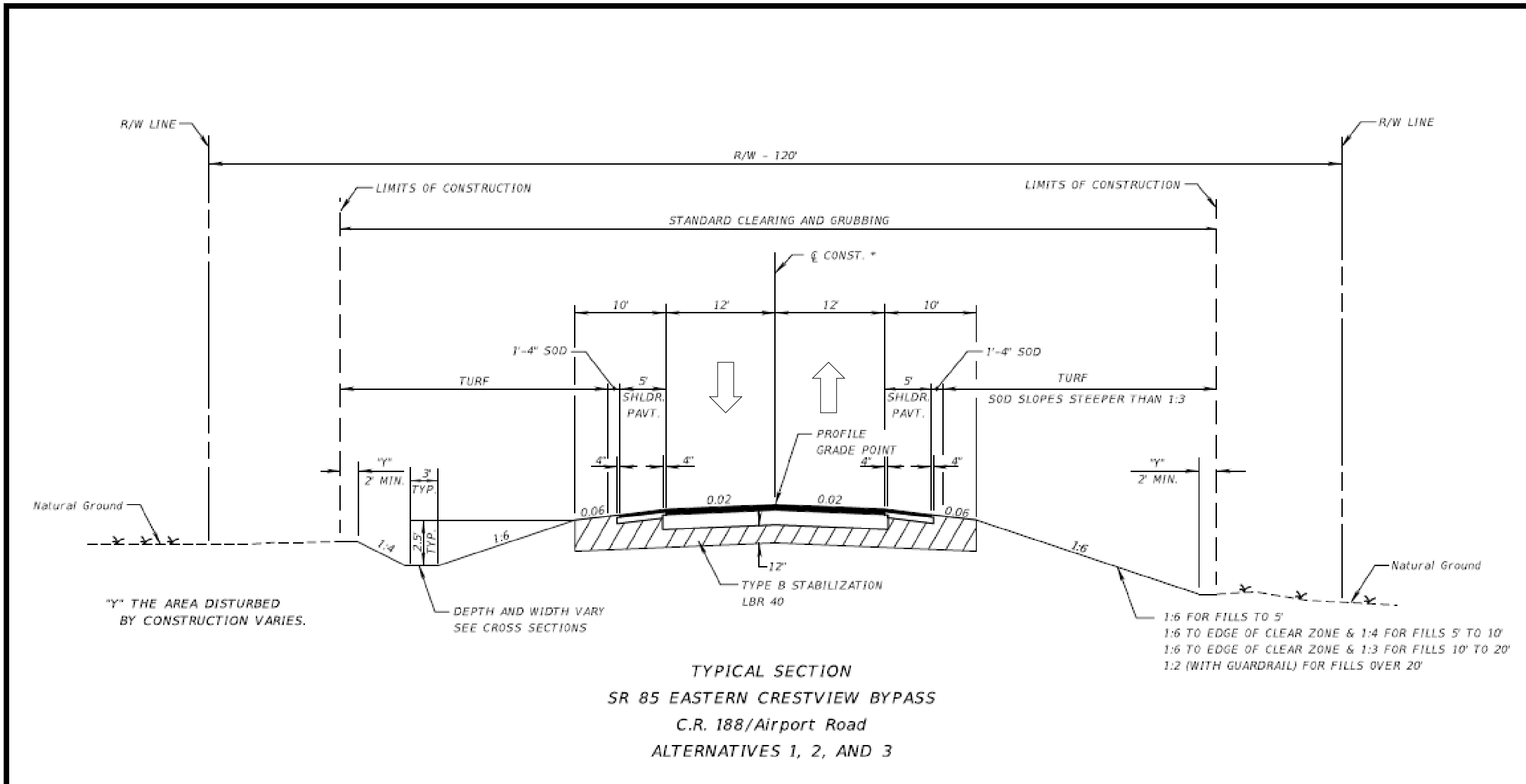


Table 3-6: Design Criteria

DESIGN ELEMENT	DESIGN STANDARD		SOURCE
Anticipated Functional Classification	Collector		
Design Speed			FGB Chapter 3, Table 3-1
Eastern Crestview Bypass	45-50 mph		
Side Roads	25 mph (min.)		
Lane Widths	Through Lane	Turn Lane	FGB Chapter 3, Table 3-10
	12’	12'	
Median Width			FGB Chapter 3, Table 3-14
Rural Highway	22’		
Urban Streets – 45 mph or less	15.5’		
Urban Streets – 50 mph	19.5’		
Roadway Cross Slope	0.02		FGB Chapter 3, C.7.b.2
HORIZONTAL ALIGNMENT			
Superelevation	D max	R min	FGB Chapter 3, C.4.b
Urban (45 mph), e = NC	2º45'	2083'	
Urban (45 mph), e = RC	6º00'	955'	
Urban (45 mph), Max e = 5%	8º15'	694'	
Rural (50 mph), e = NC	0º30'	11,459'	
Rural (50 mph), e = RC	0º45'	7,639'	
Rural (50 mph), Max e = 10%	8º15'	716'	
Clear Zone Width			FGB Chapter 3, Table 3-15
Flush Shoulder (50 mph)	18’		
Curbed (45 mph)	4’		
Roadside Slopes	1:4 Avg		FGB Chapter 3, C.7.f.2
	1:3 Max in Clear Zone		
VERTICAL ALIGNMENT			
Maximum Profile Grade			FGB Chapter 3, Table 3-7
Rural (50 mph)	6%		
Urban (45 mph)	8%		
Minimum Stopping Sight Distance			FGB Chapter 3, Table 3-6
45 mph	360		
50 mph	425		
Maximum Change in Grade w/o Vertical Curve			FGB Chapter 3, Table 3-8
45 mph	0.7		
50 mph	0.6		
Crest Vertical Curve			FGB Chapter 3, Table 3-9
45 mph	61		
50 mph	84		
Sag Vertical Curve			FGB Chapter 3, Table 3-9
45 mph	79		
50 mph	96		

3.2.3 Structures

The proposed structures along all of the alternatives will be related to tributaries of Shoal River and the overpass of I-10. A hydraulics analysis will be required to determine the need of the tributaries. If a box culvert is required, the proposed roadway shoulder width should be carried across the structure. The vertical clearance requirement above I-10 for new construction is 16.5'.

3.2.4 Utilities

The 18 UAO's have a variety of buried and overhead utilities throughout the corridor, see **Table 2-3**. It is anticipated that all alternatives will require utility modifications.

Alternative 1 is anticipated to impact a lift station and electrical distribution lines along Live Oak Church Road, near S.R. 85. It will cross two electrical transmission easements, one south of Chanan Drive and one east of Airmans Memorial Road. Coordination will need to occur with the property utility owner to determine vertical and horizontal clearance needs. However, impacts to the structures are not anticipated with the alignment being proposed for Alternative 1.

Alternative 2 is anticipated to impact lighting along Southcrest Drive, as well as electrical and communication lines on Oak Terrace Drive. The remainder of the impacts associated with Alternatives 1, 2, and 3 are similar.

All three alternatives have the potential to impact the FDOT fiber along I-10. They will impact electrical distribution lines along Okaloosa Lane and Adora Teal Way. They cross one transmission line on Okaloosa Lane near Aplin Road and one along C.R. 188/Airport Road west of Philip Road. Coordination will need to occur with the property utility owner to determine vertical and horizontal clearance needs adjacent to the transmission lines. However, impacts to the structures are not anticipated with the alignment being proposed for the three alternatives.

3.2.5 Project Cost

Construction

A detailed construction cost was performed for each Build Alternative using the FDOT's Long Range Estimate program. The construction cost includes resurfacing of C.R. 188/Airport Road. The estimates do not include any improvements on S.R. 85, south of I-10, due to the 6-laning of this roadway segment being within the CFP for this design year. The summaries of the construction cost are located in **Appendix F**.

- Alternative 1A – $93,203,000
- Alternative 1B – $83,507,000
- Alternative 2 – $70,209,000
- Alternative 3 – $57,890,000

Right-of-way

A preliminary right-of-way estimate was conducted for each Build Alternative. **Table 3-7** outlines the preliminary right-of-way impacts. These estimates utilize the Okaloosa County property appraiser market value and include an assumed percentage for right-of-way support costs, right-of-way operational costs, land costs, and relocation costs. Alternative 2 would result in an impact to a billboard and is not included in the below cost estimate but is shown as a business relocation in the table.

Table 3-7: Right-of-way Estimates

Alternative	Number of Impacted Parcels	Number of Business Relocations	Number of Residential Relocations	Total Cost
1	149	0	12	$16,267,700
2	190	1	29	$23,460,000
3	118	0	7	$7,578,800

3.3 Environmental Considerations

The following section outlines impacts associated with widening the Eastern Crestview Bypass through a desktop analysis.

3.3.1 Sociocultural Effects

Social

This project will be developed without regard to race, color, national origin, age, sex, religion, disability, or family status. A proactive public involvement program will be implemented to ensure that all residents and businesses along the proposed corridor can provide input to the project.

This project includes analyzing alternatives east of the existing S.R. 85 corridor. Corridors were developed to follow existing roadways and railroad crossings where possible, and to avoid the developed commercial S.R. 85 corridor, as well as densely populated subdivisions. Three corridors were studied and due to their proximity, their potential social impacts are similar with the exception of the southern portion of the corridors. Any proposed new corridor will result in right-of-way impacts, so a review of the protected populations in the area, as well as a detailed Conceptual Stage Relocation Plan, will be completed during the PD&E Study.

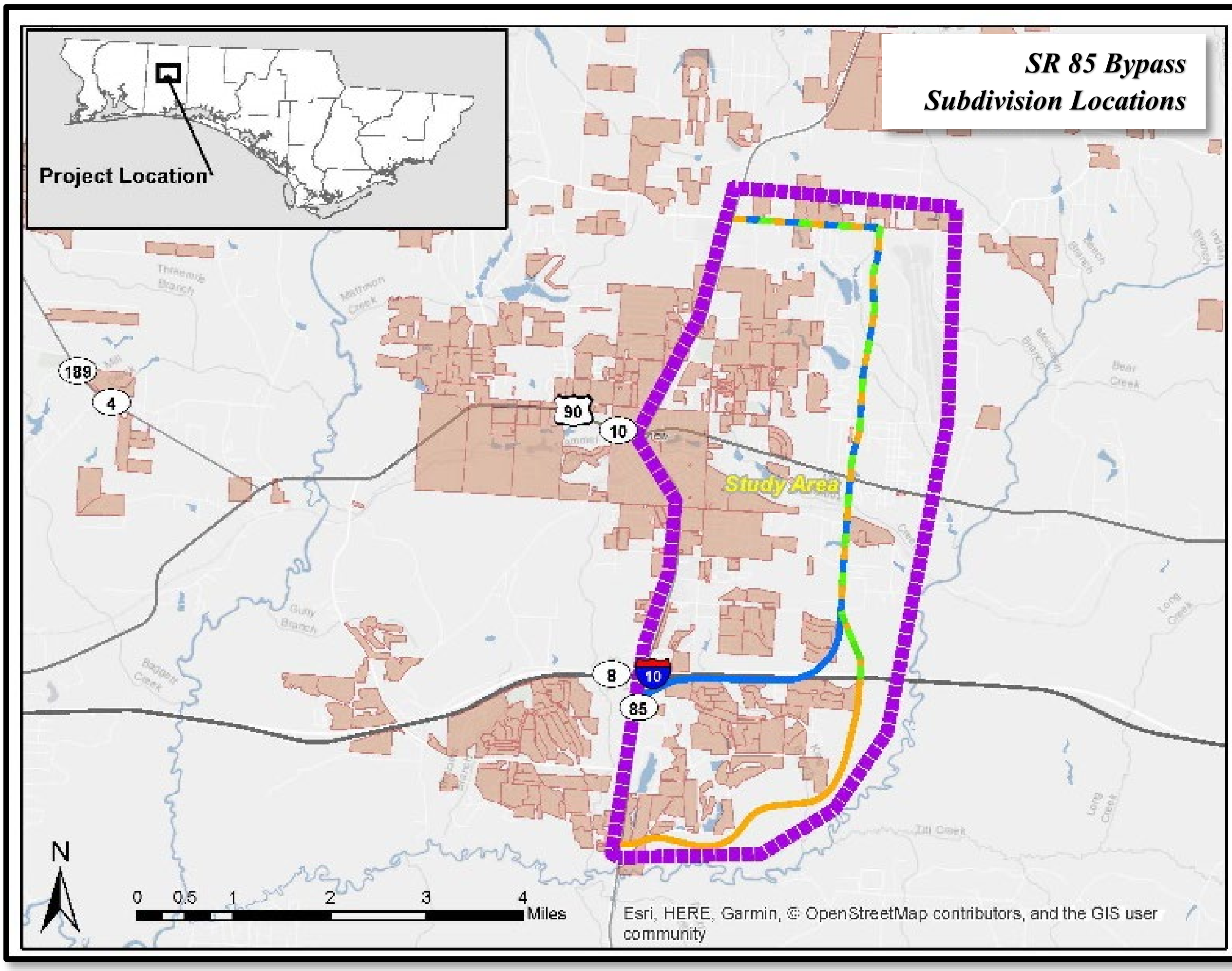
Regarding specific social impacts, a 500-foot buffer was initially utilized to analyze impacts but was updated to include the entire study area (See **Section 2.6.1**) to ensure a complete analysis was done. The results of the buffer area around the three alternatives included the following:

- 384 households with a population of 1,019 people.
- Median household income is $61,510.
- Several households are below poverty level (10.60%).
- Minority population makes up 18.74% of the total population.
- 61 people (5.99%) have a "Hispanic or Latino of Any Race" ethnicity.
- Three blocks with less than 70% White population

Regardless of the alternative corridor chosen, this project will likely not disproportionally impact the protected populations reviewed. Census Block 020700-1 had the largest minority population in the study area with 19.9% Multi Race and 16.9% Black or African American populations. This block is not expected to be impacted. Block 020600-3 included 26.8% Black or African American. The expected improvements in this block will consist of existing roadway widening which, though reviewed as part of this project, is currently in the Work Program and being studied in the S.R. 85 Widening PD&E Study (220171-2-22-01). Finally, Block 020700-4 includes 11.5% Black or African American, 9.87% Asian and 7.18% Multi Race. In this block, the alternatives were developed to follow existing roadways and to avoid subdivision developments to the extent practical. Specific relocations and noise impacts in these areas will be studied during the PD&E Study for this project.

A total of 115 Subdivisions were found within the study area. However, shown in **Figure 3-5**, impacts are expected to be limited depending on the alternative. Alternative 2 impacted the largest number of subdivisions (22) due to its location along the interstate. Alternative 1 impacted 4 south of the interstate, and all alternatives impacted eight subdivisions north of the interstate, with seven located along Airport Road.

Figure 3-5: Okaloosa County Subdivision Location Map



Land Use

To comply with the Department's policy, an initial GIS analysis was done. This analysis reflected an expected land use change along most of the project alternatives.

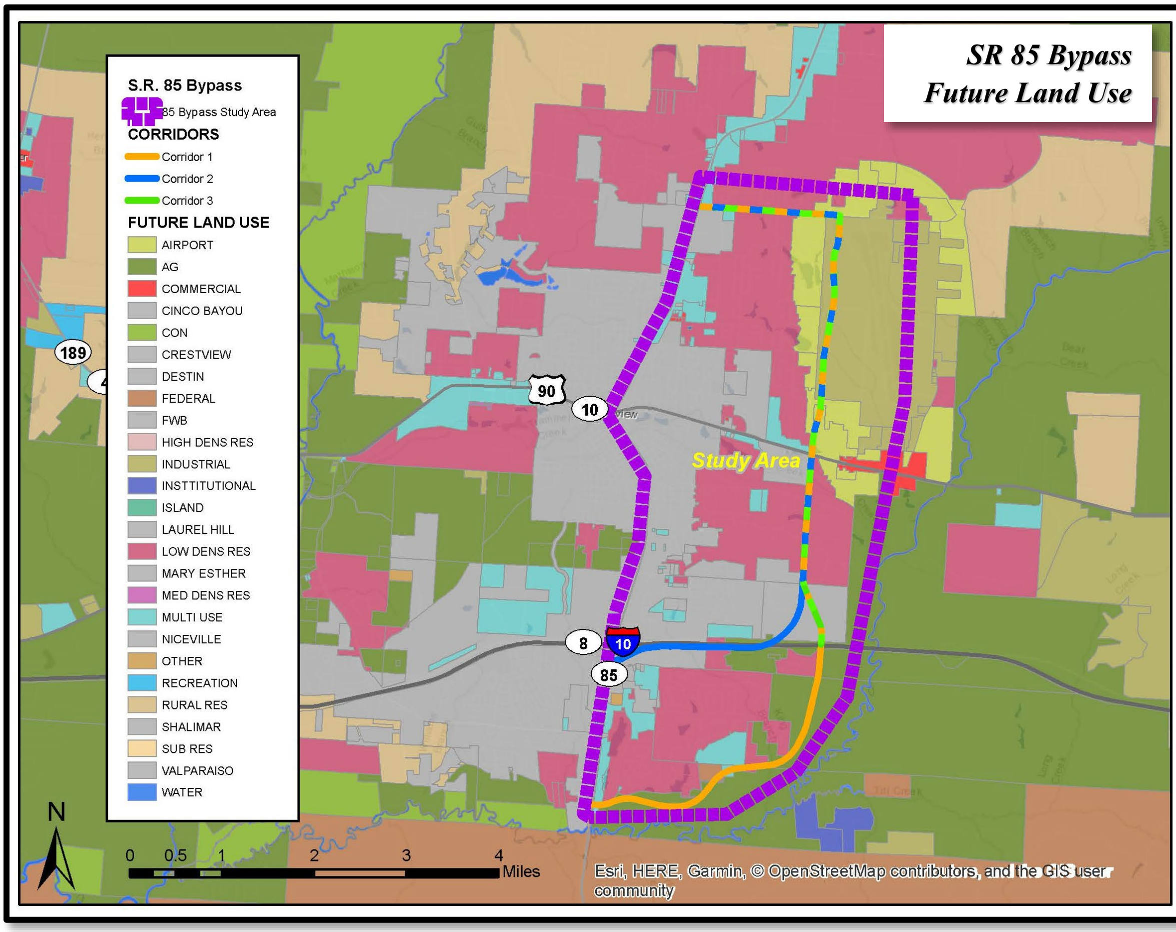
Alternative 1 is expected to result in a change of land use from Agriculture in the areas adjacent to the Shoal River. This area is within the County's overlay for the Eglin AFB Boundary, so regulation of this area will be heavily monitored. Alternative 1 also goes through land purchased for the intent of the Shoal River Buffer by Okaloosa County.

Alternative 2 is expected to modify the existing land use south of I-10 from Low Density Residential and Agriculture.

Alternatives 1, 2, and 3 are expected to modify the existing land uses north of I-10 and will likely expand the current Airport Compatibility into the shown Low Density Residential.

Figure 3-6 illustrates the Okaloosa Future Land Use Map. A portion of the Crestview City Limits (in grey) are located within 500 ft. of the alternatives. This area includes Commercial designations along S.R. 85 and Low Density Residential north of the interstate in both the current and future land use maps.

Figure 3-6: Okaloosa County Future Land Use Map



The Okaloosa County Future Land use outlines four distinct uses adjacent to the corridors. The following uses are similar to the current land use designations: Agriculture, Low Density Residential, Airport, and Industrial, with Commercial along S.R. 85 within the city limits.

3.3.2 Cultural Resources

Historic Sites/Districts

A cultural resource assessment including archaeological and architectural history should be conducted during the PD&E stage. Unrecorded historic resources within the analyzed APE will be recorded and assessed at this time. The existing and proposed right-of-way will also be subjected to subsurface testing at intervals according to the probability of identifying archaeological material.

Two structures along C.R. 188/Airport Road are adjacent to the existing roadway and could potentially be affected by all three Alternative alignments. Neither structure has been evaluated by SHPO, see **Figure 2-5**.

Recreational Areas

Alternatives 1 and 3 will not impact any of the previously outlined 6 parks within the study area. Alternative 2 is anticipated to impact the Beaver Creek Park. Expected impacts due to the proposed alignment include picnic facilities and fishing pond. The park would not be able to function at its current state with Alternative 2.

3.3.3 Natural Resources

As shown in **Section 2.6.3**, impacts along the project area related to Waterways, Protected Species and Habitat, Essential Fish Habitat, Special Designation and Farmlands are not anticipated to vary between the discussed alternative alignments.

Wetlands

Wetlands, both forested and non-forested, were identified using NWFWMD (2011)) land use cover data. Wetlands were identified at eleven locations along the project corridor (**Figure 3-7**). More detailed figures of the different wetland types can be found in **Appendix G**. Wetland impacts resulting from the alignment alternatives are presented in **Table 3-8**.

Wetlands 1, 2, 3, 4, and 5 are concurrent with all proposed Alternative alignments. Wetland 1 is approximately 0.5 miles south of Airport Road. It is located on the east of the project corridor, just west of the Bob Sikes Airport. Wetland 1 is an area of freshwater forested wetland (PF07C) associated with an unnamed stream flowing from north to south.

Wetland 2 is just south of Wetland 1 and associated with the Piney Woods Creek tributary.

Wetland 3 is approximately 0.3 miles South of U.S. 90 and north of the CSX Railroad. This freshwater forested wetland flows west to east along Mill Creek and is associated with the Shoal River floodplain.

Just to the south of Wetland 3, Wetland 4 also consists of freshwater forested/shrub wetland. On the east of the project corridor just south of Chestnut Ave, it flows from west to east and is associated with the Shoal River floodplain.

Approximately 0.5 miles south of Wetland 4, Wetland 5 crosses the project corridor south of the northern leg of Earl Kennedy Road.

Wetlands 6, 7 and 8 borders both north and south of Alternative 2 and are located along I-10. In this location, approximately .75 to 1.5 miles east of S.R. 85, freshwater forested/shrub wetland flows north to south and is associated with the Shoal River floodplain.

Wetlands 9, 10, and 11 follow Alternative 1 south of I-10. Wetland 9 runs from I-10 south 2.74 miles. It consists of forested/shrub wetland its associated with the Shoal River Floodplain. Just to the west, Wetland 10 runs along Shoal River Drive to just east of Live Oak Church Road and are also forested shrub type. Wetland 11 runs north to south from Dugan Pond to Shoal River and consist of forested shrub type.

Table 3-8: Wetlands Impacts For Each Alternative

Wetland	Alternative 1		Alternative 2		Alternative 3	
	Within 500-foot Buffer	Within Right-of-way	Within 500-foot Buffer	Within Right-of-way	Within 500-foot Buffer	Within Right-of-way
1	20.00	1.76	20.00	1.76	20.00	1.76
2	16.70	1.57	16.70	1.57	16.70	1.57
3	22.05	0.58	22.05	0.58	22.05	0.58
4	6.78	0.61	6.78	0.61	6.78	0.61
5	5.34	0.42	5.34	0.42	5.34	0.42
6	0.00	0.00	3.77	0.007	0.00	0.00
7	0.00	0.00	3.50	0.16	0.00	0.00
8	0.00	0.00	8.24	0.07	0.00	0.00
9	160.78	14.95	0.00	0.00	0.00	0.00
10	119.61	14.30	0.00	0.00	0.00	0.00
11	6.74	0.84	0.00	0.00	0.00	0.00
Total Acreage	**358**	**35.03**	**86.40**	**5.18**	**70.9**	**4.94**

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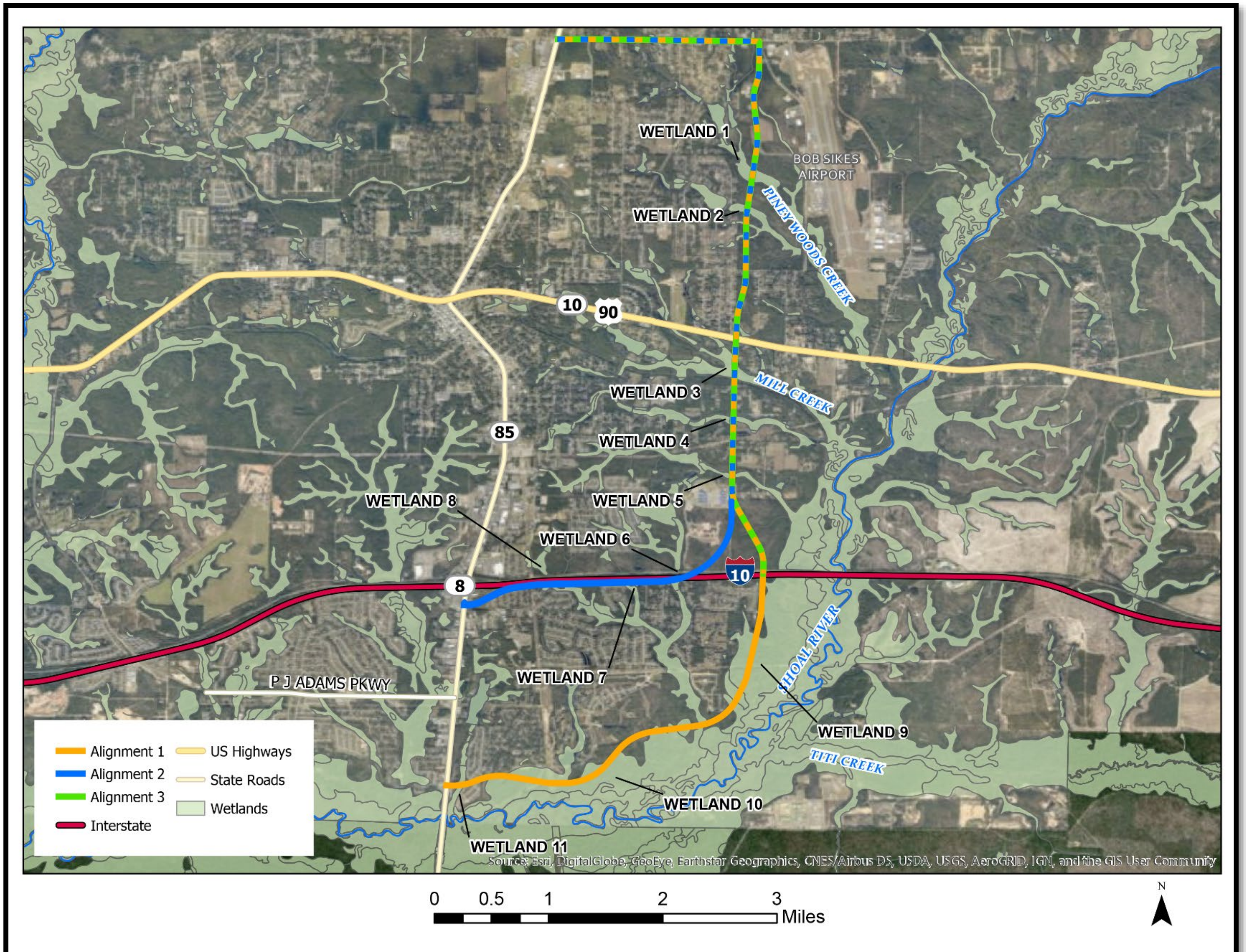
Figure 3-7: Wetlands Overview



Floodplains

The proposed alternatives cross floodplains associated with the tributaries of the Shoal River at 5 locations, shown in **Figure 3-8** and **Appendix H**. The first crossing, Floodplain 1, is Piney Woods Creek and is approximately 1.08 miles south of Airport Road. This location is concurrent to all three alternatives and is in floodzone A. The creek originates north from John Stafford Pond and terminates at the Shoal River to the south east. Approximately 0.4 miles south of Piney Woods Creek, Middle Creek crosses all three alternatives from east to west, however, no floodplains are associated with Middle Creek. Approximately 0.7 miles to the south east, Middle Creek and Piney Woods Creek converge.

Just south of U.S. 90, the three alternatives cross Mill Creek, a tributary of Shoal River, and Floodplain 2. Floodplain 2 is located within floodzone A. The two converge approximately 1.3 miles south east of the Mill Creek project crossing.

The Shoal River floodplain along with the creek south of Dugan Pond cross the project area beginning at S.R. 85 and continuing 1.4 miles to the west. The floodplains associated directly with Shoal River are known as Floodplain 3, 4, and 5, and are all located in floodzone AE. Floodplain impacts resulting from the alignment alternatives are presented in **Table 3-9**.

Table 3-9: Floodplains Within the Project Area

Floodplain	Alternative 1		Alternative 2		Alternative 3	
	Within 500-foot Buffer	Within Right-of-way	Within 500-foot Buffer	Within Right-of-way	Within 500-foot Buffer	Within Right-of-way
1	22.50	1.93	22.5	1.93	22.5	1.93
2	20.08	2.03	20.08	2.03	20.08	2.03
3	28.26	0.12	0.00	0.00	0.00	0.00
4	10.62	1.16	0.00	0.00	0.00	0.00
5	125.04	12.44	0.00	0.00	0.00	0.00
Total Acreage	**195.88**	**17.68**	**42.58**	**3.96**	**42.58**	**3.96**

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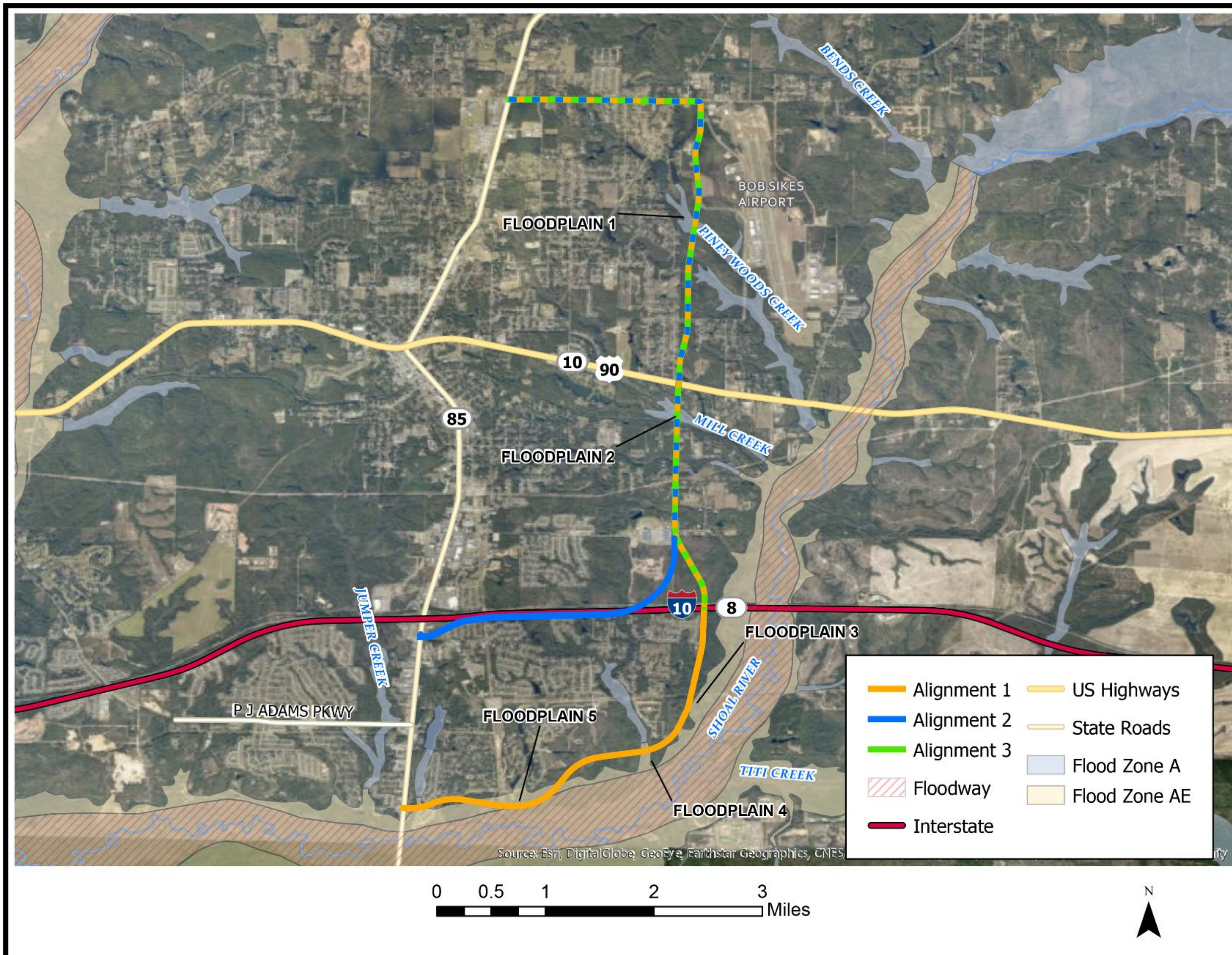
Figure 3-8: Floodplain Overview



Waterways

As outlined in **Section 2.6.3**, the S.R. 85 Eastern Crestview Bypass crosses tributaries of Shoal River, such as King Branch, Mill Creek, and Piney Woods Creek. However, since the waterways outlined above are considered non-navigational, the proposed alternatives would not cause adverse navigational effects.

Protected Species and Habitat

As mentioned earlier**,** no critical habitat exists within the proposed widening areas for the alternative alignments. As such, it is unlikely that any of the alternative alignments would result in adverse impacts to protected species and habitat.

Essential Fish Habitat

Impacts to EFH are not anticipated with the proposed alternatives.

Special Designation

As outlined in **Section 2.6.3**, the Shoal River is designated as an OFW. The Shoal River itself is not within the study area, however, tributaries of the river will be impacted with the proposed alternatives. Special attention should be given to those areas which directly discharge to those tributaries, especially considering water quality.

Farmlands

Two farmland tracts are located adjacent to all three alternatives. Farmland 1 is located on the north side of Airport Road and just to the east of S.R. 85. The flag shaped farmland is 7.7 acres and considered cropland/pastureland. Farmland 2 is approximately 0.25 miles east of S.R. 85 and borders Airport Road to the south. The area of this tract is 4.3 acres and is considered tree crops.

3.3.4 Physical Effects

Noise

To determine the potential impacts for the three alternatives, a GIS desktop analysis mapped all noise receptors within 200 feet of each proposed roadway corridor utilizing Okaloosa County parcel data. The results of the potential noise impact comparison for the three widening alternatives are provided in **Table 3-10**.

- Alternative 1 = 147 potential impacts
- Alternative 2 = 185 potential impacts
- Alternative 3 = 108 potential impacts

Table 3-10: Potential Noise Impacts Comparative Matrix

Floodplains	Alternative 1	Alternative 2	Alternative 3
Activity Category B Receptors (Residential)	136	170	98
Activity Category C Receptors (Non-residential)	11	15	10
Activity Category E Receptors (Office/Restaurants/Hotels)	0	0	0
Total Impacts	**147**	**185**	**108**

Once the PD&E stage begins and an alternative is selected for further evaluation, a more detailed noise analysis should be performed and documented in a project Noise Study Report (NSR).

Contamination

The following table summarizes the contamination features found with the EST AOI tool within a 500-foot buffer along the three alternative alignments.

Table 3-11: Potential Contamination Features

Floodplains	Alternative 1	Alternative 2	Alternative 3
Abandoned Rails	1	1	1
Hazardous Waste Facility	1	2	1
Onsite Sewage	150	132	105
Petroleum Contamination Monitoring Site	1	4	1
Storage Tank Contamination Monitoring	3	5	2
Super Act Risk Source	1	4	1
Total Features	**157**	**148**	**111**

4 PUBLIC INVOLVEMENT

The purpose of a public involvement program is to establish and maintain communication with the public at-large and individuals and agencies concerned with the project and its potential impacts. To ensure open communication and agency input, the project team will present to the OK-WA TPO Board, the Technical Coordinating Committee (TCC), and the Citizen's Advisory Committee (CAC). In addition to the scheduled TPO meetings, the project team will also conduct informational meetings as necessary with Eglin AFB, the City of Crestview, and Okaloosa County. The purpose of these meetings will be to apprise the attendees of the project status, specific location, and design concepts, and to receive input.

5 EVALUATION

5.1 Benefit Cost Analysis

This section addresses the question of travel efficiency, travel time savings, and safety improvement of the three alternatives by examining current traffic data and estimating future traffic data over the life of the project for the existing route and three alternatives. The roadways studied are along S.R 85 from Antioch Road to I-10, I-10 to U.S. 90, and U.S. 90 to Airport Road.

The travel time savings study began by measuring the travel lengths and travel time for the existing route and three alternative routes. **Table 5-1** demonstrate travel lengths and times for the existing route and the three proposed alternatives.

Table 5-1: Existing and Bypass Times

Routes	Travel Length (Miles)			Travel Time (Minutes)		
	Antioch Rd. to I-10	I-10 to U.S. 90	U.S. 90 to Airport Rd.	Antioch Rd. to I-10	I-10 to U.S. 90	U.S. 90 to Airport Rd.
Existing (S.R. 85)	1.80	2.70	2.50	4.00	5.00	5.00
Alternative 1	3.58	2.10	4.13	4.77	3.00	6.00
Alternative 2	3.28	2.23	4.13	4.37	3.00	6.00
Alternative 3	3.40	2.10	4.13	3.77	3.00	6.00

Next, the study looked at the projected traffic volume on S.R. 85 compared to the existing route and the build alternatives. Historical traffic counts were used to develop the years 2030, 2040, and 2050 traffic volume. **Table 5-2** is an excerpt of the traffic projection along S.R. 85 for comparison.

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Table 5-2: Projected Traffic on S.R. 85

	Existing Route – No Build	Alternative 1A	Alternative 1B	Alternative 2	Alternative 3
Year 2030:					
South of Antioch Road	34,092	38,687	38,593	35,535	35,289
South of I-10	52,876	46,400	44,585	56,500	56,482
North of U.S. 90	33,757	26,544	27,626	29,901	29,697
North of 3rd Ave	33,309	24,680	26,351	29,054	28,780
Year 2040:					
South of Antioch Road	42,877	45,129	45,198	44,661	42,492
South of I-10	64,985	55,293	53,053	68,551	66,344
North of U.S. 90	34,331	28,926	30,532	29,859	31,279
North of 3rd Ave	35,716	28,767	29,843	29,875	32,168
Year 2050:					
South of Antioch Road	49,923	51,653	51,936	50,852	48,651
South of I-10	68,017	60,175	58,789	72,923	69,792
North of U.S. 90	34,587	30,790	32,260	31,257	33,963
North of 3rd Ave	35,631	31,996	32,374	32,601	34,745

The study then began the process of estimating the cost benefit of the three alternatives travel time. Each alternative was broken down by the roadways and each traffic count was listed. The loss and savings of travel time per vehicle per day was calculated and at that point the times savings per roadway was calculated. The same process was completed for each roadway for each alternative. Once complete, the total savings per day and per year were inputted, as well as the per capita personal income for Okaloosa County. The savings per year was calculated and multiplied by the real discount rate which results in the present value of the total amount of savings in travel time for all vehicles traveling on each alternative during an entire year. See the tables in for further explanation. It should be noted that an average traffic projection (based on South of Antioch Road and South of I-10 traffic counts) was used for Antioch Road to I-10.

Table 5-3 summarizes the findings of benefits of savings in travel time for 2030, 2040, and 2050.

Table 5-3: Benefits from Savings in Travel Time Per Year

Routes	2030	2040	2050
Alternative 1A	$(503,013.00)	$(562,942.00)	$(402,602.00)
Alternative 1B	$(361,033.00)	$(388,264.00)	$(313,333.00)
Alternative 2	$1,586,510.00	$523,050.00	$225,802.00
Alternative 3	$4,759,887.00	$2,521,926.00	$1,398,877.00

Considerations of safety improvement was the next step in the process. The Highway Safety Manual (HSM)'s Safety Performance Functions (SPFs) are statistical equations used to estimate the average crash frequency for a specific site, based on traffic volume and general roadway characteristics. The study team utilized the HSM's Predictive Method for Urban and Suburban Arterials - Analysis Spreadsheet Summary (see) to determine the crash frequency along S.R. 85 for the No Build alternative and the build alternatives. Crash cost by facility type were obtained using the Florida Design Manual (FDM) Table 122.6.1. The total cost improvement related to each alternative was calculated by subtracting the crash cost along S.R. 85 for that alternative from the No Build estimated crash cost. **Table 5-4** and **Table 5-5** outline the safety benefit analysis.

Table 5-4: Predicted Crashes Per Alternative

	Existing Route – No Build	Alternative 1A	Alternative 1B	Alternative 2	Alternative 3
Year 2030:					
South of I-10	16.80	14.20	13.50	18.20	18.20
North of U.S. 90	11.40	8.50	8.90	9.80	9.70
North of 3rd Ave	41.00	29.70	31.80	35.40	35.00
Year 2040:					
South of I-10	21.80	17.70	16.80	22.30	22.30
North of U.S. 90	11.60	9.40	10.10	9.80	10.40
North of 3rd Ave	44.30	35.00	36.40	36.40	39.50
Year 2050:					
South of I-10	22.30	19.80	19.20	22.30	22.30
North of U.S. 90	11.70	10.20	10.80	10.40	11.50
North of 3rd Ave	44.10	39.30	39.80	40.10	42.90

Table 5-5: Safety Benefit Analysis

			Accident Cost Per Alternative					Benefit Compared to No Build			
	Facility Type	Cost per Accident	Existing Route – No Build	Alternative 1A	Alternative 1B	Alternative 2	Alternative 3	Alternative 1A	Alternative 1B	Alternative 2	Alternative 3
Year 2030:											
South of I-10	4 Lane Suburban	$225,315	$3,785,292	$3,199,473	$3,041,753	$4,100,733	$4,100,733	$585,819	$743,540	-$315,441	-$315,441
North of U.S. 90	4 Lane Urban	$123,406	$1,406,828	$1,048,951	$1,098,313	$1,209,379	$1,197,038	$357,877	$308,515	$197,450	$209,790
North of 3rd Ave	4 Lane Urban	$123,406	$5,059,646	$3,665,158	$3,924,311	$4,368,572	$4,319,210	$1,394,488	$1,135,335	$691,074	$740,436
							Total	***$2,338,184***	***$2,187,390***	***$573,082***	***$634,785***
Year 2040:											
South of I-10	6 Lane Suburban	$166,258	$3,624,424	$2,942,767	$2,793,134	$3,707,553	$3,707,553	$681,658	$831,290	-$83,129	-$83,129
North of U.S. 90	4 Lane Urban	$123,598	$1,433,737	$1,161,821	$1,248,340	$1,211,260	$1,285,419	$271,916	$185,397	$222,476	$148,318
North of 3rd Ave	4 Lane Urban	$123,598	$5,475,391	$4,325,930	$4,498,967	$4,498,967	$4,882,121	$1,149,461	$976,424	$976,424	$593,270
							Total	***$2,103,035***	***$1,993,111***	***$1,115,772***	***$658,459***
Year 2050:											
South of I-10	6 Lane Suburban	$166,258	$3,707,553	$3,291,908	$3,192,154	$3,707,553	$3,707,553	$415,645	$515,400	$0	$0
North of U.S. 90	4 Lane Urban	$123,598	$1,446,097	$1,260,700	$1,334,858	$1,285,419	$1,421,377	$185,397	$111,238	$160,677	$24,720
North of 3rd Ave	4 Lane Urban	$123,598	$5,450,672	$4,857,401	$4,919,200	$4,956,280	$5,302,354	$593,270	$531,471	$494,392	$148,318
							Total	***$1,194,312***	***$1,158,109***	***$655,069***	***$173,037***

Table 5-6: Benefit Cost Ratio

Routes	2030	2040	2050
Alternative 1A			
Transportation Benefits	($503,013.00)	($562,942.00)	($402,602.00)
Safety Benefits	$2,338,184.20	$2,103,034.80	$1,194,312.40
Total Benefits	$1,835,171.20	$1,540,092.80	$791,710.40
Construction Cost	$93,203,236.19	$ -	$ -
Right of Way	$16,267,700.00	$ -	$ -
Maintenance Cost	$ -	$ -	$9,320,323.62
Total Costs	$109,470,936.19	$ -	$9,320,323.62
Benefit Cost Ratio	0.016764004		0.084944518
Alternative 1B			
Transportation Benefits	($361,033.00)	($388,264.00)	($313,333.00)
Safety Benefits	$2,187,389.70	$1,993,111.20	$1,158,109.40
Total Benefits	$1,826,356.70	$1,604,847.20	$844,776.40
Construction Cost	$83,507,123.98	$ -	$ -
Right of Way	$16,267,700.00	$ -	$ -
Maintenance Cost	$ -	$ -	$8,350,712.40
Total Costs	$99,774,823.98		$8,350,712.40
Benefit Cost Ratio	0.018304785		0.101162195
Alternative 2			
Transportation Benefits	$1,586,510.00	$523,050.00	$225,802.00
Safety Benefits	$573,082.20	$1,115,771.60	$655,069.40
Total Benefits	$2,159,592.20	$1,638,821.60	$880,871.40
Construction Cost	$70,209,006.63	$ -	$ -
Right of Way	$23,460,000.00	$ -	$ -
Maintenance Cost	$ -	$ -	$7,020,900.66
Total Costs	$93,669,006.63		$7,020,900.66
Benefit Cost Ratio	0.023055569		0.125464159
Alternative 3			
Transportation Benefits	$4,759,887.00	$2,521,926.00	$1,398,877.00
Safety Benefits	$634,785.20	$658,459.00	$173,037.20
Total Benefits	$5,394,672.20	$3,180,385.00	$1,571,914.20
Construction Cost	$57,889,662.62	$ -	$ -
Right of Way	$7,578,800.00	$ -	$ -
Maintenance Cost	$ -	$ -	$5,788,966.26
Total Costs	$65,468,462.62		$5,788,966.26
Benefit Cost Ratio	0.082401083		0.271536252

Benefit-Cost Ratios were completed for each of the three alternatives. They are summarized in **Table 5-6**. In conclusion, the three proposed alternatives do not provide enough of a benefit compared to the cost for travel time savings and safety improvement. Alternatives 1A and 1B results in a negative time savings benefit. Alternatives 2 and 3 result in a positive time savings benefit. All four analyzed build alternatives result in a safety benefit. However, the benefit cost ratio for all four build alternatives does not result in a positive gain (value greater than 1) for any of the alternatives.

5.2 Evaluation Methodology

In order to weigh the relative merits of each of the various alternatives, **Table 5-7** was prepared. **Table 5-7** is a numerical/descriptive matrix, which illustrates, describes and evaluates the features of all alternatives. The evaluation method used involves the generation of a weighting scheme for each of the evaluation parameters. The evaluation parameters generally fall within four general criteria categories: engineering, environmental, socio-economic, and cost. Twelve (12) different evaluation sub-criteria were used. Each sub-criteria was assigned a value depending on its perceived degree of importance. These criteria and sub-criteria weightings were developed from the average of individual weighting sets prepared by members of the consultant's team reflecting a broad range of professional backgrounds. In addition, the alternative performance with respect to each parameter was compared using two benchmarks; 1) the overall effect on the specified parameter and/or 2) the relative effect between the competing alternatives. The overall effect received one of the five judgmental values (++ = 1.00, + = 0.80, o = 0.60, - = 0.40, - - = 0.20). If, however, any of the alternatives had an overall negative effect, then the worst alternative received a (- -) and the relatively better alternative received a higher score (-). If any two values were approximately equal, then they both received the relatively lowest score. If the alternatives had an overall positive effect, then the best alternative received a (++) and the relatively worse alternative received a lower score (+). A common value, therefore, signifies an equal overall and relative effect. This evaluation involves a combination of both qualitative and quantitative values resulting in an overall score. Each score indicated on the matrix is the result of multiplying the judgmental analysis rating times the relative weight for that parameter. For example, on **Table 5-7**, the "No Build" alternative under the "Multimodal Implications" parameter was given a (- -) designation (judgmental value = 0.2) since this option does not provide any multi-modal improvement within the study area and is therefore the worst option under this particular evaluation parameter. This judgmental value of 0.2 was then multiplied by the relative weight of the "Multimodal Implications" parameter (8) resulting in an overall score of 1.6.

5.3 Evaluation Summary

The results obtained from the planning level analysis compared the build alternatives to the No Build Alternative by analyzing engineering, environmental, socio-economic and cost impacts/benefits analysis. Though the No Build Alternative does not solve the project deficiencies, it does provide an accurate yardstick or baseline condition by which other project alternatives can be compared throughout the project alternative selection process. This comparison was based on the need of the proposed project to alleviate congestion along S.R. 85 within the study area. With respect to the parameters evaluated, the build alternatives do not satisfy the need of the project to an extent which would justify the impacts analyzed during this study.

Table 5-7: Evaluation Matrix

LEGEND

Judgmental Values		
++	SUBSTANTIALLY POSITIVE EFFECT OR BEST ALTERNATIVE	= 1.0
+	GENERALLY POSITIVE EFFECT OR GOOD ALTERNATIVE	= 0.8
o	GENERALLY NO EFFECT OR MODERATE ALTERNATIVE	= 0.6
-	GENERALLY NEGATIVE EFFECT OR INFERIOR ALTERNATIVE	= 0.4
- -	GENERALLY NEGATIVE EFFECT OR WORST ALTERNATIVE	= 0.2

32 CRITERIA WEIGHT
14 SUBCRITERIA WEIGHT
2.8 RESULTING SCORE

PRELIMINARY ALTERNATIVE EVALUATION

OPTIONS / CRITERIA	ENGINEERING 32			ENVIRONMENTAL 32				SOCIO-ECONOMIC 21			COST 15		
	TRAFFIC SERVICE	SAFETY	MULTIMODAL IMPLICATIONS	NATURAL RESOURCES	CULTURAL RESOURCES	NOISE IMPACTS	CONTAMINATION	SOCIAL	ECONOMIC	RELOCATION	RIGHT-OF-WAY	CONSTRUCTION	BENEFIT/COST
	14	10	8	8	8	8	8	9	6	6	5	5	5
NO BUILD ALTERNATIVE	- - Does not improve the significant existing and projected delays associated with various segments of the existing corridor 2.8	- - Does not address any safety concerns associated with the existing S.R. 85 Corridor 2.0	- - No new multimodal provisions are implemented. 1.6	o No impacts to wetlands, water quality, or floodplains 4.8	o No new historic, archaeological, or recreational impacts 4.8	o No new noise impacts 4.8	o No involvement with contamination; and no testing or cleanup required 4.8	o No additional impacts, maintains existing conditions 5.4	- Maintains existing substandard traffic conditions, which does not promote future economic growth or to the Eglin AFB mission. 2.4	o No relocations required 3.6	o No right-of-way cost 3.0	o No construction cost 3.0	o No action, therefore no cost and no benefit 3.0
BUILD ALTERNATIVES 1	- Generally improves traffic conditions along S.R. 85 north of I-10 until 2040, does not alleviate traffic between I-10 and U.S. 90 in design year, and increased traffic south of Antioch Rd 5.6	- Increased additional conflict points due to new roadway. Does not alleviate congestion along S.R. 85 to reduce potential crashes. 4.0	+ Continuous paved shoulder allows for bicycle opportunities from Antioch Road to Airport Road, but does not improve multi-modal features along S.R. 85 6.4	- - 14.95 acres of direct wetland impact, 17.68 acres of floodplain impact, potential OFW concerns adjacent to Shoal River south of I-10 1.6	- Two historic resources adjacent to roadway along Airport Road. No previously recorded archeological occurances within 500 feet of alternative. 3.2	- Results in 147 potential impacts along corridor. Mainly residential uses. 3.2	- Results in 157 potential contamination features 3.2	- Has impacts to several areas which are below the poverty level, adjacent to an elementary school 3.6	o New corridor will likely result in increased opportunities for growth in areas designated agriculture and residential resulting in potential discrepancies with the County's overlay district. 3.6	- 12 residential relocations. 0 business relocations. 2.4	- $16.3M Cost 2.0	- - Greatest construction cost due to additional length compared to other alternatives. Interchange ($93.2M) is more costly than overpass ($83.5M). 1.0	- - Does not result in an adequate benefit cost ratio. 1.0
BUILD ALTERNATIVES 2	- Generally improves traffic conditions along S.R. 85 north of I-10 until 2040, does not alleviate traffic between I-10 and U.S. 90 in design year, and increased traffic south of Antioch Rd 5.6	- Increased additional conflict points due to new roadway. Does not alleviate congestion along S.R. 85 to reduce potential crashes. 4.0	+ Continuous paved shoulder allows for bicycle opportunities from Southcrest Dr to Airport Road, but does not improve multi-modal features along S.R. 85 6.4	- 5.18 acres of direct wetland impacts, 3.96 acres of floodplain impact 3.2	- Two historic resources adjacent to roadway along Airport Road. No previously recorded archeological occurances within 500 feet of alternative. 3.2	- Results in 185 potential impacts along corridor. Mainly residential uses. 3.2	- Results in 148 potential contamination features 3.2	- - Has impacts to several areas which are below the poverty level; goes through a residential neighborhood and park assoicated with the neighborhood, adjacent to an elementary school 1.8	o New corridor will result in increased opportunities for growth in areas designated agriculture and residential. 3.6	- - 29 residential relocations. 0 business relocations. 1.2	- - $23.5M Cost 1.0	- - Second highest cost of all alternatives ($70.2M). 1.0	- - Does not result in an adequate benefit cost ratio. 1.0
BUILD ALTERNATIVES 3	- Generally improves traffic conditions along S.R. 85 north of I-10 until 2040, does not alleviate traffic between I-10 and U.S. 90 in design year, and increased traffic south of Antioch Rd 5.6	- Increased additional conflict points due to new roadway. Does not alleviate congestion along S.R. 85 to reduce potential crashes. 4.0	o Does not allow for a connection to paved shoulders along S.R. 85 south of I-10, but does provide connectivity between U.S. 90 and Airport Road. Does not improve multi-modal features along S.R. 85 4.8	- 4.94 acres of direct wetland impacts, 3.96 acres of floodplain impact 3.2	- Two historic resources adjacent to roadway along Airport Road. No previously recorded archeological occurances within 500 feet of alternative. 3.2	- Results in 108 potential impacts along corridor. Mainly residential uses . 3.2	- Results in 111 potential contamination features 3.2	- Has impacts to several areas which are below the poverty level, adjacent to an elementary school 3.6	o New corridor will result in increased opportunities for growth in areas designated agriculture and residential. 3.6	- 7 residential relocations. 0 business relocations. 2.4	- $7.6M Cost 2.0	- Lowest cost ($57.9M) of all alternatives. 2.0	- - Does not result in an adequate benefit cost ratio. 1.0

6 CONCLUSIONS

In order to better analyze adjacent impacts associated with an Eastern Crestview Bypass, three alternative alignments were generated. The Build Alternatives would provide a 4-lane urban typical section for the project length until C.R. 188/Airport Road where the existing 2-lane rural facility would remain. The improvements analyzed include 11-foot wide travel lanes and 7-foot buffered bicycle lanes.

Alternative 1 is the longest of the proposed alignments. It has a southern terminus at S.R. 85 and Antioch Road/Shoal River Drive and a northern terminus at the intersection of S.R. 85 and Airport Road/C.R. 188. As mentioned before, two distinct options were considered for Alternative 1: Alternative 1A which included an interchange with I-10 and Alternative 1B which included an overpass at I-10. Alternative 2 is the second longest of the proposed alignments. It has a southern terminus at S.R. 85 and Southcrest Drive and a northern terminus similar to Alternative 1 and includes an overpass at I-10. Alternative 3 is the shortest of the proposed alignments, beginning with an interchange on I-10 and ending with a northern terminus similar to Alternatives 1 and 2.

It should be noted that a planning level traffic analysis was completed for this study. At this time, the full operational analysis has not been completed for the roadway network improvements outlined in the FDOT Work Program and in the local TPO Cost Feasible Plan. As previously stated, these improvements include a new interchange, a new western bypass and capacity improvements to S.R. 85.

In order to weigh the relative merits of each of the corridor alternatives, a numerical/descriptive matrix was prepared which illustrates, describes and evaluates the features of the Build Alternatives and the No-Build Alternative. The results obtained from the evaluation matrix (**Table 5-7**) show that although all the build alternatives do offer slight improvements to the traffic and safety conditions along S.R. 85 north of I-10, congestion is still present and these benefits are not enough to justify the negative environmental, socio-economic and cost impacts at this time.

In summary, to address the failing traffic service along S.R. 85, an Eastern Crestview Bypass was evaluated. Through a desktop analysis of the proposed impacts associated with the three alternatives, it was determined that the project would not result in a significant enough reduction in congestion along S.R. 85 to justify the social, environmental, construction, and right-of-way costs associated with the three build alternatives. It is the recommendation of this feasibility study to continue with the Project Development and Environment Studies for a Western Crestview Bypass and the capacity improvements along S.R. 85 shown currently within the OK-WA TPO Cost Feasible Plan. As these ongoing projects advance to stages where operational improvements can be analyzed, further coordination should continue with local planning partners to determine if the regional traffic concerns are addressed by these existing projects, or if a more detailed traffic analysis related to the Eastern Bypass should be completed.

Appendix A: 2040 LRTP Amendment

Transportation Outlook 2040

Needs Assessment and Cost Feasible Plan Amendment Report

Prepared for:

Okaloosa-Walton Transportation Planning Organization

and

The Florida Department of Transportation, District Three

Prepared by:

West Florida Regional Planning Council

Staff to the Okaloosa-Walton Transportation Planning Organization

February 2018

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TRANSPORTATION OUTLOOK 2040

Needs Assessment and Cost Feasible Plan Amendment Report

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Introduction

In 1981, The Fort Walton Beach Urbanized Metropolitan Planning Organization (MPO) was created under the authority of Chapter 163 of the Florida Statutes as a mechanism to conduct a continuing, cooperative, and comprehensive (3-C) planning process for the transportation needs of the Fort Walton Beach urbanized area. The MPO, now known as the Okaloosa-Walton Transportation Planning Organization (TPO), is a governing board consisting of elected officials representing the following local governments: Okaloosa County, Walton County, and the Cities of Crestview, DeFuniak Springs, Destin, Fort Walton Beach, Freeport, Mary Esther, Niceville, and Valparaiso.

The Okaloosa-Walton TPO was created in accordance with federal and state requirements to perform the area-wide transportation planning process in the Okaloosa-Walton TPO Study Area. The TPO Study Area includes the Fort Walton Beach Urbanized Area and adjacent areas in Okaloosa and Walton Counties.

Two advisory committees provide recommendations to the TPO. The Technical Coordinating Committee is comprised of the planners and engineers in the area. The Citizens' Advisory Committee represents the citizens' interests in the area.

Some of the transportation products that are developed by the TPO staff are the Transportation Improvement Program, which is a five-year plan of funded transportation projects, a freight plan, which is a plan based on needed projects related to the movement of goods and services, and a Regional Intelligent Transportation Systems Plan, which involves computer technology to optimize traffic flow by utilizing traffic signal synchronization, variable message signs, and automatic vehicle locators. The TPO also adopts a Pedestrian/Bicycle Master Plan which identifies needed improvements for pedestrians and bicyclists such as bicycle lanes, sidewalks, off-road facilities, paved shoulders, lane restriping, and road diets. Road diets are a reduction in the number of travel lanes by allowing more room for bicycle and pedestrian uses. A Transit Development Plan, which is a 10-year plan for public transportation improvements in the area, is also endorsed by the TPO. Moreover, the TPO also adopts a Long Range

Transportation Plan, which is updated every five years and identifies transportation improvements for at least the next 20 years.

The Okaloosa-Walton 2040 Long Range Transportation Plan Update was approved on February 16, 2017, and is based on transportation projects that are cost affordable. The Long Range Transportation Plan is made up of a Needs Plan and a Cost Feasible Plan. One prior 2040 Long Range Plan Amendment occurred on December 14, 2017 when the TPO amended the Needs Plan for three new projects (U.S. 98 @ CR 30A Pedestrian Underpass, U.S. 98 @ U.S. 331 Flyover Interchange, and Crestview Bypass (East)). This report highlights the amendment to the Needs Assessment and Cost Feasible Plan for the following projects:

- U.S. 98 @ CR 30A Pedestrian Underpass (PD&E and Design phases only for Cost Feasible Plan)
- U.S. 98 @ U.S. 331 Flyover Interchange (PD&E and Design phases only for Cost Feasible Plan)
- Crestview Bypass (East) (PD&E and Design phases only for Cost Feasible Plan)
- U.S. 98 Realignment (Fort Walton Beach Around the Mound Two-Way) (PD&E and Design phases only for Cost Feasible Plan)
- Rasberry Road Extension (Needs Plan Amendment only)

Long Range Transportation Plan Amendment Process

From time to time, it becomes necessary to amend or modify the Long Range Transportation Plan. As per the TPO's Public Participation Process Plan that was adopted on June 20, 2017, administrative modifications to the Long Range Transportation Plan are minor revisions and do not require public review but must be included in the advertisement of the TPO meeting when the modification is presented. An amendment is a major revision to a Long Range Transportation Plan and includes adding or deleting projects to the plan. It also includes major changes to project costs, initiation dates or design concepts. Amendments must be included in the advertisement of the TPO meeting when the draft amendment is presented. The public must be provided with an opportunity to comment during public forum when the draft is presented for adoption to the TPO and advisory committees as follows:

- Provide the public with a sufficient opportunity to review the draft amended document online. (The Public Workshop amendment presentation materials were posted on-line on January 24, 2018. The public was also provided the opportunity to provide comments at the January 25 and 29, 2018 Public Workshops, the Technical Coordinating (TCC), Citizens' Advisory Committee (CAC), and the Transportation Planning Organization (TPO) Meetings on February 22, 2018. The Needs Assessment and Cost Feasible Plan Amendment Technical Report was posted on line and e-mailed to review agencies on Thursday, February 15, 2018. The Adopted 2040 Needs Plan Amendment Technical Report was posted on-line on Tuesday, March 13, 2018 and e-mailed to the review agencies, TPO, TCC, CAC, and Interested parties.
- Include adoption in the advertisement of the TPO meeting when the amendment is to be presented. (A copy of the TPO Meeting advertisement is included in Appendix B).
- Provide the public with an opportunity to comment during public forum when the amendment is presented for adoption to the TPO and advisory committees. (The TPO meeting agenda is included in Appendix B). A Public Hearing was held at the TPO Meeting prior to approval of the 2040 Long Range Transportation Plan Needs Plan and Cost Feasible Plan Amendment.
- Publish adopted amended final document on web site. (The adopted 2040 Needs Plan Amendment Technical Report was posted on the TPO's Long Range Transportation Plan web site on Tuesday, March 13, 2018).
- In addition, Section 1.7 of the 2040 Long Range Transportation Plan Final Report explains the Long Range Transportation Plan Amendment and Modification Process. The projects were considered an amendment because of the following reasons.
    - The U.S. 98 @ CR 30A Pedestrian Underpass project was not included in the 2040 Cost Feasible Plan.

- U.S. 98 @ U.S. 331 Flyover Interchange was not included in the 2040 Cost Feasible Plan.
- Crestview Bypass (East) was not included in the 2040 Cost Feasible Plan.
- U.S. 98 Realignment (Fort Walton Beach Around the Mound Two-Way) was not included in the 2040 Needs Plan or Cost Feasible Plan.
- Rasberry Road Extension (Needs Plan Amendment only) was not included in the 2040 Needs Plan.

Background

At its December 14, 2017 meeting, the Okaloosa-Walton TPO directed its staff to begin the process to amend the 2040 Long Range Transportation Plan Needs and Cost Feasible Plan regarding inclusion of the PD&E and Design phases of the following projects pending the necessary cost analysis: U.S. 98 @ CR 30A Pedestrian Underpass, U.S. 98 @ U.S. 331 Flyover Interchange, the Crestview Bypass (East), and U.S. 98 Realignment (Fort Walton Beach Around the Mound Two-Way). The TPO also requested staff to amend the 2040 LRTP Needs Plan to include Rasberry Road Extension project. The reason for the requests was the Okaloosa-Walton TPO identified a need to advance projects as much as possible in the planning process. Figures 1 – 5 illustrate the locations of these projects. The cost analysis showed that there was enough PD&E and Design funds available in the 2040 Cost Feasible Plan to not impact other projects in the plan.

Figure 1 – U.S. 98 @ CR 30A Pedestrian Underpass

Figure 2 – U.S. 98 @ U.S. 331 Flyover Interchange

Okaloosa-Walton TPO 2040 Long Range Transportation Plan
Proposed Amendment - US 98 @ US 331 Flyover

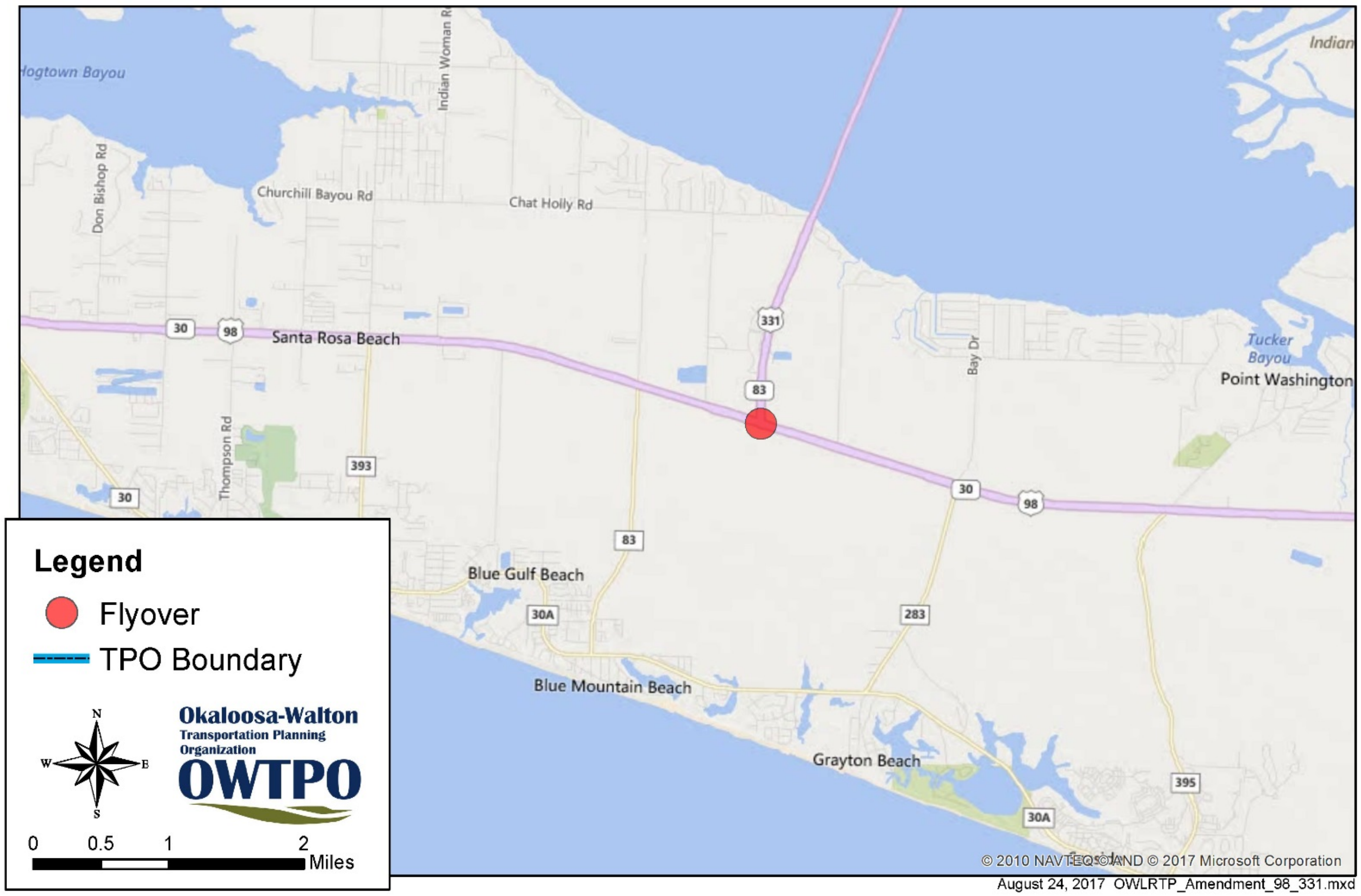
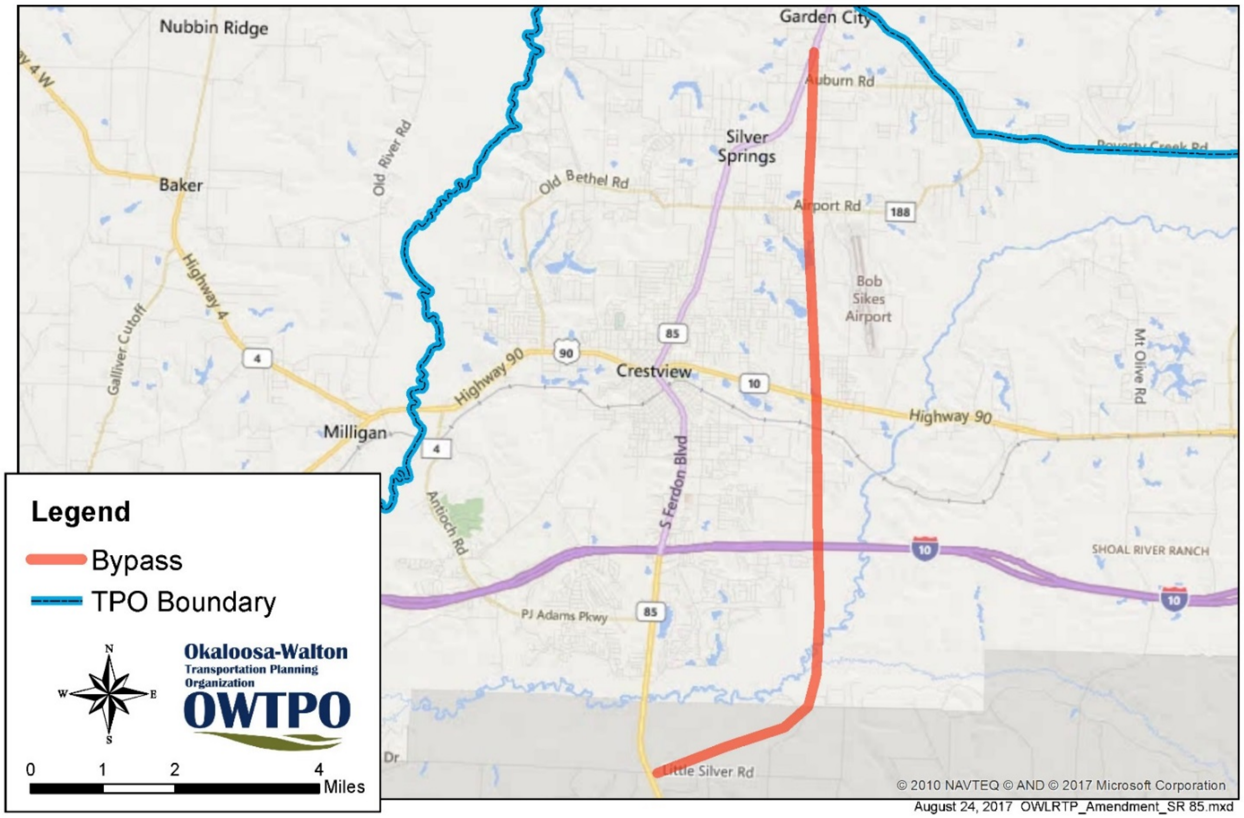


Figure 3 – Crestview Bypass (East) **See page 14 for updated project map.

Okaloosa-Walton TPO 2040 Long Range Transportation Plan
Proposed Amendment - SR 85 Eastern Bypass



This map was updated after the public meetings. See page 14 for updated project map.

Figure 4 – U.S. 98 Realignment (Fort Walton Beach Around the Mound Two-Way)

Okaloosa-Walton TPO 2040 Long Range Transportation Plan
Proposed Amendment - US 98 Realignment Alternative 2B

Figure 5 – Rasberry Road Extension

Public Review

Two public workshops were held regarding this Long Range Transportation Plan Needs Plan and Cost Feasible Plan Amendment. The first workshop was held on January 25, 2018 at 5:00 p.m. at the Northwest Florida State College Robert L.F. Sikes Center in Crestview, Florida. The second workshop was held on January 29, 2018 at 5:00 p.m. at the Fort Walton Beach Public Library in Fort Walton Beach.

An overview of the amendment was presented to the participants. The participants where then requested to ask questions of the Long Range Transportation Planning Staff. The handouts provided were also posted on the West Florida Regional Planning Council Web Site. The individuals in attendance were in favor of the projects identified in this amendment report. The comments and responses from the public workshops were posted on the LRTP website after the public workshops for review before the February 2018 TPO and Advisory Committees meetings for their consideration for voting on this item. Appendix A contains the sign-in sheets from the two workshops. Appendix D contains all written comments received by TPO staff during the public workshops and review period.

The advertisement was placed in the Northwest Florida Daily News, mailed to members of the Transportation Information Network, and included on the LRTP web site page. The Transportation Information Network is comprised of members of the TPO and advisory committees as well as citizens who have expressed an interest in transportation planning in Okaloosa and Walton Counties. A flyer was drafted and send via email to public information officers of the cities, towns, and counties within the Okaloosa-Walton TPO area. Seven days prior to the workshop, a news release was sent to all publications in the Okaloosa-Walton TPO area. The advertisement and the flyer appear in Appendix B.

Recommended Changes

The following projects were recommended for amending the 2040 Needs Plan and Cost Feasible Plan:

(1) U.S. 98 @ CR 30A Pedestrian Underpass (Updating cost estimates to the Needs Plan. PD&E and Design phases only for Cost Feasible Plan): this improvement includes a grade separated pedestrian crossing across U.S. 98. This project is currently in the Needs Plan.

PD&E	Design	Right of Way	CEI	Construction
$47,500	$95,000	$950,000	$142,500	$950,000
$88,350*	$176,700*			

**Year of Expenditure Costs for Cost Feasible Plan*

(2) U.S. 98 @ U.S. 331 Flyover Interchange (Updating cost estimates to the Needs Plan. PD&E and Design phases only for Cost Feasible Plan): This improvement includes a flyover interchange at the intersection of U.S. 98 and U.S. 331. This project is currently in the Needs Plan.

PD&E	Design	Right of Way	CEI	Construction
$2,250,000	$4,500,000	$22,500,000	$6,750,000	$45,000,000
$4,185,000*	$8,370,000*			

**Year of Expenditure Costs for Cost Feasible Plan*

(3) Crestview Bypass (East) (Updating cost estimates to the Needs Plan. PD&E and Design phases only for Cost Feasible Plan): this improvement is to construct four new lanes of capacity from SR 85 (south of Crestview) to SR 85 (north of Auburn Road) with an interchange at I-10. This project is currently in the Needs Plan.

PD&E	Design	Right of Way	CEI	Construction
$5,115,093	$10,230,185	$102,301,850	$15,345,278	$102,301,850
$9,514,073*	$19,028,144*			

**Year of Expenditure Costs for Cost Feasible Plan*

(4) U.S. 98 Realignment (Fort Walton Beach Around the Mound Two-Way) (PD&E and Design phases only for Cost Feasible Plan). This project is not currently in the Needs Plan.

PD&E	Design	Right of Way	CEI	Construction
$670,050	$1,786,800	$8,934,000	$893,400	$8,934,000
$1,246,293*	$3,323,448*			

**Year of Expenditure Costs for Cost Feasible Plan*

(5) Rasberry Road Extension (Needs Plan Amendment only): this improvement is a two-lane extension of the current roadway west to Arena Road. This project is not currently in the Needs Plan.

PD&E	Design	Right of Way	CEI	Construction
$442,194	$884,388	$4,421,939	$663,291	$4,421,939

TPO and Advisory Committee Meetings

The 2040 Long Range Transportation Plan Needs Assessment Amendment was presented to the Technical Coordinating Committee, the Citizens' Advisory Committee and the Okaloosa-Walton Transportation Planning Organization on February 22, 2018. A list of those meetings and action taken appears below.

February 22, 2018 Citizens' Advisory Committee (CAC) Meeting

The CAC recommended approval of the proposed amendment with the exception of the Crestview Bypass (east) project.

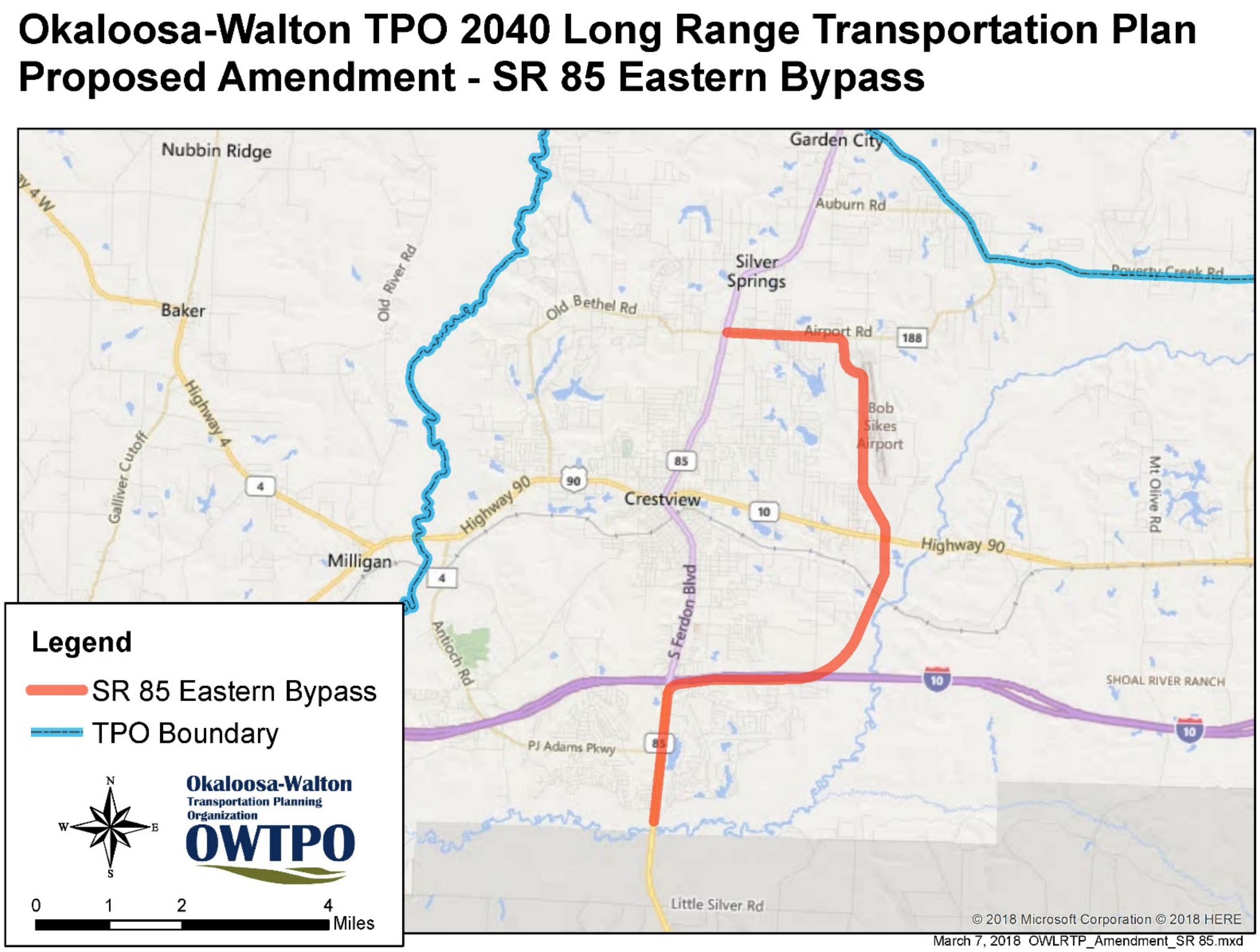
February 22, 2018 Technical Coordinating Committee (TCC) Meeting

The TCC recommended approval of the proposed amendment with the exception of the Crestview Bypass (east) project, with the understanding that it would be brought back before the TPO at their next meeting in April.

<u>February 22, 2018 Transportation Planning Organization (TPO) Meeting</u>

The TPO approved the 2040 Needs Assessment and Cost Feasible Plan Amendment with the understanding that the Crestview Bypass (east) project would be depicted in the LRTP documents as provided by Okaloosa County (see map on next page).

Figure 6 – Crestview Bypass (East)



March 7, 2018 OWLRTP_Amendment_SR 85.mxd

Amended 2040 Needs Plan and Cost Feasible Plan

The 2040 Needs Plan and Cost Feasible Plan (Maps and Spreadsheets with costs) as amended by the TPO on February 22, 2018, are in Appendix C. The changes are listed in the Recommended Changes Section of this report. The projects pertaining to this amendment are also highlighted in yellow in Appendix C. The total costs of the 2040 Needs Assessment as amended are provided below. The costs for Non-Roadway, Public Transportation, and Mobility Projects did not change.

Total 2040 Needs Plan Costs Shown by Project Category

Roadway Projects	$3,206,503,995
Non-Roadway Projects	$4,570,000
Public Transportation Projects	$72,800,000
Mobility Programs	$75,150,000
Total	**$3,359,023,995**

Amended 2040 Cost Feasible Plan Year of Expenditure

As identified in the 2040 Revenue Forecast Handbook, July 2013, consistent with federal planning regulations and Financial Guidelines for MPO 2040 Long Range Plans adopted by the Metropolitan Planning Organization Advisory Council (MPOAC) in October 2007, the 2040 Revenue Forecast is expressed in Year of Expenditure (YOE) dollars. MPOs will need to use inflation factors to adjust project costs from “Present Day Cost” dollars (e.g., 2016 dollars) to YOE dollars. MPOs also may have to adjust estimates of local revenues not included in the Department’s forecast to YOE dollars, depending on how those revenue estimates were developed. Adjusting Project Costs In order to balance project costs against the revenue estimates from the 2040 Revenue Forecast, costs and revenues need to be expressed using the same base year. Project cost estimates are typically expressed in “present day costs” (i.e., year that the project costs were developed, such as 2016), which are based on the value of money today and not adjusted for inflation.

Table 1 assists the TPO in converting project costs to YOE dollars. For example, if the cost estimate for a specific project is expressed in 2016 dollars and the project is planned to be implemented in the 2031 to 2040 period, the TPO should multiply the cost estimate by 1.86 to convert the cost estimate to YOE dollars. The inflation multipliers included in Table 1 are based on FDOT's inflation factors associated with developing recent Work Programs. Factors for project cost estimates developed in fiscal years 2013, 2014, 2015 and 2016 are shown in Table 1 because required dates for the updates of long range metropolitan area transportation plans by Florida's 27 MPOs may extend over those years. The Okaloosa-Walton 2040 Long Range Transportation Plan used the Fiscal Year 2016 multipliers as highlighted in yellow in Table 1.

Adjusting Local Revenue Estimates

Revenue forecasts are typically prepared in "current" or YOE dollars, which reflect the value of money at the time it will be collected (e.g., 2020) and reflect future growth in revenue. TPO plans include revenue forecasts for local sources of transportation revenues (e.g., local option gas taxes) that are not included in the FDOT's 2040 Revenue Forecast. As a result, if any estimates of local revenues are not expressed in YOE dollars, TPOs will need to convert estimates of those revenues to YOE dollars to ensure a common basis for all revenues included in the MPO plans. The annual inflation rates in the lower part of Table 1 can be used to convert local revenue forecasts prepared in "today's" dollars to YOE dollars. For example, if the forecast of local revenues is expressed in 2013 dollars, the MPO can estimate the amount in 2019 dollars as follows:

2019 dollars = (2013 dollars)*(1.031)*(1.029)*(1.029)*(1.029)*(1.029)*(1.03)

(for 2014) (for 2015) (for 2016) (for 2017) (for 2018) (for 2019)

For consistency with other estimates, summarize estimated local funds for each year by the 5-year periods.

Time Period for Planned Project or Project Phase Implementation	Multipliers to Convert Project Cost Estimates to Year of Expenditure Dollars			
	Project Cost in 2013 PDC $*	Project Cost in 2014 PDC $*	Project Cost in 2015 PDC $*	Project Cost in 2016 PDC $*

2019-2020	1.21	1.17	1.14	1.11
2021-2025	1.35	1.31	1.27	1.24**
2026-2030	1.59	1.54	1.50	1.46**
2031-2040	2.03	1.97	1.91	1.86**

Multipliers are based on the following annual inflation estimates:

From	To	Annual Rate
2013 Dollars	2014 Dollars	3.1%
2014 Dollars	2015 Dollars	2.9%
2015 Dollars	2016 Dollars	2.9%
2016 Dollars	2017 Dollars	2.9%
2017 Dollars	2018 Dollars	2.9%
2018 Dollars	2019 Dollars	3.0%
2019 Dollars	2020 Dollars	3.1%
2020 Dollars	2021 Dollars and Beyond	3.3% each year

Source: FDOT Work Program Instruction, 2012

*"PDC $" means "Present Day Cost"

**Inflation factors used for converting project to Year of Expenditure Dollars

Appendix A

Public Workshops Sign-In Sheets

Welcome!

Okaloosa-Walton Transportation Planning Organization

OWTPO

Meeting: Long Range Transportation Plan Public Workshop

Location: Northwest Florida State College, Robert L.F. Sikes Center

Date: Thursday, Jan. 25, 2018, 5 p.m.

Name	Community	Contact Information
Joe Blocker	Crestview	joeblocker@emburgmail.com
Bill Cox	Crestview	on file
Troe Daley	Crestview	on file
Bryant Paulk		
Scott Bitterman	Okaloosa County	on file
Carlos Jones	Crestview	on file
Linda Parker	Crestview	councilmemberparker@yahoo.com
Fred Cook	Crestview	fredcook@cityofcrestview.org
Teresa Gaillard	Crestview	gis@cityofcrestview.org
Kevin Wall	Crestview	kevinwall@[illegible]
Eric	DOT	
Jill Lavender	WFRPC	on file
Annie Walthall	"	"
Mary Beth Washnock	"	"
Tiffany Bates	"	"

West Florida Regional Planning Council EST '64

Welcome!

Okaloosa-Walton Transportation Planning Organization
OWTPO

Meeting: Long Range Transportation Plan Public Workshop
Location: Fort Walton Beach Public Library
Date: Monday, Jan. 29, 2018, 5 p.m.

Name	Community	Contact Information
Cay Burton	FWB / Wright	cay.burton@gmail.com
Dennis Reeve	FWB / Downtown	darfwb@yahoo.com
Amy Reeves	FWB / Downtown	amyfwb@yahoo.com
Matt Schwalb	Matrix Design	850.402.2111
Jason Floyd	JDF Architecture	j.floyd@jdfarchitecture.com
Patricia Rowe	Valparaiso	850-502-9039
Michael Beedie	City of FWB	mbeedie@fwb.org
Nick Chubb	Cinco Bayou	nchubb77@cox.net
Charlotte McKamy	Mary Esther FL.	charlottemckamy@gmail.
Christa R. Machado	Downtown FWB Organization	crkmachado@cox.net
Donna Tashik	FWB Chamber of Commerce	dtashikarcemeraldcoast@gmail
Steve Baxter	FWB Chamber of Commerce	steve@stevebaxterinsurance.com
Randy Showers	Okaloosa Co	on file
Mary Beth Washnock	WFRPC	on file

West Florida Regional Planning Council EST '64

Welcome!

Okaloosa-Walton Transportation Planning Organization
OWTPO

Meeting: Long Range Transportation Plan Public Workshop
Location: Fort Walton Beach Public Library
Date: Monday, Jan. 29, 2018, 5 p.m.

Name	Community	Contact Information
Jennie McKeon		jmckeon@nwfdailynews.com
Ian Anderson	Matrix Design Group	ian-anderson@matrixdesigngroup.com
Christy Johnson	FDOT	on file
Stacie Hoard	Defrance Antiques	defranceantiques@gmail
Mark Hoard	Defrance Antiques	defranceantiques@gmail
JT Edwards	Edwards Landscape FWB	JT@TeamEdwardsLandscape.com
Sal Nodjomian	Matrix Design (FWB) Group	SAL_NODJOMIAN@MATRIXDESIGNGROUP.COM
Yvonne Earle	CAC	ON FILE
Bill Roberts	~~CAC~~ Chamber	BROBERTS@BIAFS.COM
Henry Kelley	Chamber	HenryKelley@cox.net
Mary Oglesbee	FWB	109 Gardenia Ct F.W.B., FL 32548
Pam + LA Woodall	FWB	LAANDPAM@COX.NET

West Florida Regional Planning Council EST '64

Welcome!

Okaloosa-Walton Transportation Planning Organization
OWTPO

Meeting: Long Range Transportation Plan Public Workshop
Location: Fort Walton Beach Public Library
Date: Monday, Jan. 29, 2018, 5 p.m.

Name	Community	Contact Information
Donald Ehinger	FWB 332 Elliott Road SE	2434002
Mark Hamrick	FWB	850 363-0119
Jill Krug	WFRPC	on file
Jill Lavender	"	"
Annie Walthal	"	"
Peggy Bates	"	"
Frost Jones	Destin	frostjones@gmail
Mitch Mongiell	FWB	Mitch.Mongiell@hcahealthcare.com

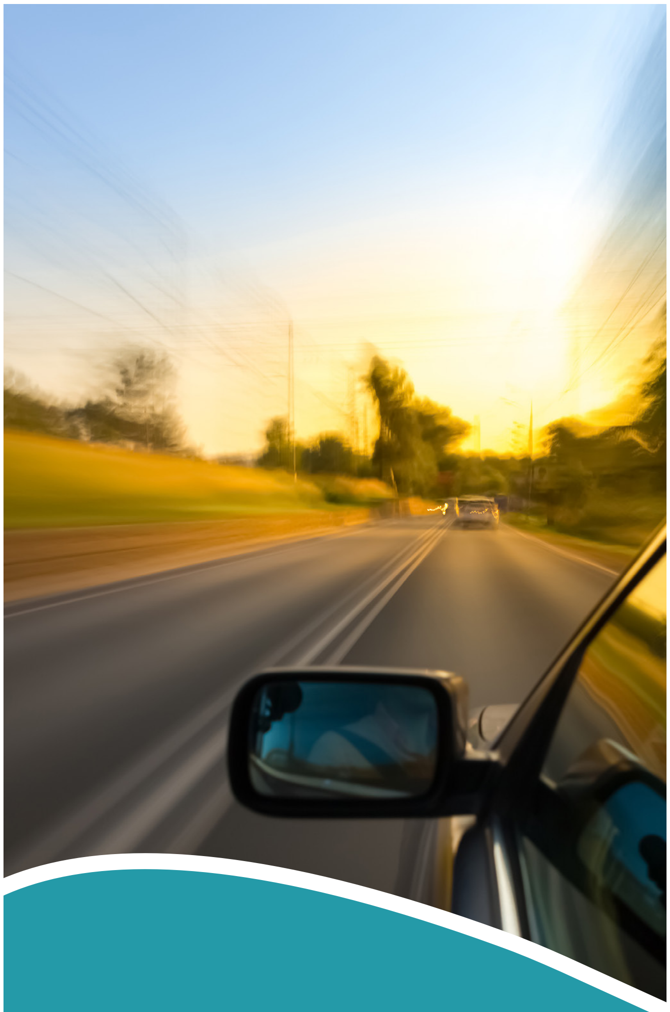
West Florida Regional Planning Council EST '64

Appendix B

Public Workshops Flyer, Public Workshops announcement, TPO Meeting Announcement, and TPO Meeting Agenda

Public Workshops

Okaloosa-Walton
Transportation Planning Organization
OWTPO



The Okaloosa-Walton Transportation Planning Organization will hold two public workshops to discuss and solicit public input for the addition of Rasberry Road Extension to Arena Road in Crestview and Highway 98 Realignment Alternative 2B in Fort Walton Beach to the Long Range Transportation Plan (LRTP) Needs Plan. Additionally, the workshops will discuss and solicit public input for the addition of: Highway 98 at CR 30A East pedestrian underpass in Santa Rosa Beach; Highway 98 at Highway 331 flyover interchange in Santa Rosa Beach; Eastern Crestview bypass; U.S. 98 Realignment Alternative 2B in Fort Walton Beach to the Long Range Transportation Plan (LRTP) Cost Feasible Plan.

Workshop #1
Northwest Florida State College
Robert L. F. Sikes Center
Thursday, Jan. 25
5 p.m.

Workshop #2
Fort Walton Beach
Public Library
Monday, Jan. 29
5 p.m.

For more information, please contact Jill Lavender at 850-332-7976, ext. 212 or jill.lavender@wfrpc.org

West Florida Regional Planning Council EST '64

In compliance with the Americans with Disabilities Act, reasonable accommodations to access meeting, and for limited English proficiency, are available upon request. Persons who require special accommodations under the Americans with Disabilities Act or persons who require translation services should contact Public Involvement toll-free 800-226-8914, ext. 281 or 800-995-8771 for TTY-Florida, at least 48 hours in advance. Por favor a la Sr. Dan Deanda, de los requistos de accesoo el idioma en el 850-332-7976, ext. 227 o 800-995-8771 para TTY-Florida al menos48 horas de antelacion. Participation is solicited without regard to race, color, national origin, age, sex, religion, disability, or family status. Persons who believe they have been discriminated against on these conditions may file a complaint with the Title VI Coordinator, 850-332-7976, ext. 220.

Okaloosa-Walton Transportation Planning Organization To Hold Public Workshops

The Okaloosa-Walton Transportation Planning Organization will hold two public workshops on Thur., Jan. 25 at 5 p.m. at the Northwest Florida State College Robert L. F. Sikes Center located at 805 E James Lee Blvd. in Crestview, Fla. and Mon., Jan. 29 at the Fort Walton Beach Public Library located at 185 Miracle Strip Pkwy. SE in Fort Walton Beach.

The workshops will discuss and solicit public input for the addition of Rasberry Road Extension to Arena Road in Crestview and Highway 98 Realignment Alternative 2B in Fort Walton Beach to the Long Range Transportation Plan (LRTP) Needs Plan. Additionally, the workshops will discuss and solicit public input for the addition of the Project Development & Environment Study and Design phases for: Highway 98 at CR 30A East pedestrian underpass in Santa Rosa Beach; Highway 98 at Highway 331 flyover interchange in Santa Rosa Beach; Eastern Crestview bypass; U.S. 98 Realignment Alternative 2B in Fort Walton Beach to the Long Range Transportation Plan (LRTP) Cost Feasible Plan. For more information, contact Jill Lavender at 850-332-7976, ext. 212, or Jill.Lavender@wfrpc.org.

In compliance with the Americans with Disabilities Act, reasonable accommodations to access meeting, and for limited English proficiency, are available upon request. Persons who require special accommodations under the Americans with Disabilities Act or persons who require translation services should contact Public Involvement toll-free 800-226-8914, ext. 281 or 800-995-8771 for TTY-Florida, at least 48 hours in advance. Por favor a la Sr. Dan Deanda, de los requistos de acceso o el idioma en el 850-332-7976, ext. 227 o 800-995-8771 para TTY-Florida al menos 48 horas de antelacion. Participation is solicited without regard to race, color, national origin, age, sex, religion, disability, or family status. Persons who believe they have been discriminated against on these conditions may file a complaint with the Title VI Coordinator, 850-332-7976, ext. 220.

Okaloosa-Walton TPO Board Meeting

The **Okaloosa-Walton Transportation Planning Organization** (TPO) will hold a public meeting at **3 p.m.**, **Thur., Feb. 22, 2018,** in the **Walton County Courthouse,** located at 571 U.S. Highway 90 DeFuniak Springs, Fla. The **Citizens' Advisory Committee** (CAC) will meet at **9:30 a.m.** and the **Technical Coordinating Committee** (TCC) will meet at **1:30 p.m.** in the same location.
The TPO will consider: Adoption of Targets for Safety Performance Measures; Amending the 2040 Okaloosa-Walton Long Range Transportation Needs Plan for the addition of Rasberry Road Extension and U.S. 98 Realignment Alternative 2B in Fort Walton Beach and to Amend the Cost Feasible Plan for the addition of PD&E and Design phases for U.S 98 at CR 30A (east) Pedestrian Underpass, U.S. 98 at U.S. 331 Flyover Interchange, and U.S. 98 Realignment Alternative 2B in Fort Walton Beach; Approval of the Advertisement for Letters of Interest and Scope of Services for the Selection of the TPO's General Planning Consultants (GPC); Stating Opposition to Florida Senate Bill 1516 and Florida House Bill 575 as Written; Recommendation of Tri-County Community Council, Inc. as the Single Designated Community Transportation Coordinator for Walton County; and appointing a Primary member to the Northwest Florida Regional Transportation Planning Council (RTPO).
A full agenda is available at www.wfrpc.org. *In compliance with the Americans with Disabilities Act, reasonable accommodations to access meeting, and for limited English proficiency, are available upon request. Persons who require special accommodations under the Americans with Disabilities Act or persons who require translation services should contact Public Involvement toll-free 800-226-8914, ext. 281 or 800-995-8771 for TTY-Florida, at least 48 hours in advance. Por favor a la Sr. Dan Deanda, de los requistos de acceso o el idioma en el 850-332-7976, ext. 227 o 800-995-8771 para TTY-Florida al menos 48 horas de antelacion*. Participation is solicited without regard to race, color, national origin, age, sex, religion, disability, or family status. Persons who believe they have been discriminated against on these conditions may file a complaint with the Title VI Coordinator, 850-332-7976, ext. 220. The Okaloosa-Walton TPO is staffed by the West Florida Regional Planning Council, a regional entity providing professional technical assistance, planning, coordinating, and advisory services to local governments, state and federal agencies, and the public to preserve and enhance the quality of life in northwest Florida.

Update to Previous Advertisement Concerning the Okaloosa-Walton TPO Board Meeting

The **Okaloosa-Walton Transportation Planning Organization** (TPO) public meeting at **3 p.m.**, **Thur., Feb. 22, 2018,** in the **Walton County Courthouse,** located at 571 U.S. Highway 90 DeFuniak Springs, Fla. The **Citizens' Advisory Committee** (CAC) will meet at **9:30 a.m.** and the **Technical Coordinating Committee** (TCC) will meet at **1:30 p.m.** in the same location.

In addition to the previously published advertisement the TPO will also consider Amending the 2040 Okaloosa-Walton Long Range Transportation Cost Feasible Plan for the addition of PD&E and Design phases for Crestview Bypass (east).

A full agenda is available at www.wfrpc.org. *In compliance with the Americans with Disabilities Act, reasonable accommodations to access meeting, and for limited English proficiency, are available upon request. Persons who require special accommodations under the Americans with Disabilities Act or persons who require translation services should contact Public Involvement toll-free 800-226-8914, ext. 281 or 800-995-8771 for TTY-Florida, at least 48 hours in advance. Por favor a la Sr. Dan Deanda, de los requistos de acceso o el idioma en el 850-332-7976, ext. 227 o 800-995-8771 para TTY-Florida al menos 48 horas de antelacion*. Participation is solicited without regard to race, color, national origin, age, sex, religion, disability, or family status. Persons who believe they have been discriminated against on these conditions may file a complaint with the Title VI Coordinator, 850-332-7976, ext. 220. The Okaloosa-Walton TPO is staffed by the West Florida Regional Planning Council, a regional entity providing professional technical assistance, planning, coordinating, and advisory services to local governments, state and federal agencies, and the public to preserve and enhance the quality of life in northwest Florida.

Okaloosa-Walton Transportation Planning Organization OWTPO

Amy Jamieson
Chairperson

Nathan Boyles
Vice Chairman

P.O. Box 11399 • 32524-1399 Pensacola, FL | 4081 E. Olive Road-Suite A • 32514
P: 850.332.7976 • 1.800.226.8914 • F: 850.637.1923 | www.wfrpc.org

MEETING OF THE TRANSPORTATION PLANNING ORGANIZATION

Thursday, February 22, 2018 3:00 p.m.

Walton County Courthouse, BCC Boardroom, 1st Floor
571 U.S. Highway 90 E., DeFuniak Springs

Citizens' Advisory Committee (CAC) - 9:30 a.m. | Technical Coordinating Committee (TCC) - 1:30 p.m.

A. CALL TO ORDER / PLEDGE – *Chairperson Amy Jamieson*

B. APPROVAL OF AGENDA
Any new action items to be added to the agenda must be approved by a vote of two-thirds (2/3) of the TPO members present.

C. PUBLIC FORUM
Please obtain a speaker request form from WFRPC staff. Speakers are asked to limit their remarks to **five** minutes.

D. FDOT UPDATE: Mr. Bryant Paulk, AICP, or Ms. Christy Johnson, AICP, Florida Department of Transportation (FDOT) Urban Liaisons

E. CONSENT:

1. **ALL COMMITTEES** - Approval of December 14, 2017 Meeting Minutes

F. ACTION:

1. **ENCLOSURE A – ALL COMMITTEES (PUBLIC HEARING AND ROLL CALL VOTE REQUIRED)** Consideration of Resolution O-W 18-03 to Amend the 2040 Okaloosa-Walton Long Range Transportation Needs Plan for the addition of Rasberry Road Extension and U.S. 98 Realignment Alternative 2B in Fort Walton Beach and to Amend the Cost Feasible Plan for the addition of PD&E and Design phases for U.S 98 at CR 30A (east) Pedestrian Underpass, U.S. 98 at U.S. 331 Flyover Interchange, U.S. 98 Realignment Alternative 2B in Fort Walton Beach and Crestview Bypass (east) – Ms. Jill Lavender, *WFRPC Staff*

2. **ENCLOSURE B – ALL COMMITTEES** Consideration of Approval of the Advertisement for Letters of Interest and Scope of Services for the Selection of the TPO's General Planning Consultants (GPC) – *Ms. Jill Lavender, WFRPC Staff*

3. **ENCLOSURE C – TPO ONLY** Consideration of Resolution O-W 18-04 Stating Opposition to Florida Senate Bill 1516 and Florida House Bill 575 as Written – Mr. Austin Mount, WFRPC Executive Director

4. **ENCLOSURE D – TPO ONLY** Consideration of Resolution O-W 18-02 to Recommend Tri-County Community Council, Inc as the Single Designated Community Transportation Coordinator for Walton County – *Mr. Howard Vanselow, WFRPC Staff*

5. **ENCLOSURE E – ALL COMMITTEES** Consideration of Resolution O-W 18-01 to Adopt Targets for Safety Performance Measures – *Mr. Gary Kramer, WFRPC Staff*

6. **ENCLOSURE F – TPO ONLY** Consideration of Appointing a Primary member to the Northwest Florida Regional Transportation Planning Council (RTPO) – *Ms. Jill Krug, WFRPC Staff*

G. PRESENTATIONS (no action)**:**

1. **ENCLOSURE G – ALL COMMITTEES** Review of the Okaloosa-Walton Title VI and Nondiscrimination Statement and Procedure Including Limited English Proficiency – *Ms. Brittany Ellers, WFRPC Staff*

2. **ENCLOSURE H – ALL COMMITTEES** Transportation Alternatives (TA) Set-Aside Update – *Ms. Mary Beth Washnock, WFRPC Staff*

3. **ENCLOSURE I – CAC AND TPO ONLY** Presentation of Citizens' Advisory Committee (CAC) Research – *Ms. Annie Walthall, WFRPC Staff*

4. **ENCLOSURE J – ALL COMMITTEES** FISCAL Year (FY) 2019-2020 Unified Work Program – *Ms. Mary Beth Washnock, WFRPC Staff*

H. INFORMATION ITEMS (no presentation necessary)

1. **ENCLOSURE K- ALL COMMITTEES**
   - TCC and CAC December Meeting Minutes
   - O-W TPO December Actions Report
   - SIS Connections Winter 2017 – write up on Bluetooth Study on U.S. 98
   - Eglin Boulevard Resurfacing Project
   - 2018 O-W TPO Schedule

I. OTHER BUSINESS - The next Okaloosa-Walton TPO meeting will be **April 19,2018 at 3:00 p.m. at The Okaloosa County Administration Building, Training Room, 1250 Eglin Parkway Shalimar.** The CAC will meet at 9:30 a.m. and the TCC will meet at 1:30 p.m.

J. ADJOURNMENT

Stay up to date with TPO events and activities on Facebook: www.facebook.com/wfrpc
Questions? Email Ms. Jill Krug, Transportation Program Coordinator, at jill.krug@wfrpc.org

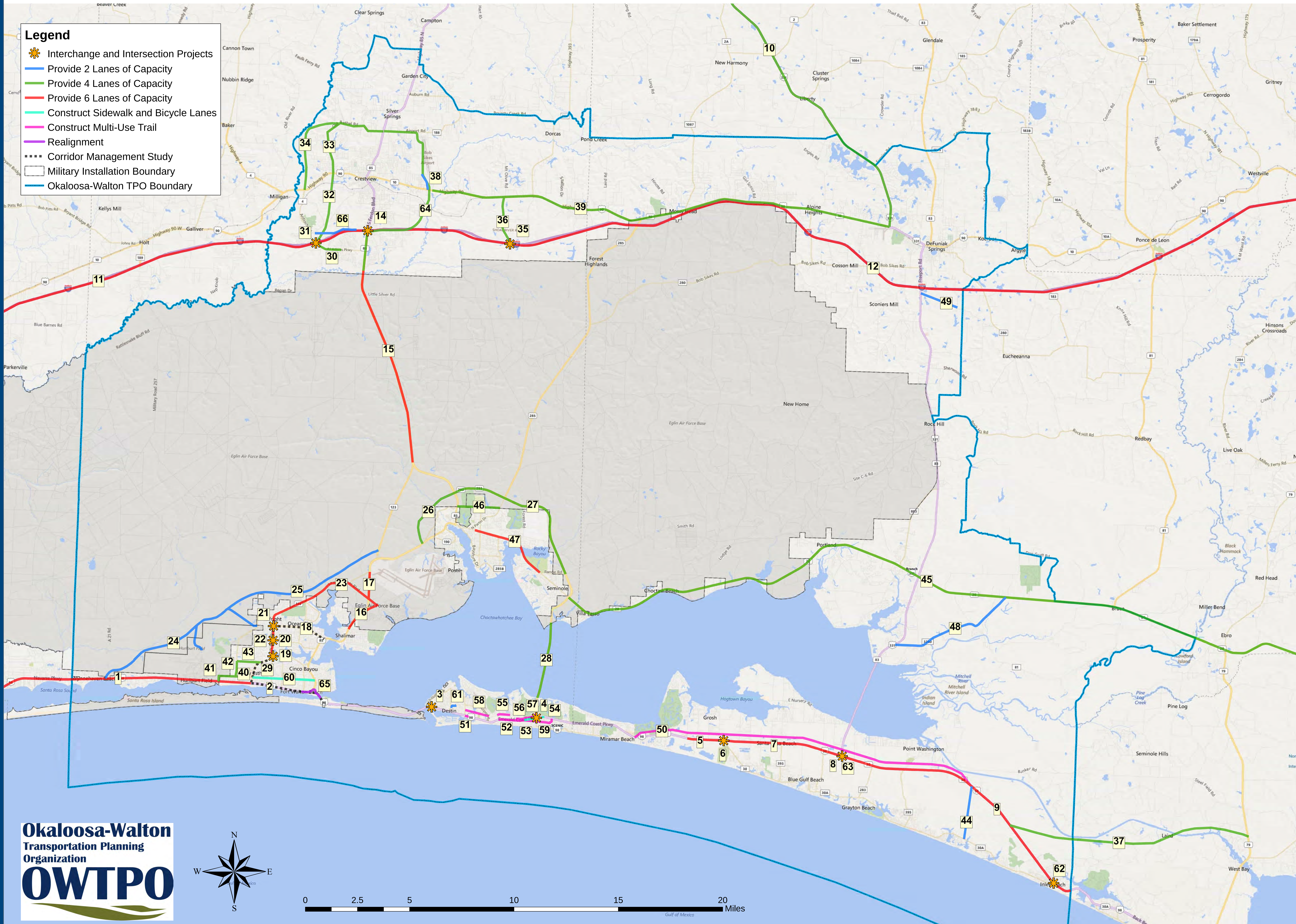
Public participation is solicited without regard to race, color, national origin, sex, age, religion, disability or family status. Reasonable accommodations for access will be made in accordance with the Americans with Disabilities Act and for languages other than English. Please notify Ms. Brittany Ellers, of requirements at titleVI@wfrpc.org or 1-800-226-8914, Extension 220 or 1-800-955-8771 for TTY-Florida at least 48 hours in advance.

Introduzca la participación del público se solicita, sin distinción de raza, color, origen nacional, sexo, edad, religión, discapacidad o estado familiar. La OPC hará arreglos razonables para el acceso a esta reunión de acuerdo con el Americans with Disabilities Act, y para los requisitos de idioma que no seaInglés.Notifique a la Sr. Dan Deanda (dan.deanda@wfrpc.org) de los requisitos de acceso o el idioma en el 850-332-7976 ext. 227 o 1-800-955-8771 para TTY-Florida al menos 48 horas de antelación.

Appendix C

Amended 2040 Needs Plan and Cost Feasible Plan (Maps and Spreadsheets with Costs)

Okaloosa-Walton TPO 2040 Long Range Transportation Plan - Needs Plan Projects - Amended 2/22/18



March 5, 2018 OW_NeedsPlan_2040_Amended022218.mxd

Okaloosa-Walton TPO 2040 LRTP - Needs Plan Project Costs with Proposed Amendments

Roadway Capacity Projects												
Map ID	Corridor	From	To	Project Description	Segment Length	Construction Cost / Mile	Construction Cost	PD&E (5-10%)	Design (10-20%)	ROW (10-100%)	CEI (15%)	Total Cost
1	US98 (SR30)	SR87 (Santa Rosa County)	Hurlburt Field Entrance	Provide 6 lanes of capacity	11.120	$4,147,480	$46,119,978	Underway	Scheduled	$46,119,978	$6,917,997	$99,157,952
2	US98 (SR30)	Hurlburt Field Entrance	Santa Rosa Boulevard	Corridor Management Study	5.680	NA					$0	$150,000
3	US98 (SR30)		at Stahlman Avenue	Major intersection improvement	0.100	NA	$1,200,000	$120,000	$240,000	$1,200,000	$180,000	$2,940,000
4	US98 (SR30)		at Danny Wuerffel Way (SR293)	Major intersection improvement	0.100	NA	$2,000,000	$200,000	$400,000	$2,000,000	$300,000	$4,900,000
5	US98 (SR30)	Mack Bayou Road	CR30A	Provide 6 lanes of capacity	1.710	$4,147,480	$7,092,191	Complete	Underway	Scheduled	$1,063,829	$8,156,019
6	US98 (SR30)		at CR30A (west)	Major intersection improvement	0.100	NA	$950,000	$95,000	$190,000	$950,000	$142,500	$2,327,500
7	US98 (SR30)	CR30A	US331 (SR83)	Provide 6 lanes of capacity	5.838	$3,363,406	$19,635,564	$1,963,556	$2,945,335	$19,635,564	$2,945,335	$47,125,354
8	US98 (SR30)		at US331	Major intersection improvement	0.100	NA	$1,500,000	$150,000	$300,000	$750,000	$225,000	$2,925,000
9	US98 (SR30)	US331 (SR83)	Bay County Line	Provide 6 lanes of capacity	13.160	$3,363,406	$44,262,423	Complete	$6,639,363	$44,262,423	$6,639,363	$101,803,573
10	US331 (SR83)	US90 (SR10)	Alabama State Line	Provide 4 lanes of capacity	21.500	$3,235,454	$69,562,261	Underway	Scheduled	$13,912,452	$10,434,339	$93,909,052
11	I-10 (SR8)	Santa Rosa / Okaloosa Co. Line	Okaloosa / Walton Co. Line	Provide 6 lanes of capacity	25.050	$4,312,523	$108,028,701	$8,642,296	$16,204,305	$10,802,870	$16,204,305	$159,882,478
12	I-10 (SR8)	Okaloosa / Walton Co. Line	Walton / Holmes Co. Line	Provide 6 lanes of capacity	24.150	$4,312,523	$104,147,430	$8,331,794	$15,622,115	$10,414,743	$15,622,115	$154,138,197
13	I-10 to I-65 Connector	I-10 (SR8)	I-65 (Alabama)	Provide 4 lanes of new capacity	75.000	$4,838,275	$362,870,625	$36,287,063	$54,430,594	$181,435,313	$54,430,594	$689,454,188
14	SR85		at I-10 (SR8)	Interchange Improvements	0.100		$800,000	$80,000	$160,000	$800,000	$120,000	$1,960,000
15	SR85	SR 123	I-10 (SR8)	Provide 6 lanes of capacity	11.530	$4,312,523	$49,723,390	$4,972,339	$7,458,509	$12,430,848	$7,458,509	$82,043,594
16	SR85 (Eglin Parkway)	12th Avenue/Richburg Ave.	Eglin AFB West Gate	Provide 6 lanes of capacity	1.810	$4,147,480	$7,506,939	$750,694	$1,501,388	$7,506,939	$1,126,041	$18,392,000
17	SR85 (Eglin Parkway)	General Bond Boulevard	SR 189	Provide 6 lanes of capacity	1.270	$4,147,480	$5,267,300	$526,730	$790,095	$2,633,650	$790,095	$10,007,869
18	SR188 (Racetrack Road)	SR 189 (Beal Parkway)	SR 85 (Eglin Parkway)	Corridor Management Study	2.600						$0	$150,000
19	SR189 (Beal Parkway)		at Mary Ester Boulevard	Major intersection improvement	0.100	$1,500,000	$1,500,000	$150,000	$225,000	$1,500,000	$225,000	$3,600,000
20	SR189 (Beal Parkway)		at Lewis Street	Major intersection improvements	0.100		$1,000,000	$100,000	$150,000	$1,000,000	$150,000	$2,400,000
21	SR189 (Beal Parkway)		at Racetrack Road	Major intersection improvements	0.100		$1,800,000	$180,000	$270,000	$1,800,000	$270,000	$4,320,000
22	SR189 (Beal Parkway)	Mary Esther Parkway	Racetrack Road	Provide 6 lanes of capacity	1.480	$4,147,480	$6,138,270	$613,827	$920,741	$6,138,270	$920,741	$14,731,849
23	SR189 (Lewis Turner Boulevard)	SR188 (Racetrack Road)	Eglin AFB West Gate	Provide 6 lanes of capacity	6.160	$4,147,480	$25,548,477	$2,554,848	$5,109,695	$12,774,238	$3,832,272	$49,819,530
24	Hurlbert Field Bypass	US98 (SR30)	MLK Blvd/Lewis Turner Blvd	New 2 lane connection	5.00	$1,870,831	$9,354,155	$935,416	$1,870,831	$2,338,539	$1,403,123	$15,902,064
25	Fort Walton Beach/Niceville Bypass	Hurlbert Field Bypass	SR123/Airport Connector	New 2 lane connection	7.30	$1,870,831	$13,657,066	$1,365,707	$2,731,413	$3,414,267	$2,048,560	$23,217,013
26	Airport Connector	SR85	Mid-Bay Bridge Road (SR293)	New 4 lane connection	5.20	$4,403,821	$22,899,869	$2,289,987	$4,579,974	$5,724,967	$3,434,980	$38,929,778
27	SR293 (Spence Parkway)	Range Road Interchange	SR85 North	Provide 4 lanes of capacity	7.860	$3,235,454	$49,930,668	$4,993,067	$9,986,134	$4,993,067	$7,489,600	$77,392,536
28	SR293 (Mid-Bay Bridge)	South end of Bridge	North end of Bridge	Provide 4 lanes of capacity	4.690	NA	$130,000,000	$13,000,000	$26,000,000	$13,000,000	$19,500,000	$201,500,000
29	SR393 (Mary Esther Boulevard)	US98 (SR30)	SR 189 (Beal Parkway)	Corridor Management Study	1.800						$0	$150,000
30	PJ Adams/Antioch Road	Wild Horse Drive	I-10 (SR8)	Provide 4 lanes of capacity	4.110	$4,537,318	$18,648,377	$932,419	Complete	Scheduled	$2,797,257	$22,378,052
31	Crestview Bypass (west)		Interchange @ I-10	Construct new interchange	0.001		$17,100,000	Scheduled	$3,420,000	$17,100,000	$2,565,000	$40,185,000
32	Crestview Bypass (west)	I-10 (SR8)/PJ Adams/Antioch Rd	CR188	Provide 4 lanes of capacity	3.500	$4,403,821	$15,413,374	$770,669	$3,082,675	$15,413,374	$2,312,006	$36,992,096
33	Crestview Bypass (west)	US90 (SR10)	Old Bethel Road	Provide 4 lanes of capacity	6.520	$4,537,318	$29,583,313	Scheduled	$4,437,497	$29,583,313	$4,437,497	$68,041,621
34	Crestview Bypass (west)/ CR188	US90 (SR10)	SR85	Provide 4 lanes of capacity	5.000	$4,537,318	$22,686,590	$1,134,330	$4,537,318	$22,686,590	$3,402,989	$54,447,816
35	Mason Cemetery/Jericho Road		Interchange @ I-10	Construct new interchange	0.001		$5,000,000	$500,000	$1,000,000	$1,750,000	$750,000	$9,000,000
36	Mason Cemetery/Jericho Road	I-10 (SR8)	US90 (SR10)	Provide 2 lanes of capacity	2.300	$4,537,318	$10,435,831	$521,792	$2,087,166	$6,261,499	$1,565,375	$20,871,663
37	SR388 (Bay County) Extension	SR79 (Bay County)	US98 (Walton County)	Provide 4 lanes of new capacity	11.500	$4,403,821	$50,643,942	$5,064,394	$10,128,788	$50,643,942	$7,596,591	$124,077,657
38	Bob Sikes Airport Connector	US90 (SR10)	Bob Sikes Airport	Provide 4/2 lanes of new capacity	1.250	$3,140,734	$3,925,918	$392,592	$588,888	$3,925,918	$588,888	$9,422,202
39	US90 (SR10)	Fairchild Road	US331 (SR83) North	Provide 4 lanes of capacity	22.360	$3,235,454	$72,344,751	$7,234,475	$10,851,713	$54,258,564	$10,851,713	$155,541,216
40	Hollywood Boulevard	Hill Avenue	Doolittle Boulevard	Provide 4 lanes of capacity	0.200	$4,537,318	$907,464	$90,746	$136,120	$589,851	$136,120	$1,860,300
41	Hollywood Boulevard Extension	US98 (SR30)	Hill Avenue	Provide 4 lanes of capacity	1.020	$5,809,816	$5,926,012	$592,601	$888,902	$2,963,006	$888,902	$11,259,423
42	Hill Avenue	Hollywood Boulevard	Lovejoy Road	Provide 4 lanes of capacity	0.750	$4,537,318	$3,402,989	$340,299	$510,448	$3,402,989	$510,448	$8,167,172
43	Lovejoy Road	Hill Avenue	Mary Esther Boulevard	Provide 4 lanes of capacity	1.110	$4,537,318	$5,036,423	$503,642	$755,463	$5,036,423	$755,463	$12,087,415
44	South Walton North/South Connector	CR30A	US98 (SR30)	Provide 2 lanes of new capacity	2.150	$3,140,734	$6,752,578	$3,376,289	$675,258	$1,688,145	$1,012,887	$13,505,156
45	SR20	SR293 (Mid Bay Bridge Road)	Bay County Line	Provide 4 lanes of capacity	28.710	$3,235,454	$92,889,884	Scheduled	$18,577,977	$92,889,884	$13,933,483	$218,291,228
46	College Boulevard East	SR85	SR285	Provide 4 lanes of capacity	2.040	$4,537,318	$9,256,129	$925,613	$1,388,419	$4,628,064	$1,388,419	$17,586,645
47	SR20	Cedar Avenue South	Range Road	Provide 6 lanes of capacity	3.980	$4,537,318	$18,058,526	$1,805,853	$3,611,705	$18,058,526	$2,708,779	$44,243,388
48	Black Creek Road	US331 (SR83)	SR20	Provide 2 lanes of new/improved capacity	6.180	$435,044	$2,688,572	$134,429	$268,857	$1,344,286	$403,286	$4,839,429
49	CR208A	Ingram Road	Coy Burgess Road	Provide 2 lanes of new/improved capacity	1.840	$1,870,831	$3,442,329	$172,116	$344,233	$1,721,165	$516,349	$6,196,192
50	Multi-Modal Facility	Scenic Gulf Drive	McDavid Boulevard	Construct multi-use trail	17.000	$418,883	$7,121,011	$356,051	$712,101	$3,560,506	$1,068,152	$12,817,820
51	Multi-Modal Facility along US98 (SR30)	Main Street	Gulf Shore Drive	Construct multi-use trail	0.192	$418,883	$80,426	$4,021	$8,043	$40,213	$12,064	$144,766

Okaloosa-Walton TPO 2040 LRTP - Needs Plan Project Costs with Proposed Amendments

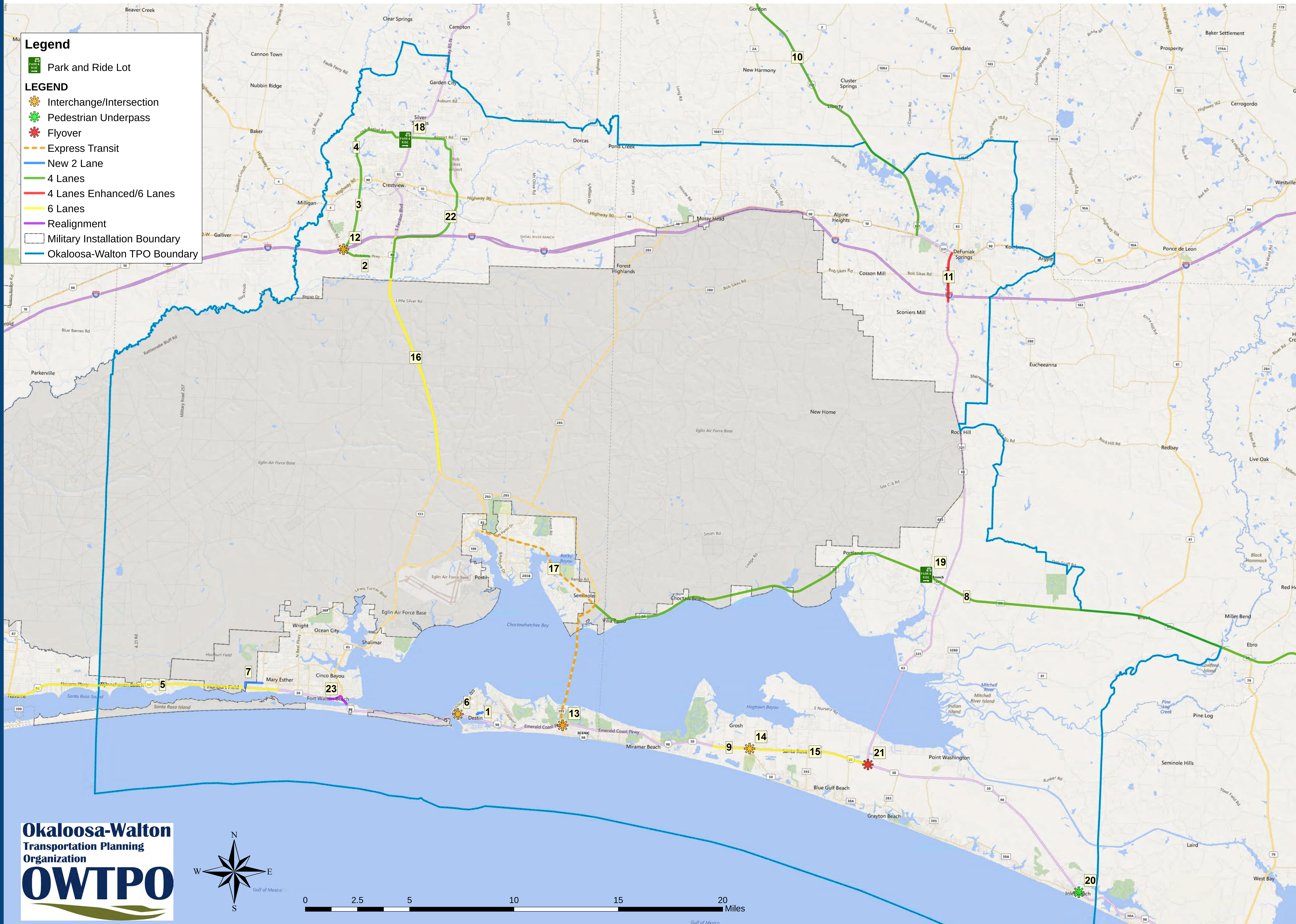
Roadway Capacity Projects

Map ID	Corridor	From	To	Project Description	Segment Length	Construction Cost / Mile	Construction Cost	PD&E (5-10%)	Design (10-20%)	ROW (10-100%)	CEI (15%)	Total Cost
52	Multi-Modal Facility along US98 (SR30)	Indian Bayou Trail	Kelly Plantation Drive	Construct multi-use trail	1.290	$418,883	$540,359	$27,018	$54,036	$270,180	$81,054	$972,646
53	Sidewalk Facilities along US98 (SR30)	Kelly Plantation Drive	Mid-Bay Bridge Road (SR293)	Construct sidewalk on north side of road	0.501	$187,082	$93,728	$4,686	$9,373	$46,864	$14,059	$168,711
54	Sidewalk Facilities along US98 (SR30)	Crystal Beach Drive	Regions Way	Construct sidewalk on north side of road	0.128	$187,082	$23,946	$1,197	$2,395	$11,973	$3,592	$43,104
55	Multi-Modal Facility along Commons Drive	Indian Bayou Drive	Existing multi-modal trail	Construct multi-use trail on north side of road	0.635	$418,883	$265,991	$13,300	$26,599	$132,995	$39,899	$478,783
56	Multi-Modal Facility along Commons Drive	Triumph Drive	Kelly Plantation Drive	Construct a multi-use trail on north side of road	0.440	$418,883	$184,309	$9,215	$18,431	$92,154	$27,646	$331,755
57	Multi-Modal Facility along Commons Drive	Kelly Plantation Drive	Mid-Bay Bridge Road (SR293)	Construct a multi-use trail on north side of road	0.650	$418,883	$272,274	$13,614	$27,227	$136,137	$40,841	$490,093
58	Multi-Modal Facility along the Gulf Power Easement	Airport Road	Main Street	Construct a multi-use trail	1.110	$418,883	$464,960	$23,248	$46,496	$232,480	$69,744	$836,928
59	Multi-Modal Facility along the Gulf Power Easement	US98 (SR30)	US98 (SR30)	Construct a multi-use trail	2.300	$418,883	$963,431	$48,172	$96,343	$481,715	$144,515	$1,734,176
60	Multi-Modal Facility along Hollywood Boulevard	Eglin Parkway (SR85)	Mary Esther Boulevard	Construct sidewalk and bicycle lanes	3.000	$539,719	$1,619,157	$80,958	$161,916	$809,579	$242,874	$2,914,483
61	Destin Cross-Town Connector	Beach Drive	Benning Drive	New road to be constructed between Beach Drive and Benning Drive	0.285	$3,140,734	$895,109	Complete	Underway	$895,109	$134,266	$1,924,485
62	US 98 (SR 30) Pedestrian Underpass		CR 30A East	Pedestrian Underpass	0.001	N/A	$950,000	$47,500	$95,000	$950,000	$142,500	$2,185,000
63	US 98 (SR 30) Flyover		US 331 (SR 83)	Flyover Interchange	0.001		$45,000,000	$2,250,000	$4,500,000	$22,500,000	$6,750,000	$81,000,000
	Crestview Bypass (east)	SR 85 (south of Crestview)	I-10 (SR 8)	Provide 4 lanes of capacity	4.54	$6,093,541	$27,664,676.14	$1,383,234	$2,766,468	$27,664,676	$4,149,701	$63,628,755
64	Crestview Bypass (east)		Interchange @ I-10	Construct New Interchange	0.001		$32,591,741	$1,629,587	$3,259,174	$32,591,741	$4,888,761	$74,961,004
	Crestview Bypass (east)	I-10 (SR 8)	SR 85 (north of Auburn Road)	Provide 4 lanes of capacity	6.9	$6,093,541	$42,045,433	$2,102,272	$4,204,543	$42,045,433	$6,306,815	$96,704,496
65	US 98 (SR30) Realignment (Fort Walton Beach Around the Mound Two-Way)	Beal Parkway	Brooks Bridge	Realign US 98	0.78	$11,454,000	$8,934,000	$670,050	$1,786,800	$8,934,000	$893,400	$21,218,250
66	Rasberry Road Extension	end of roadway	Arena Road	Provide 2 lanes of new capacity	2.03	$2,178,295	$4,421,939	$442,194	$884,388	$4,421,938.85	$663,291	$10,833,750

Map ID	High Capacity Transit Projects						Capital Costs for Equipment	Planning Studies	ITS, Signing, & Shelter Design	Park & Ride ROW	Annual Operating	Total Cost
62	Express Transit Service	Crestview	Eglin Air Force Base	Provide express transit service	22.00	-	$1,800,000	$100,000	$280,000	$200,000	$270,000	$2,650,000
63	Express Transit Service	Crestview	Fort Walton Beach	Provide express transit service	30.00	-	$1,800,000	$100,000	$280,000	$200,000	$270,000	$2,650,000
64	Express Transit Service	Navarre (Santa Rosa County)	Hurlburt Field	Provide express transit service	12.00	-	$1,800,000	$100,000	$280,000	$200,000	$270,000	$2,650,000
65	Express Transit Service	Fort Walton Beach	Destin	Provide express transit service	7.00	-	$1,800,000	$100,000	$280,000	$200,000	$270,000	$2,650,000
66	Express Transit Service	Destin	South Walton County via CR30A	Provide express transit service	30.00	-	$1,800,000	$100,000	$280,000	$200,000	$270,000	$2,650,000
67	Express Transit Service	DeFuniak Springs	South Walton County	Provide express transit service	29.00	-	$1,800,000	$100,000	$280,000	$200,000	$270,000	$2,650,000
68	Express Transit Service	Niceville	Destin	Provide express transit service	15.00	-	$1,800,000	$100,000	$280,000	$200,000	$270,000	$2,650,000
69	Transit Circulator along Scenic Gulf Dr	US98 (SR30)	US98 (SR30)	Provide transit service	5.00	-	$1,800,000	$100,000	$280,000	$200,000	$270,000	$2,650,000
70	Waterborne Transit Service	Navarre (Santa Rosa County)	Destin Harbor	Provide waterborne transit service	21.50	-	$6,000,000	$200,000	$900,000	$600,000	$900,000	$8,600,000
71	Waterborne Transit Service	Cinco Bayou	Destin Harbor	Provide waterborne transit service	6.00	-	$6,000,000	$200,000	$900,000	$600,000	$900,000	$8,600,000
72	Waterborne Transit Service	Destin Harbor	Rocky Bayou	Provide waterborne transit service	10.00	-	$6,000,000	$200,000	$900,000	$600,000	$900,000	$8,600,000
73	Waterborne Transit Service	Destin Harbor	Sandestin/Baytown	Provide waterborne transit service	13.00	-	$6,000,000	$200,000	$900,000	$600,000	$900,000	$8,600,000
74	Waterborne Transit Service	Sandestin/Baytown	LaGrange Bayou	Provide waterborne transit service	14.00	-	$6,000,000	$200,000	$900,000	$600,000	$900,000	$8,600,000
75	Waterborne Transit Service	Sandestin/Baytown	West Bay	Provide waterborne transit service	36.00	-	$6,000,000	$200,000	$900,000	$600,000	$900,000	$8,600,000

8-Feb-18

Okaloosa-Walton TPO 2040 Long Range Transportation Plan - Cost-Feasible Plan Projects - Amended 2/22/18



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Okaloosa-Walton TPO 2040 Cost Feasible Plan SIS Project Listing

Project	From	To	Improvement	U/R	Phase	2015-2020	2021-2025	2026-2030	2031-2040	Totals	Beyond 2040
Transportation Improvement Program (TIP) Projects											
US331 (SR83)	Edgewood Circle	I-10 (SR8)	Widen to 4 lanes	Rural	ROW	$ 1,845,544				$ 1,845,544	
I-10 (SR8)	at Antioch Road		Construction of new interchange	Rural	PD&E	$ 1,020,000				$ 1,020,000	
US98 (SR30)	Airport Road	Walton County Line	Widen to 6 lanes	Urban	ROW	$ 125,080				$ 125,080	
					CST	$ 23,792,436				$ 23,792,436	
					CEI	$ 3,038,395				$ 3,038,395	
US98 (SR30)	Emerald Bay Drive	Tang-o-Mar Drive	Widen to 6 lanes	Urban	CST	$ 32,620,150				$ 32,620,150	
					CEI	$ 4,115,346				$ 4,115,346	
US98 (SR30)	Mack Bayou Road (CR457)	CR30A West	Widen to 6 lanes	Urban	ROW	$ 7,420,000				$ 7,420,000	
US331 (SR187)	US90 (SR10)	South of Holley King Road	Widen to 4 lanes	Rural	PE	$ 3,455,760				$ 3,455,760	
US331 (SR187)	South of Holley King Road	North of Middle Creek Bridge	Widen to 4 lanes	Rural	PE	$ 3,022,425				$ 3,022,425	
US331 (SR187)	North of Middle Creek Bridge	South of CR2	Widen to 4 lanes	Rural	PE	$ 3,175,043				$ 3,175,043	
Roadway Projects											
US98 (SR30)	Mack Bayou Road	CR30A	Widen to 6 Lanes	Urban	CST		$ 7,092,191			$ 7,092,191	
					CEI		$ 1,063,829			$ 1,063,829	
US98 (SR30)	SR87 (Santa Rosa County)	Mary Esther Boulevard	Widen to 6 lanes	Urban	ROW		$ 46,119,978			$ 46,119,978	$ 46,119,978
					CST			$ 46,119,978		$ 46,119,978	$ 46,119,978
					CEI			$ 6,917,997		$ 6,917,997	$ 6,917,997
US98 (SR30)	at Stahlman Avenue		Major intersection improvement	Urban	PD&E		$ 120,000			$ 120,000	
					Design		$ 240,000			$ 240,000	
					ROW			$ 1,200,000		$ 1,200,000	
					CST				$ 1,200,000	$ 1,200,000	
					CEI				$ 180,000	$ 180,000	
US98 (SR30)	at Danny Wuerffel Way (SR292)		Major intersection improvement	Urban	PD&E		$ 200,000			$ 200,000	
					Design		$ 400,000			$ 400,000	
					ROW			$ 2,000,000		$ 2,000,000	
					CST			$ 2,000,000		$ 2,000,000	
					CEI			$ 300,000		$ 300,000	
US98 (SR30)	at CR30A (west)		Major intersection Improvement	Urban	PD&E		$ 95,000			$ 95,000	
					Design		$ 190,000			$ 190,000	
					ROW		$ 950,000			$ 950,000	
					CST		$ 950,000			$ 950,000	
					CEI		$ 142,500			$ 142,500	
US98 (SR30)	CR30A (west)	US331 (SR83)	Widen to 6 Lanes	Urban	PD&E		$ 1,963,556			$ 1,963,556	
					Design		$ 2,945,335			$ 2,945,335	
					ROW				$ 19,635,564	$ 19,635,564	
					CST				$ 19,635,564	$ 19,635,564	
					CEI				$ 2,945,335	$ 2,945,335	
US331 (SR187)	US90 (SR10)	Alabama State Line	Widen to 4 Lanes	Urban	ROW		$ 13,912,452			$ 13,912,452	
					CST				$ 69,562,261	$ 69,562,261	
					CEI				$ 10,434,339	$ 10,434,339	
US331 (SR83)	Coy Burgess Road	US90 (SR10)	Widen to 4 Lanes	Urban	Design		$ 6,639,363			$ 6,639,363	
					ROW				$ 44,262,423	$ 44,262,423	
					CST				$ 44,262,423	$ 44,262,423	
					CEI				$ 6,639,363	$ 6,639,363	
SR85	SR123	I-10	Widen to 6 lanes	Rural	PD&E			$ 4,972,390			
					Design			$ 7,458,509			
					ROW				$ 12,430,848		
					CST				$ 49,723,390		
					CEI				$ 7,458,509		
I-10 (SR8)	at Antioch Road		Construction of new interchange	Urban	Design			$ 3,420,000		$ 3,420,000	
					ROW			$ 17,100,000		$ 17,100,000	
					CST				$ 17,100,000	$ 17,100,000	
					CEI				$ 2,535,000	$ 2,535,000	
US 98 (SR 30) Flyover	at US 331 (SR 83)		Flyover Interchange		PD&E				$ 8,370,000		
					Design				$ 16,740,000		
					ROW						$ 22,500,000
					CST						$ 45,000,000
					CEI						$ 6,750,000
Crestview Bypass (east)		Interchange @ I-10	Construction of New Interchange		PD&E				$ 6,062,064		
					Design				$ 12,124,127		
					ROW						$ 32,591,741
					CST						$ 32,591,741
					CEI						$ 4,888,761
US 98 (SR30) Realignment (Fort Walton Beach Around the N	Beal Parkway	Brooks Bridge	Realign US 98		PD&E				$ 1,246,293		
					Design				$ 3,323,448		
					ROW						$ 8,934,000
					CST						$ 8,934,000
					CEI						$ 893,400

Grand Totals		**$ 83,024,204**	**$ 91,488,874**	**$ 355,870,951**	**$ 400,474,451**	**$ 262,241,596**
ROW & CST		$ 87,086,378	$ 110,431,444	$ 308,005,021	$ 505,522,842	

Color Code:
$0,000.00 = State and Federal Funds
$0,000.00 = PE Funds
$0,000.00 = Local Funds

Okaloosa-Walton TPO 2040 Cost Feasible Plan SIS Project Listing

Project	From	To	Improvement	U/R	Phase	2015-2020	2021-2025	2026-2030	2031-2040	Totals	Beyond 2040
					Available Revenue (SIS Funds)		$97,850,000	$ 158,063,622	$ 317,392,179		
8-Feb-18											
					Balance		$ 10,763,622	$ 47,632,179	**$ 9,387,158**		
					PE Funds		$ 12,793,254	$ 15,850,899	$ 47,865,932		
					Transit Funds		$ -	$ -	$ -		

Okaloosa-Walton TPO 2040 Cost Feasible Plan Non SIS Project Listing

Project	From	To	Improvement	U/R	Phase	2015-2020	2021-2025	2026-2030	2031-2040	Totals	Beyond 2040
Transportation Improvement Program (TIP) Projects											
SR20	SR293 (Mid Bay Bridge Connector)	Walton County Line	Widen to 4 lanes	Rural	PD&E	$ 56,250				$ 56,250	
SR20	Walton County Line	US331 (SR83)	Widen to 4 lanes	Rural	PD&E	$ 3,731,250				$ 3,731,250	
SR20	US331 (SR83)	Washington County Line	Widen to 4 lanes	Rural	PD&E	$ 1,905,371				$ 1,905,371	
US98 (SR30)	Santa Rosa County Line	SR393 (Mary Esther Boulevard)	Widen to 6 lanes	Urban	PE	$ 8,027,910				$ 8,027,910	
Okaloosa County	Countywide		Traffic Signal Update Program	NA	OPS	$ 300,000				$ 300,000	
Anticoh Road	Bel Aire Drive	South of Garrett Pit Road	Widen to 4 lanes	Rural	PD&E	$ 262,500				$ 262,500	
Okaloosa County	Countywide		Traffic Control Devices	NA	OPS	$ 1,900,000				$ 1,900,000	
Walton County	Countywide		Traffice Control Devices	NA	OPS	$ 900,000				$ 900,000	
PJ Adams Parkway	Key Lime Place	SR85 (South Ferdon Boulevard)	Widen to 4 lanes	Rural	CST	$ 2,900,000				$ 2,900,000	
PJ Adams Parkway	Ashley Drive	Key Lime Place	Widen to 4 lanes	Rural	CST	$ 2,824,000				$ 2,824,000	
PJ Adams Parkway	Wild Horse Drive	Ashley Drive	Widen to 4 lanes	Rural	ROW	$ 1,500,000				$ 1,500,000	
					CST	$ 3,800,000				$ 3,800,000	
PJ Adams Parkway	Wild Horse Drive	I-10	Widen to 4 lanes	Rural	ROW	$ 3,400,000				$ 3,400,000	
SR189 (Beal Parkway)	US98 (SR30)	SR393 (Mary Esther Boulevard)	Multi-modal study	NA	PLN	$ 150,000				$ 150,000	
Crestview Byass	US90 (SR10)	SR85 (South Ferdon Boulevard)	Widen/Construct 4 lane facility	Rural	PD&E	$ 1,500,392				$ 1,500,392	
Mobility Programs											
Areawide Signal System Operations	Okaloosa County	$400,000 Annually for Operations and Maintenance	Traffic Control/Traffic Device Operations	NA	NA	-	$ 2,000,000	$ 2,000,000	$ 4,000,000	$ 8,000,000	
Areawide Signal System Operations	Walton County	$200,000 Annually for Operations and Maintenance	Traffic Control/Traffic Device Operations	NA	NA	-	$ 1,000,000	$ 1,000,000	$ 2,000,000	$ 4,000,000	
Advanced Traffic Management Systems Enhancements	Okaloosa & Walton Counties	$600,000 Annually	Traffic Control/Traffic Device Upgrades	NA	NA	-	$ 3,000,000	$ 3,000,000	$ 6,000,000	$ 12,000,000	
Bicycle and Pedestrian Program	Okaloosa & Walton Counties	$500,000 Annually	Plan and implement bicycle and pedestrian projects	NA	NA	-	$ 2,500,000	$ 2,500,000	$ 5,000,000	$ 10,000,000	
Corridor Management Program	Okaloosa & Walton Counties	$120,000 Annually	Conduct corridor management studies	NA	NA	-	$ 600,000	$ 600,000	$ 1,200,000	$ 2,400,000	
Corridor Management Improvement Projects	Okaloosa & Walton Counties	$1,500,000 Annually	Implement corridor management projects identified though the corridor management studies	NA	NA	-	$ 7,500,000	$ 7,500,000	$ 15,000,000	$ 30,000,000	
Public Transportation Capital Improvements Program	Okaloosa County	$300,000 Annually	Purchase replacement buses and/or bus stop amenities	NA	NA	-	$ 1,500,000	$ 1,500,000	$ 3,000,000	$ 6,000,000	
Alternative Fuel Filling Stations	Okaloosa & Walton Counties	$50,000 Annually	Development and implementation of alternative fuel filling stations	NA	NA	-	$ 250,000	$ 250,000	$ 500,000	$ 1,000,000	
Connected/Autonomous Vehicle Program	Okaloosa & Walton Counties	$50,000 Annually	Program to monitor and participate in the development of an autonomous/connected vehicle program.	NA	NA	-	$ 250,000	$ 250,000	$ 500,000	$ 1,000,000	
CR30a Mobility Program	Walton County	TBD	Program to develop multi-modal/autnomous vechcle/alternative fuel transportation options along CR30A.	NA	NA	-					
Regional ITS Program	Okaloosa & Walton Counties	$750,000 for TMC	Plan and Implement a Regional ITS system including construction of a traffic management center.	NA	NA	-	$ 750,000			$ 750,000	
Roadway Projects											

Okaloosa-Walton TPO 2040 Cost Feasible Plan Non SIS Project Listing

Project	From	To	Improvement	U/R	Phase	2015-2020	2021-2025	2026-2030	2031-2040	Totals	Beyond 2040
Destin Cross-Town Connector	Beach Drive	Benning Drive	Construction of new facility	Urban	ROW		$ 895,109			$ 895,109	
					CST		$ 895,109			$ 895,109	
					CEI		$ 134,226			$ 134,226	
Crestview Bypass - PJ Adams/Antioch Road	Wild Horse Drive	I-10 (SR8)	Construction of new 4 lane facility	Urban	CST				$ 18,648,377	$ 18,648,377	
					CEI				$ 2,797,257	$ 2,797,257	
Crestview Bypass - PJ Adams/Antioch Road	I-10 (SR8)	US90 (SR10)	Construction of new 4 lane facility	Urban	Design		$ 7,619,993			$ 7,619,993	
					ROW			$ 38,099,964			
					CST						$ 38,099,964
					CEI						$ 5,714,995
Crestview Bypass - PJ Adams/Antioch Road	US90 (SR10)	SR85 North	Construction of new 4 lane facility	Urban	PD&E		$ 1,134,330			$ 1,134,330	
					Design			$ 4,537,318		$ 4,537,318	
					ROW						$ 22,686,590
					CST						$ 22,686,590
					CEI						$ 3,402,989
US98 (SR30)	SR87 (Santa Rosa County)	Mary Esther Boulevard	Widen to 6 lanes	Urban	ROW						$ 46,119,978
					CST						$ 46,119,978
					CEI						$ 6,917,997
US98 (SR30)	at Stahlman Avenue		Major intersection improvement	Urban	PD&E		$ 120,000				
					Design		$ 240,000				
					ROW			$ 1,200,000			
					CST				$ 1,200,000		
					CEI				$ 180,000		
Hollywood Boulevard Extension	US98 (SR30)	Hill Avenue	Construct new 2 lane facility	Urban	PD&E		$ 592,601			$ 592,601	
					Design			$ 888,902		$ 888,902	
					ROW			$ 2,963,006		$ 2,963,006	
					CST				$ 5,926,012	$ 5,926,012	
					CEI				$ 888,902	$ 888,902	
SR20	SR293 (Mid Bay Bridge Connector)	Walton County Line	Widen to 4 lanes	Rural	Design			$ 6,192,333			
					ROW						$ 30,600,000
					CST						$ 30,000,000
					CEI						$ 4,600,000
SR20	Walton County Line	US331 (SR83)	Widen to 4 lanes	Rural	Design			$ 6,200,000			
					ROW						$ 31,000,000
					CST						$ 30,000,000
					CEI						$ 4,600,000
SR20	US331 (SR83)	Washington County Line	Widen to 4 lanes	Rural	Design			$ 6,195,000			
					ROW						$ 30,650,000
					CST						$ 30,000,000
					CEI						$ 4,600,000
US 98 Pedestrian Underpass	at CR 30A East		Grade separated pedestrian crossing		PD&E				$ 176,700		
					Design				$ 353,400		
					ROW						$ 950,000
					CST						$ 950,000
					CEI						$ 142,500
Crestview Bypass (East)	SR 85 (south of Crestview)	I-10 (SR 8)	Provide 4 lanes of capacity		PD&E				$ 3,601,940		
					Design				$ 7,718,444		
					ROW						$ 27,664,676
					CST						$ 27,664,676
					CEI						$ 4,149,701
Crestview Bypass (East)	I-10 (SR 8)	SR 85 (north of Crestview)	Provide 4 lanes of capacity		PD&E				$ 5,474,315		

Okaloosa-Walton TPO 2040 Cost Feasible Plan Non SIS Project Listing

Project	From	To	Improvement	U/R	Phase	2015-2020	2021-2025	2026-2030	2031-2040	Totals	Beyond 2040
					Design				$ 11,730,676		
					ROW						$ 42,045,433
					CST						$ 42,045,433
					CEI						$ 6,306,815
Non Roadway Projects											
Dedicated Transit Funds							$ 21,451,613	$ 19,109,589	$ 31,451,613	$ 72,012,815	
Express Transit Service	Niceville	Destin	Provide express transit service		FS		$ 100,000			$ 100,000	
					Design		$ 280,000			$ 280,000	
					Park-N-Ride		$ 200,000			$ 200,000	
					Capital		$ 350,000			$ 350,000	
Park-and-Ride Lot	SR85 at Commerce Drive		Construct park and ride lot		Design		$ 15,000			$ 15,000	
					ROW					$ -	
					CST		$ 150,000			$ 150,000	
					CEI		$ 22,500			$ 22,500	
Park-and-Ride Lot	SR20 at East Bay Loop Road		Construct park and ride lot		Design		$ 15,000			$ 15,000	
					ROW					$ -	
					CST		$ 150,000			$ 150,000	
					CEI		$ 22,500			$ 22,500	

	2021-2025	2026-2030	2031-2040	Totals	Beyond 2040
Grand Totals	**$ 51,737,981**	**$ 101,986,112**	**$ 123,347,636**	**$ 196,388,957**	**$ 539,718,315**
ROW & CST	$ 27,490,111	$ 88,859,936	$ 124,323,419		
Available Revenue (Other Arterial Funds)	$ 59,940,000	$ 89,219,889	$ 124,439,953	$ 273,599,843	
Balance	$ 32,449,889	$ 359,953	**$ 116,534**		
Local Funds					
PE Funds	$ 9,476,924	$ 24,013,553	$ 29,055,474.78		
Transit Funds	$ 22,281,613	$ 19,109,589	$ 31,451,613		

Color Code:
$0,000.00 = State and Federal Funds
$0,000.00 = PE Funds
$0,000.00 = Local Funds

8-Feb-18

Appendix D

Public Comment Cards and Correspondence

Okaloosa-Walton
Transportation Planning
Organization
OWTPO

Comment Card

Public input is crucial to the transportation planning process. Please write your comments below as legibly as possible. Your name and contact information are optional.
Thank you!

Name: Steve Baxter **Email:** steve@stevebaxterinsurance.com

Comments: Hwy 98 Realignment - FWB -
Much needed and overdue! Shld be a huge help to making Downtown FWB a Destination!

West Florida Regional Planning Council EST '64

Okaloosa-Walton
Transportation Planning
Organization
OWTPO

Comment Card

Public input is crucial to the transportation planning process. Please write your comments below as legibly as possible. Your name and contact information are optional.
Thank you!

Name: Mark Hamrick **Email:** mhamrick@businteriors.com

Comments: US 98 (SR30) Realignment - Ft. Walton Bch - Around the Mound is a must for the South end of FWB! This project is long over Due! It would be a win win if done at the time of the Brooks Bridge Replacement. The economic impact would be Huge.
This Has gone on to long, let's get it done!

West Florida Regional Planning Council EST '64

Okaloosa-Walton
Transportation Planning
Organization
OWTPO

Comment Card

Public input is crucial to the transportation planning process. Please write your comments below as legibly as possible. Your name and contact information are optional.
Thank you!

President, Downtown FWB Organization, Inc.
Name: Christa R. Machado **Email:** crkmachado@cox.net

Comments: The Downtown FWB Organization, Inc. is in full support of the US 98 (SR 30) Realignment - FWB Around the Mound project. This project will greatly alleviate issues with parking and traffic flow in the Downtown area. Our Organization's greatest concerns throughout this process is preservation of viable and effective businesses in the Downtown area as well as maintaining property values. The goal is to allow/enable the Downtown area to grow and thrive in a walk-about-type of shopping/dining/entertaining environment - a destination for all.

West Florida Regional Planning Council EST '64

Okaloosa-Walton
Transportation Planning
Organization
OWTPO

Comment Card

Public input is crucial to the transportation planning process. Please write your comments below as legibly as possible. Your name and contact information are optional.
Thank you!

Name: Pam + LA Wuddall **Email:** LAANDPamc COX.Net

Comments: Very Excited about Around the Mound.

West Florida Regional Planning Council EST '64

Okaloosa-Walton
Transportation Planning
Organization
OWTPO

Comment Card

Public input is crucial to the transportation planning process. Please write your comments below as legibly as possible. Your name and contact information are optional.
Thank you!

Name: Jason Floyd **Email:** j.floyd@jdfarchitecture.com

Comments: As a current business owner in the City of Fort Walton Beach and a true native of Fort Walton Beach, myself along with many other business owners fully support the relocation of Hwy 98 to "around the mound". Our downtown area truly needs ~~to~~ revitalization and I strongly feel this will accomplish this much needed change. As a Fort Walton Beach Chamber of Commerce Board Member, I would also mention our full board is in support of this.

West Florida
EST '64
Regional Planning Council

Okaloosa-Walton
Transportation Planning
Organization
OWTPO

Comment Card

Public input is crucial to the transportation planning process. Please write your comments below as legibly as possible. Your name and contact information are optional.
Thank you!

Name: Nick Chubb **Email:** nchubb77@cox.net

Comments: I'm in favor of Advancing Around the Mound 2B Realignment of 98 in FWB

West Florida
EST '64
Regional Planning Council

Okaloosa-Walton
Transportation Planning
Organization
OWTPO

Comment Card

Public input is crucial to the transportation planning process. Please write your comments below as legibly as possible. Your name and contact information are optional.
Thank you!

Name: Donna Tashik

Email: dtashikarcemerakcoast@gmail.com

Comments: WE NEED the ~~Arou~~ Around the Mound project to revitalize our downtown Area. The US Hwy 98 Re Alignment (Ft Walton Beach) is long over due. The congestion, if there is 1 fender bender, lasts for hours.

West Florida Regional Planning Council EST '64

Okaloosa-Walton
Transportation Planning
Organization
OWTPO

Comment Card

Public input is crucial to the transportation planning process. Please write your comments below as legibly as possible. Your name and contact information are optional.
Thank you!

Name: Bill Roberts

Email: BROBERTS@BIAFS.COM

Comments: I support the Ft. Walton Beach Around the Mound traffic Route

West Florida Regional Planning Council EST '64

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 96TH TEST WING (AFMC)
EGLIN AIR FORCE BASE FLORIDA

6 February 2018

Brigadier General Evan C. Dertien
Commander, 96th Test Wing
101 West D Avenue, Suite 118
Eglin AFB FL 32542-5495

Ms. Amy Jamieson
Chair, Okaloosa-Walton Transportation Planning Organization
4081 East Olive Road, Suite A
Pensacola FL 32514

Dear Ms. Jamieson

The 96th Test Wing (96 TW) has reviewed the recently provided Okaloosa-Walton Transportation Planning Organization (TPO) 2040 Long Range Transportation Plan (LRTP) - Needs Plan and its proposed amendments. The 96 TW previously conducted mission impact assessments on various aspects of the 2035 plan as the TPO began development of its 2040 LRTP. The result was the TPO agreeing to remove the incompatible segments. Since this time, these same segments have reappeared in the 2040 Needs Plan as proposed amendments. I would like to address each segment of concern specifically:

Segment 64 of Attachment 1 (eastern Crestview bypass): The Eastern bypass, as depicted in the 2040 Needs Plan, is not favorable due to the terms of the Restrictive Use Easement and the impact on 96 TW mission sets. The 96 TW requests it be removed from further consideration in the 2040 LRTP.

Segment 26 of Attachment 1 (airport connector from SR 85 to Mid Bay Bridge road): This segment required two issues to be resolved prior to receiving approval. No record exists of any long-term collaboration taking place since this direction was provided. The 96 TW has no objection to the inclusion of this segment, but asks for additional coordination. I invite you to work with my Base Civil Engineer, Colonel John Schuliger, and his staff to address the issues associated with this segment and update the status of this proposal as necessary.

Segments 24/25 of Attachment 1 (southern bypass segments): The previous longstanding conceptual approval granted to the Northwest Florida Transportation Corridor Authority was rescinded in April 2014 due to significant mission changes on the Eglin Test and Training Complex. Since this time, Eglin's military mission continues to evolve. Due to this continued evolution, the 96 TW requests that the southern segments, as depicted, be removed from further consideration in the 2040 LRTP.

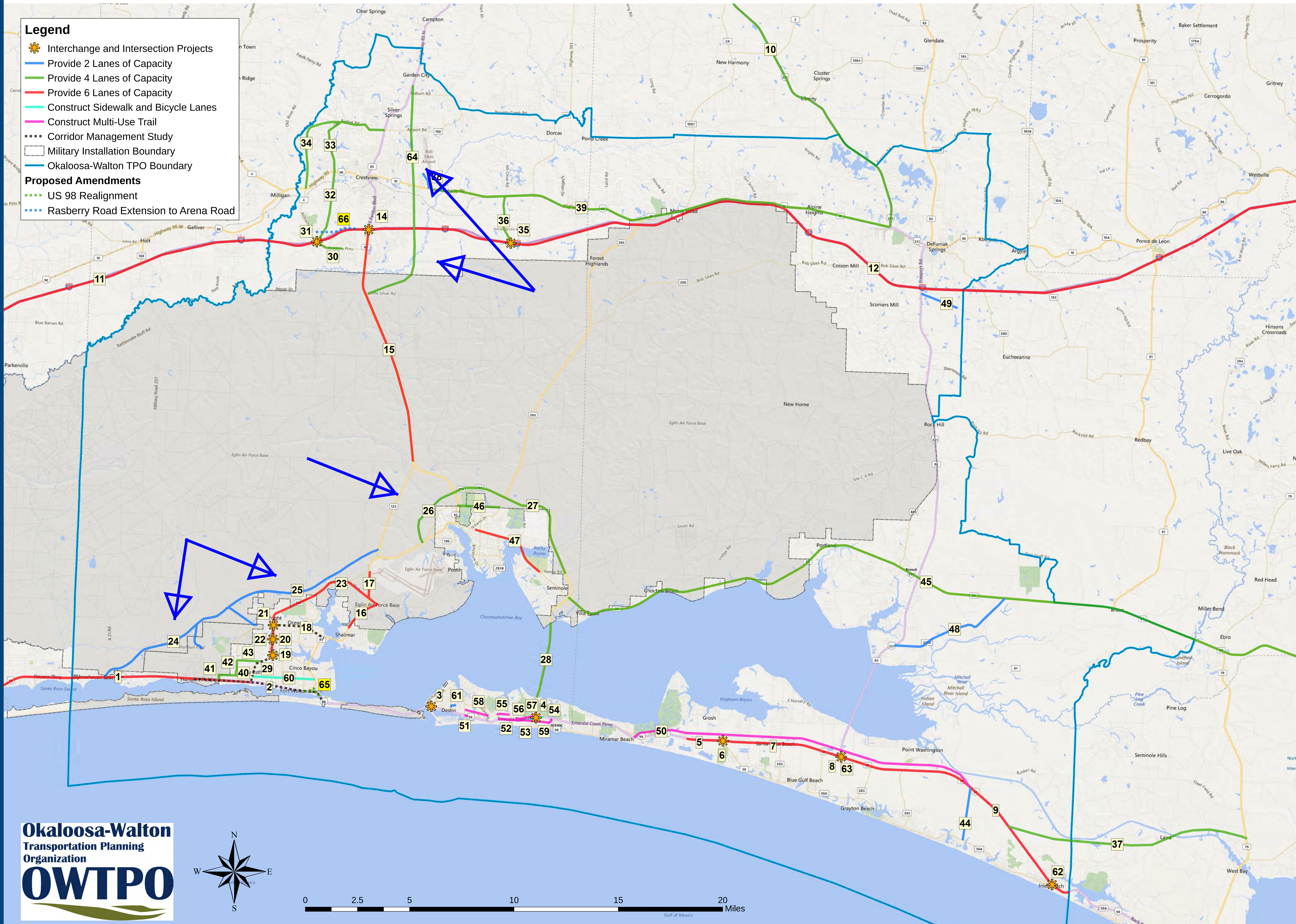
Should you have any further questions regarding this matter, please contact Mr. Tom Tolbert, Community Planner, 96 CEG/CENPL, (850) 882-6993, robert.tolbert.2@us.af.mil.

Sincerely

EVAN C. DERTIEN
Brigadier General, USAF

Attachment:
Okaloosa-Walton TPO 2040 LRTP - Needs Plan Projects - Proposed Amendments (Map)

Okaloosa-Walton TPO 2040 Long Range Transportation Plan - Needs Plan Projects - Proposed Amendments



January 24, 2018 OW_NeedsPlan_2040_Amd_012418.mxd

Atch 1

Appendix B: Triumph Funding Applications

Eastern Crestview Bypass

TRIUMPH GULF COAST, INC. PRE-APPLICATION FORM

Triumph Gulf Coast, Inc. ("Triumph Gulf Coast") has created a pre-application process to provide initial consideration of potential ideas for projects or programs that may seek an award of funding. Applicants are required to participate in the pre-application process. Notwithstanding the response from Triumph Gulf Coast on the pre-application form, an Applicant may still elect to submit an Application.

APPLICANT INFORMATION:

Name of Individual/Entity/Organization: Okaloosa County

Brief Description of Background of Individual/Entity/Organization: County government

Contact Information:

Primary Contact Information: Jane Evans
Title: Grants and RESTORE Manager
Mailing Address: 1250 North Eglin Parkway, Suite 102
Telephone Number: 850-651-7521
Email Address: jevans@co.okaloosa.fl.us
Website: www.co.okaloosa.fl.us

Names of co-applicants, partners or other entities, organizations that will have a role in the proposed project or program: Florida Department of Transportation

REQUIRED EXECUTIVE SUMMARY:
In a maximum of three (3) pages, please describe the proposed project or program, including (i) the amount of funds being sought from Triumph Gulf Coast; (ii) the amount and identity of other sources of funds for the proposed project or program; (iii) the location of the project or program; (iv) summary description of the proposed program, including how the program will be transformational and promote economic recovery, diversification, and enhancement of the disproportionately affected counties, and (v) a summary timeline for the proposed project or program.

IMPORTANT NOTICE

This pre-application process will **not** result in an award of funding by Triumph Gulf Coast. Rather, this process is designed to facilitate submission of ideas for potential projects or programs before the Applicant expends time and/or resources to complete a full Application. All Applicants for funding are required to complete an Application, which will be scored, and then considered for award in the discretion of Triumph Gulf Coast Board.

Triumph Required Executive Summary:

Pre-Application (Maximum of 3 pages)

Describe the proposed project or program: **Eastern Crestview Bypass PD&E**

An Eastern Crestview Bypass is needed to divert traffic from State Route (SR) 85. SR 85 is a primary commuter route to military bases and tourist destinations. Monday through Friday, SR 85 backs up from I-10 to Duke Field; a distance of 6 miles.

The Eastern Crestview Bypass corridor is not set and a Plan Development & Environmental (PD&E) Study is needed to determine the best alignment for the roadway.

Northbound motorists on SR 85 trying to enter Crestview during PM rush.

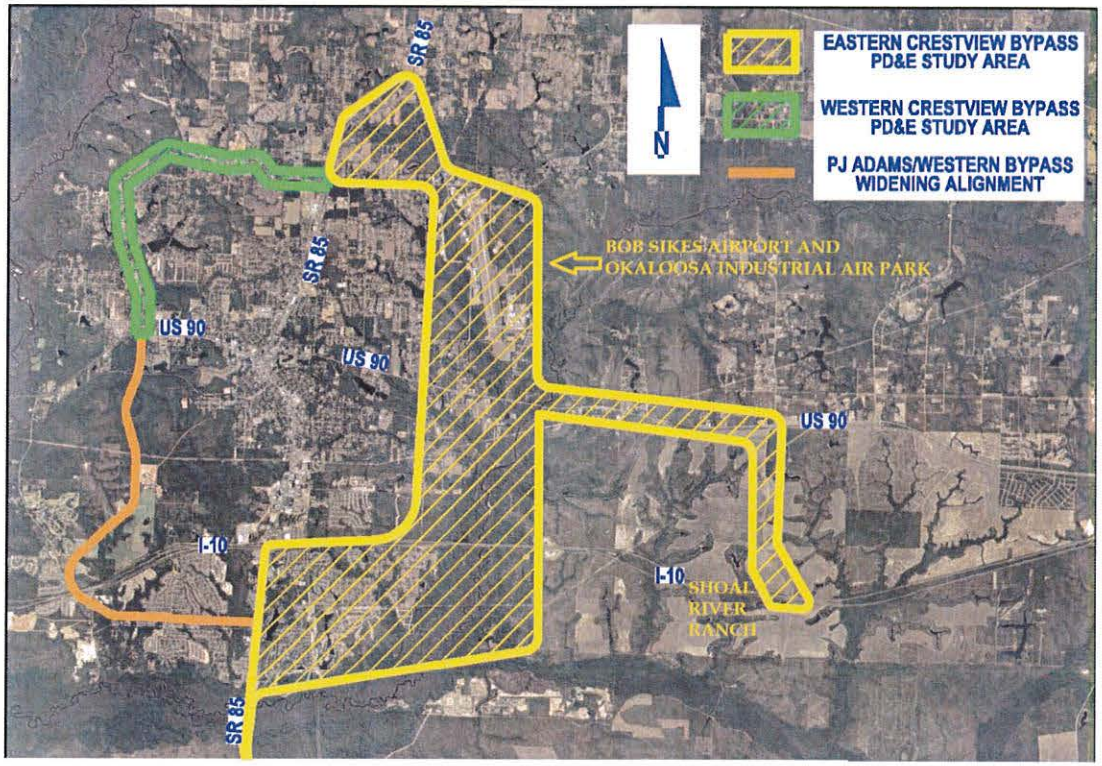
(i) the amount of funds being sought from Triumph Gulf Coast: $4.5 Million.

(ii) the amount and identity of other sources of funds for the proposed project or program:

Okaloosa County will commit $500 Thousand towards the PD&E Study to identify the best route for the Eastern Crestview Bypass. Special attention would be needed for this PD&E to ensure the constructible options do not interfere with the military mission of Eglin Air Force Base, which bi-sects Okaloosa County.

(iii) the location of the project or program:

A Bypass around Crestview is needed. The southwest portion of the Bypass has been studied and is set. Funds are allocated in the year 2020 for a PD&E study for the northwest portion of the Bypass. $5 Million is needed for a PD&E study for the Eastern Crestview Bypass. It would start near the Shoal River Bridge south of Crestview, curve east and north towards I-10, continue north and cross US 90, curve west and north towards SR 85 and terminate near the intersection of SR 85 and Airport Road. The Eastern Crestview Bypass could be positioned on the east or west side of the Bob Sikes Airport. The Eastern Crestview Bypass could also branch out towards the Shoal River Ranch and encompasses an Interchange with I-10 as shown by the far right hashed yellow leg of the sketch below.



EASTERN CRESTVIEW BYPASS (PD&E STUDY)

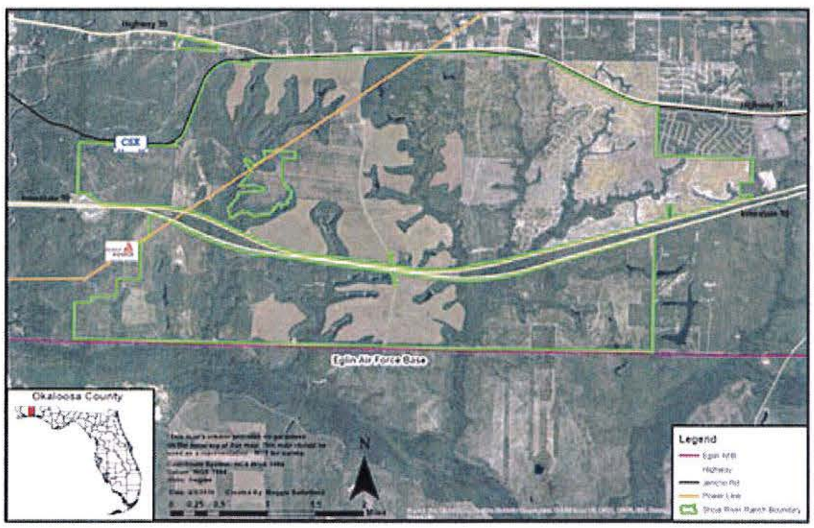
(iv) summary description of the proposed program, including how the program will be transformational and promote economic recovery, diversification, and enhancement of the disproportionately affected counties:

The Eastern Crestview Bypass is needed to allow traffic to flow through the City of Crestview. The Eastern Bypass would provide valuable connections to the Bob Sikes Airport, the Okaloosa Industrial Air Park, and the Shoal River Ranch.

The Bob Sikes Airport offers an 8,000 foot runway and offers an ideal environment for aerospace industry and component manufacturing. Okaloosa County's largest defense contractor currently operates a site at the airport.

The Okaloosa Industrial Air Park, shown right, is also located at Bob Sikes Airport. The Industrial Air Park contains 360 acres for general aviation and is located within an Enterprise Zone. The Industrial Air Park has also successfully completed Gulf Power's Park certification program, known as the Florida First Sites program.

The Shoal River Ranch, shown right, is located on the east side of Crestview and contains over 10,000 acres of developable land. The Shoal River Ranch contains railroad access and an FDOT maintained overpass at I-10 that could be converted into an Interchange.



The Eastern Crestview Bypass could provide transformational access to the Bob Sikes Airport, the Okaloosa Industrial Air Park, and Shoal River Ranch. Traffic congestion on SR 85 chokes potential development. The Eastern Crestview Bypass would accelerate development and economic opportunities that would move Okaloosa County towards high-paying jobs that are not dependent on tourism.

In addition, the Eastern Crestview Bypass would reduce response time for military initiatives and provide hurricane evacuation routes for citizens, military, and tourists.

(v) a summary timeline for the proposed project or program:

The PD&E study for the Eastern Crestview Bypass would begin in 2019.

Board of County Commissioners

State of Florida

May 22, 2018

Honorable Don Gaetz, Chairman
Triumph Gulf Coast, Inc.
Attn: Susan Skelton, Executive Director
P.O. Box 12007
Tallahassee, FL 32317

RE: Okaloosa County and City of Crestview Project Application – Southwestern Crestview Bypass and Rasberry Road Connector (Pre-application #45 and #46)

Dear Mr. President:

Please find the enclosed application for the above project. This project has been approved by the Board of County Commissioners (Board) and the City of Crestview City Council (Council) for official submission to Triumph Gulf Coast, Inc. and is hereby presented for your consideration. As you know, and will see by our accompanying joint resolution and those from local communities offering their support, this is the county's top and most urgent project. We understand that any agreement by Triumph Gulf Coast to fund this request may take precedence over all others, and we stand in agreement.

Recognizing Triumph's goal to leverage available funds for transformational projects within impacted communities, the County is providing this project submission as the follow-up for the initial pre-applications previously approved. Having carefully evaluated the benefits to the local economy and already having expended or committed County or City funds of $37,966,000 plus United States Department of Transportation Federal Highway Administration and Florida Department of Transportation funds of $96,953,000, the Triumph match of $64,100,000 requested will finish out the project to completion.

Thank you in advance for your consideration of the above-mentioned project. Should you have any questions or need further information, please contact Jane Evans, Grants and RESTORE Manager at (850)651-7521 or jevans@myokaloosa.com.

Sincerely,

Commissioner Graham W. Fountain
Chairman

302 N. Wilson St • Crestview, FL 32536 • (850) 689-5030 • Fax: 689-5059

1250 N. Eglin Pkwy, Suite 100 • Shalimar, FL 32579 • (850) 651-7105 • Fax: 651-7142

RESOLUTION 18-17

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF DESTIN, FLORIDA; MAKING VARIOUS LEGISLATIVE FINDINGS; RECOGIZING THE NEED FOR THE CONSTRUCTION OF THE SOUTHWESTERN CRESTVIEW BYPASS AND RASBERRY ROAD CONNECTOR PROJECT; SUPPORTING THE JOINT APPLICATION OF THE CITY OF CRESTVIEW AND OKALOOSA COUNTY TO TRIUMPH GULF COAST, INC. FOR THE FUNDING OF THE PROJECT; PROVIDING FOR TRANSMISSION AND AN EFFECTIVE DATE.

WHEREAS, Highway 85 from the City of Crestview south to the cities of Niceville, Valparaiso, Shalimar, Fort Walton Beach and Destin is the primary thoroughfare for the motoring public to travel north and south through the Eglin Air Force Base reservation; and

WHEREAS, Highway 85 provides the most significant transportation route for residents and visitors traveling from the north Okaloosa County area to the various municipalities within the southern parts of the County and is the County's only designated hurricane or disaster evacuation route (north and south); and

WHEREAS, the traffic congestion on Highway 85 has reached its maximum limits, numbering over 52,000 cars traversing the roadway daily, and causing the Florida Department of Transportation (FDOT) to declare the highway up to the intersection of Interstate 10 a "failed transportation system" in the state; and

WHEREAS, the traffic congestion along this corridor has caused commercial and industrial ventures to seek other locations for their businesses, and has adversely impacted on the operation and readiness of the United States Air Force due to traffic build ups on Highway South 85, which has resulted in the inability to transport fuel and service vehicles on and off of Duke Field and the 7th Special Forces, impacted timely staff responses on emergency call and resulted in extended driving commutes for military personnel; and

WHEREAS, the Okaloosa County Board of County Commissioners and the City Council of Crestview (Council) are submitting a joint application to the Board of Directors of Triumph Gulf Coast, Inc. to obtain funding to construct the "Southwestern Crestview Bypass and Rasberry Road Connector Project" which will provide essential relief to the congestion on Highway 85 and transform the transportation network in the north area of Okaloosa County; and

WHEREAS, the construction of the Southwestern Crestview Bypass and Rasberry Road Connector Project will provide significant benefits not only to the north areas of the County but also the City of Destin and other municipalities within the southern area.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF DESTIN AS FOLLOWS:

SECTION 1. RECITALS. The above recitals are true and correct and are hereby incorporated herein by reference.

SECTION 2. SUPPORT OF THE PROJECT. The City Council of the City of Destin, Florida supports the application of the City of Crestview and Okaloosa County for the funding of the Southwestern Crestview Bypass and Rasberry Road Connector Project and encourages the Board of Directors of Triumph Gulf Coast, Inc. to support this historic and transformational project with funding.

SECTION 3. TRANSMISSION AND EFFECTIVE DATE. The City Council hereby directs the transmission of a certified copy of this Resolution to the Triumph Gulf Coast, Inc. Board of Directors, the City of Crestview and Okaloosa County. This Resolution shall be effective upon adoption.

ADOPTED THIS 21ST DAY OF MAY 2018
By:

For

Gary Jarvis, Mayor

ATTEST:

Rey Bailey, City Clerk

Approved as to form and legal sufficiency for the City of Destin, only:

Jeffrey Burns, City Attorney

I hereby certify this is a
true and correct copy as is on
file with my office.

Rey Bailey, City Clerk, Destin, FL

RESOLUTION NO. 18-05-01

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF NICEVILLE, FLORIDA; MAKING VARIOUS LEGISLATIVE FINDINGS; RECOGNIZING THE NEED FOR THE CONSTRUCTION OF THE SOUTHWESTERN CRESTVIEW BYPASS AND RASPBERRY ROAD CONNECTOR PROJECT; SUPPORTING THE JOINT APPLICATION OF THE CITY OF CRESTVIEW AND OKALOOSA COUNTY TO TRIUMPH GULF COAST, INC. FOR THE FUNDING OF THE PROJECT; PROVIDING FOR TRANSMISSION AND AN EFFECTIVE DATE.

WHEREAS, Highway 85 from the City of Crestview south to the cities of Niceville, Valparaiso, Shalimar, Fort Walton Beach and Destin is the primary thoroughfare for the motoring public to travel north and south through the Eglin Air Force Base reservation; and

WHEREAS, Highway 85 provides the most significant transportation route for residents and visitors traveling from the north Okaloosa County area to the various municipalities within the southern parts of the County and is the County's only designated hurricane or disaster evacuation route (north and south); and

WHEREAS, the traffic congestion on Highway 85 has reached its maximum limits, numbering over 52,000 cars traversing the roadway daily, and causing the Florida Department of Transportation (FDOT) to declare the highway up to the intersection of Interstate 10 a "failed transportation system" in the state; and

WHEREAS, the traffic congestion along this corridor has caused commercial and industrial ventures to seek other locations for their businesses, and has adversely impacted on the operation and readiness of the United States Air Force due to traffic build ups on Highway South 85, which has resulted in the inability to transport fuel and service vehicles on and off of Duke Field and the 7th Special Forces, impacted timely staff responses on emergency call and resulted in extended driving commutes for military personnel; and

WHEREAS, the Okaloosa County Board of County Commissioners and the City Council of Crestview (Council) are submitting a joint application to the Board of Directors of Triumph Gulf Coast, Inc. to obtain funding to construct the "Southeastern Crestview Bypass and Raspberry Road Connector Project" which will provide essential relief to the congestion on Highway 85 and transform the transportation network in the north area of Okaloosa County; and

WHEREAS, the construction of the Southeastern Crestview Bypass and Raspberry Road Connector Project will provide significant benefits not only to the north areas of the County but also the City of Niceville and other municipalities within the southern area.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF NICEVILLE AS FOLLOWS:

SECTION 1. RECITALS. The above recitals are true and correct and are hereby incorporated herein by reference.

SECTION 2. SUPPORT OF THE PROJECT. The City Council of the City of Niceville, Florida supports the application of the City of Crestview and Okaloosa County for the funding of the Southeastern Crestview Bypass and Raspberry Road Connector Project and encourages the Board of Directors of Triumph Gulf Coast, Inc. to support this historic and transformational project with funding.

SECTION 3. TRANSMISSION AND EFFECTIVE DATE. The City Council hereby directs the transmission of a certified copy of this Resolution to the Triumph Gulf Coast, Inc. Board of Directors, the City of Crestview and Okaloosa County. This Resolution shall be effective upon adoption.

ADOPTED in Regular Session this 8th day of May, 2018.

THE CITY COUNCIL OF THE
CITY OF NICEVILLE, FLORIDA

Randall Wise
MAYOR

ATTEST:

David [illegible]
CITY CLERK

Economic Development Council
of Okaloosa County, Florida

May 16, 2018

Commissioner Graham Fountain, Chairman, Okaloosa County Board of County Commissioners
Councilman J.B. Whitten, President, Crestview City Council

Dear Chairman Fountain and President Whitten:

The Economic Development Council of Okaloosa County is pleased to submit this letter of support for joint efforts undertaken by the Okaloosa County Board of County Commissioners and the Crestview City Council to relieve the long-standing and debilitating traffic congestion on SR 85. As you both know, excessive traffic congestion such as what is routinely experienced on SR 85 has a myriad of negative economic impacts. Examples of these include:

- Excessive commute times for employees, impacting both employee recruitment and retention
- Unnecessary delays in the shipment of inbound and outbound materials, supplies and product
- Negative impacts on businesses that depend on foot traffic
- A less than inviting experience for visitors, potentially impacting sales tax / bed tax revenue

In addition, and of particular note, is the significant strain that SR 85 gridlock is placing on our vital military missions at the 7th Special Forces, Duke Field, Camp Rudder, Hurlburt Field and Eglin Air Force Base. With these installations and missions generating a combined $9.7 billion annual economic impact and providing some 72,000 local jobs, the steps you are taking to resolve SR 85 congestion are absolutely vital to not only our national security, but also to our community's economic future.

The EDC recognizes that the multi-phased, multi-pronged strategies currently being developed by the Okaloosa County Board of County Commissioners and the City of Crestview are complex and costly. However, like both of you, we also understand that the alternative of "doing nothing" will be even more costly to our community in the long run. As we readily acknowledge the impact of SR 85 gridlock to our local and regional economy, please know that we stand in full support of any and all reasonable strategies you jointly identify to solve these considerable challenges.

Sincerely,

Kim Wintner
Chairman
EDC of Okaloosa County

Nathan Sparks, CEcD
Executive Director
EDC of Okaloosa County

CC: Okaloosa County Board of County Commissioners
Crestview City Council
Mr. John Hofstad, Okaloosa County Administrator
Ms. Elizabeth Roy, Crestview City Clerk

GREATER FORT WALTON BEACH
CHAMBER OF COMMERCE

34 Miracle Strip Parkway, S.E. • P.O. Box 640
Fort Walton Beach, FL 32549
Office: 850-244-8191 • Fax: 850-244-1935
www.fwbchamber.com

"Building Bridges for our Community"

May 8, 2018

Congressman Matt Gaetz
Senator George Gainer
Rep Mel Ponder
Okaloosa County Board of County Commissioners
City of Crestview Mayor Cadle

To Our Esteemed Elected Officials:

On behalf of the Greater Fort Walton Beach Chamber of Commerce Board of Directors, we share our resounding support of your collaborative effort to add another interstate exchange at I-10 & Antioch Road/PJ Adams Parkway and construct a 4-lane bypass connecting south Hwy 85 and West Hwy 90 in Crestview.

We understand how this project—in the north part of the county—will benefit all the activities down here in the south part of the county!

This project will:

*Improve traffic congestion and quality of life for all employees who live in mid and north county communities, and commute to the south county;

*Support the military community who is also negatively impacted both moving employees, and quickly fulfilling essential missions, due to traffic back-ups;

*Improve safety and hurricane evacuation routes;

*More efficiently allow our visitors to quickly and smoothly arrive to their final destinations on the coast.

We stand by ready to assist in any way. We could not be more proud of this collaborative spirit as we all work together to move Okaloosa County forward.

Please keep up the good work,

Nick Chubb
2018 Chair of The Board

Ted Corcoran
President/CEO

TRIUMPH GULF COAST, INC.
FUNDING PROPOSAL

SOUTHWESTERN CRESTVIEW BYPASS AND RASBERRY ROAD CONNECTOR

(Reference: #45 and #46 Pre-applications)

Application submitted by
Okaloosa County Board of County Commissioners
and City of Crestview City Council

May 2018

Applicant Information

1. Name of Entity/Organization: Okaloosa County Board of County Commissioners and City of Crestview City Council

2. Background of Applicant Individual/Entity/Organization:

   Okaloosa became the 52nd county in Florida on September 7, 1915 and was created from part of Santa Rosa and Walton Counties. The purpose of Okaloosa County Government is to be responsive to citizens in providing an appropriate level of accessible services on a cost-effective basis. Critical County values include the following: continual improvement of infrastructure; health, safety, and well-being of the citizens; preservation of natural resources; responsible economic development; leadership; and stewardship.

   Retrieved from https://www.co.okaloosa.fl.us/

   The City of Crestview received its charter from the Florida Legislature and was officially incorporated in 1916. Crestview's name was chosen because it is located on the peak of a long woodland range between the Yellow and Shoal Rivers, which flow almost parallel on the east and west side of the city. After Okaloosa County was formed by the State Legislature in 1915, from portions of western Walton County and eastern Santa Rosa County, Crestview became the County Seat in 1917 and remains so today.

   Retrieved from https://www.cityofcrestview.org/257/History

3. Federal Employer Identification Number: County - 59-6000765 City - 59-6000295

4. Contact Information:

Primary Contact Information:	Jane Evans
Title:	Grants & RESTORE Manager
Mailing Address:	1250 North Eglin Parkway, Suite 102
	Shalimar, FL 32579
Phone:	850-651-7521
Email:	jevans@myokaloosa.com
Website:	www.myokaloosa.com

5. Total amount of funding requested from Triumph Gulf Coast: **$64.1 Million**

6. Has the applicant in the past requested or applied for funds for all or part of the proposed project/program?

   Yes

   If yes, please provide detailed information concerning the prior request for funding:

   For the Southwestern Bypass, the FDOT and Okaloosa County have worked jointly on funding the Project Development and Environment (PD&E) studies and design (from SR 85 to I-10, one-half of the Bypass) which are complete. In addition, Right-of-Way (ROW) acquisition is in progress for the Bypass from SR 85 to I-10, funded by Federal Local Agency Program (LAP) funding and State Transportation Regional Incentive Program (TRIP) funding with County match. The project has been divided into phases: with four phases covering SR 85 to I-10; the proposed interchange at I-10; and Phase V, a four-lane highway from I-10 to Highway 90. Construction funding is in place for Phases I-III of the project; however, no funds for construction have been identified for Phase IV and westerly to Highway 90. The Florida Legislature approved $1,750,000 in funding for construction of Phase IV in 2017; however, the project was line-item vetoed and no funding for construction will be received from this funding source. In addition, the City of Crestview has also applied for funding for the Rasberry Road Connector through the Florida Legislature with no funds committed or received.

7. Describe the financial status of the applicant and any co-applicants or partners:

   The Comprehensive Annual Financial Reports (CAFR) are found at the Okaloosa County website, http://www.co.okaloosa.fl.us/bcc/budget.

   The City of Crestview Budget Manual for Fiscal Year 2017-18 is found at the City website: https://www.cityofcrestview.org/DocumentCenter/View/759

8. Has the applicant or any co-applicants, partners or any associated or affiliated entities or individuals filed for bankruptcy in the last ten (10) years?

   No

Eligibility

1. From the choices below, please check the box that describes the purpose of the proposed project or program (check all that apply):

   ☒ Public infrastructure projects for construction, expansion, or maintenance which are shown to enhance economic recovery, diversification, and enhancement of the disproportionately affected counties

2. Provide the title and a detailed description of the proposed project or program, including the location of the proposed project or program, a detailed description of, and quantitative evidence demonstrating how the proposed project or program will promote economic recovery, diversification, and enhancement of the disproportionately affected counties, a proposed timeline

for the proposed project or program, and the disproportionately affected counties that will be impacted by the proposed project or program.

a. Project Title:

Southwestern Crestview Bypass and Rasberry Road Connector

Note: Okaloosa County and the City of Crestview would like to combine two pre-applications that were submitted on November 13, 2017 by the County, and additionally were invited to continue with full applications based on the February 7, 2018 Triumph Gulf Coast, Inc. formal letter. The two pre-applications are P.J. Adams Parkway Phase IV (#45) and Rasberry Road Connector (#46).

b. Project Manager:

Project Manager
Scott Bitterman
County Engineer – Public Works Engineering
Okaloosa County
850.423.4863
sbitterman@myokaloosa.com

City of Crestview Liaison
Wayne Steele
Public Services Director
City of Crestview
850.682.6132
steele@cityofcrestview.org

c. Project Description & Location:

Okaloosa County, the City of Crestview and the State of Florida are collectively working to improve the transportation network in northern Okaloosa County to address drastic traffic issues and concerns. A bypass is desperately needed around Crestview to divert traffic from State Road (SR) 85 to areas in and around Crestview to the west. State Road 85 is a Strategic Intermodal System (SIS) roadway and a primary commuter route to multiple military bases and tourist destinations. During the afternoons of Monday through Friday, commuter traffic regularly backs up over six miles along SR 85 from north of Interstate 10 (I-10) to Duke Field. The delays are often much longer when the snarls are exacerbated by traffic crashes along the single corridor (SR 85) leading from south to north County. SR 85 currently provides the only means of ingress/egress to I-10 in the Crestview area. P.J. Adams Parkway, an overcapacity two lane road, provides the only other Crestview option for crossing I-10 (with no interchange at their intersection). Those seeking access to the western and northwestern reaches of the County (and millions of tourists from throughout the Southeastern US via I-65 and I-10 heading to and from the beaches) are forced into this heavily congested chokepoint.

A route to more expediently move traffic from south SR 85 to US Hwy 90 west of Crestview at Old Bethel Road, utilizing a newly four-lane P.J. Adams Parkway, a newly constructed Southwestern Crestview Bypass Road, and an improved Rasberry Road, has been identified and deemed feasible for this purpose. In addition to relieving the afternoon commuter congestion coming from SR 85, this project would allow residents on the west side of the north county area to access the commercial areas in Crestview without accessing SR 85 or crossing I-10. Such a connection would be beneficial to all area citizens and visitors by reducing the amount of traffic and delays on both SR 85 and P.J. Adams Parkway.

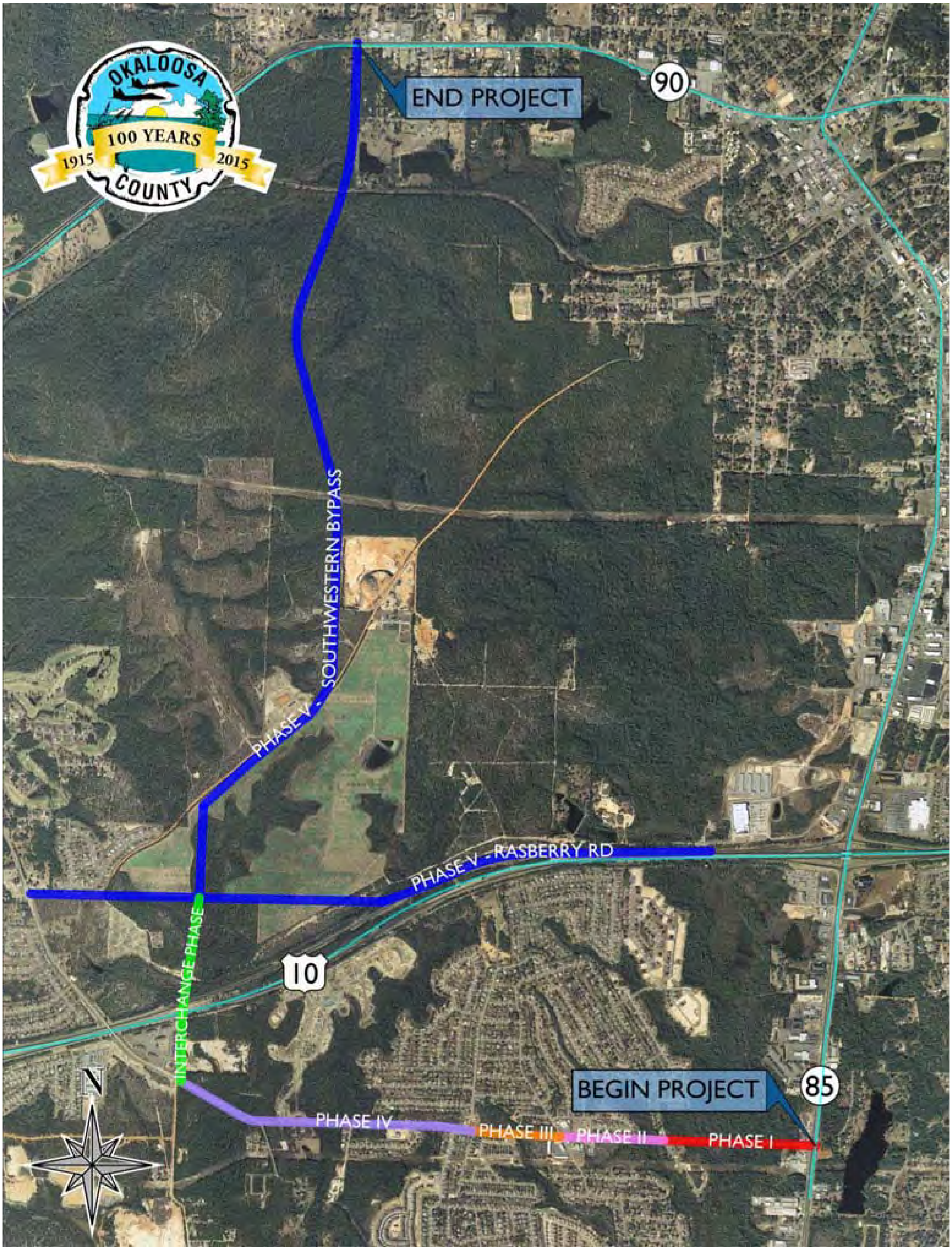
The multi-segmented improvements of P.J. Adams Parkway are the first phases of the Southwestern Crestview Bypass and Rasberry Road Connector project that will widen and expand existing P.J. Adams Parkway from a two-lane undivided roadway to a four-lane divided urban collector. Commencement of construction on the first phases of these improvements is imminent. Increasing capacity on P.J. Adams Parkway will encourage more traffic to divert from SR 85, which is currently operating far above capacity. According to FDOT, SR 85 had an annual average daily traffic (AADT) volume of 52,000 vehicles per day just south of I-10 in 2017. In comparison, I-10 had an AADT of only 20,500 just east of SR 85 during the same period.

In addition, in 2016, the City of Crestview and Okaloosa County signed a Memorandum of Understanding to facilitate the development of a concept for the improvement of Rasberry Road (an unimproved City street). The City and the County agreed to share staff resources to assist in the defining of a preferred alignment for Rasberry Road, to secure necessary right-of-way and to identify potential funding sources for the project. To complete the remainder of the bypassing of Crestview, FDOT has committed to construct a new interchange on I-10 just east of the existing intersection with Antioch Road, and Okaloosa County will construct the new Southwestern Bypass Road that will close the connection to US Hwy 90 west of the City of Crestview.

Beyond the needs of north County locals and commuters, SR 85 is <u>the sole</u> hurricane evacuation route utilized by Okaloosa County citizens, the military installations (due to their proximity to the Gulf of Mexico) and over four million tourists each year. Currently there is grave concern that evacuations can't be accomplished timely and effectively in preparation for a serious weather event. The proposed roadway improvement project will provide increased capacity to move motorists out of the area more quickly and potentially prevent loss of life. In addition, the increased transportation capacity will facilitate easier access to the area for our military and public safety personnel that will be critical to citizen protection, while providing supplies and recovery after a catastrophic weather event.

Military mission capability is directly and adversely impacted by the congestion in the proposed project area. The access roads to Duke Field and the 7th Special Forces Group fall within the peak congestion area. These facilities have a reputation for responding to worldwide contingencies on very short notice. In general, the operational and readiness issues our US DOD bases are experiencing due to the extreme traffic congestion on SR 85 is of equally paramount importance to the economy of both Okaloosa County and the City of Crestview. Duke Field, the 7th Special Forces Cantonment and the US Army Ranger Camp are unable to move fuel and service vehicles in and out of their facilities during extended periods each day. In addition, all bases throughout the area cannot depend on timely staff responses on emergency call back events and are experiencing unacceptably long commute times for military and civilian personnel living in the north end of the county. Crestview and the north county area offer highly desirable and affordable housing options for military and civilian support personnel employed at south county military facilities. Local military leaders have expressed concern regarding extended length duty days caused by increased personnel commute times. See the attached March 30, 2018 letter from Brigadier General Evan C. Dertien outlining the 96th Test Wing's concerns with the existing traffic conditions.

This funding request will open approximately 300 acres within the City of Crestview for commercial economic development as well as 1,800 acres for residential development. Additionally, it will provide acceleration of critically needed transportation improvements.


OKALOOSA
100 YEARS
1915
2015
COUNTY
END PROJECT
90
PHASE V - SOUTHWESTERN BYPASS
PHASE V - RASBERRY RD
INTERCHANGE PHASE
10
BEGIN PROJECT
85
PHASE IV
PHASE III
PHASE II
PHASE I
N

d. Economic Recovery, Diversification and Enhancement Description:

The City of Crestview, Okaloosa County's seat, has experienced rapid economic growth, becoming the largest municipality in Okaloosa County in 2010. With growth have come more people, more businesses, and ultimately, more vehicles to place stress on area road infrastructure. From an economic development aspect, congestion may be a good indicator of active and vibrant urban places. However, congestion is generally a negative as it means access is impeded. In the case of business, unreasonable travel times resulting from inefficient and overburdened transportation systems can serve as a significant deterrent to business attraction. To most businesses, time is money. As such, the unforeseen time that critical goods, supplies and people are spending in transit can – and does – cause significant challenges to time dependent businesses.

The EDC of Okaloosa County continues to compete for large scale manufacturing and distribution projects which generally run 12 to 24-hour shifts. The current gridlock for those traveling north on SR 85 in the late afternoon could have implications on north county businesses hiring employees for evening shifts. In addition, miles of congested traffic can easily be construed by CEOs and decision makers that are scouting the community for potential locations as an indicator that the community is unable to devise effective solutions to solve such obvious challenges impacting its businesses and overall citizenry. It also becomes a Quality of Life issue. As the City of Crestview and north Okaloosa County grow and traffic continues to build, relieving traffic pressure will address the Quality of Life issues and workforce problems when the community is recruiting economic development prospects.

Economic Recovery

Currently, the eight industries below account for 56,308 total jobs, which represent 52% of Okaloosa County's total private sector employment. Based on data provided by the University of West Florida's Haas Center, the total employment represented by these eight employment sectors is anticipated to grow by 6% - from 56,308 to 59,498 - over the next ten years, representing expected growth of 3,190 jobs.

Description	2018 # Jobs	% of Okaloosa Employment
Services	27,782	25.72%
Retail Trade	12,454	11.53%
Finance, Insurance and Real Estate	5,289	4.90%
Construction	5,239	4.85%
Manufacturing	2,925	2.71%
Transportation and Warehousing	1,324	1.23%
Wholesale Trade	1,146	1.06%
Agriculture, Forestry, Fishing and Hunting	149	0.14%
	56,308	**52.14%**

The proposed Southwestern Crestview Bypass and Raspberry Road Connector Project will influence economic recovery by further facilitating the lateral flow of commerce in a post-recession economy. The project will promote economic diversification via additional industries and income sources that are not directly related to each other. In addition, it will add economic diversification via jobs in highway construction, home building and commercial construction in combination with traditional industries such as agriculture/fishing, service, retail trade and wholesale trade.

Congestion on a major artery like Highway 85 can stymie economic growth, as businesses that are consistently impacted by the inefficient flow of product, employees and customers are – at a minimum – unable to achieve optimal growth. As a result, many are then placed at risk of closure/failure. Some, wishing to "get ahead" of the negative impact resulting from transportation inefficiencies will opt to relocate to communities where transportation challenges have either been successfully mitigated or are non-existent.

Just as congestion can stymie economic growth, the introduction of well-configured and efficient transportation solutions designed to resolve impediments can accelerate economic growth. Referring back to the data provided by the UWF Haas Center, it should be noted that certain higher wage Okaloosa County industries (including manufacturing) are projected to lose employment over the next five to ten years. Recognizing the direct linkage that exists between efficient transportation systems and manufacturing, in particular, it is easy to ascertain that the current daily bottleneck on SR 85 is a significant factor in the projected downturn of this high wage employment sector. In the same regard, if congestion is alleviated, the trend could very well be reversed for this sector, while other sectors where growth is currently projected could see that growth accelerated. Bottom line, while the net effect of the UWF Haas projections for the next ten years is 3,190 jobs today, the contemplated SR 85 improvements will support job creation over and above these projections.

In addition to private sector sustainment and growth, another vital consideration is the monumental economic value of the military to Okaloosa County and this sector's reliance on – and expectation of – efficient transportation systems. According to the 2017 Florida Defense Factbook, Okaloosa County enjoys a $9.7 billion economic impact including approximately 72,000 jobs attributed to missions housed at Eglin AFB, Hurlburt Field, Duke Field and the 7th Special Forces. The growing congestion on SR 85 is now a heightened concern to installation command, as the resulting travel delays have considerable negative implications for mission readiness. This is especially noteworthy considering the military's significant economic value to Okaloosa County and the community's clear desire to sustain and protect these missions from downsizing / future BRAC actions. Certainly, transportation efficiencies directly impacting mission readiness can easily place Okaloosa's military installations – and their staggering economic contributions – at future risk.

Diversification

With locational advantages already proven to be of considerable value to the manufacturing sector, the 300 acres of commercial property and surrounding properties that will be open for development along the newly constructed Rasberry Road Corridor fronting I-10 between two interchanges (with direct access to US 90 also), present a compelling opportunity to accommodate large scale, high value economic development projects – opportunities that stand to be effectively unlocked with the construction of the bypass project.

The state and specifically, Northwest Florida, has placed an increased emphasis on the manufacturing industry as a targeted sector for economic diversification. In fact, manufacturing employment percentages in Florida (3.9%) and the region (3.3%) currently lag the nation as a whole – where manufacturing represents 7.9% of overall employment. For an area heavily dependent on military and tourism employment, this lack of economic diversity was glaringly apparent in the wake of the Deepwater Horizon Oil Spill in 2010 followed by defense Sequestration in 2013 for an area heavily dependent on military and tourism. The need to diversify the economy continues to be a priority of Okaloosa County and its neighbors. In fact, the Economic Development Council (EDC) of Okaloosa County submitted four manufacturing-related applications to the Industry Recruitment Retention and Expansion Fund (an initiative created by Senator Don Gaetz, which set aside $30 million for economic development projects within the eight disproportionately affected counties over three years).

According to the Manufacturing Institute, manufacturing's multiplier effect is stronger than that of other sectors. The backward linkage (or multiplier effect) shows that "Every dollar in final sales of manufactured products supports $1.33 in output from other sectors—this is the largest multiplier of any sector. Manufacturing plants, therefore, have a powerful and positive impact on economic development."

The positive impact of manufacturing jobs is also illustrated in the Northwest Florida Forward Strategic and Technical Reports authored by TIP Strategies and spearheaded by Florida's Great Northwest. According to Policom Corporation, 500 manufacturing jobs create another 1,938 jobs in the restaurant, healthcare, retail, real estate, finance and construction industries.

Enhancement

In a 2006 study, the US DOT estimated that congestion is costing the United States $200 Billion per year in lost time and revenue. Daily congestion costs additional fuel, wear and tear on vehicles and leads to frustrated workers. The congestion on SR 85 directly impacts decisions on where to locate new businesses or when to expand existing businesses throughout the county. Studies have shown that most workers are willing to experience some delay during daily commutes, about five minutes of delay per one-way commute. Delays above five minutes lead to slowed job growth as workers' quality of life is impacted and they desire additional compensation for the delay[1].

[1]Source found in this link: http://journals.sagepub.com/doi/abs/10.1177/0042098013505883

Employees commuting to Crestview from Eglin Air Force Base and south Okaloosa County commonly experience extended commute times of one and a half hours in what would otherwise be a thirty minute commute. The daily congestion is greatly exacerbated when collisions occur, particularly those that require any kind of lane closure. These delays often stretch into hours. Recent accident records show that the number of collisions is steadily increasing on SR 85 throughout the Crestview area and accidents anywhere from Airport Road south negatively (and quickly) affect the afternoon traffic on SR 85 crossing the Shoal River into north County. During the last three years, SR 85 had the following number of crashes between Airport Road (the final traffic signal on the north side of Crestview) and the southern flyover of SR 123 (leaving south County):

- 2015 - 364 Crashes
- 2016 - 332 Crashes
- 2017 - 512 Crashes

Overall, accidents have increased along this critical traffic pipeline by 54% in the last year and 41% over the three-year period.

e. Proposed Project Timeline:

	Bypass Phases I-III	Bypass Phase IV	Bypass Phase V	Rasberry Phase V
Begin Design	Complete	Complete	2019	2018
ROW Acquisition	Complete	2018	2020	2019
Begin Construction	2018	2019	2022	2020
Complete Construction	2019	2020	2025	2021

f. Disproportionately Affected Counties:

Okaloosa, Santa Rosa, Walton

3. Explain how the proposed project or program is considered transformational and how it will affect the disproportionately affected counties in the next ten (10) years.

The Southwestern Crestview Bypass and Rasberry Road Connector project will allow transformational expansion of development in and around Crestview and provide another access to Interstate 10 which is a major route for east/west commerce. The ability to expand development near the Interstate will allow opportunity for commercial and manufacturing commerce development that will be supported year-round, not limited to seasonal spikes. Development can be based on non-seasonal needs, therefore transforming our economy to a more sustainable year-round platform. It is estimated that at minimum, 300 acres of commercial property and 1,800 acres of residential property will be opened for development with the construction of this integral project.

The relief of the extreme traffic congestion along SR 85 in the afternoons will have direct positive impacts to both neighboring Santa Rosa and Walton Counties. When frequent crashes occur along US 98 (another serious traffic bottleneck) between Fort Walton Beach and Navarre/Gulf Breeze, many vehicles divert onto SR 85 to complete their commute into Santa Rosa County via I-10. The additional vehicles exacerbate the SR 85 pileup, adding to the misery of all. In addition, south County commuters have grown wise to the potential of crashes on SR 85, checking their traffic apps for commuting advice as they depart their workplaces. If the severity of the delay warrants, they are directed onto SR 285 through Walton County to I-10 which drastically increases the traffic count on this rural two-lane road through Eglin AFB, adversely impacting the commute of residents who use this route on a routine basis.

4. Describe data or information available to demonstrate the viability of the proposed project or program.

   A PD&E Study is complete for the Southwestern Bypass. Phases I through IV have been designed and funds are available for Right-of-Way (ROW) acquisition. In addition, construction funds for Phases I through III have been secured. The interchange phase will be funded by FDOT. The Okaloosa-Walton TPO has the Southwestern Bypass and Rasberry Road in the Long-Range Transportation Plan.

5. Describe how the impacts to the disproportionately affected counties will be measured long term.

   Long term impacts will be measured by the effects of the improvements on traffic. Capacity, or the amount of traffic, moving across and accessing I-10 in Crestview will be measured before and after the project. In addition, the amount of delay per vehicle on SR 85 will be measured before and after the improvements and compared to a no-build condition.

6. Describe how the proposed project or program is sustainable. (Note: Sustainable means how the proposed project or program will remain financially viable and continue to perform in the long-term after Triumph Gulf Coast, Inc. funding.)

   The new Southwestern Crestview Bypass Road (which will include the expanded P.J. Adams Parkway) will be a County maintained road. Rasberry Road will remain a City maintained road once improved. Each municipal entity will maintain their respective roads under their ongoing Operation and Maintenance (O&M) budgets into the future.

7. Describe how the deliverables for the proposed project or program will be measured.

   The deliverables for this proposed project will be sections of improved or new roads that will be available to the traveling public on the following schedule:

	Bypass Phases I-III	Bypass Phase IV	Bypass Phase V	Rasberry Phase V
Begin Design	Complete	Complete	2019	2018
ROW Acquisition	Complete	2018	2020	2019
Begin Construction	2018	2019	2022	2020
Complete Construction	2019	2020	2025	2021

Priorities

1. Please check the box if the proposed project or program will meet any of the following priorities (check all that apply):

   - ☒ Generate maximum estimated economic benefits, based on tools and models not generally employed by economic input-output analyses, including cost-benefit, return-on-investment, or dynamic scoring techniques to determine how the long-term economic growth potential of the disproportionately affected counties may be enhanced by the investment.
   - ☒ Leverage or further enhance key regional assets, including educational institutions, research facilities, and military bases.
   - ☒ Partner with local governments to provide funds, infrastructure, land, or other assistance for the project.
   - ☒ Benefit the environment, in addition to the economy.
   - ☒ Provide outcome measures.
   - ☒ Are recommended by the board of county commissioners of the county in which the project or program will be located.

2. Please explain how the proposed project meets the priorities identified above.

   This project, which is proposed for Triumph funding will meet many priorities outlined by Triumph Gulf Coast, Inc.

   - Local match for the project is provided by the City/County, as well as partial funding programmed by FDOT/FHWA for corridor improvements. The remainder of the funding, less than 33%, is being requested from Triumph Gulf Coast, Inc.

   - This is a public infrastructure project in which Triumph funding is being sought for partial design and construction. This project will drastically enhance not only economic recovery of the entire County by allowing more growth, but by improving the physical resiliency of the region while drastically improving traffic flow from south to north County.

   - While this grant request is not directly from a tourism entity, this project is supported heavily by the tourism industry because of its impact on the private sector industry sectors directly related to tourism throughout the region.

   - This project will generate maximum economic benefits as shown in the economic data throughout this application. The reaches of this project extend far beyond the initial construction period, and thus throughout the region. The County and the City will experience economic benefits for many years to come from the drastically improved traffic flow as well as the development potential of the 300 acres of commercial property and 1,800 acres of residential property that will be opened with the construction of the bypass network of roads.

   - The increase to household income will be realized in the discretionary disposable income to residents, predominantly those who are of the workforce age.

- This project is directly tied to one of the region's most prominent industries, the military. Many of the people who are stuck in the current traffic nightmare are military personnel and civilian support staff. This project is heavily supported by the military installations not only for traffic flow and mission readiness but because it complies with the military's purpose and does not encourage encroachment on or around the base.

- This project is supported by practically every entity and organization in the region. The Northwest Florida Transportation Corridor Authority has adopted this project as a Top 5 Need of the region. The Okaloosa-Walton TPO has identified this project as a priority and continues to stress its importance to all agencies. The City of Crestview, Okaloosa County, FDOT and Eglin AFB all recognize and understand the importance of and strongly support this project being completed.

- The benefit to the environment can be seen in the direct reduction of CO_2 releases into the atmosphere from drastically reduced idling times of thousands of vehicles on a daily basis. This will not only reduce the amount of emissions but will also improve the overall health of the residents who travel and live along this corridor.

- Outcome measures have been identified and can be tracked.

- This project is the highest project priority of all entities involved.

3. Please explain how the proposed project or program meets the discretionary priorities identified by the Board.

The Okaloosa County BCC has regularly endorsed this project and approved it for grant funding. Specifically, on November 13th, 2017, the BCC approved this project to be submitted to Triumph Gulf Coast, Inc. For the reasons explained above, it is the highest priority of the BCC and will meet many discretionary priorities outlined by Triumph Gulf Coast, Inc.

The City of Crestview and Okaloosa County entered a Memorandum of Understanding to cooperate on the improvement of Rasberry Road as a connector Road in 2016. On March 12, 2018, the City Council approved a letter of support for the joint application to Triumph Gulf Coast Inc. for the Southwestern Crestview Bypass and Rasberry Road Connector project including the commitment of $500,000 of the City's local option gas tax funding for the project.

- This project is considered transformational for the future of the Northwest Florida region by all entities involved. Its impacts are real and will be realized and enjoyed for many years to come.

- This project will also promote net-new jobs in the private sector. In addition, with completion of this project the County will realize increased worker production having a direct correlation to an increase in the County's GDP.

- This project aligns with the Northwest Florida FORWARD plan as follows:

    - *"3.5 … For the region to keep growing, it must continue to improve and expand its road infrastructure. The need for improved mobility options and expanded access to key economic centers was one of the most consistently cited challenges by regional stakeholders. For example, improving mobility along U.S. Highway 98 for commercial traffic, especially in summer months during the height of tourism season, is of particular need. In addition, some outlying rural areas would benefit from enhanced access to I-10, especially those seeking to attract industrial employers to their business parks.*

    - *3.5.3 - Continue implementing the Northwest Florida Transportation Corridor Authority 2013 Master Plan."*

- By completing this project, the impact will be realized not only locally but regionally and nationally.

- After project completion, there is assurance that existing organizations will ensure the roadway is maintained and improved upon. FDOT and the City/County have funds programmed for matching funds, and it will be their responsibility to maintain the roadway once completed.

- Funding leveraged for this project is derived from other governmental agencies being FDOT/FHWA, Okaloosa County and the City of Crestview.

- The support for this project is monumental. The Okaloosa-Walton TPO and the Northwest Florida Transportation Corridor Authority have made this project a top need in both of their project lists. In addition, the attached Joint Resolution of the Board of Okaloosa County Commissioners and the City Council of Crestview, adopted on May 1, 2018, identified this project as the top infrastructure project for Triumph funding for Okaloosa County. Furthermore, the City of Niceville adopted a Resolution in support of the Southwest Crestview Bypass in their May 8, 2018 Council meeting.

- Once completed, the roadway will alleviate significant amounts of traffic congestion and thus allow the region to build capacity for economic growth both directly and indirectly.

- The benefits to the environment will be the direct reduction of CO_2 emissions and an increase in health, while maintaining a focus on business.

4. In which of the eight disproportionately affected county/counties is the proposed project or program located?

    Okaloosa County

5. Was this proposed project or program on a list of proposed projects and programs submitted to Triumph Gulf Coast, Inc., by one (or more) of the eight disproportionately affected Counties as a project and program located within its county?

   Yes, Okaloosa County

6. Does the Board of County Commissioners for each County listed in response to question 5, above, recommend this project or program to Triumph?

   Yes, Okaloosa County Board of County Commissioners' approved this project to be submitted to Triumph Gulf Coast Inc. on November 13th, 2017.

   In addition, the City of Crestview and Okaloosa County entered the attached Memorandum of Understanding to cooperate on the improvement of Rasberry Road as a connector Road in March 2016. On March 12, 2018, the City Council approved the attached letter of support for the joint application to Triumph Gulf Coast Inc. for the Southwestern Crestview Bypass and Rasberry Road Connector project including the commitment of $500,000 of the City's local option gas tax funding for the project. Also, the attached Joint Resolution of the Board of Okaloosa County Commissioners and the City Council of Crestview, adopted on May 1, 2018, identified this project as the top infrastructure project for Triumph funding for Okaloosa County and provided for joint commitments in funding partnerships

Approvals and Authority

1. If the Applicant is awarded grant funds based on this proposal, what approvals must be obtained before Applicant can execute an agreement with Triumph Gulf Coast, Inc.?

   Okaloosa County Board of County Commissioner's approval and City of Crestview City Council's approval through publicly held Board and Council Meetings.

2. If approval of a board, commission, council or other group is needed prior to execution of an agreement between the entity and Triumph Gulf Coast:

a. Provide the schedule of upcoming meetings for the group for a period of at least six months.

   Regular County Commission Board Meetings occur every 1st and 3rd Tuesday of each month. Currently scheduled meetings are as follows. For further meeting dates please refer to the following website: http://okaloosacountyfl.iqm2.com/Citizens/Calendar.aspx

June 5, 2018	July 17, 2018	September 4, 2018
June 19, 2018	August 7, 2018	September 18, 2018
July 10, 2018	August 21, 2018	

Regular City Council Meetings occur every 2nd and 4th Monday of each month. Currently scheduled meetings are as follows. For further meeting dates please refer to the following website: https://www.cityofcrestview.org/calendar.aspx?CID=28,

May 28, 2018	July 23, 2018	September 24, 2018
June 11, 2018	August 13, 2018	October 8, 2018
June 25, 2018	August 27, 2018	October 22, 2018
July 7, 2018	September 10, 2018	

b. State whether that group can hold special meetings, and if so, upon how many days' notice.

Yes, with 7 days' notice

3. Describe the timeline for the proposed project or program if an award of funding is approved, including milestones that will be achieved following an award through completion of the proposed project or program.

	Bypass Phases I-III	Bypass Phase IV	Bypass Phase V	Rasberry Phase V
Begin Design	Complete	Complete	2019	2018
ROW Acquisition	Complete	2018	2020	2019
Begin Construction	2018	2019	2022	2020
Complete Construction	2019	2020	2025	2021

Funding and Budget

1. Identify the amount of funding sought from Triumph Gulf Coast, Inc. and the time period over which funding is requested.

2019 - $8,000,000 for Construction of Phase IV
2019 - $5,100,000 for Design of Phase V
2020 - $7,000,000 for Construction of Phase V - Rasberry Road
2022 - $44,000,000 for Construction of Phase V – Southwestern Bypass

2. What percentage of total program or project costs does the requested award from Triumph Gulf Coast, Inc. represent? (Please note that an award of funding will be for a defined monetary amount and will not be based on percentage of projected project costs.)

The requested funding of $64,100,000 is 32.2% of the total project cost of $199,019,000 for the complete Southwestern Bypass Project, $37,966,000 of which will be provided by Okaloosa County and the City of Crestview. In addition, $96,953,000 will be funded by the FDOT and FHWA.

3. Please describe the types and number of jobs expected from the proposed project or program and the expected average wage.

   The following table forecasts changes in the top eight private sector industries in Okaloosa County if none of the proposed improvements are made.

Five and Ten-Year Changes in Private Sector Industries in Okaloosa County							
Description	2018 Jobs	2023 Jobs	2028 Jobs	2018-23 Change	2018-23 % Change	2018-28 Change	2018-28 % Change
Agriculture, Forestry, Fishing & Hunting	149	152	154	3	2%	5	3%
Construction	5,239	5,291	5,351	52	1%	112	2%
Manufacturing	2,925	2,677	2,495	(248)	(8%)	(430)	(15%)
Wholesale Trade	1,146	1,185	1,210	39	3%	64	6%
Retail Trade	12,454	12,739	12,912	285	2%	458	4%
Transportation and Warehousing	1,324	1,377	1,393	53	4%	69	5%
Finance, Insurance and Real Estate	5,289	5,089	4,938	(200)	(4%)	(351)	(7%)
Services (except Public Administration)	27,782	29,841	31,045	2,059	7%	3,263	12%
	56,308	**58,351**	**59,498**	**2,043**	**4%**	**3,190**	**6%**
Source: UWF Haas Center, EMSI, Florida Department of Economic Opportunity							

Just as congestion can stymie economic growth, the introduction of well-configured and efficient transportation solutions designed to resolve impediments can accelerate economic growth. Referring back to the data provided by the UWF Haas Center, it should be noted that certain higher wage Okaloosa County industries (including manufacturing) are projected to lose employment over the next five to ten years. Recognizing the direct linkage that exists between efficient transportation systems and manufacturing, in particular, it is easy to ascertain that the current daily bottleneck on SR 85 is a significant factor in the projected downturn of this high wage employment sector. In the same regard, if congestion is alleviated, the trend could very well be reversed for this sector, while other sectors where growth is currently projected could see that growth accelerated. Bottom line, while the net effect of the UWF Haas projections for the next ten years is 3,190 jobs today, the contemplated SR 85 improvements will support job creation over and above these projections.

Five Year and Ten Year Average Wage Estimates for Major Cities in Okaloosa County					
Major Cities in Okaloosa County	Average Salary	% Change for Trends in Wages from Q1 2017 to Q1 2018	Trends in Wages for Q1 2022	Trends in Wages for Q1 2027	Projected % Change in Wages 2017 to 2027
Crestview	$37,414	2.5%	$43,373	$47,893	21.88
Fort Walton	$44,626	2.5%	$50,490	$59,974	25.59
Niceville	$41,110	2.5%	$46,512	$55,248	25.59
Destin	$41,311	2.5%	$46,740	$52,882	21.88
Mary Esther	$32,401	2.5%	$36,659	$41,476	21.88
Valparaiso	$41,107	2.5%	$46,509	$55,244	25.59
Shalimar	$59,622	2.5%	$67,457	$76,321	21.88
Data Source: U.S Department of Labor 2018					

Based on data analysis from the U.S. Department of Labor, the proposed project is anticipated to impact the above top seven cities in Okaloosa County by the following trends;

Cities anticipated with highest levels of wage increases from year 2017 to 2027 are Crestview at 21.88%, Fort Walton Beach at 25.59%, Niceville at 25.59% and Valparaiso at 25.59%

Note: Economic information contained throughout this application was obtained from the Okaloosa County Economic Development Council (EDC), the UWF Haas Center and the Northwest Florida Regional Planning Council (NFRPC).

4. Does the potential award supplement but not supplant existing funding sources? If yes, describe how the potential award supplements existing funding sources.

There are no funds available in Okaloosa County or the City of Crestview's Capital Improvement Plans to complete the entirety of the proposed project into the foreseeable future. The grant funds will supplement the $134,919,000 that the County, City, FDOT and FHWA has previously expended on or have committed to the project.

5. Please provide a Project/Program Budget. Include all applicable costs and other funding sources available to support the proposal.

a. Project/Program Costs:

PD&E Study	$2,849,000
Design & Engineering	$19,145,000
Right-of-Way Acquisition	$39,601,000
Construction	$137,424,000
Total Project Costs:	**$199,019,000**

b. Other Project Funding Sources:

Okaloosa County/City	$37,966,000
FDOT/FHWA	$96,953,000
Total Other Funding:	**$134,919,000**

Total Amount Requested: **<u>$64,100,000</u>**

c. Provide a detailed budget narrative, including the timing and steps necessary to obtain the funding and any other pertinent budget-related information.

Funding for the City/County and FDOT/FHWA portions are budgeted and planned through the Okaloosa-Walton Transportation Planning Organization (TPO). However, the Long-Range Transportation Plan only includes funding for the interchange sometime before the year 2040, with no definitive commitment date. In addition, the 2040 Long-Range Transportation Plan does not include any construction funding for Phase V of the Southwest Bypass and Rasberry Road. The City and County intend to use a sales tax ballot initiative in November 2018 to fund $27,500,000 towards the design of and ROW acquisition for Phase V of the Southwestern Bypass and Rasberry Road. Traffic flow around Crestview will improve if Triumph funding is obtained and the Southwestern Bypass and Rasberry Road are constructed. The Interchange Phase will further complement the improvements and FDOT could accelerate this phase to meet the connecting roadways. A detailed budget with existing and proposed funding of each phase by each entity is enclosed below.

Southwestern Bypass	FDOT/FHWA	County/City	Triumph Request
Phase I			
PD&E	$18,000	$18,000	$0
Design	$163,000	$163,000	$0
ROW	$800,000	$800,000	$0
Construction	$835,000	$2,065,000	$0
Phase II			
PD&E	$17,000	$17,000	$0
Design	$125,000	$125,000	$0
ROW	$500,000	$500,000	$0
Construction	$2,824,000	$0	$0
Phase III			
PD&E	$24,000	$24,000	$0
Design	$328,000	$113,000	$0
ROW	$1,501,000	$0	$0
Construction	$3,800,000	$0	$0
Phase IV			
PD&E	$471,000	$471,000	$0
Design	$500,000	$500,000	$0
ROW	$3,400,000	$1,350,000	$0
Construction	$0	$0	$8,000,000
Interchange Phase			
PD&E	$1,249,000	$0	$0
Design	$8,508,000	$0	$0
ROW	$1,400,000	$1,350,000	$0
Construction	$68,900,000	$0	$0
Phase V			
PD&E	$270,000	$270,000	$0
Design	$1,320,000	$2,200,000	$5,100,000
ROW	$0	$28,000,000	$0
Construction	$0	$0	$51,000,000
Total By Funding Source	**$96,953,000**	**$37,966,000**	**$64,100,000**
		SW Bypass Project Total	**$199,019,000**

Applicant understands that the Triumph Gulf Coast, Inc. statute requires that the award contract must include provisions requiring a performance report on the contracted activities, must account for the proper use of funds provided under the contract, and must include provisions for recovery of awards in the event the award was based upon fraudulent information or the awardee is not meeting the performance requirements of the award.

☒ Yes ☐ No

Applicant understands that awardees must regularly report to Triumph Gulf Coast, Inc. the expenditure of funds and the status of the project or program on a schedule determined by Triumph Gulf Coast, Inc.

☒ Yes ☐ No

Applicant acknowledges that Applicant and any co-Applicants will make books and records and other financial data available to Triumph Gulf Coast, Inc. as necessary to measure and confirm performance metrics and deliverables.

☒ Yes ☐ No

Applicant acknowledges that Triumph Gulf Coast, Inc. reserves the right to request additional information from Applicant concerning the proposed project or program.

☒ Yes ☐ No

ADDENDUM FOR INFRASTRUCTURE PROPOSALS:

1. Program Requirements

a. Is the infrastructure owned by the public?

Yes

b. Is the infrastructure for public use or does it predominately benefit the public?

Yes

c. Will the public infrastructure improvements be for the exclusive benefit of any single company, corporation or business entity?

No

d. Provide a detailed explanation of how the public infrastructure improvements will connect to a broader economic development vision for the community and benefit additional current and future businesses.

Public infrastructure improvements such as the Southwestern Bypass and Rasberry Road Connector Project in Crestview will connect to a broader economic development vision for the community and benefit additional current and future business through the following;

- ***Direct user benefits*** that are attributable to active use of the Project. Those benefits are directly associated changes in consumer welfare affected by changes in service accessibility.
- ***Economic activity benefits*** related to changes in output, productivity and employment that are affected by the introduction of this transportation system to the area.
- ***Indirect benefits*** of the jobs and productivity and the induced benefits of the second round of spending that comes from the wages and revenue being spent on additional goods and services.

e. Provide a detailed description of, and quantitative evidence demonstrating how the proposed public infrastructure project will promote:

- o Economic recovery,
- o Economic Diversification,
- o Enhancement of the disproportionately affected counties,
- o Enhancement of a Targeted Industry.

Project: Southwestern Crestview Bypass and Rasberry Road Connector - Crestview, FL			
ECONOMIC IMPACT ANALYSIS RESULTS			
METRIC	MEDIAN	LOW	HIGH
Total Benefits	**$1,110.6**	**$61.1**	**$2,049.4**
Travel Time Savings	$1,103.1	$975.2	$1,233.9
Vehicle Operating Cost Savings	$15.4	$1,044.5	$930.4
Emissions Costs Savings	$7.3	$2.0	$32.4
Accident Cost Savings	$1.9	$0.6	$3.4
Total Costs	**$93.1**	**$64.1**	**$110.9**
Net Present Value	**$1,645.0**	**$3,202.0**	**$2,964.8**
Benefit Cost Ratio	**$10.1**	**$0.5**	**$19.8**
Internal Rate of Return	**$53.4**	**$0.7**	**$151.9**
All dollars are shown in millions of 2016 dollars			

Benefit impacts for this project are as follows:

- o **Transportation System Performance** via accessible and more robust roadway systems

- **Benefit-Cost & Cost Effectiveness** via shorter travel times into and through Crestview, lower travel costs, lower traffic congestion and higher safety and accessibility
- **Regional Economic Development** via short-term employment, employment shifts, induced development and fiscal impacts
- **Livability** via shorter commutes, less fiscal impacts on residents' fuel consumptions, and health/environmental improvements due to lower CO^2 emissions from idling and congestion.

Return on Investment with Respect to Tax Base

Project: Southwestern Crestview Bypass and Rasberry Road Connector Crestview, FL		
ROI with Respect to Taxes / Revenue		
Categories	**Taxes/Revenue collected**	**ROI**
Ad Valorem taxes 2017	$53,474,071	0.8
Fuel tax 2017	$7,663,295	0.12
Tourist Division taxes 2017	$1,568,000	0.02
Okaloosa County Taxes 2017	$79,363,866	1.2
Okaloosa County Revenue 2017	$369,208,773	5.8

Return on Investment (ROI) for the Southwestern Crestview Bypass and Rasberry Road Connector Project near Crestview was evaluated for efficiency relative to the Okaloosa County Tax base. Trend analysis reveals the investment cost to this project yields a return of 1.2 against the tax base and a moderate return of 5.8 against revenue generated.

Project: Southwestern Crestview Bypass and Rasberry Road Connector Crestview, FL			
Economic Impact Analysis Results			
EMPLOYMENT JOB YEARS	CAPITAL EXPENDITURE IMPACT	O & M EXPENDITURE	ECONOMIC DEVELOPMENT
$18,379	$183.5	$3.2	$4,704
All dollars are shown in millions of 2017 dollars			

- **Economic Recovery**
  The proposed Southwestern Crestview Bypass and Raspberry Road Connector Project near Crestview will promote a positive influence on the business cycle following a recession, during which an economy can have regains and the ability to exceed peak employment and output levels achieved prior to a downturn.

- **Economic Diversification**
  The proposed Southwestern Crestview Bypass and Raspberry Road Connector Project near Crestview will promote economic diversification via additional industries' income sources that are not directly related to each other. The project will add economic diversification via jobs in highway construction, home building and commercial construction in combination with traditional industries in agriculture/fishing, service, retail trade and wholesale trade.

- **Enhancement of the disproportionately affected counties**
  The proposed Southwestern Crestview Bypass and Raspberry Road Connector Project near Crestview will promote the enhancement of the disproportionately affected counties by supporting efforts that will provide for ongoing and long-term economic recovery from the Deepwater Horizon Oil Spill via this two-fold economic development and infrastructure project.

- **Enhancement of Targeted Industries**
  The proposed Southwest Crestview Bypass and Raspberry Road Connector Project near Crestview will promote the enhancement of the following industries in Okaloosa County:

  - Construction (SIC 1517)
  - Transportation and Communications (SIC 4049)
  - Wholesale Trade (SIC 5051)
  - Retail Trade (SIC 5259)
  - Finance, Insurance and Real Estate (SIC 6069)
  - Services (SIC 7089)
  - Agricultural, Forestry, Fishing (SIC Range 0109)
  - Manufacturing (SIC Range 2039)

2. Additional Information

   a. Is this project an expansion of existing infrastructure project?

      Yes

   b. Provide the proposed beginning commencement date and number of days required to complete construction of the infrastructure project.

      - August 2018 - Construction of Phases I-III complete within 550 calendar days
      - July 2019 - Construction of Phase IV complete within 365 calendar days
      - July 2020 - Construction of Phase V- Rasberry Road complete within 365 calendar days
      - July 2022 - Construction of Phase V- Southwestern Bypass complete within 1,095 calendar days.

   c. What is the location of the public infrastructure? (Provide the road number, if applicable.)

      The Southwestern Crestview Bypass includes portions of existing P.J. Adams Parkway, Antioch Road and Arena Road, which run between SR 85 and US 90. Rasberry Road is an unimproved City of Crestview Road. When completed, Rasberry Road will run between Antioch Road and SR 85 just north of and parallel to I-10.

d. Who is responsible for maintenance and upkeep? (Indicate if more than one is applicable.)

Okaloosa County will maintain the Southwestern Bypass (including the expanded P.J. Adams Pkwy), FDOT will maintain the interchange with I-10 and the City of Crestview will maintain Rasberry Road.

e. What permits are necessary for the infrastructure project?

Permits are necessary from the United States Army Corps of Engineers, Florida Department of Environmental Protection and Northwest Florida Water Management District.

Detail whether required permits have been secured, and if not, detail the timeline for securing these permits. Additionally, if any required permits are local permits, will these permits be prioritized?

Permit acquisitions are in progress for Phases I, II, and III. The projected date for securing said permits is August 2018. Permits will be secured for the Interchange, Phases IV and V (Southwestern Crestview Bypass and Rasberry Road) after funding is finalized and design is complete.

f. What is the future land use and zoning designation on the proposed site of the Infrastructure improvement, and will the improvements conform to those uses?

N/A for roadways

g. Will an amendment to the local comprehensive plan or a development order be required on the site of the proposed project or on adjacent property to accommodate the infrastructure and potential current or future job creation opportunities? If yes, please detail the timeline.

No

h. Does this project have a local match amount? If yes, please describe the entity providing the match and the amount.

Yes

- Okaloosa County/City of Crestview - $37,966,000
- FDOT/FHWA - $96,953,000
- Details broken out in more detail in main body of application packet above

I, the undersigned, do hereby certify that I have express authority to sign this proposal on my behalf or on behalf of the above-described entity, organization, or governmental entity:

Name of Applicant: Okaloosa County Board of County Commissioners

Name and Title of Authorized Representative: Commissioner Graham W. Fountain
Chairman
Okaloosa Board of County Commissioners

Representative Signature: ______________________

Signature Date: 5/15/18

SEAL
BOARD OF COUNTY COMMISSIONERS OF OKALOOSA COUNTY FLORIDA

Name of Applicant: City of Crestview City Council

Name and Title of Authorized Representative: Councilman JB Whitten
Chairman
Crestview City Council

Representative Signature: ______________________

Signature Date: 5/24/18

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 96TH TEST WING (AFMC)
EGLIN AIR FORCE BASE FLORIDA

MAR 30 2018

Brigadier General Evan C. Dertien
Commander, 96th Test Wing
101 West D Avenue, Suite 118
Eglin AFB FL 32542-5495

Commissioner Graham Fountain
Chairman, Okaloosa Board of County Commissioners
1250 North Eglin Parkway, Suite 100
Shalimar FL 32514

Dear Commissioner Fountain

Thank you for your request for information on Eglin's mission, our growth, and the impact on the community.

Perhaps the number one issue plaguing the Eglin workforce is the increased traffic congestion into Crestview. While the increase in traffic congestion associated with the population growth is understandable, traffic has grown such that it impacts the quality of life of base employees, our ability to recruit new civilian employees, and has a direct impact on the military mission. Even with the recent improvements to this roadway, including new intersection configurations at both the north and south ends of SR 123 as well as the Air Force-funded overpass (77th Special Forces Way/McWhorter Avenue), traffic issues continue. Currently, evening traffic going to Crestview backs up past the Duke/7 SFG exit impacting our ability to deliver supplies to these mission locations during peak traffic times. Eglin's key weapons' research and development mission continues to grow, as does the capacity of many of our mission partners. This mission growth translates to additional personnel, which will continue to exacerbate traffic as a significant portion of Eglin's workforce lives north of the Range in and around the Crestview area. I know there are no easy solutions to the current issues, but appreciate any actions that can help alleviate this congestion.

Should you have any further questions regarding this matter, please contact Mr. Jeff Fanto, Chief of Portfolio Optimization, 96 CEG/CENP, (850) 882-8036, jeffrey.fanto@us.af.mil, or Mr. Tom Tolbert, Community Planner, 96 CEG/CENPL, (850) 882-6993, robert.tolbert.2@us.af.mil.

Sincerely

E C Dertien

EVAN C. DERTIEN
Brigadier General, USAF

MEMORANDUM OF UNDERSTANDING

This MEMORANDUM OF UNDERSTANDING ("MOU"), entered into this 14 day of March, 2016, by and between the BOARD OF COUNTY COMMISSIONERS OF OKALOOSA COUNTY, whose address is 302 North Wilson Street, Suite 302, Crestview, Florida 32536 (the "County"), and the CITY COUNCIL OF THE CITY OF CRESTVIEW, FLORIDA, whose address is 198 North Wilson Street, Crestview, Florida 32536 (the "City").

WHEREAS, this Agreement is entered into under the authority granted to the City and the County; and

WHEREAS, the City and the County are collectively working toward establishing improvements to the transportation network within the City and the northern Okaloosa County area to address traffic issues and concerns; and

WHEREAS, the improvement of the Arena Road-Raspberry Road segments will create an east-west connection north of I-10, that would relieve congestion on P. J. Adams Parkway and State Road 85 (from I-10 to P. J. Adams Parkway); and

WHEREAS, the improvement of the Arena Road-Raspberry Road segments would create a connection road to State Road 85 to Antioch Road; and

WHEREAS, the City and the County seek to enter into this MOU for the purpose of establishing a cooperative process to develop a concept for the improvement of the Arena Road-Raspberry Road segments and potentially the construction of these areas.

NOW THEREFORE, the City and the County do agree as follows:

1. The above recitals are true and incorporated herein as if they were set forth in their entirety.

2. To facilitate the development of a concept for the improvement of the Arena Road-Raspberry Road segments, the City and the County agree to share staff resources to assist in the defining of a preferred alignment for the segments, to secure necessary right-of-way and to identify potential funding sources for the project.

3. This MOU may be expanded to incorporate other aspects of the construction of the Arena Road-Raspberry Road segments and further enhance the traffic transportation network in the City and the northern Okaloosa County area.

4. This MOU shall be effective upon adoption.

CITY OF CRESTVIEW	BOARD OF COUNTY COMMISSIONERS OF OKALOOSA COUNTY
David Cadle Mayor DATE: 3-16-16	Charles K. Windes, Jr. Chairman DATE: 2/16/16
ATTEST:	ATTEST:
City Clerk	J. D. Peacock II, Clerk
APPROVED AS TO FORM:	APPROVED AS TO FORM:
City Attorney	Gregory T. Stewart, County Attorney

City of Crestview

Office of the City Clerk
P. O. Box 1209, Crestview, Florida 32536
Phone # (850) 682-1560 Fax # (850) 682-8077
Email: cityclerk@cityofcrestview.org

Honorable Graham W. Fountain
Chairman, Okaloosa County Board of County Commissioners

As you know, The City of Crestview and Okaloosa County are collectively working to improve the transportation network in northern Okaloosa County to address traffic issues and concerns. The City and County signed a Memorandum of Understanding in 2016 to jointly work on the Rasberry Road connection, that would allow residents on the west side of the County to access the commercial areas in Crestview without driving on Highway 85 and without crossing Interstate 10. Such a connection would be beneficial to all area Citizens and visitors by reducing the amount of traffic and delay on Highway 85, and by opening new areas within the City for development. The MOU between the City of Crestview and Okaloosa County established a cooperative process to share staff resources to define alignments, secure right-of-way, and identify potential funding sources.

The City of Crestview is aware that our joint pre-application to the Triumph Board for Rasberry Road was accepted and we were invited to submit a full application. The City is very much in favor of continuing our cooperative process on this project and wishes to continue being Okaloosa County's partner and Co-applicant for the full Triumph Rasberry Road application. The City is committing to contribute $500,000 in future local option gas tax funds for the construction of Rasberry Road if the project is funded by the Triumph Board. Any funding, of course, is subject to the availability of the funds being received from the State of Florida.

Sincerely,

JB Whitten

JB Whitten, Chairman, Crestview City Council

Elizabeth M Roy

Elizabeth Roy, City Clerk

Resolution No. 18- 111

JOINT RESOLUTION OF THE BOARD OF OKALOOSA COUNTY COMMISSIONERS AND THE CITY COUNCIL OF CRESTVIEW, FLORIDA

A JOINT RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF OKALOOSA COUNTY, FLORIDA AND THE CITY COUNCIL OF CRESTVIEW, FLORIDA, RECOGNIZING THE TRAFFIC CRISIS ON HIGHWAY 85 SOUTH IN AND AROUND THE CITY OF CRESTVIEW AS THE NUMBER ONE PUBLIC SAFETY, ECONOMIC, AND QUALITY OF LIFE CHALLENGE IN THE COUNTY; ADOPTING THE SOUTHWEST CRESTVIEW BYPASS AND RASBERRY ROAD CONNECTOR AS TOP INFASTRUCTURE PROJECT FOR TRIUMPH FUNDING FOR OKALOOSA COUNTY; PROVIDING FOR JOINT APPLICATION FOR TRIUMPH GULFCOAST, INC. BOARD FUNDING AND LOCAL GOVERNMENT COMMITMENTS IN FUNDING PARTNERSHIPS.

WHEREAS, the Okaloosa County Board of County Commissioners (Board) and the City Council of Crestview (Council) have joined together in one accord recognizing the traffic crisis involving Highway 85 South in and out of the City of Crestview, extending from State Road 123 (Cut-off) past Duke Field heading into Crestview as the county's top traffic challenge involving public safety, economic development and impairment, and quality of life for the county's citizens and visitors; and

WHEREAS, the Board and Council are aware the traffic congestion on Highway 85 has reached its maximum limits, numbering over 52,000 cars traversing the roadway daily, and causing the Florida Department of Transportation (FDOT) to declare the highway up to the intersection of Interstate 10 a "failed transportation system" in the state; with traffic crashes and injuries along the corridor at an all-time high; and secondary crashes, incidences of road-rage and other acts of lawlessness posing additional safety risks; and

WHEREAS, Highway 85 from Crestview south to the cities of Niceville, Shalimar, Ft. Walton Beach, and Destin is the only thoroughfare for the motoring public to travel north and south through the Eglin AFB reservation; provides the sole transportation system for moving people and goods, public and private sector; and is the county's only designated hurricane or disaster evacuation route (north and south); and remains the only access route for the county's approximately 3 million tourists entering north Okaloosa County heading south to the coast; and

WHEREAS, traffic congestion and long wait periods along this corridor has caused commercial and industrial ventures to seek other locations for their companies, and the United States Military is experiencing operational and readiness issues due to traffic build ups on Highway South 85, which include the inability to transport fuel and service vehicles on and off Duke Field and the 7th Special Forces, and ensure timely staff responses on emergency call backs, and causing extended driving commutes for military personnel living in the north end of the county; and

WHEREAS, this traffic crisis has been in the making, with no real solutions for over 25 years and has come to a critical juncture, with one (1) roadway servicing a community of over 200,000 full-time residents, demands swift and decisive action by city, county, state, and federal authorities in dedicating funding and policy implementation to provide traffic relief on Highway South 85 in and around the city of Crestview, through a series of new highway capacity projects to include a circular bypass around the city and added lane capacity for the movement of vehicular traffic north and south through the Eglin AFB Reservation; and a project meeting desired goals and objectives has been identified for a total project cost of 199,019,000 dollars; and

WHEREAS, the project will have broad reaching benefits in economic growth, personal cost savings of monies and time, providing new taxable commercial and residential development along certain segments of the project, enhance military readiness and provide benefits for increased mission assignments on base, and reduce dangerous traffic conditions for the motoring public; and

WHEREAS, the Board and Council have joined together in petitioning the Triumph Gulf Coast, Inc. Board of Directors to make a historic and transformational investment in becoming partners in providing much needed relief by approving BP settlement funds, pursuant to Chapter 288, Florida Statutes, that will fund 32.21% of the costs for the "Southwestern Crestview Bypass and Rasberry Road Connector" project, which the Board finds to be the single most important, critical and valuable use of Triumph funds over the next five years for the benefit of Okaloosa County, consisting of a route to more expediently move traffic from south SR 85 to US Hwy 90 west of Crestview at Old Bethel Road, utilizing a newly four-laned PJ Adams Parkway, a newly constructed Southwestern Crestview Bypass Road and an improved Rasberry Road at the cost of 64,100,000 dollars over project term; consisting of the four-lane construction of P.J. Adams Parkway and a new four-lane highway circling the South-West side of Crestview up to the intersection of US Highway 90 West and Old Bethel Road, with the remainder of the costs being borne by the Florida Department of Transportation, Okaloosa County, and the City of Crestview, and in doing so, move the project up to a completion date of no more than 5 years from the approval of the funding and the letting of the first construction contract by the parties hereto:

NOW THEREFORE, BE IT RESOLVED by the Board of County Commissioners of Okaloosa County and the City Council of Crestview, Florida, pledge to move forward with this resolution, the project application, and any additional agreements required by Triumph Gulf Coast, Inc. in good faith in the execution of this historical transportation infrastructure project.

The Board and Council further resolves as follows:

1. The above recitals are correct.
2. The Board and the Council, collectively, adopt this project as their number one (1) project for Triumph Gulf Coast, Inc. Okaloosa County funding.
3. The Board, with the Council's support, will move forward with a ½ cent sales tax referendum to be placed on the November county-wide ballot.
4. If the ½ cent sales tax is approved, the Board and the Council pledge to commit infrastructure funding from the proceeds to ensure the total required county and city project match is met over the life of the five (5) year project completion.
5. The Board agrees to contribute 29,966,000 dollars for the total project cost from the new local option sales tax revenues (if passed), TIFF proceeds, and local option gas taxes.
6. The Council agrees to contribute new local option sales tax revenue (if passed), in the amount of approximately 8,000,000 dollars and in-kind contributions of donated right-of-way for the project.
7. The Board and Council pledge their diligent advocacy in the approval to advance work program dollars from the Florida Department of Transportation 5 year work program in the amount of 96,953,000 dollars and ensure the new Interstate-10 interchange/overpass is completed within the

five (5) year project period, to include obtaining advocacy of the Okaloosa County legislative delegation.

8. A copy of this resolution shall be provided to the Okaloosa County Clerk of Court, the City Clerk of Crestview, Florida, and the Chairman of the Triumph Gulf Coast Board.

9. This Resolution shall be effective upon adoption.

DULY ADOPTED BY OKALOOSA COUNTY ON this 1st day of May, 2018.

DULY ADOPTED BY THE CITY OF CRESTVIEW ON this 30th day of April, 2018.

BOARD OF COUNTY COMMISSIONERS
OKALOOSA COUNTY, FLORIDA

BY: ______________________
Graham W. Fountain, Chairman

ATTEST:

BY: Gary J. Stanford
J. D. Peacock, II, Clerk

AS TO FORM:

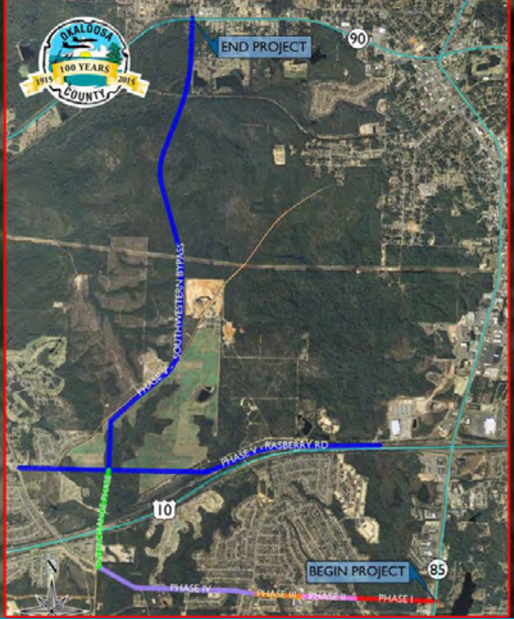
Gregory T. Stewart
Greg Stewart, County Attorney

CITY COUNCIL OF CRESTVIEW
CRESTVIEW FLORIDA

BY: JB Whitten
JB Whitten, Council President

BY: Elizabeth M. Roy
Elizabeth Roy, City Clerk

Ben Holley
Ben Holley, City Attorney

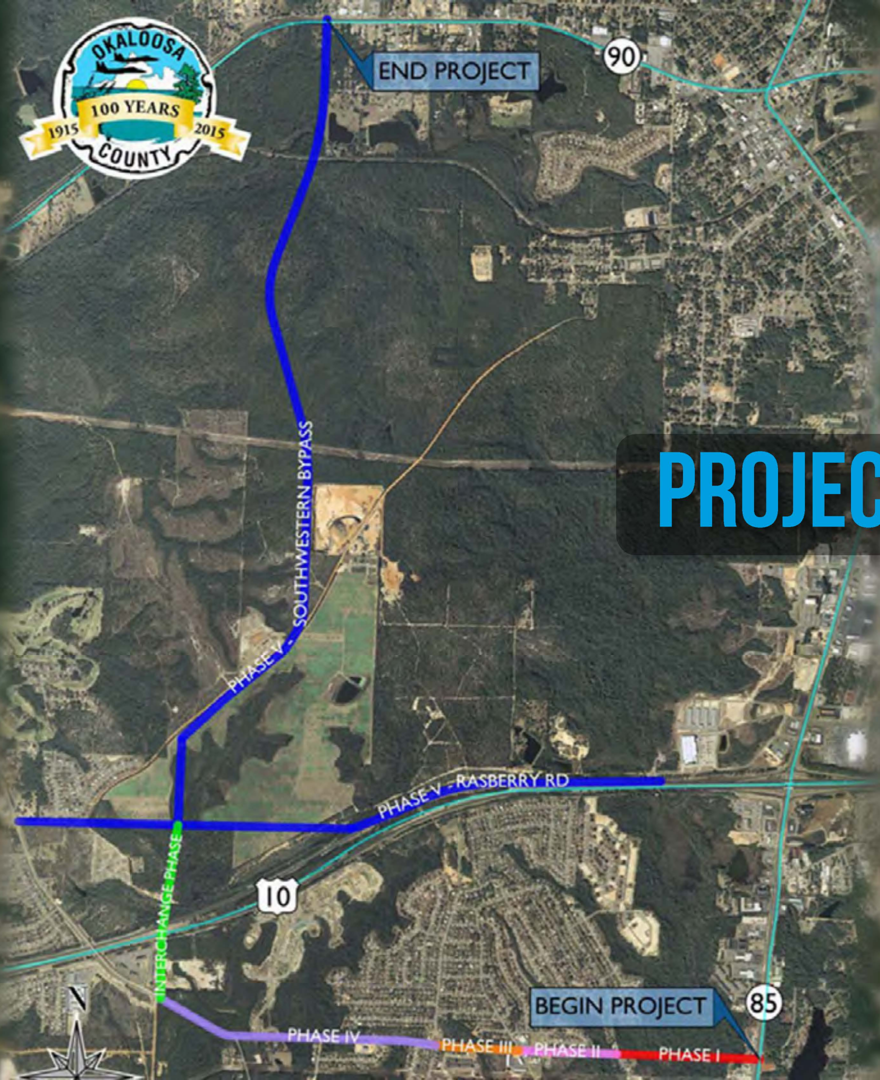


TRIUMPH GULF COAST, INC. TRUST FUND APPLICATION FOR FUNDS

SOUTHWESTERN CRESTVIEW BYPASS AND RASBERRY ROAD CONNECTOR

Okaloosa County, the City of Crestview and the State of Florida are collectively working to improve the transportation network in northern Okaloosa County to address drastic traffic issues and concerns. A bypass is desperately needed around Crestview to divert traffic from State Road (SR) 85 to areas in and around Crestview to the west. State Road 85 is a Strategic Intermodal System (SIS) roadway and a primary commuter route to multiple military bases and tourist destinations.

PROJECT OVERVIEW



THE INVESTMENT WILL RELIEVE TRAFFIC CONGESTION

The proposed improvements have been identified and deemed feasible for significantly reducing congestion along SR 85. The improvements would also allow residents on the west side of the north county area to access the commercial areas in Crestview without accessing SR 85 or crossing I-10. Such a connection would be beneficial to all area citizens and visitors by reducing the amount of traffic and delays on both SR 85 and P.J. Adams Parkway.

THE INVESTMENT WILL IMPROVE MILITARY MISSION READINESS

Military mission capability is directly and adversely impacted by the congestion in the proposed project area. Bases throughout the area cannot depend on timely staff responses on emergency call back events and are experiencing unacceptably long commute times for military and civilian personnel living in the north end of the county. Local military leaders have expressed concern regarding extended length duty days caused by increased personnel commute times.

THE INVESTMENT WILL IMPROVE HURRICANE EVACUATIONS

State Road 85 is the sole hurricane evacuation route available for Okaloosa County citizens, the military installations and over four million tourists each year. Currently there is grave concern that evacuations can't be accomplished timely and effectively. The proposed roadway improvement project will provide increased capacity to move motorists out of the area more quickly and potentially prevent loss of life.

THE INVESTMENT WILL INFLUENCE ECONOMIC RECOVERY

Just as congestion can stymie economic growth, the introduction of well-configured and efficient transportation solutions designed to resolve impediments can accelerate economic growth. Recognizing the direct linkage that exists between efficient transportation systems and commerce, particularly manufacturing, it is easy to ascertain that eliminating the current daily bottleneck on SR 85 will support job creation over and above current projected levels.

BIG BANG FOR TRIUMPH BUCKS

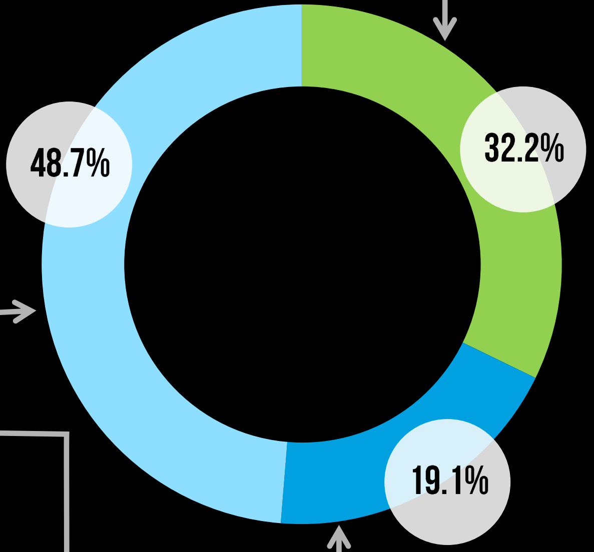
FUNDING REQUEST: $64,100,000
The requested $64.1 M is only 32.2% of the total project cost

FDOT/FHWA: $96,953,000

$97 M will be provided by FDOT and the FHWA

COUNTY/CITY: $37,966,000

$38 M will be expended by Okaloosa County and the City of Crestview



TOTAL PROJECT COST IS $199 MILLION

The requested $64.1 M is only 32.2% of the total project cost

MATT GAETZ
1ST DISTRICT, FLORIDA

WASHINGTON OFFICE
1721 LONGWORTH HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-4136

Congress of the United States
House of Representatives
Washington, DC 20515-0901

DISTRICT OFFICE
226 SOUTH PALAFOX PLACE
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PENSACOLA, FL 32502
(850) 479-1183

http://gaetz.house.gov

January 30, 2019

The Board of Directors
Florida Triumph Gulf Coast, Inc.
P.O. Box 12007
Tallahassee, Florida 32317

Dear Board of Directors, Triumph Gulf Coast, Inc.,

It's my understanding that the Okaloosa County Commission is requesting that the Triumph Board place on an early agenda its proposal, styled as Triumph Project #41, to construct the Highway 85 bypass in north Okaloosa County. I'm writing today to emphasize the strong relationship between this project and the military missions which undergird the economy of the county and region.

More than thirty thousand uniformed military personnel and military contractors rely Highway 85 every day as their principal means of transportation among and between Eglin AFB, the Air Force Special Operations Command at Hurlburt Field, Duke Field, the 7th Special Force Group and the communities of Niceville-Valparaiso-Bluewater and Crestview. There are three thousand more uniformed military personnel in Northwest Florida than two years ago and every expansion of mission, including those being planned but not yet announced, not only brings more jobs and more positive economic impact to our area but also more pressure on Highway 85. Vastly most of these additional personnel and their families live and work in Okaloosa County and depend on Highway 85 to travel to and from their bases and homes.

Pentagon officials and c manders in Northwest Florida have made it abundantly clear to me that the current conditions o Highway 85 have an undeniable, ative impact on the military missions and seriously jeopardize the ability of military personnel to respond and deploy in support of essential operations throughout the Americas and elsewhere. Commanders have informed me that this sole north/south artery is consistently bottle-necked, preventing the flow of equipment and resources in supporting of operations and exercises and that the frequent accidents which occur create immediate and lasting gridlock, potentially creating dangerous threats to readiness. SOCOM operators have hyper condensed response timelines in order to be effective rapidly deployed tactical units. We expect the best from our tier one assets. But, we must ensure that we provide them the means to accomplish their mission sets. As a member of the Armed Services Committee, I advise the Triumph Board that maintaining, let alone expanding, the thousands of jobs directly tied to our military missions, as well as maintaining our SOCOM mission set, requires immediate action to create a lasting solution to the Highway 85 traffic crisis.

The Board of County Commissioners has responded creatively and constructively by proposing a solution jointly funded by the State of Florida, local governments and Triumph Gulf Coast. The voters of Okaloosa County have recognized their responsibility to contribute to this project by approving a half cent sales tax, a substantial portion of which is designated to fund the proposed western bypass critical to alleviating the traffic gridlock on Highway 85. The State of Florida is committed to paying the largest share of the costs. Triumph Gulf Coast is being asked to contribute a percentage of the project, consistent with your stated objective of being the "junior partner" in infrastructure projects.

As one of the authors of the Triumph Gulf Coast legislation, I assure you that the Highway 85 project is precisely what is meant by the law's direction to your board to support public infrastructure that sustains and expands our regional economy and to supplement, not supplant the role of government. Simply put, Triumph's participation in this project is critical to retaining thousands of military-related jobs. A decision by Triumph to not be a funding partner, and thereby significantly delay this solution, will imperil thousands of jobs and place Northwest Florida in a dangerously uncompetitive position as decisions are made to locate and relocate military missions and contracts.

I underscore in the strongest terms the economic value of this project to our region, the nexus between this project and thousands of jobs and the essential fit of this project to the mission of Triumph Gulf Coast.

I look forward to the privilege of personally testifying before the Triumph Board in support of Project # 41 as soon as you can place this matter on your agenda.

Sincerely,

Matt Gaetz
Member of Congress

March 22, 2019

Honorable Don Gaetz, Chairman
Triumph Gulf Coast, Inc.
Attn: Susan Skelton, Executive Director
P.O. Box 12007
Tallahassee, FL 32317

Re: Southwest Crestview Bypass
Okaloosa County Triumph Application Update (Pre-application #45 and #46)

Dear Mr. President,

Thank you for the opportunity to work with the Triumph Gulf Coast Board and your staff on the application update to support the development of the Southwest Crestview Bypass including the Rasberry Road connector. To highlight benefits from the original application for this critical project, Okaloosa County has updated many of the inputs of the original application with collaboration from the major stakeholders of this project to include the Okaloosa County Economic Development Council, the City of Crestview, Eglin Air Force Base, and the Florida Department of Transportation.

For Okaloosa County, the collective participation of local stakeholders and the Triumph Gulf Coast ensures the protection of our existing local economy, while also supporting the overall expansion of the county's economic development. The Southwest Crestview Bypass project has been endorsed by all local Chambers of Commerce and each of the nine municipalities within Okaloosa County. Endorsements by the cities came with concessions their part; demonstrating the importance of this project to the entire County. That expansion includes benefits to the surrounding tri-county area, which includes Santa Rosa and Walton counties. These wider economic impacts are demonstrated in our updated analysis. The Triumph Gulf Coast contribution is the final contribution needed by all of the stakeholders to advance the proposed development. Total completion of the Southwest Crestview Bypass at this time, including the Rasberry Road connector, simply would not be possible without Triumph's generous support.

Funding obligations of governmental agencies are typically focused on sustaining the infrastructure demands of their present economies. However, as congestion delays along the major corridors of north Okaloosa County continue to increase, the local economy of the County is in jeopardy of major declines due to local business opportunities being foregone along with potential mission losses on Eglin Air Force Base.

Instead of a continued decline in the local economy, proactively developing additional highway capacity within north Okaloosa County will not only maintain economic viability, but also provide the potential for additional job creation in the region. To demonstrate the impacts of maintaining the existing corridor and the benefits for developing a new corridor for additional capacity, the following three items of discussion have been drafted for consideration in this application update:

Economic Sustainability: Increases in travel time and congestion, as well as related transportation user impacts, are recognized by the US Department of Transportation and the Transportation Research Board as major detriments to maintaining an existing economy. They actually contribute and accelerate a declining economy. The previous analysis demonstrated that increased capacity for the Crestview area will reduce travel times and congestion and provide direct economic benefits.

Job Retention: The largest portion of the area within Okaloosa County is Eglin Air Force Base, which is the leading single economic generator for the entire Northwest Florida Region. The overall operations and mission readiness of Eglin are directly impacted by the critical infrastructure of the area. Without additional roadway capacity near Crestview, loss of mission at Eglin is a continual critical concern. In addition to providing a large quantity of jobs, jobs at Eglin provide higher than the regional average income and provide direct benefits to the state's overall support to the Department of Defense. If the region were to lose jobs due to mission losses at Eglin, the impact on the regional economy are severe. An attached report demonstrates the potential magnitude of the economic impacts resulting from job losses at Eglin under various scenarios.

Economic Enhancement: Providing capacity within the Crestview area with the development of the proposed corridors creates economic expansion of the local economy through residential and commercial development. An economic analysis* of these benefits was developed for this application update and are presented for review.

We greatly appreciate the generous support of the Triumph Gulf Coast and eagerly look forward to the development of the economic transformations that this project will provide to Okaloosa County and Northwest Florida.

Sincerely,

Charles K. Windes, Jr.

Commissioner Charles K. Windes, Jr.
Chairman, Okaloosa Board of County Commissioners

* The economic models of this analysis were developed using IMPLAN®, which is the same model previously used for the Northwest Florida Transportation Corridor Authority study. It is understood that Triumph Gulf Coast staff utilizes the REMI Policy Insight model for economic analyses. Given the expense of REMI and the readiness of the previously created IMPLAN® model, the decision was to continue with IMPLAN®. If the Triumph Gulf Coast staff wish to review the model using REMI, the IMPLAN® data inputs and outputs will be made available to Triumph.

Okaoosa County Board of County Commissioners

March 22, 2019

Southwest Crestview Bypass
Triumph Pre-application #45 & #46 Update

Economic Sustainability

For the development of the Southwest Crestview Bypass, the economic benefits of additional capacity through the reduction of travel time and congestion impacts for the Crestview area were referenced in our original application. These benefits were estimated through an economic analysis initially developed by the Northwest Florida Transportation Corridor Authority. That analysis remains valid, although the economic multipliers may have changed slightly from the 2012 IMPLAN® model used at the time.

The total short-term benefits of the new corridor in terms of the simple construction expenditures had a positive impact on economic output of $163.5 million in 2012 dollars. In 2019 dollars, this impact would be about $184 million. The project was also expected to create over 1,364 job-years as a result of the construction.

Longer-term, the project is expected to generate economic impacts by lowering transportation user costs and improving economic productivity. These translate into an increase in economic output of $3,704 million in 2012 dollars ($4,168 million in 2019 dollars) over a 30-year period. Annually, this would be an output increase of about $123.5 million in 2012 dollars ($138.9 million in 2019 dollars). Similarly, the project would increase employment by 16,995 job-years over 30 years (or about 567 job-years annually). There are some additional benefits due to the operations and maintenance of the roadway, but these are relatively minor.

This project was identified as Project ID 17 in the Master Plan published by the Northwest Florida Transportation Corridor Authority and the summary of the Evaluation of Benefits from that report is included as *Attachment A*.

The development of the Southwest Crestview Bypass includes the development of the Rasberry Road Connector and a new access point to Interstate 10. Both of these projects will further increase the capacity of the region's transportation network, but these projects are not included in the previously developed economic model. However, it can readily be assumed the additional Rasberry Road Corridor and Interchange access will provide more capacity and additional economic benefits.

To give a description from the traveling public, the bypass will offer an alternative to the overly congested SR 85 through Crestview and offer a new access point to Interstate 10. The alternative route will help to reduce travel time along the SR 85 corridor, which is the only access point to Eglin AFB from Crestview. Reduction of delays along the corridor not only benefit those commuting to work, but assists Eglin operationally because SR 85 is the access point for Duke Field, 7th Special Forces Group, and Eglin Main West Gate. In addition, this corridor is the primary north-south access route for tourists that visit the Emerald Coast.

Currently, traffic congestion along SR 85 begins as far as 8 miles south of Interstate 10, which inhibits access to Duke Field and the 7th Special Forces Group operations center and adds wear and tear to travelers mired in the traffic. With an annual average daily traffic (AADT) count of 52,000 vehicles on this segment of SR 85 improvements to traffic flow will have a substantial impact on a large number of people by reducing delays and mission/operational impacts.

Congestion also costs businesses and residents in a number of ways. Businesses experience additional costs in the form of vehicle/driver delay, effects on inventory, logistics, reliability, and a reduction in potential workers. For individual residents the cost of fuel, wear and tear on vehicles, and time spent delayed in traffic takes away from potential spending in other economic areas. A detailed analysis of how congestion impacts a regional economy is discussed at length in the National Cooperative Highway Research Program Report 463, entitled *Economic Implications of Congestion*.

Job Retention

In collaboration with Okaloosa County for inclusion into this update and other uses, the Okaloosa County Economic Development Council (EDC) commissioned a study on the impacts of Eglin AFB on the tri-county region of Okaloosa, Santa Rosa, and Walton counties. The purpose of the study was to simulate the economic impacts on the three counties should there be mission loss at Eglin AFB. Mission loss is not unprecedented based on the military's recurring review of base realignments and closures (BRAC) where review of mission readiness, which is dramatically impacted by local infrastructure, is one of the highest priorities. Increasing congestion in the area is seen as a likely contributor to potential mission loss. The intent of the Southwest Crestview Bypass is to keep congestion in check and lessen the potential for Eglin mission loss.

Eglin AFB is the world's premier testing facility with approximately 25,000 active duty, Department of Defense Civilian, and guard/reserve personnel based on site. In 2017 Eglin personnel had an average annual total compensation of $98,000, which equates to an aggregate annual compensation of $2,450 million. Additionally, approximately 8,080 private sector contractors in the tri-county area were working annually on $1,270 million in Department of Defense contracts.

In the most recent BRAC Eglin AFB enhanced its mission in large part due to the cooperative relationship with the community and the vast amount of land available for military activities. However, should BRAC return unfavorable results to the area, the impact of mission loss on the regional economy would loom large. The Okaloosa County EDC study estimated the potential impacts of three mission loss scenarios (5%, 10%, and 15% assumed reductions).

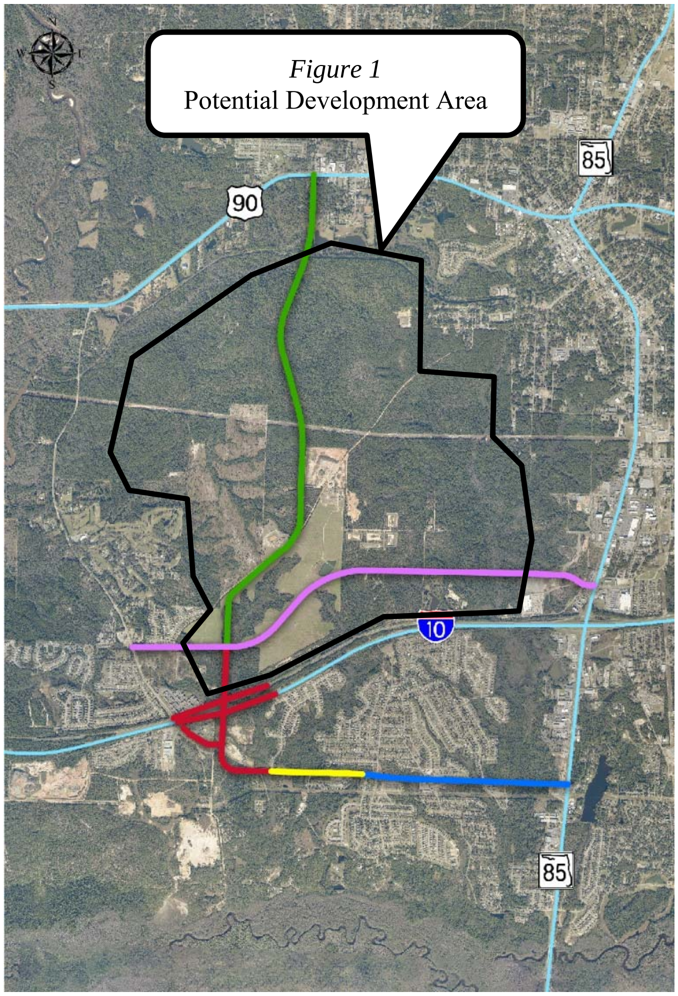
An overall reduction in mission reduction of 5% is not an unreasonable action of the Air Force where mission consolidation across the entire Air Force branch is being readily implemented. In the 5% reduction scenario, the direct impact is a total of 1,570 job-years lost annually, an aggregate annual compensation loss of $148.1 million, and a reduction in contracts of $63.5 million annually. Furthermore, the combination of direct, indirect, and induced effects from a 5% reduction would lead to an annual impact of 2,400 job-years in employment and $297.7 million total value added. Effects are doubled and tripled in the 10% and 15% reduction scenarios respectively.

Conversely, instead of job retention the Okaloosa EDC study also included a proactive scenario with the construction of a new 200,000 square foot facility that could house professional, scientific, and technical services. Such a facility is being considered on Eglin AFB, however, there are concerns about where the potential labor force would be able to find housing. This single facility could create 760 job-years annually with a total annual added value of $63 million in the tri-county area. Housing for this potential labor force could easily be provided in the new corridor along the Southwest Crestview Bypass. The summary report of the findings by the Economic Development Council of Okaloosa County is included as *Attachment B.*

Economic Enhancement

The Southwest Crestview Bypass will serve the existing needs of the County as well as support anticipated growth. Okaloosa County has experienced nearly a 2% growth rate in each of the past 5 years and the economic outlook suggests this trend to continue. However, to capitalize on this growth infrastructure and development opportunities are needed.

The current roadway network of Crestview encompasses a large area of undeveloped land bounded by SR 85, US Highway 90, Antioch Road, and Interstate 10 as shown in *Figure 1*. This area is largely inaccessible from the current roadway network, but the development of the Southwest Crestview Bypass will make this area favorable for growth. Land available for development is in the incorporated limits of the City of Crestview and unincorporated Okaloosa County. Both jurisdictions will support land use amendments and rezonings to accommodate commercial and residential developments.



Potential development areas include:

- 125 acres to 300 acres of commercial use
- 600 acres to 1,800 acres of residential use

Not only will the Southwest Crestview Bypass improve traffic congestion, but the potential economic enhancements in the development of this new commercial and residential area will result in new jobs and opportunities. Results from IMPLAN modeling based on the construction of the Southwest Crestview Bypass are provided in *Attachment C.*

Greenfield development not only creates jobs during construction, but the development of new residential areas will induce commercial growth to support the new population center.

Conclusion

It is evident the development of the Southwest Crestview Bypass is needed and once completed will serve as the gateway to growth for Crestview, Okaloosa County, and the tri-county region as a whole. Construction of the bypass will not only improve traffic congestion in the area and provide a new connection to Interstate 10, but also opens land to residential and commercial development. Providing an alternative route to SR 85 through downtown Crestview will alleviate pressure on access points to the targeted industrial centers of Bob Sikes Airport and the Shoal River Ranch area. The economic impacts will be substantial. Okaloosa County will be able to continue the positive growth seen over the past 25 years while still maintaining critical jobs at Eglin AFB which is an integral part of our community.

The Southwest Crestview Bypass will create a new direct link between the only north-south evacuation route for Okaloosa County (SR 85) to US 90, SR 189, and SR 4. Historically during times of evacuation the greatest point of congestion for evacuees was attempting to gain access to the north. In 1995 when Hurricane Opal made landfall in Okaloosa County the congestion along SR 85 from people trying to evacuate was so intense that residents were stranded on the roadway in their cars. Considering the growth of population since that date the need for additional access to the north is more critical.

Okaloosa County and the City of Crestview have long been engaged in the effort to improve the Southwest Crestview Bypass corridor. To date the local governments have expended or committed nearly $38,000,000 toward the development of this project including the first phase of construction (widening the first portion of the Southwest Crestview Bypass from two lanes to four) to begin in the summer of 2019. The citizens of Okaloosa County have shown their support for this project by approving a ½ cent sales surtax in November of 2018 with nearly 2/3 of the vote in favor of the referendum. This sales tax is solely dedicated to infrastructure improvements – and the number one priority project identified is the Southwest Crestview Bypass.

The Secretary of the Florida Department of Transportation, Kevin J. Thibault, P.E., has committed to including the interchange with Interstate 10 in the next five year work plan (see included letter in *Attachment D*) at an estimated cost of approximately $100 million which further demonstrates the need and commitment the region has for the development of this critical project. With Triumph Gulf Coast's contribution of $64,100,000 the last part of the overall Southwest Crestview Bypass project will be completed.

Participation by the Triumph Gulf Coast will ensure that this entire project not only sustains the existing community, but is at the forefront of economic growth – for both Okaloosa County and Eglin AFB – for many years to come.

Attachment A

Northwest Florida Corridor Authority Master Plan

Project ID 17 – PJ Adams Parkway / Antioch Rd (Crestview Bypass)

PROJECT ID 17

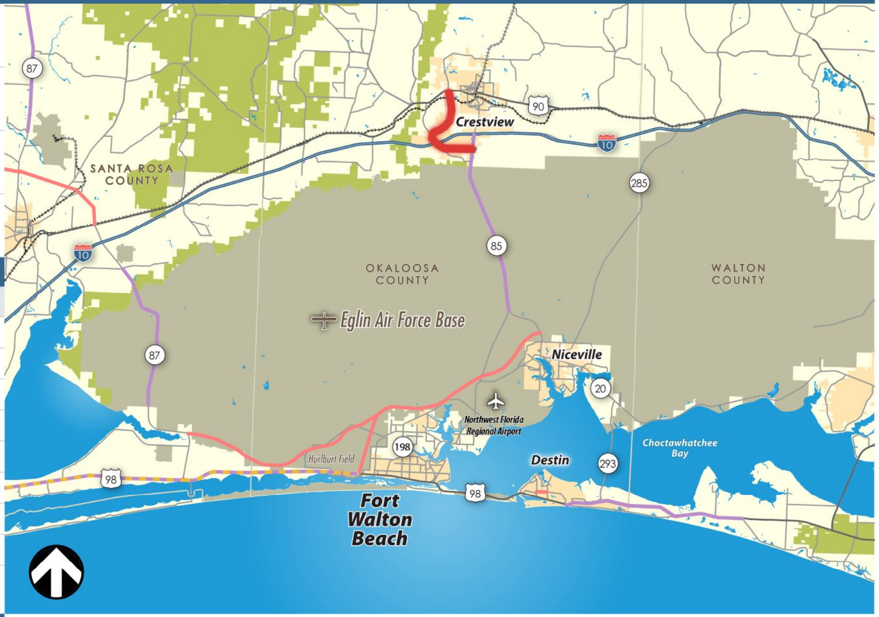
PJ Adams Parkway / Antioch Rd (Crestview Bypass)

Project Limits: SR 85 to SR 10 (US 90)

Project Length: 5.3 miles

Preliminary Cost Estimate: $95,300,000 (Project Development & Environment Study)

Inclusion in Plans: Okaloosa-Walton TPO Long-Range Transportation Plan



BENEFIT-COST ANALYSIS RESULTS

Metric	Median	Low	High
Total Benefits	**$1,110.6**	**$61.1**	**$2,049.4**
Travel Time Savings	$1,103.1	$975.2	$1,233.9
VOC Savings	($15.4)	($1,044.5)	$930.4
Emissions Cost Savings	$7.3	($2.0)	$32.4
Accident Cost Savings	$1.9	$0.6	$3.4
Total Costs	**$85.5**	**$77.0**	**$93.9**
Net Present Value	**$1,025.0**	**($24.2)**	**$1,964.8**
Benefit Cost Ratio	**13.05**	**0.69**	**24.40**
Internal Rate of Return	**77.7%**	**2.7%**	**151.9%**

ECONOMIC IMPACT ANALYSIS RESULTS

Metric	Direct	Indirect	Induced	Total
Short-Term Impacts Resulting from Capital Expenditures				
Employment (job-years)	667	236	460	1,364
Output	$71.5	$35.9	$56.1	$163.5
Long-Term Impacts Resulting from Operations and Maintenance Expenditures				
Employment (job-years)	10	3	7	20
Output	$1.1	$0.5	$0.8	$2.3
Long-Term Impacts Resulting from Economic Development				
Employment (job-years)	5,878	4,976	6,141	16,995
Output	$2,074.1	$837.9	$792.0	$3,704.0

Note: All dollars shown in millions of 2012 dollars. Total Benefits and Total Costs are discounted at 4% (the rate at which the purchasing power of a dollar will grow, adjusted for inflation). Each output is calculated individually, therefore, the sums may not add to the totals shown.

Project Description

New 4 lane arterial and widening PJ Adams Parkway and a segment of Antioch Road from 2 to 4 lanes.

Need for Project

This project is needed to provide regional connectivity between SR 85 and US 90.

Attachment B

Economic Development Council of Okaloosa County

Tri-County Community Partnership Initiative

Team Eglin
Economic Analysis
Preliminary Estimates

- 302 N. Wilson St • Crestview, FL 32536 • (850) 689-5030 • Fax: 689-5059
- 1250 N. Eglin Pkwy, Suite 100 • Shalimar, FL 32579 • (850) 651-7105 • Fax: 651-7142

Tri-County Community Partnership Initiative

Team EGLIN

Economic Analysis
Preliminary Estimates

March 19, 2019

Sponsored by the Economic Development Council of Okaloosa County, Florida

Task

- Simulate economic impacts regarding mission loss scenarios at Eglin AFB and Hurlburt Fields
- Direct, indirect, and induced effects
- Analyze DoD personnel ***compensation*** and ***procurement contracts***
- Okaloosa, Santa Rosa, and Walton counties
- IMPLAN Input-output model
- Data sources:
  - Bureau of Economic Analysis
  - Department of Treasury
  - Department of Defense
  - IMPLAN

Personnel Compensation

DoD Personnel Count and Compensation Estimates, 2017 Eglin Air Force Base and Hurlburt Field				
Personnel Type	DoD Personnel	Average Compensation	Aggregate Compensation	% of Compensation
Active Duty	15,800	$103,800	$1,640,040,000	67%
DoD Civilian	7,400	$107,000	$791,800,000	32%
Guard/Reserves	1,800	$11,800	$21,240,000	1%
Total	**25,000**	**$98,000**	**$2,450,000,000**	**100%**

Note:
1.) Compensation is inclusive of both wages and benefits and is used throughout this study in lieu of IMPLAN's term Labor Income.
2.) Active Duty and Guard / Reserve personal and compensation estimates are derived from US BEA and DoD Bases Structures Report (2015).
2.) DoD civilian personnel and compensation estimates are derived from IMPLAN and DOD Base Structures Report (2015).
3.) All dollar values are in 2017 USD.
4.) Columns may not sum due to rounding.

Procurement Contracts

DoD Procurement Contracts Performed In-region by NAICS Industry and Associated Private-sector Contractor Estimates, FY 2017 Okaloosa, Santa Rosa, and Walton Counties				
NAICS	Industry Description	Contract Value (Millions)	Distribution	Private-sector Contractors
54	Professional, Scientific, & Technical Services	$642.3	50.6%	3,890
31-33	Manufacturing	$239.4	18.8%	450
23	Construction	$194.9	15.3%	1,590
56	Admin Support, Waste Mgt, & Remediation Services	$61.0	4.8%	670
48-49	Transportation & Warehousing	$40.1	3.2%	200
61	Educational Services	$32.9	2.6%	810
62	Health Care and Social Assistance	$28.5	2.2%	260
22	Utilities	$11.0	0.9%	30
81	Other Services (except Public Administration)	$8.9	0.7%	70
51	Information	$4.3	0.3%	10
72	Accommodation and Food Services	$3.2	0.3%	60
53	Real Estate and Rental and Leasing	$1.8	0.1%	10
44-45	Retail Trade	$1.0	0.1%	10
42	Wholesale Trade	$0.4	0.0%	-
11	Agriculture, Forestry, Fishing and Hunting	$0.3	0.0%	10
71	Arts, Entertainment, and Recreation	$0.1	0.0%	-
	Total	$1,270.1	100.0%	8,080

Source: US Department of Treasury via USAspending.gov

Note: Contractor estimates are derived from IMPLAN output per worker ratios

Scenarios

Mission loss; active duty and civilian compensation and defense contracts

1. 5% reduction
2. 10% reduction
3. 15% reduction

Mission gain; 200K SF facility to meet current Eglin space deficit

4. 400 private sector contractors w/in RDTE

Scenario 1: 5% Reduction

Direct Impact in Defense Spending Resulting from a 5% Reduction

Scenario	Personnel Type	Personnel	Average Compensation	Aggregate Compensation	Contracts
5% Loss	Active Duty	790	$104,000	$81,960,000	n/a
	DoD Civilian	370	$107,000	$39,580,000	n/a
	Private-sector Contractors	410	$65,000	$26,600,000	$63,500,000
	Total	1,570	$94,000	$148,140,000	$63,500,000

Note: 1.) Dollars values are in 2017 USD. 2.) Columns and/or rows may not sum due to rounding.

Total Economic Impacts Associated with 5% Reduction in Personnel Compensation and Defense Contracts

Impact Type	Total Jobs	Total Compensation	Total Value Added
Direct Effect	1,570	$150,700,000	$238,400,000
Indirect Effect	120	$5,400,000	$8,300,000
Induced Effect	710	$25,400,000	$51,000,000
Total Effect	2,400	$181,500,000	$297,700,000

Source: IMPLAN 3.1.1001.12; Okaloosa, Santa Rosa, and Walton Counties

Note: 1.) Dollars values are in 2019 USD. 2.) Columns may not sum due to rounding. 3.) Compensation is used in place of IMPLAN's term Labor Income, but the two are used interchangeably throughout this study.

Scenario 2: 10% Reduction

Direct Impact in Defense Spending Resulting from a 10% Reduction

Scenario	Personnel Type	Personnel	Average Compensation	Aggregate Compensation	Contracts
10% Loss	Active Duty	1,580	$104,000	$163,925,000	n/a
	DoD Civilian	740	$107,000	$79,153,000	n/a
	Private-sector Contractors	820	$65,000	$53,140,000	$127,100,000
	Total	3,140	$94,000	$296,218,000	$127,100,000

Note: 1.) Dollars values are in 2017 USD. 2.) Columns and/or rows may not sum due to rounding.

Total Economic Impacts Associated with 10% Reduction in Personnel Compensation and Defense Contracts

Impact Type	Total Jobs	Total Compensation	Total Value Added
Direct Effect	3,140	$301,480,000	$476,770,000
Indirect Effect	240	$10,810,000	$16,640,000
Induced Effect	1,420	$50,800,000	$102,040,000
Total Effect	4,810	$363,090,000	$595,440,000

Source: IMPLAN 3.1.1001.12; Okaloosa, Santa Rosa, and Walton Counties

Note: 1.) Dollars values are in 2019 USD. 2.) Columns may not sum due to rounding. 3.) Compensation is used in place of IMPLAN's term Labor Income, but the two are used interchangeably throughout this study.

Scenario 3: 15% Reduction

Direct Impact in Defense Spending Resulting from a 15% Reduction

Scenario	Personnel Type	Personnel	Average Compensation	Aggregate Compensation	Contracts
15% Loss	Active Duty	2,370	$104,000	$245,888,000	n/a
	DoD Civilian	1,110	$107,000	$118,729,000	n/a
	Private-sector Contractors	1,230	$65,000	$79,700,000	$190,600,000
	Total	4,710	$94,000	$444,317,000	$190,600,000

Note: 1.) Dollars values are in 2017 USD. 2.) Columns and/or rows may not sum due to rounding.

Total Economic Impacts Associated with 15% Reduction in Personnel Compensation and Defense Contracts

Impact Type	Total Jobs	Total Compensation	Total Value Added
Direct Effect	4,710	$449,900,000	$711,300,000
Indirect Effect	360	$16,200,000	$25,000,000
Induced Effect	2,130	$75,800,000	$152,300,000
Total Effect	7,210	$541,900,000	$888,600,000

Source: IMPLAN 3.1.1001.12; Okaloosa, Santa Rosa, and Walton Counties

Note: 1.) Dollars values are in 2019 USD. 2.) Columns may not sum due to rounding. 3.) Compensation is used in place of IMPLAN's term Labor Income, but the two are used interchangeably throughout this study.

Scenario 4: "Notional" Mission Increase

- Assumptions
  - 200,000 SF secured facility
  - 180,000 SF (assumes 90% occupancy)
  - 450 SF per worker (typical commercial space assumption is approximately 175 SF; leaves ample space for RDT&E activity)
  - 400 workers supported at full build out and absorption
  - No retail product offered; all jobs supported are w/in RDT&E

Scenario 4: 400 jobs - 200K SF Facility

Direct Spending Associated with Private Sector RDT&E Jobs at Full Buildout, 2017					
IMPLAN Industry Description	Jobs	Compensation per Worker	Output per Worker	Aggregate Compensation	Contracts (Total Output)
Architectural, engineering, and related services	174	$95,000	$172,000	$16,530,000	$29,928,000
Computer systems design services	68	$88,000	$113,000	$5,984,000	$7,684,000
Scientific research and development services	67	$95,000	$250,000	$6,365,000	$16,750,000
Other computer related services, including facilities management	40	$80,000	$138,000	$3,200,000	$5,520,000
Management consulting services	38	$74,000	$120,000	$2,812,000	$4,560,000
Marketing research and all other miscellaneous professional, scientific, and technical services	9	$33,000	$59,000	$297,000	$531,000
Environmental and other technical consulting services	3	$60,000	$83,000	$180,000	$249,000
Custom computer programming services	1	$82,000	$172,000	$82,000	$172,000
Total	**400**	**$89,000**	**$164,000**	**$35,600,000**	**$65,600,000**

Source: IMPLAN 3.1.1001.12; Okaloosa, Santa Rosa, and Walton Counties

Notes:

1.) Columns may not sum due to rounding

2.) All dollar values are 2017 USD

3.) Industry make-up is based on FY 2017 DOD Professional, Scientific, and Technical Services contracts performed in-region

4.) Compensation is used in place of IMPLAN's term Labor Income, but the two are used interchangeably throughout this study.

Scenario 4: 400 jobs - 200K SF Facility

Direct Impact in Defense Spending Resulting from a 200K SF Facility					
Scenario	Personnel Type	Personnel	Average Compensation	Aggregate Compensation	Contracts
200K SF	Private Sector Contractors	400	$89,000	$35,600,000	$65,600,000

Note: 1.) Dollars values are in 2017 USD
2.) Contracts equates to aggregate output by worker within RDT&E sectors presented on slide 10.

Total Economic Impacts Associated with 400 Private Sector RDT&E Jobs			
Impact Type	Total Jobs	Total Compensation	Total Value Added
Direct Effect	400	$35,890,000	$37,980,000
Indirect Effect	160	$7,320,000	$10,980,000
Induced Effect	200	$7,010,000	$14,090,000
Total Effect	760	$50,220,000	$63,050,000

Source: IMPLAN 3.1.1001.12; Okaloosa, Santa Rosa, and Walton Counties
Notes:
1.) Dollars values are in 2019 USD
2.) Columns may not sum due to rounding.
3.) Compensation is used in place of IMPLAN's term Labor Income, but the two are used interchangeably throughout this study.

Key Defense-related Statistics

Defense-related and Regional Per worker Indicators, 2017
Okaloosa, Santa Rosa, and Walton Counties

Wages per Job			
Type	Defense-related	Regional	Defense as a % Regional
Direct Effect	$70,500	$42,200	167%
Indirect Effect	$38,400	$42,200	91%
Induced Effect	$30,000	$42,200	71%
Total Effect	**$57,000**	**$42,200**	**135%**
Value Added Per Job			
Type	Defense-related	Regional	Defense as a % Regional
Direct Effect	$152,000	$82,000	185%
Indirect Effect	$69,000	$82,000	84%
Induced Effect	$72,000	$82,000	88%
Total Effect	**$124,000**	**$82,000**	**151%**

Source: IMPLAN 3.1.1001.12; Okaloosa, Santa Rosa, and Walton Counties; *2017 County – NAICS Sector*: http://www.floridajobs.org/workforce-statistics/data-center/statistical-programs/quarterly-census-of-employment-and-wages

Notes:

1.) Defense-related includes Active Duty, DoD Civilian, and Private-sector wages.

2.) Regional wages are provided by Florida Department of Economic Opportunity and are inclusive of all private-sector wages for Santa Rosa, Okaloosa, and Walton counties.

3.) Columns and/or rows may not sum due to rounding.

4.) All dollar values are 2019 USD.

Key Take-aways

- $2.5 billion in active duty and civilian compensation (Eglin & Hurlburt)
- $1.3 billion in DoD contracts performed in-region
- Direct defense-related jobs earn 1.67X as much as the region's average
- Direct defense-related industry generates 85% more economic value (Value Added) per job than the average regional industry
- Given this value, region must protect current missions and posture for additional missions by mitigating all infringing issues, including transportation.

Methodology and Limitations

- All data is based on 2017 estimates (DoD, BEA, and IMPLAN)
- Reduction scenarios utilize a "per personnel" estimate for impacted contracts and assumes 2017 industry distribution
- Constant military to civilian ratio is assumed
- Growth scenario assumes identical 2017 industry distribution for Professional, Scientific, and Technical Services (RDT&E) contracts
- Growth scenario assumes identical 2017 output per worker estimates
- "Defense-related" includes both DoD personnel and DoD private sector contractors
- IMPLAN is a static model that does not consider other changes in the state and regional economy

Attachment C

IMPLAN Impact Analysis

Economic Impacts of Land Access

The Southwest Crestview Bypass, including the Rasberry Road connector, will provide regional connectivity between State Route (SR) 85 and US 90. As a result, it will alleviate existing congestion and provide an alternate to traveling through downtown Crestview. In addition, the project will provide access to developable, green field land in western Crestview. This will allow the city to accommodate pressure to grow from tourists and the military at Eglin Air Force Base.

Overall, the project is anticipated to generate three types of impacts on the economies of Okaloosa, Santa Rosa, and Walton counties:

1. Generate congestion reduction benefits and increase economic productivity due to these improvements
2. Prevent potential job loss due to mission reductions at Eglin Air Force Base in response to growing regional congestion
3. Open land in Crestview to economic development by attracting new residents and businesses.

The first two impacts have been documented in other studies. This report focuses on the economic development benefits of increased land access. It provides a summary of long-term economic impacts estimated in an IMPLAN® input-output model for a tri-county region consisting of Okaloosa, Santa Rosa, and Walton counties. The analysis includes development along the Southwest Crestview Bypass corridor associated with:

- New residential units
- Commercial/office space.

While some of these impacts could spill over (leak) into other areas, the tri-county region has been selected to capture the majority of benefits. The economic impacts of land access are expected in addition to the congestion reduction and job loss prevention benefits described in other reports.

Methodological Framework

This section introduces key concepts and metrics related to the economic impact analysis and outlines the methodology used to estimate the regional impacts associated with the proposed Southwest Crestview Bypass.

Types of Effects

Traditionally, economic impact analysis involves the estimation of three types of effects, commonly referred to as direct, indirect, and induced effects:

- **Direct Effects:** changes in economic activity as a consequence of an investment or improvement (e.g., construction of new residential units or commercial/office space enabled by the Southwest Crestview Bypass)

- **Indirect Effects:** changes in economic activity related to industries that supply those impacted by the direct effects
- **Induced Effects:** changes in economic activity related to employee spending (by employees of industries affected by the direct and indirect effects).

The total economic impact is simply the sum of these direct, indirect, and induced effects. Note that the indirect and induced effects are sometimes referred to as multiplier effects since they can make the total economic impacts substantially larger than the direct effect alone.

Impact Metrics

Typically, economic impacts are measured in terms of industry output, value added, employment, and tax revenue (at the federal and state/local levels). While output is the broadest measure of economic activity and refers to the total volume of sales, value added is the value companies add to products or services in their stage of production. Value added is a measure of the contributions establishments or industries make to the gross regional product (GRP). Value added includes employment compensation, taxes on production and imports less subsidies, and gross operating surplus. Value added is smaller than output for a given industry because value added considers only the contributions of the industry in question while output includes the inputs to that industry's production.

With respect to employment, two metrics can be calculated: labor income and jobs. Labor income includes employee compensation and proprietary income. Employee compensation, in turn, consists of wage and salary payments as well as benefits (health, retirement, etc.) and employer paid payroll taxes (employer side of social security, unemployment taxes, etc.). Proprietary income consists of payments received by self-employed individuals (such as doctors and lawyers) and unincorporated business owners. The job impacts measures the number of jobs for a full year (i.e., job-years). A job-year is defined as one person employed for one year, whether that employment is part-time or full time. The job impacts reflect the mix of full- and part-time jobs typical for each industry.

Economic Modeling

This analysis estimates the economic impacts using the IMPLAN® system, an input-output based regional economic assessment modeling system owned by the IMPLAN Group LLC.[1]

The IMPLAN® system consists of a software package and data files that are updated each year. The data files include transaction information (intra-regional and import/export) on 517 private industry sectors [corresponding to four and five-digit North American Industry Classification System (NAICS) codes] and data on more than 20 different economic variables, including employment, output, and value added. For this study, the IMPLAN® system was populated with data available for Okaloosa, Santa Rosa County, and Walton counties for 2017 and results were reported in 2019 dollars.[2]

[1] For more information on the system, visit http://www.implan.com

[2] This is the most up to date data available from IMPLAN® as of March 2019.

RESIDENTIAL DEVELOPMENT

The first analysis considered the impact of residential development enabled by the Southwest Crestview Bypass. The project is expected to open up to 1,800 acres for residential development. This translates to about 1,080 dwelling units, assuming 30 percent of the land is developable and a development density of about 2 units per acre, which is typical for the area. Construction of these dwelling units is anticipated to occur over a 10-year period between 2025 and 2035. The economic analysis considers the cumulative annual economic impact of all residential units once construction is completed. The impact in the first year would be roughly one tenth the impact shown in the analysis, while the overall impact would grow over time.

Table 1 summarizes the residential development assumptions used in this analysis.

Table 1: Residential Area

Variable	Unit	Value
Potential Area for Development	Acres	1,800
Percent for Development	Percentage	30%
Assumed Developed Area	Acres	540
Assumed Dwelling Units per Acre	Units per Acre	2
Total Dwelling Units	Units	1,080

Source: Okaloosa County estimates

As a conservative estimate of the economic impacts of this residential development, the assessment treats the 1,080 units as an upper bound estimate, while half this development (540 units) is used as a lower bound estimate. The primary evaluation focuses on a mid-range estimate of 810 units (or 810 households occupying those units). According to recent U.S. Census Bureau data, the median household income in 2017 in the region is $61,524.[3] This is expected to be representative of the household income for newly developed units.

To estimate the direct expenditures generated by these new households, the analysis uses 2017 data from a recently conducted Bureau of Labor Statistics (BLS) expenditures survey.[4] While this survey provides expenditures at the national level, it is assumed that local expenditures would occur in a similar mix, but proportional to the local household income. The BLS survey shows that on average, consumers spend approximately 82 percent of their income on food, housing, apparel, transportation, healthcare, entertainment, education, insurance, pensions, and other expenditures. Results from the national survey were used to derive the potential yearly expenditures by the future residents resulting from the Southwest Crestview Bypass.

Table 2 summarizes the findings for the mid-range estimate of 810 households.

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[3] The study team collected median household income ($59,355) for the tri-county region from the U.S. Census Bureau and converted it to 2019 dollars using the Consumer Price Index (CPI) data from the Bureau of Labor Statistics.

[4] For more information, visit https://www.bls.gov/news.release/cesan.nr0.htm

Table 2: Households Total Annual Expenditures in the Region

Variable	Unit	Value	Total
Median Household Income	Dollars per year	$61,524	$49,834,440
Percent of Income spent on Consumption	Percentage	81.6%	
Household Income Spent on Consumption	**Dollars per year**	**$50,224**	**$40,681,452**
Food (12.9%)	Dollars per year	$6,463	$5,235,214
Housing (33.1%)	Dollars per year	$16,628	$13,468,365
Apparel (3.1%)	Dollars per year	$1,533	$1,241,577
Transportation (15.9%)	Dollars per year	$8,008	$6,486,273
Healthcare (8.2%)	Dollars per year	$4,121	$3,337,965
Entertainment (5.3%)	Dollars per year	$2,678	$2,169,542
Personal care products (1.3%)	Dollars per year	$637	$516,138
Education (2.5%)	Dollars per year	$1,247	$1,009,924
Cash contributions (3.1%)	Dollars per year	$1,566	$1,268,671
Insurance and pensions (11.3%)	Dollars per year	$5,662	$4,586,316
Other expenditures (3.3%)	Dollars per year	$1,681	$1,361,467

Source: Computation based on BLS' Consumer Expenditures Survey

IMPLAN sectors were selected for the analysis in two steps. The first step was to identify the NAICS industry codes corresponding to the different expenditure categories. The second step was to match each NAICS industry with the appropriate IMPLAN sector. Table 3 shows the different sectors used to conduct the analysis in IMPLAN.

Table 3: IMPLAN Sectors (Residential)

BLS Expenditure Category	IMPLAN Sectors
Food	Food and beverage stores, full-service restaurants, limited-service restaurants, all other food and drinking places
Housing	Real estate
Apparel	Clothing and clothing accessories stores
Transportation	Gasoline stores, transit and ground passenger transportation, state government passenger transit, local government passenger transit
Healthcare	Offices of physicians, offices of dentists, offices of other health practitioners, outpatient care centers, medical and diagnostic laboratories, other ambulatory health care services, hospitals
Entertainment	Performing art companies, commercial sports, racing and track operation, museums, historical sites, zoos, and parks, amusement parks and arcades, gambling industries, other amusement and recreation industries, fitness and recreational sport centers, bowling centers
Personal care products	Personal care services

BLS Expenditure Category	IMPLAN Sectors
Education	Elementary and secondary schools, junior colleges, colleges, universities, other educational services
Insurance and pensions	Insurance carriers, insurance agencies, brokerages, funds, trusts, and other financial vehicles
Other	Other personal services

Source: Analysis of IMPLAN sectors

COMMERCIAL DEVELOPMENT

The second analysis considered the impact of commercial/office development enabled by the Southwest Crestview Bypass. The project is expected to open up to 300 acres for commercial development.[5] This translates to about 3.9 million square feet of commercial space, assuming a 0.3 floor area ratio (FAR), which is typical for the area and well below the FARs allowed under local land-use regulations. Construction is anticipated to occur over a 10-year period between 2025 and 2035. The economic analysis considers the cumulative annual economic impact resulting once construction is completed and the commercial space is occupied.

Table 4 summarizes the commercial development assumptions used in this analysis.

Table 4: Commercial Area

Variable	Percent of Total	Acres	FAR	Square Footage (SF)
High Intensity Use*	20%	60	0.3	784,080
Medium Intensity Use*	50%	150	0.3	1,960,200
Light Intensity Use*	30%	90	0.3	1,176,120
Potential Area for Development	100%	300	0.3	**3,920,400**

Source: Okaloosa County estimates
Labor intensity categories based on SF per employee

As a conservative estimate of the economic impacts of this commercial development, the assessment uses the 300 acres assumption as an upper bound estimate, while 125 acres is used as a lower bound estimate. The primary evaluation focuses on a mid-range estimate of 212.5 acres, which translates to about 2.8 million square feet of commercial space.[6]

IMPLAN sectors were selected for the analysis in two steps. The first step was to identify the NAICS industry codes corresponding to the different expenditure categories. The second step was to match each NAICS industry with an appropriate IMPLAN sector.

Table 5 shows the different sectors used to conduct the analysis in IMPLAN.

[5] Potential development area includes 125 acres to 300 acres of commercial use.
[6] 212.5 acres * 43,560 * 0.3 = 2,776,950 sq. ft. Note that 1 acre = 43,560 sq. ft. and 0.3 represents the floor area ratio.

Table 5: IMPLAN Sectors (Commercial)

Category	IMPLAN Sectors
High Intensity Use	Full-service restaurants, limited service restaurants, all other food and drinking places, offices of physicians, offices of dentists, offices of other health care practitioners, hospitals, legal services, accounting, tax preparation, bookkeeping services, architecture, engineering, and related services.
Medium Intensity Use	Warehousing and storage and general merchandise stores
Light Intensity Use	Food and beverage stores (groceries), hotels and motels, other accommodations

Source: Analysis of IMPLAN sectors

Analysis Results

The section presents the results of the overall economic impact analysis. Note the following caveats about the analysis:

- All dollar amounts are expressed in 2019 dollars, rounded to the nearest million.[7]
- Employment impacts should not be interpreted as full-time equivalents (FTE) as they reflect the mix of full- and part-time jobs typical for each sector of the economy.
- Okaloosa County anticipates approximately 540 to 1,080 residential units being built over time as a result of land made accessible by the Southwestern Crestview Bypass.
- The analysis assumes that an additional 125 to 300 acres will be available for commercial development.
- Results may not sum to the total reported due to rounding.

Residential Impacts

Table 6 summarizes the economic impacts resulting from the personal consumption of new households once all units are occupied.[8] When accounting for the multiplier effect, the total contribution to the region's employment is estimated to be between 387 and 774 job-years. The employees will earn a combined $12 million to $23 million in labor income. In addition, state and local tax revenues will increase by about $2 million to $4 million; whereas federal tax revenues will increase by about $3 million to $5 million. Again, these are the annual impacts once the full development is completed.

[7] IMPLAN uses the GDP deflator to convert values to 2019 dollars.
[8] Impacts are estimated and presented for the following range: 540 to 1,080 residential units.

Table 6: Summary of Residential Impacts

Metrics	Direct	Indirect	Induced	Total
Employment (in job-years)	287 to 575	54 to 109	45 to 90	387 to 774
Output*	$26 to $52	$7 to $14	$6 to $12	$39 to $78
Labor Income*	$8 to $16	$2 to $4	$2 to $3	$12 to $23
Value Added*	$15 to $31	$4 to $8	$3 to $7	$23 to $45
State/Local Taxes*	-	-	-	$2 to $4
Federal Taxes*	-	-	-	$3 to $5

**Monetized values are in millions of 2019 dollars.*
Source: IMPLAN

Commercial Impacts

Table 7 summarizes the economic impacts resulting from the development of commercial/office space.[9] When accounting for the multiplier effect the total contribution to the region's employment is estimated to be between 6,215 job-years and 14,916 job-years. The employees will earn a combined $233 million to $560 million in labor income. In addition, state and local tax revenues will increase by about 44 million to $105 million; whereas federal tax revenues will increase by about $52 million to $124 million. These are the annual impacts once the full development is completed.

Table 7: Summary of Commercial Impacts

Metrics	Direct	Indirect	Induced	Total
Employment (in job-years)	4,550 to 10,921	763 to 1,831	902 to 2,164	6,215 to 14,916
Output*	$391 to $939	$97 to $232	$118 to $283	$606 to $1,455
Labor Income*	$170 to $408	$29 to $71	$34 to $81	$233 to $560
Value Added*	$235 to $565	$55 to $132	$68 to $164	$359 to $861
State/Local Taxes*	-	-	-	$44 to $105
Federal Taxes*	-	-	-	$52 to $124

**Monetized values are in millions of 2019 dollars.*
Source: IMPLAN

[9] Impacts are estimated and presented for a range of 125 to 300 acres of commercial development.

Conclusion

The mixed-use development (residential and commercial) will impact the economy of the tri-county region. Impacts related to the economic activity of residents (consumption) and commercial tenants (sales) is complex to forecast due to economic uncertainty in the long term. While the residential and commercial impacts will require additional investment by developers to occur, these impacts are enabled by land access provided by the Southwest Crestview Bypass.

Once all units are built and occupied, residential tenants will potentially have annual expenditures of approximately $39 to $78 million with the majority of the spending on housing, transportation, food and healthcare expenditures. This economic activity is expected to generate between 387 and 774 total job-years. In total, employees are expected to earn a combined $12 million to $23 million, with an average annual labor income of approximately $30,000 per employee.

Commercial tenants are expected to generate potential sales of approximately $606 million to $1,455 million annually. This economic activity is expected to generate between 6,215 and 14,916 total job-years each year. In total, employees are expected to earn a combined $233 million to $560 million, with an average annual labor income of approximately $38,000 per employee.

This analysis does not include the temporary economic impacts of the construction phase as these are directly due to the investment by developers. Spending on construction of housing units and office space will positively impact the tri-county region's economy by creating jobs, increasing the tax base, and contributing to total output in the short to medium term.

Attachment D

Florida Department of Transportation

Funding Commitment
for the
I-10 Interchange west of Crestview

Florida Department of Transportation

RON DESANTIS
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

KEVIN J. THIBAULT, P.E.
SECRETARY

March 21, 2019

Commissioner Graham Fountain
Okaloosa Board of County Commissioners
302 N. Wilson Street, Suite 302
Crestview, FL 32536

RE: Funding Commitment for the I-10 Interchange west of Crestview FPID 407918-5

Dear Commissioner Fountain,

The Florida Department of Transportation fully supports transportation priorities established by the local governments through the Transportation Planning Organizations (TPOs) and understands that a new I-10 Interchange west of Crestview is a top regional priority for the Okaloosa-Walton TPO and Okaloosa County. This project clearly provides benefits that are in line with the Governor's priorities for safety, congestion relief, and technology solutions. As you are aware, design for this interchange project is underway and we have allocated funding for right of way acquisition in Fiscal Year 2021. As we continue the momentum on this important project, it is the intent of the Department to add construction funding during the next development cycle of the tentative Five-Year Work Program, which begins in July and includes Fiscal Years 2021 - 2025.

Please keep in mind that The Department's Work Program and budget is adopted annually by the Florida Legislature during the Legislative Session, and is subject to legislative approval. The 2020 Legislative Session will occur during January, February and March.

The Department values its partnership with Okaloosa County and we are excited to work together in delivering a regional transportation solution to the residents of Okaloosa County and the surrounding area. Moving forward, District Secretary Phillip Gainer will serve as the primary contact. Should you have any questions, please do not hesitate to contact him directly.

Sincerely,

Kevin J. Thibault, P.E.
Secretary

Southwestern Bypass	FDOT/FHWA	County/City	Triumph Request
Phase I			
PD&E	$18,000	$18,000	$0
Design	$163,000	$163,000	$0
ROW	$800,000	$800,000	$0
Construction	$835,000	$2,065,000	$0
Phase II			
PD&E	$17,000	$17,000	$0
Design	$125,000	$125,000	$0
ROW	$500,000	$500,000	$0
Construction	$2,824,000	$0	$0
Phase III			
PD&E	$24,000	$24,000	$0
Design	$328,000	$113,000	$0
ROW	$1,501,000	$0	$0
Construction	$3,800,000	$0	$0
Phase IV			
PD&E	$471,000	$471,000	$0
Design	$500,000	$500,000	$0
ROW	$3,400,000	$1,350,000	$0
Construction	$0	$0	$8,000,000
Interchange Phase			
PD&E	$1,249,000	$0	$0
Design	$8,508,000	$0	$0
ROW	$1,400,000	$1,350,000	$0
Construction	$68,900,000	$0	$0
Phase V			
PD&E	$270,000	$270,000	$0
Design	$1,320,000	$2,200,000	$5,100,000
ROW	$0	$28,000,000	$0
Construction	$0	$0	$51,000,000
Total By Funding Source	**$96,953,000**	**$37,966,000**	**$64,100,000**
		SW Bypass Project Total	**$199,019,000**

Appendix C: Traffic Analysis

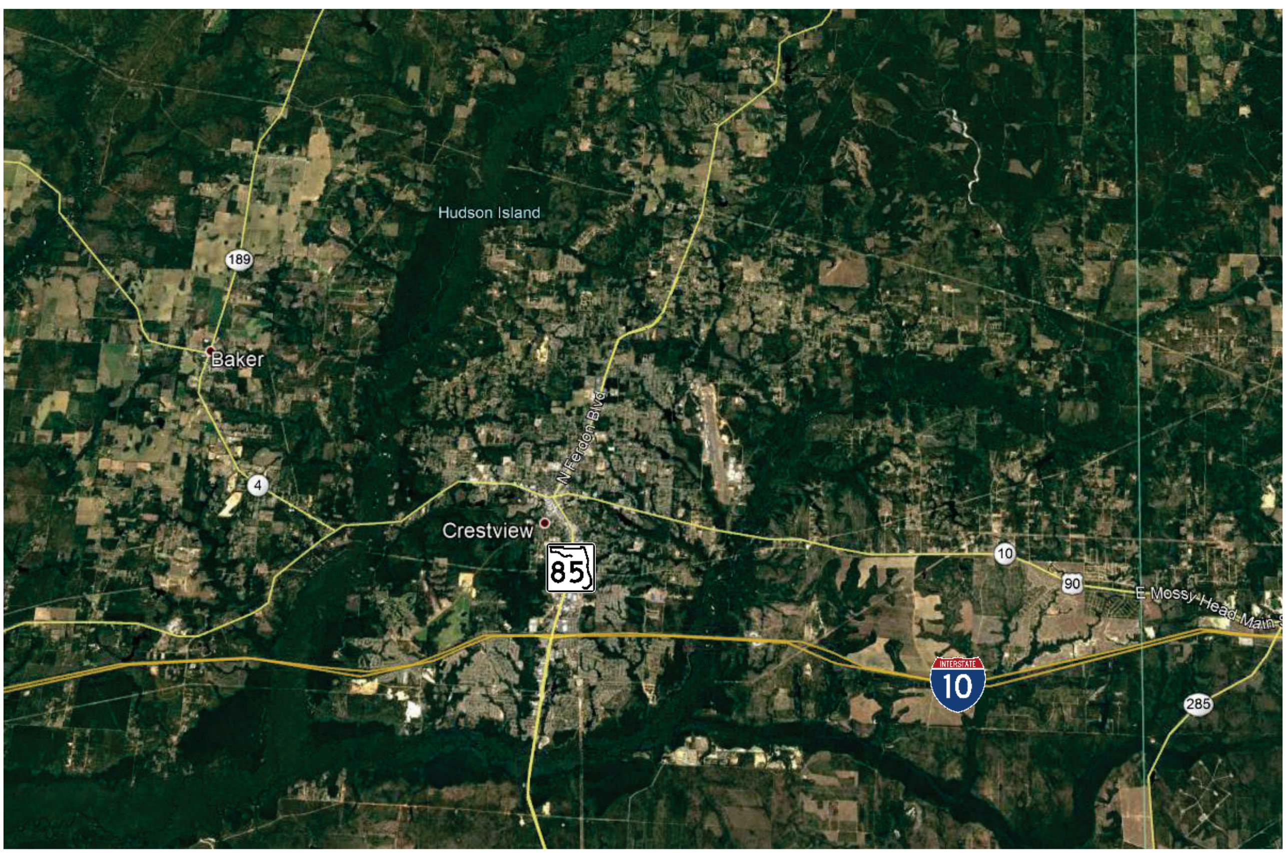
Traffic Analysis Memorandum

FINAL ITERATION

SR 85 | EASTERN CRESTVIEW BYPASS

FEASIBILITY Study

FDOT District 3 Project | ETDM No # 2891



April 2019

CHAPTER 1 INTRODUCTION

1.1 PROJECT DESCRIPTION

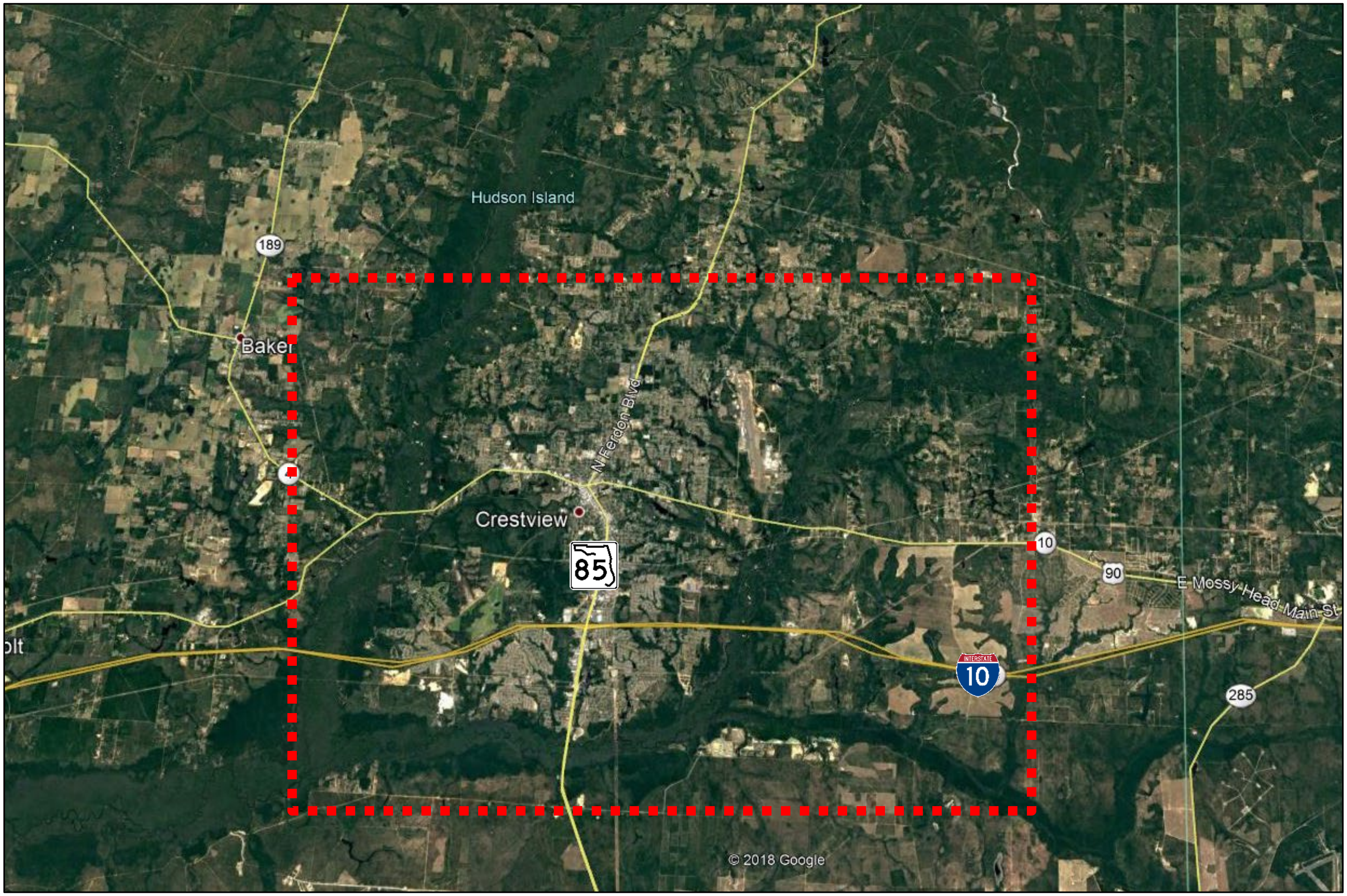
The primary aim of this project is to conduct a feasibility analysis of a bypass for SR 85 east of the City of Crestview. The analysis also considered the southern end of the Western Crestview Bypass and the 6-laning of SR 85, which are both cost feasible in the Okaloosa-Walton Transportation Planning Organization (OWTPO)'s Long Range Transportation Plan (LRTP), as well as a potential northern segment of the Western Crestview Bypass which is outside of the TPO Cost Feasible Plan. The bypass projects are proposed to provide a beltway around the city. The factors to be considered include but are not limited to: traffic and regional mobility; social, cultural, economic, natural, and physical environmental impacts; and engineering feasibility.

Traffic demand was measured for the Eastern bypass as well as the overall bypass of the City of Crestview (the Eastern and Western Bypass segments). The Northwest Florida Regional Planning Model (NWFRPM) Version 2.1 model which was released in June 2017, was used as the starting point for the travel demand modeling effort.

1.2 PROJECT LOCATION

The SR 85 Eastern Bypass project is located east of the City of Crestview, from SR 85 south of I-10 to SR 85 north of I-10 near the intersection of Airport Road. **Figure 1-1** shows the project location and study area.

Figure 1-1 Project Location Map



CHAPTER 2 ANALYSIS YEARS

The analysis years for the traffic analysis were established based on coordination with the Department. The proposed analysis years for the study are as follows:

- Year 2010 Base
- Year 2030 Opening
- Year 2040 Interim
- Year 2050 Design

CHAPTER 3 ALTERNATIVES

The alternatives considered as part of this study include a No-Build alternative and four Build alternatives. The alternatives are described below.

3.1 NO-BUILD ALTERNATIVE

The No-Build alternative assumes no proposed improvements and serves as a baseline for comparison against the other alternatives. It, however, includes on-going construction projects and all funded or programmed improvements scheduled to be opened to traffic in the analysis year being considered. These improvements must be part of the OWTPO Cost Feasible LRTP, and any developer-funded transportation improvements specified in approved development orders.

3.2 BUILD ALTERNATIVES

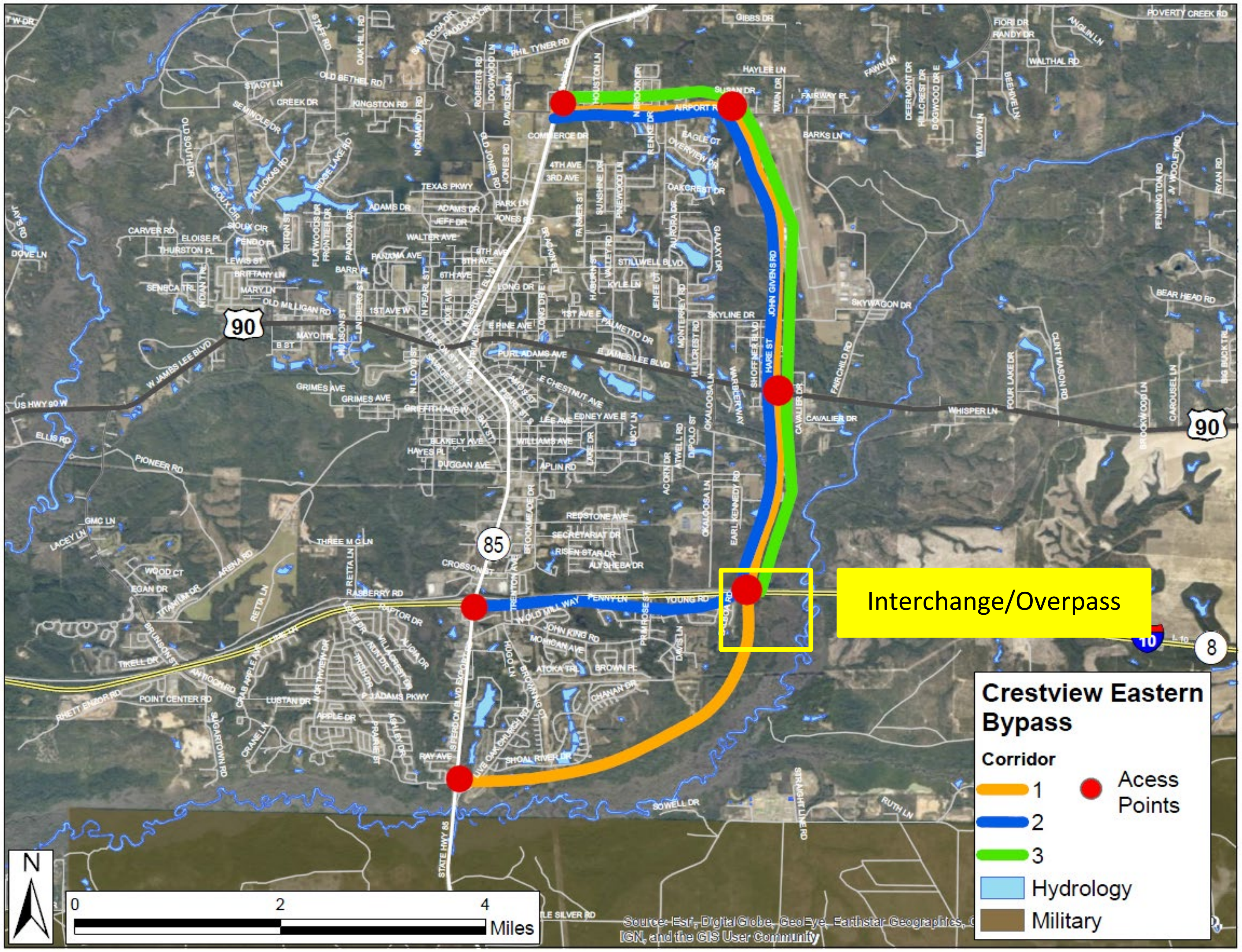
Four Build alternatives for the SR 85 Eastern bypass were approved for analysis. **Figure 3-1** shows the proposed Build alternatives. The descriptions of the Build alternatives are listed as follows.

- Alternative 1A - Orange Line with an interchange at I-10. Alternative 1A has a southern terminus on SR 85 south of Shoal River Drive and a northern terminus on SR 85 near the intersection of Airport Road. Alternative 1A is coded as four lanes south of I-10, four lanes from I-10 to US 90, four lanes from US 90 to Airport Road, and two lanes from Airport Road to SR 85 in the model.
- Alternative 1B - Orange Line with an overpass at I-10. Alternative 1B has a southern terminus on SR 85 south of Shoal River Drive and a northern terminus on SR 85 near the intersection of Airport Road. Alternative 1B is coded as four lanes from south of I-10 to US 90, four lanes from US 90 to Airport Road, and two lanes from Airport Road to SR 85 in the model.
- Alternative 2 - Blue Line parallel to the interstate to the south, with an overpass at I-10. Alternative 2 has a southern terminus on SR 85 south of I-10 and a northern terminus on SR 85 near the intersection of Airport Road. Alternative 2 is coded as four lanes from south of I-10 to US 90, four lanes from US 90 to Airport Road, and two lanes from Airport Road to SR 85 in the model.
- Alternative 3 - Green Line with an interchange at I-10. Alternative 3 has a southern terminus on the new interchange of the new corridor with I-10 and a northern terminus on SR 85 near the intersection of Airport Road. Alternative 3 is coded as four lanes from

I-10 to US 90, four lanes from US 90 to Airport Road, and two lanes from Airport Road to SR 85 in the model.

The proposed Build alternatives generally consider a tight diamond interchange configuration at the intersection of I-10 and the proposed new corridor alternative. All the other access points shown on the map are considered as at-grade intersections.

Figure 3-1 Proposed Build Alternatives



CHAPTER 4 TRAVEL DEMAND FORECASTING

4.1 TRAVEL DEMAND MODEL SELECTION

The Northwest Florida Regional Planning Model Version 2.1 (NWFRPM V2.1) released in June 2017 was used as the starting point for the modeling efforts. NWFRPM V2.1 has been validated for base year 2010 at the time of model release. The future year 2040 model is based on the OWTPO adopted year 2040 LRTP and was utilized as a starting point for future traffic and transit forecasts.

4.2 TRAVEL DEMAND MODEL VALIDATION

NWFRPM V2.1 has been validated for base year 2010 at the time of model release. Based on the discussion with the Department, no further validation/calibration was performed for this study.

4.3 FUTURE YEAR SOCIO-ECONOMIC DATA

To develop the year 2030 and 2050 model socio-economic data, the model socio-economic data from the available model years 2010 and 2040 were utilized to interpolate and extrapolate the socio-economic data to year 2030 and 2050. Upon review of the future year socio-economic data, the future year (2040) vacant and non-permanent percentages for several TAZs were identified lower than the base year (2010) vacant percentages, while the auto ownership percentage for future year does not sum up to 100% for certain TAZs, which seemed not reasonable. Therefore, the corresponding 2010 percentages were used to replace the 2040 percentages for interpolation.

4.3.1 Shoal River Ranch Development

The Shoal River Ranch Development was the major consideration of this area. The socio-economic data impact of the development was calculated and incorporated into the model social-economic data using ITE 9 trip rates and NWFRPM 2040 total attraction trips/total employment ratio. Year 2050 was considered as the fully build-out year of the Shoal River Ranch Development and year 2030 and 2040 data were interpolated. Tables 4-1 and 4-2 show the socio-economic data of TAZ 890 before and after incorporating the Shoal River Ranch Development.

Table 4-1 TAZ 890 Original Socio-Economic Data

Shoal River Ranch TAZ 890- Model Original	2010	2040
Industrial Employment	0	0
Commercial Employment	10	15
Service Employment	100	100
Total Employment	**110**	**115**

Table 4-2 TAZ 890 Updated Socio-Economic Data

Shoal River Ranch TAZ 890- Development Update	2010	2030	2040	2050
Industrial Employment	0	3,463	5,195	6,926
Commercial Employment	10	14	15	17
Service Employment	100	100	100	100
Total Employment	**110**	**3,577**	**5,310**	**7,043**

4.4 FUTURE YEAR MODEL NETWORK

To develop the year 2030 No-Build model network, the year 2040 Cost Feasible model network was used as the starting point. The network within the study area was reviewed and updated to reflect the year 2030 condition.

The year 2040 No-Build model network within the study area was reviewed to ensure that the southern end of the Western Crestview Bypass from Wild Horse Drive to I-10 and the 6-lane SR 85 are incorporated as outlined in the existing 2040 Cost Feasible Plan (CFP). The 2040 network was then updated to include the new interchange west of I-10 and the Western Bypass realignment from PJ Adams Pkwy to the new interchange only according to the latest Cost Feasible Plan amendment report and the discussion with the Department.

To develop the year 2050 No-Build model network, the updated 2040 No-Build network with 6-lane SR 85 and the Western Bypass (southern end) addition was used as the starting point. A potential northern segment of the Western Bypass from SR 10 to SR 85 (N Ferdon Blvd) was added to the 2050 network.

Figure 4-1 through 4-3 show the updated No-Build network for different year alternatives.

Figure 4-1 2030 No-Build Network

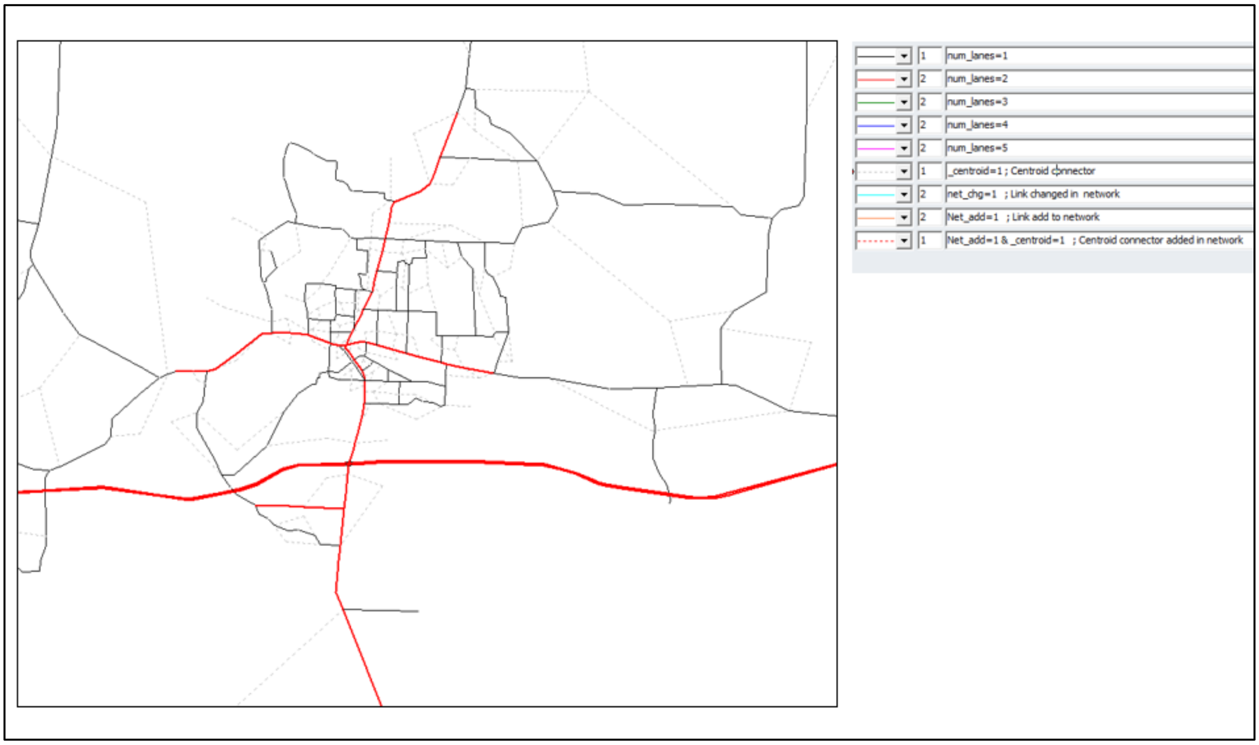


Figure 4-2 2040 No-Build Network

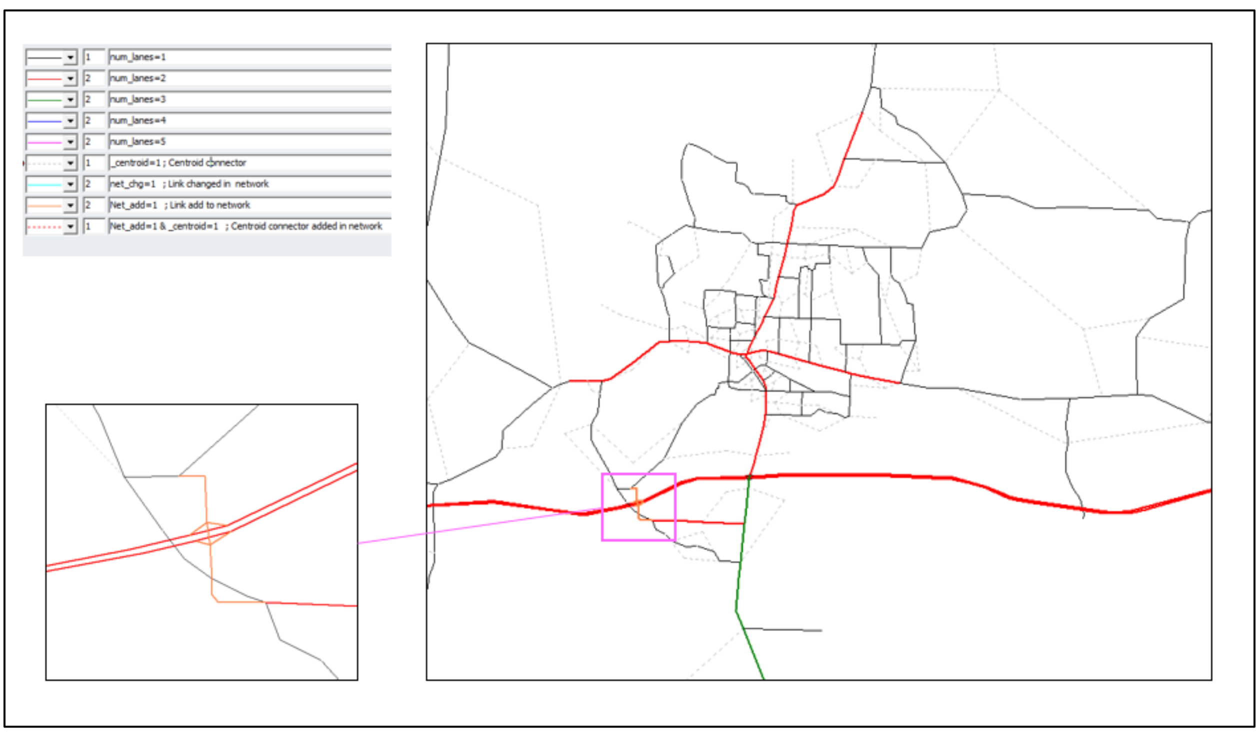
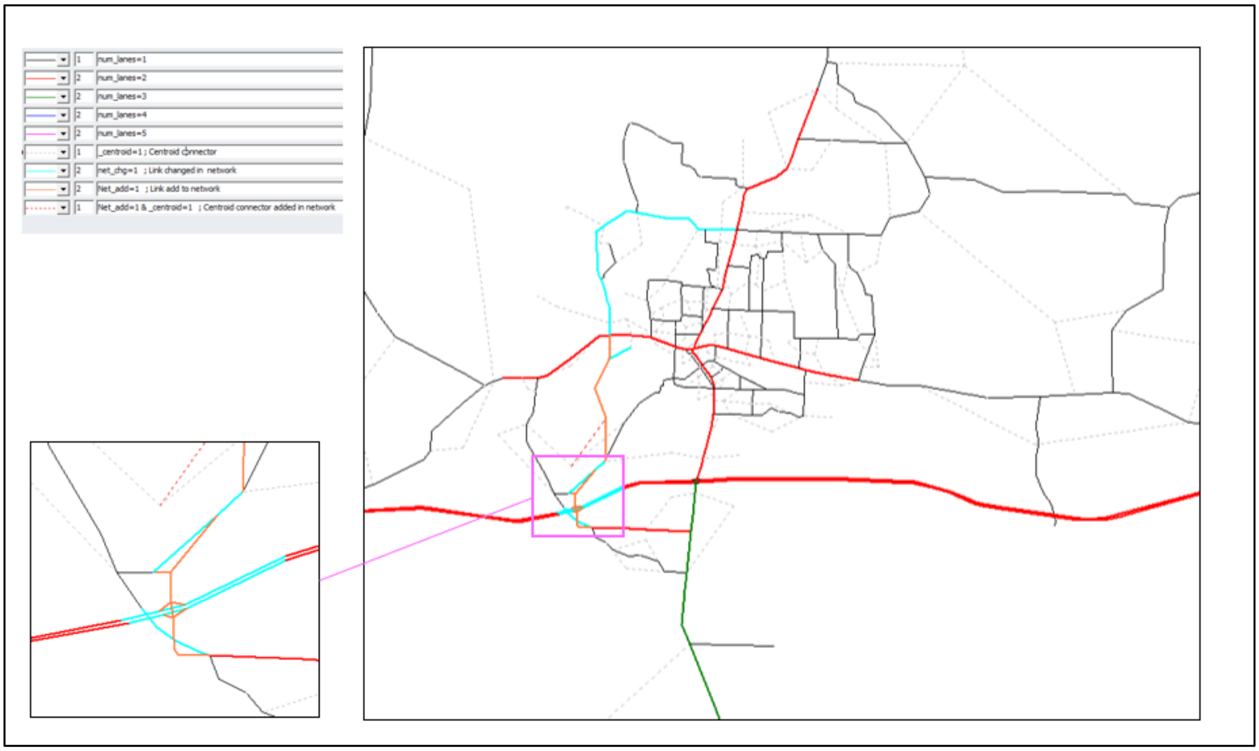


Figure 4-3 2050 No-Build Network



For the Build model scenarios, the new corridor alternatives described in Chapter 3 were added on top of the 2030, 2040 and 2050 No-Build model scenario networks accordingly. Figure 4-4 through 4-7 showed the new corridor coding for each alternative using 2040 network as examples.

Figure 4-4 Build Alternative 1A

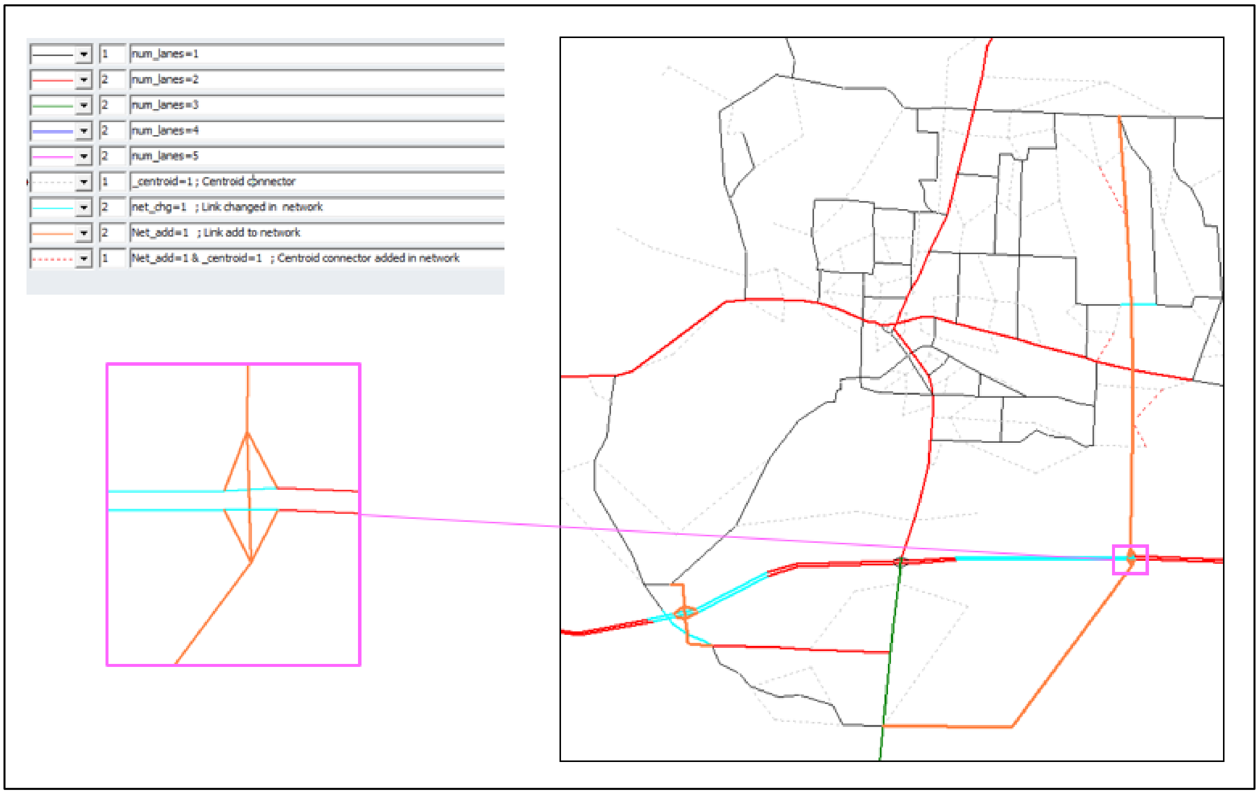


Figure 4-5 Build Alternative 1B

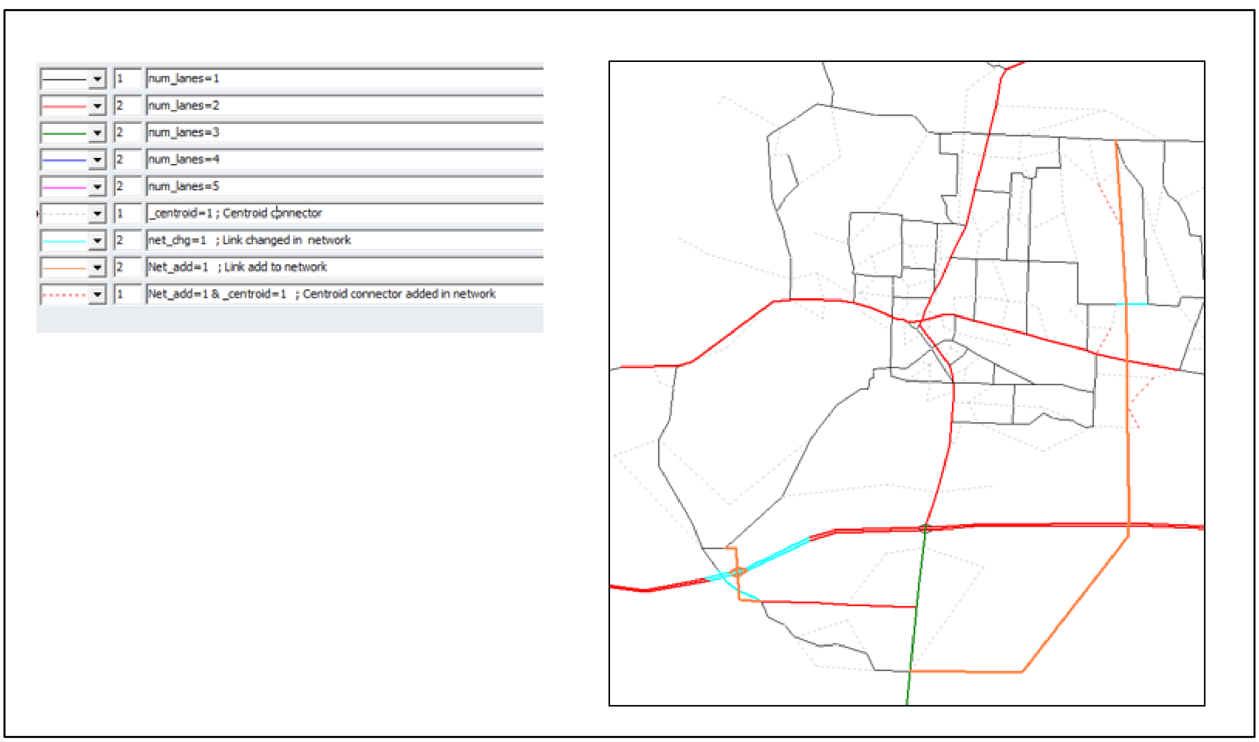


Figure 4-6 Build Alternative 2

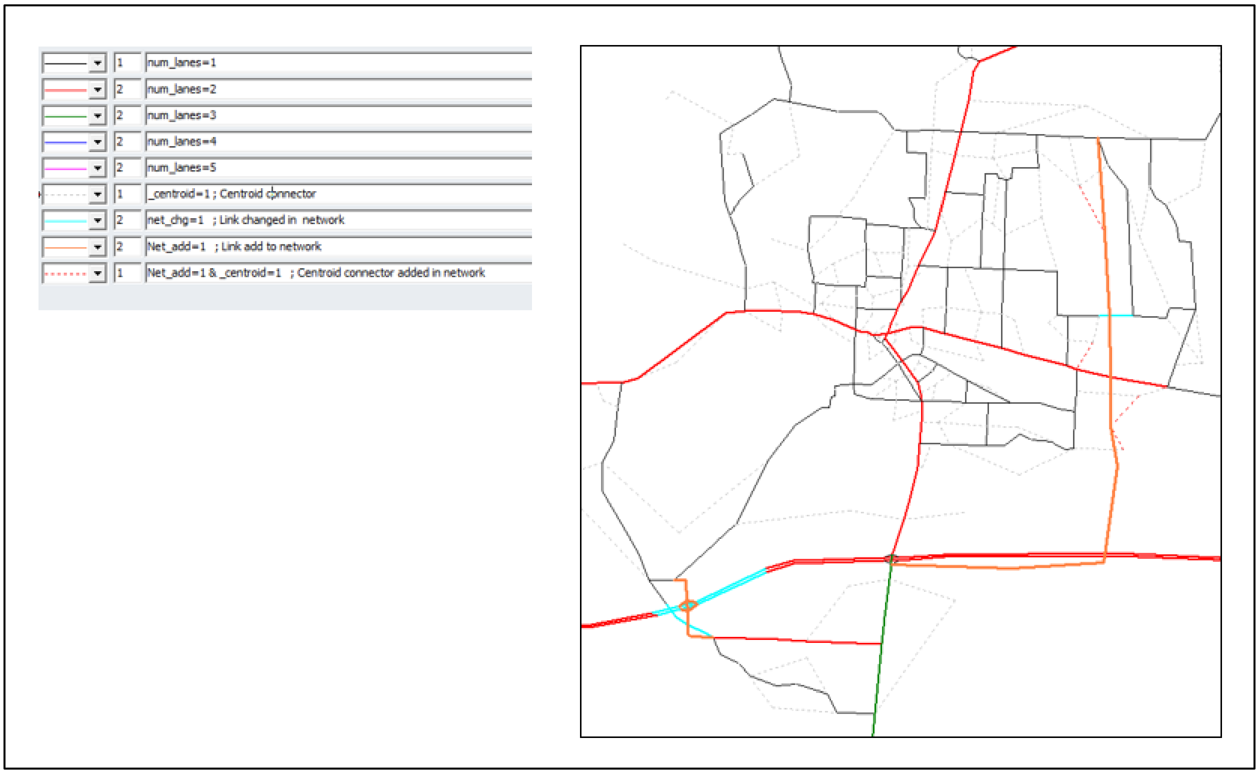
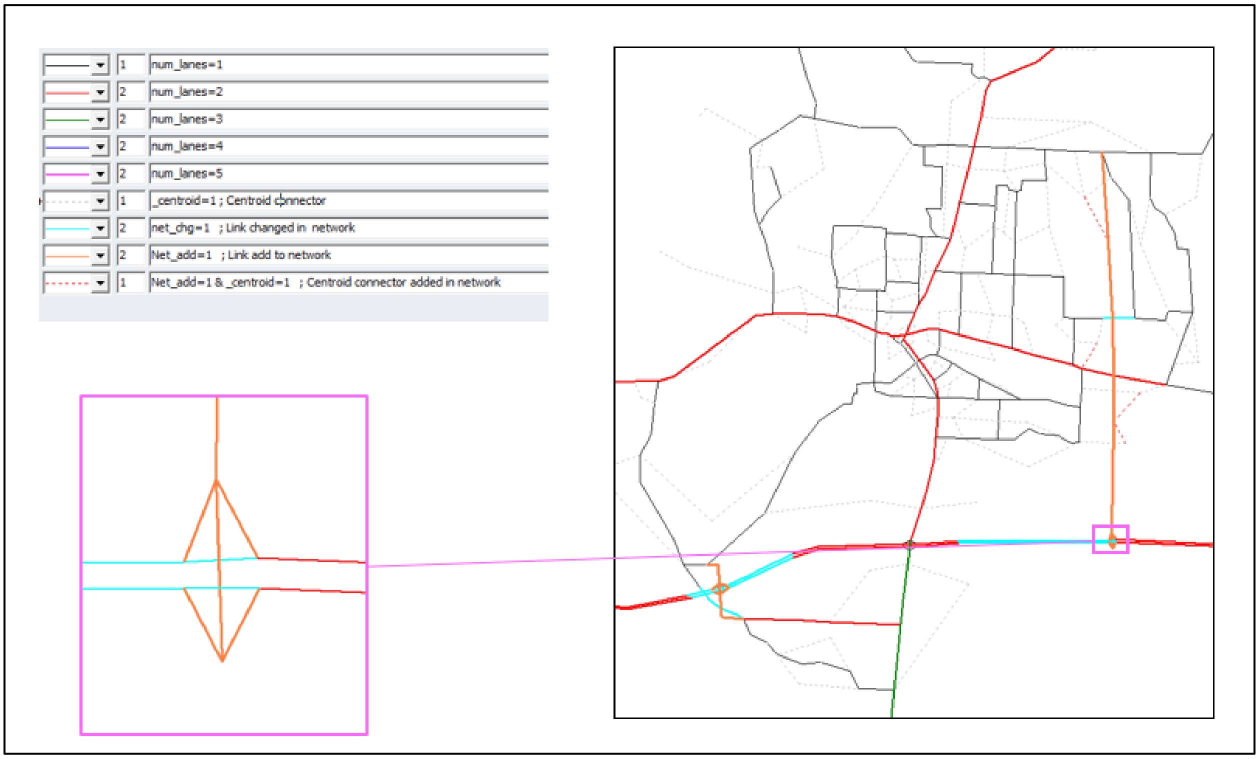


Figure 4-7 Build Alternative 3



4.5 TRAFFIC ANALYSIS

The following travel demand model scenarios were developed using NWFRPM V2.1:

- Base Year 2010 Scenario
- Year 2030 No-Build and Build Scenarios
- Year 2040 No-Build and Build Scenarios
- Year 2050 No-Build and Build Scenarios

For conceptual level traffic analysis, travel demand model Annual Average Daily Traffic (AADT) for each alternative was used for analysis.

4.5.1 Year 2010 and Year 2030 AADT

Table 4-3 lists and compares the year 2010 and year 2030 AADTs along the major roadway segments for different alternatives.

For 2030 No-Build Alternative, the traffic on I-10 increased by 2% at west of SR 85 and by 7% at east of SR 85 compared with the 2010 alternative. The traffic on SR 85 increased by 14% at south of Antioch Rd, by 16% at south of I-10 and by 20% at north of US 90. The traffic on US 90 increased by 32% at west of SR 85 and by 65% at east of SR 85.

For 2030 Build alternative 1A, the traffic on I-10 increased by 14% at west of SR 85 and 41% at east of SR 85 compared to the No-Build alternative. The traffic on SR 85 increased by 13% at south of Antioch Rd but decreased by 12% at south of I-10 and 21% at north of US 90. The traffic on US 90 increased by 13% at west of SR 85 but decreased by 11% at east of SR 85.

For 2030 Build alternative 1B, the traffic on I-10 increased by 12% at west of SR 85 and 7% at east of SR 85 compared to the No-Build alternative. The traffic on SR 85 increased by 13% at south of Antioch Rd but decreased by 16% at south of I-10 and 18% at north of US 90. The traffic on US 90 increased by 11% at west of SR 85 and by 6% at east of SR 85.

For 2030 Build alternative 2, the traffic on I-10 increased by 12% at west of SR 85 but decreased by 7% at east of SR 85 compared to the No-Build alternative. The traffic on SR 85 increased by 4% at south of Antioch Rd and 7% at south of I-10 but decreased by 11% at north of US 90. The traffic on US 90 increased by 8% at west of SR 85 but decreased by 5% at east of SR 85.

For 2030 Build alternative 3, the traffic on I-10 increased by 13% at west of SR 85 and 95% at east of SR 85 compared to the No-Build alternative. The traffic on SR 85 increased by 4% at south of Antioch Rd and 7% at south of I-10 but decreased by 12% at north of US 90. The traffic on US 90 increased by 8% at west of SR 85 but decreased by 5% at east of SR 85.

Table 4-3 Year 2010 and 2030 AADT

Roadway	Location	2010 Model AADT	2030 No-Build AADT	2030 Build Alt 1A AADT	2030 Build Alt 1B AADT	2030 Build Alt 2 AADT	2030 Build Alt 3 AADT
I-10	Mainline West of SR 85	15,492	15,800	17,956	17,640	17,747	17,845
	EB Off-ramp to SR 85	3,188	3,009	3,444	4,015	4,088	3,096
	WB On-ramp from SR 85	3,151	2,956	3,391	3,985	4,037	3,326
	EB On-ramp from SR 85	2,532	2,922	5,077	3,248	2,157	8,864
	WB Off-ramp to SR 85	2,316	2,276	5,065	3,194	2,194	8,959
	Mainline East of SR 85	14,001	15,032	21,265	16,080	13,975	29,248
SR 85	South of Antioch Rd	29,995	34,092	38,687	38,593	35,535	35,289
	South of I-10	45,414	52,876	46,400	44,585	56,500	56,482
	South of Duggan Ave	40,024	43,828	35,840	38,982	38,491	37,729
	North of Cobb Ave	28,643	29,735	24,918	26,671	26,566	26,454
	South of US 90	25,543	26,054	23,643	23,415	24,998	24,797
	North of US 90	28,022	33,757	26,544	27,626	29,901	29,697
	North of Long Dr	25,571	31,350	23,550	24,748	27,029	26,814
	North of 3rd Ave	25,953	33,309	24,680	26,351	29,054	28,780
US 90	West of SR 4 (Baker Hwy)	2,474	5,421	3,769	3,945	3,878	3,849
	2 Mile West of SR 85	9,755	17,359	13,118	13,623	14,590	14,536
	West of Lindberg St	16,020	21,753	23,150	22,969	21,826	21,864
	West of Main St (East of Lloyd St)	18,635	24,043	25,238	25,334	25,138	25,269
	350 Ft West of SR 85 (Ferdon Blvd)	12,379	16,389	18,538	18,142	17,717	17,780
	375 Ft East of SR 85 (West of McCaskill)	5,913	9,727	8,664	10,315	9,253	9,249
	West of Valley Rd	11,207	14,882	10,993	15,112	11,193	11,583
	East of Fairchild Rd	5,426	10,095	11,300	13,256	13,240	10,453
PJ Adams Pkwy	850 Ft West of SR 85	2,032	8,162	7,802	8,120	6,498	6,673
Antioch Rd	300 Ft West of SR 85	12,580	11,508	12,659	12,556	12,230	12,033
	South of US 90	7,062	13,292	11,332	11,644	12,605	12,555
New Corridor	Segment South of I-10	NA	NA	16,580	17,574	15,288	NA
	NB Off-Ramp to I-10 EB	NA	NA	3,406	NA	NA	2,185
	SB On-Ramp from I-10 EB	NA	NA	4,183	NA	NA	8,060
	NB On-Ramp from I-10 WB	NA	NA	3,295	NA	NA	2,152
	SB Off-Ramp to I-10 WB	NA	NA	4,191	NA	NA	7,836
	Segment from I-10 to US 90	NA	NA	25,863	17,574	15,288	20,233
	Segment from US 90 to Airport Rd	NA	NA	13,596	12,302	9,536	10,229
	Airport Road East of SR 85	6,996	9,591	12,103	12,226	8,507	9,002

4.5.2 Year 2010 and Year 2040 AADT

Table 4-4 lists and compares the year 2010 and year 2040 AADTs along the major roadway segments for different alternatives.

For 2040 No-Build Alternative, the traffic on I-10 increased by 49% at west of SR 85 and by 48% at east of SR 85 compared with the 2010 alternative. The traffic on SR 85 increased by 43% at south of Antioch Rd, by 43% at south of I-10 and by 23% at north of US 90. The traffic on US 90 increased by 20% at west of SR 85 and by 132% at east of SR 85.

For 2040 Build alternative 1A, the traffic on I-10 decreased by 6% at west of SR 85 but increased by 18% at east of SR 85 compared with the No-Build alternative. The traffic on SR 85 increased by 5% at south of Antioch Rd but decreased by 15% at south of I-10 and by 16% at north of US 90. The traffic on US 90 increased by 39% at west of SR 85 but decreased by 26% at east of SR 85.

For 2040 Build alternative 1B, the traffic on I-10 decreased by 10% at west of SR 85 and by 11% at east of SR 85 compared with the No-Build alternative. The traffic on SR 85 increased by 5% at south of Antioch Rd but decreased by 18% at south of I-10 and by 11% at north of US 90. The traffic on US 90 increased by 36% at west of SR 85 but decreased by 14% at east of SR 85.

For 2040 Build alternative 2, the traffic on I-10 decreased by 18% at west of SR 85 and by 11% at east of SR 85 compared with the No-Build alternative. The traffic on SR 85 increased by 4% at south of Antioch Rd and by 5% at south of I-10 but decreased by 13% at north of US 90. The traffic on US 90 increased by 35% at west of SR 85 but decreased by 28% at east of SR 85.

For 2040 Build alternative 3, the traffic on I-10 decreased by 16% at west of SR 85 but increased by 62% at east of SR 85 compared with the No-Build alternative. The traffic on SR 85 decreased by 1% at south of Antioch Rd, increased by 2% at south of I-10 and decreased by 9% at north of US 90. The traffic on US 90 increased by 26% at west of SR 85 but decreased by 21% at east of SR 85.

Table 4-4 Year 2010 and 2040 AADT

Roadway	Location	2010 Model AADT	2040 No-Build AADT	2040 Build Alt 1A AADT	2040 Build Alt 1B AADT	2040 Build Alt 2 AADT	2040 Build Alt 3 AADT
I-10	Mainline West of SR 85	15,492	23,108	21,688	20,882	19,010	19,448
	EB Off-ramp to SR 85	3,188	6,300	4,801	4,974	4,172	3,114
	WB On-ramp from SR 85	3,151	5,877	4,797	4,911	3,850	3,830
	EB On-ramp from SR 85	2,532	4,993	6,117	3,817	3,787	10,564
	WB Off-ramp to SR 85	2,316	4,790	6,135	3,701	3,672	10,538
	Mainline East of SR 85	14,001	20,714	24,342	18,516	18,446	33,607
SR 85	South of Antioch Rd	29,995	42,877	45,129	45,198	44,661	42,492
	South of I-10	45,414	64,985	55,293	53,053	68,551	66,344
	South of Duggan Ave	40,024	46,314	38,538	40,854	39,739	41,583
	North of Cobb Ave	28,643	30,529	26,154	27,533	26,880	28,701
	South of US 90	25,543	30,258	25,270	25,346	26,168	26,598
	North of US 90	28,022	34,331	28,926	30,532	29,859	31,279
	North of Long Dr	25,571	32,293	25,703	27,527	26,783	28,600
	North of 3rd Ave	25,953	35,716	28,767	29,843	29,875	32,168
US 90	West of SR 4 (Baker Hwy)	2,474	4,007	4,038	4,206	4,021	3,988
	2 Mile West of SR 85	9,755	18,088	14,510	14,326	14,227	16,447
	West of Lindberg St	16,020	22,176	26,417	26,113	25,959	24,832
	West of Main St (East of Lloyd St)	18,635	22,492	29,341	29,037	28,989	27,140
	350 Ft West of SR 85 (Ferdon Blvd)	12,379	14,910	20,791	20,283	20,181	18,789
	375 Ft East of SR 85 (West of McCaskill)	5,913	13,709	10,185	11,815	9,899	10,875
	West of Valley Rd	11,207	16,794	13,298	16,920	12,527	13,968
	East of Fairchild Rd	5,426	11,804	12,827	14,694	15,279	12,208
PJ Adams Pkwy	850 Ft West of SR 85	2,032	9,945	7,020	6,972	10,188	9,973
Antioch Rd	300 Ft West of SR 85	12,580	9,791	12,993	12,727	10,844	10,881
	South of US 90	7,062	15,542	13,202	13,569	13,561	13,900
New Corridor	Segment South of I-10	NA	NA	19,259	21,229	22,850	NA
	NB Off-Ramp to I-10 EB	NA	NA	4,148	NA	NA	2,882
	SB On-Ramp from I-10 EB	NA	NA	5,059	NA	NA	8,916
	NB On-Ramp from I-10 WB	NA	NA	4,095	NA	NA	2,826
	SB Off-Ramp to I-10 WB	NA	NA	5,101	NA	NA	9,431
	Segment from I-10 to US 90	NA	NA	30,576	21,229	22,850	24,055
	Segment from US 90 to Airport Rd	NA	NA	17,607	16,507	15,713	13,288
	Airport Road East of SR 85	6,996	10,927	12,715	12,850	12,428	9,788

4.5.3 Year 2010 and Year 2050 AADT

Table 4-5 lists and compares the year 2010 and 2050 AADTs along the major roadway segments for different alternatives.

For 2050 No-Build Alternative, the traffic on I-10 increased by 74% at west of SR 85 and by 69% at east of SR 85 compared with the 2010 alternative. The traffic on SR 85 increased by 66% at south of Antioch Rd, by 50% at south of I-10 and by 23% at north of US 90. The traffic on US 90 increased by 48% at west of SR 85 and by 170% at east of SR 85.

For 2050 Build alternative 1A, the traffic on I-10 increased by 2% at west of SR 85 and by 17% at east of SR 85 compared with the No-Build alternative. The traffic on SR 85 increased by 3% at south of Antioch Rd but decreased by 12% at south of I-10 and by 11% at north of US 90. The traffic on US 90 increased by 8% at west of SR 85 but decreased by 30% at east of SR 85.

For 2050 Build alternative 1B, the traffic on I-10 decreased by 0.3% at west of SR 85 and by 4% at east of SR 85 compared with the No-Build alternative. The traffic on SR 85 increased by 4% at south of Antioch Rd but decreased by 14% at south of I-10 and by 7% north of US 90. The traffic on US 90 increased by 4% at west of SR 85 but decreased by 24% at east of SR 85.

For 2050 Build alternative 2, the traffic on I-10 decreased by 14% at west of SR 85 and by 5% at east of SR 85 compared with the No-Build alternative. The traffic on SR 85 increased by 2% at south of Antioch Rd, by 7% at south of I-10 but decreased by 10% at north of US 90. The traffic on US 90 increased by 2% at west of SR 85 but decreased by 36% at east of SR 85.

For 2050 Build alternative 3, the traffic on I-10 decreased by 18% at west of SR 85 but increased by 53% at east of SR 85 compared with the No-Build alternative. The traffic on SR 85 decreased by 3% at south of Antioch Rd, increased by 3% at south of I-10, and decreased by 2% at north of US 90. The traffic on US 90 increased by 2% at west of SR 85 but decreased by 21% at east of SR 85.

Table 4-5 Year 2010 and 2050 AADT

Roadway	Location	2010 Model AADT	2050 No-Build AADT	2050 Build Alt 1A AADT	2050 Build Alt 1B AADT	2050 Build Alt 2 AADT	2050 Build Alt 3 AADT
I-10	Mainline West of SR 85	15,492	26,991	27,577	26,905	23,284	22,082
	EB Off-ramp to SR 85	3,188	7,367	7,032	7,215	5,054	3,500
	WB On-ramp from SR 85	3,151	7,014	6,651	6,784	4,991	4,875
	EB On-ramp from SR 85	2,532	5,583	6,934	4,898	4,647	11,184
	WB Off-ramp to SR 85	2,316	5,435	6,881	4,913	4,573	11,239
	Mainline East of SR 85	14,001	23,628	27,710	22,716	22,460	36,129
SR 85	South of Antioch Rd	29,995	49,923	51,653	51,936	50,852	48,651
	South of I-10	45,414	68,017	60,175	58,789	72,923	69,792
	South of Duggan Ave	40,024	45,411	38,032	40,716	39,533	42,608
	North of Cobb Ave	28,643	29,827	25,442	27,126	26,289	29,029
	South of US 90	25,543	29,082	24,172	24,675	24,689	25,479
	North of US 90	28,022	34,587	30,790	32,260	31,257	33,963
	North of Long Dr	25,571	32,435	27,708	29,496	28,417	31,132
	North of 3rd Ave	25,953	35,631	31,996	32,374	32,601	34,745
US 90	West of SR 4 (Baker Hwy)	2,474	4,670	4,184	4,470	4,376	4,392
	2 Mile West of SR 85	9,755	16,139	15,776	16,100	15,913	16,603
	West of Lindberg St	16,020	26,624	24,432	24,158	24,359	27,219
	West of Main St (East of Lloyd St)	18,635	26,421	27,530	26,408	26,069	26,112
	350 Ft West of SR 85 (Ferdon Blvd)	12,379	18,275	19,702	18,969	18,656	18,720
	375 Ft East of SR 85 (West of McCaskill)	5,913	15,993	11,204	12,099	10,261	12,660
	West of Valley Rd	11,207	18,853	14,110	17,913	13,208	17,183
	East of Fairchild Rd	5,426	13,957	14,144	16,326	16,593	13,429
PJ Adams Pkwy	850 Ft West of SR 85	2,032	16,543	8,855	8,362	13,390	14,072
Antioch Rd	300 Ft West of SR 85	12,580	11,633	13,376	13,238	11,495	11,405
	South of US 90	7,062	13,474	13,277	13,266	13,319	12,702
New Corridor	Segment South of I-10	NA	NA	22,154	23,629	25,246	NA
	NB Off-Ramp to I-10 EB	NA	NA	5,286	NA	NA	3,652
	SB On-Ramp from I-10 EB	NA	NA	5,687	NA	NA	8,947
	NB On-Ramp from I-10 WB	NA	NA	5,285	NA	NA	3,595
	SB Off-Ramp to I-10 WB	NA	NA	5,650	NA	NA	9,678
	Segment from I-10 to US 90	NA	NA	34,364	23,629	25,246	25,873
	Segment from US 90 to Airport Rd	NA	NA	20,285	19,716	18,751	15,612
	Airport Road East of SR 85	6,996	12,271	13,569	13,826	13,416	11,786

4.5.4 Level of Service (LOS) Analysis

Future year conceptual level traffic analysis was based on Table 4-11, which is FDOT's generalized Level of Service (LOS) volume table for Florida's transitioning areas. Table 4-6 through 4-10 show the level of service analysis for each alternative based on AADTs present in table 4-3 through 4-5. For each segment, the post speed data was obtained from Google Street view to help determine the level of service threshold that the segment should refer to. The interim year LOS was determined by interpolating the AADTs to interim year and then applying the LOS table threshold accordingly.

For Build alternative 1A, the LOS on I-10 in the study area remained level B from 2030 to 2050, which is the same as the No-Build alternative. The LOS on SR 85 north of US 90 was improved from F to D and E from year 2030 to year 2050 compared to No-Build. The LOS on SR 85 north of Long Dr and north of 3rd Ave was also improved from the No-Build scenario. The LOS on US 90 east of SR 85 was improved from D to C from year 2031 to year 2039. The new corridors will generally remain level of service C or D.

For Build alternative 1B, the LOS on I-10 in the study area remained level B from 2030 to 2050, which is the same as the No-Build alternative. The LOS on SR 85 north of US 90 was improved from F to D and E from year 2030 to year 2046 compared to No-Build. The LOS on SR 85 north of Long Dr and north of 3rd Ave was also improved from the No-Build scenario. The LOS on US 90 east of Fairchild Rd changed from C to D from year 2038 to year 2049, and to LOS F in year 2050. The new corridors will generally remain level of service C or D.

For Build alternative 2, the LOS on I-10 in the study area remained level B from 2030 to 2050, which is the same as the No-Build alternative. The LOS on SR 85 north of US 90 was improved from F to E from year 2030 to year 2050 compared to No-Build. The LOS on SR 85 north of Long Dr and north of 3rd Ave was also improved from the No-Build scenario. The LOS on US 90 east of SR 85 was improved from D to C from year 2031 to year 2041, while the LOS on US 90 east of Fairchild Rd changed from C to D from year 2037 to year 2046, and to LOS F in year 2047 to year 2050. The new corridors will generally remain level of service C or D.

For Build alternative 3, the LOS on I-10 in the study area remained level B from 2030 to 2050, which is the same as the No-Build alternative. The LOS on SR 85 north of US 90 was improved from F to E from year 2030 to year 2040 compared to No-Build. The LOS on SR 85 north of Long Dr and north of 3rd Ave was also improved from the No-Build scenario. The LOS on US 90 east of SR 85 was improved from D to C from year 2031 to year 2033. The new corridors will generally remain level of service C or D.

Table 4-6 Year 2030 – 2050 No-Build Alternative Level of Service Analysis

Roadway	Location	2030 No-Build	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040 No-Build	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050 No-Build
I-10	Mainline West of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Mainline East of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
SR 85	South of Antioch Rd	D	D	F	F	F	F	F	F	F	F	C	C	C	C	C	C	C	C	C	C	C
	South of I-10	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	South of Duggan Ave	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Cobb Ave	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
	South of US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	North of US 90	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Long Dr	E	E	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of 3rd Ave	C	C	C	D	D	D	D	D	D	D	F	D	D	D	D	D	F	F	F	F	F
US 90	West of SR 4 (Baker Hwy)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2 Mile West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Lindberg St	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Main St (East of Lloyd St)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	350 Ft West of SR 85 (Ferdon Blvd)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	375 Ft East of SR 85 (West of McCaskill)	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	West of Valley Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	East of Fairchild Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
PJ Adams Pkwy	850 Ft West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Antioch Rd	300 Ft West of SR 85	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	South of US 90	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
New Corridor	Segment South of I-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Segment from I-10 to US 90	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Segment from US 90 to Airport Rd	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Airport Road East of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

Table 4-7 Year 2030 – 2050 Build Alternative 1A Level of Service Analysis

Roadway	Location	2030 Alt 1A	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040 Alt 1A	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050 Alt 1A
I-10	Mainline West of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Mainline East of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
SR 85	South of Antioch Rd	F	F	F	F	F	F	F	F	F	F	C	C	C	C	C	C	C	C	C	C	C
	South of I-10	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	South of Duggan Ave	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Cobb Ave	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	South of US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	North of US 90	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	E	E	E	E
	North of Long Dr	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	North of 3rd Ave	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
US 90	West of SR 4 (Baker Hwy)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2 Mile West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Lindberg St	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Main St (East of Lloyd St)	D	D	D	D	D	D	D	D	D	D	E	D	D	D	D	D	D	D	D	D	D
	350 Ft West of SR 85 (Ferdon Blvd)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	375 Ft East of SR 85 (West of McCaskill)	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D
	West of Valley Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	East of Fairchild Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
PJ Adams Pkwy	850 Ft West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Antioch Rd	300 Ft West of SR 85	E	E	E	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	South of US 90	D	D	D	D	E	E	E	E	E	E	F	E	F	F	F	F	F	F	F	F	F
New Corridor	Segment South of I-10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Segment from I-10 to US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D
	Segment from US 90 to Airport Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Airport Road East of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D

Table 4-8 Year 2030 – 2050 Build Alternative 1B Level of Service Analysis

Roadway	Location	2030 Alt 1B	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040 Alt 1B	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050 Alt 1B
I-10	Mainline West of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Mainline East of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
SR 85	South of Antioch Rd	F	F	F	F	F	F	F	F	F	F	C	C	C	C	C	C	C	C	C	C	C
	South of I-10	F	F	F	F	F	F	F	F	F	F	D	D	F	F	F	F	F	F	F	F	F
	South of Duggan Ave	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Cobb Ave	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	South of US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	North of US 90	D	D	D	D	D	E	E	E	E	E	E	E	E	E	E	E	E	F	F	F	F
	North of Long Dr	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E
	North of 3rd Ave	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
US 90	West of SR 4 (Baker Hwy)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2 Mile West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Lindberg St	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Main St (East of Lloyd St)	D	D	D	D	D	D	D	D	D	D	E	D	D	D	D	D	D	D	D	D	D
	350 Ft West of SR 85 (Ferdon Blvd)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	375 Ft East of SR 85 (West of McCaskill)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	West of Valley Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	East of Fairchild Rd	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	F
PJ Adams Pkwy	850 Ft West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Antioch Rd	300 Ft West of SR 85	E	E	E	E	E	E	E	E	E	F	E	F	F	F	F	F	F	F	F	F	F
	South of US 90	D	E	E	E	E	E	E	E	E	E	F	F	F	F	F	F	F	F	F	F	F
New Corridor	Segment South of I-10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Segment from I-10 to US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Segment from US 90 to Airport Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Airport Road East of SR 85	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D

Table 4-9 Year 2030 – 2050 Build Alternative 2 Level of Service Analysis

Roadway	Location	2030 Alt 2	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040 Alt 2	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050 Alt 2
I-10	Mainline West of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Mainline East of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
SR 85	South of Antioch Rd	F	F	F	F	F	F	F	F	F	F	C	C	C	C	C	C	C	C	C	C	C
	South of I-10	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	South of Duggan Ave	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Cobb Ave	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	South of US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	North of US 90	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
	North of Long Dr	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	North of 3rd Ave	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
US 90	West of SR 4 (Baker Hwy)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2 Mile West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Lindberg St	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Main St (East of Lloyd St)	D	D	D	D	D	D	D	D	D	D	E	D	D	D	D	D	D	D	D	D	D
	350 Ft West of SR 85 (Ferdon Blvd)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	375 Ft East of SR 85 (West of McCaskill)	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D
	West of Valley Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	East of Fairchild Rd	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	F	F	F	F
PJ Adams Pkwy	850 Ft West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Antioch Rd	300 Ft West of SR 85	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	South of US 90	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
New Corridor	Segment South of I-10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Segment from I-10 to US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Segment from US 90 to Airport Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Airport Road East of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D

Table 4-10 Year 2030 – 2050 Build Alternative 3 Level of Service Analysis

Roadway	Location	2030 Alt 3	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040 Alt 3	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050 Alt3
I-10	Mainline West of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Mainline East of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
SR 85	South of Antioch Rd	D	F	F	F	F	F	F	F	F	F	C	C	C	C	C	C	C	C	C	C	C
	South of I-10	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	South of Duggan Ave	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Cobb Ave	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E
	South of US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	North of US 90	E	E	E	E	E	E	E	E	E	E	E	F	F	F	F	F	F	F	F	F	F
	North of Long Dr	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	E	E	E
	North of 3rd Ave	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D
US 90	West of SR 4 (Baker Hwy)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2 Mile West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Lindberg St	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Main St (East of Lloyd St)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	350 Ft West of SR 85 (Ferdon Blvd)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	375 Ft East of SR 85 (West of McCaskill)	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	West of Valley Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	East of Fairchild Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
PJ Adams Pkwy	850 Ft West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Antioch Rd	300 Ft West of SR 85	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	South of US 90	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	E
New Corridor	Segment South of I-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Segment from I-10 to US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Segment from US 90 to Airport Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Airport Road East of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

Table 4-11 FDOT Generalized LOS Table for Transitioning Area

TABLE 2

Generalized **Annual Average Daily** Volumes for Florida's **Transitioning Areas** and **Areas Over 5,000 Not In Urbanized Areas**[1]

12/18/12

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Class I (40 mph or higher posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	14,400	16,200	**
4	Divided	*	34,000	35,500	**
6	Divided	*	52,100	53,500	**

Class II (35 mph or slower posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	6,500	13,300	14,200
4	Divided	*	9,900	28,800	31,600
6	Divided	*	16,000	44,900	47,600

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
2	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment

Multiply the corresponding two-directional volumes in this table by 0.6

BICYCLE MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	2,600	6,100	19,500
50-84%	1,900	5,500	18,400	>19,500
85-100%	7,500	19,500	>19,500	**

PEDESTRIAN MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	2,800	9,400
50-84%	*	1,600	8,600	15,600
85-100%	3,800	10,500	17,100	>19,500

BUS MODE (Scheduled Fixed Route)[3]

(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	> 5	≥ 4	≥ 3	≥ 2
85-100%	> 4	≥ 3	≥ 2	≥ 1

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Lanes	B	C	D	E
4	44,100	57,600	68,900	71,700
6	65,100	85,600	102,200	111,000
8	85,100	113,700	135,200	150,000
10	106,200	141,700	168,800	189,000

Freeway Adjustments

Auxiliary Lanes Present in Both Directions	Ramp Metering
+ 20,000	+ 5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
2	Undivided	9,200	17,300	24,400	33,300
4	Divided	35,300	49,600	62,900	69,600
6	Divided	52,800	74,500	94,300	104,500

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1] Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

[3] Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Planning Office
www.dot.state.fl.us/planning/systems/sm/los/default.shtm

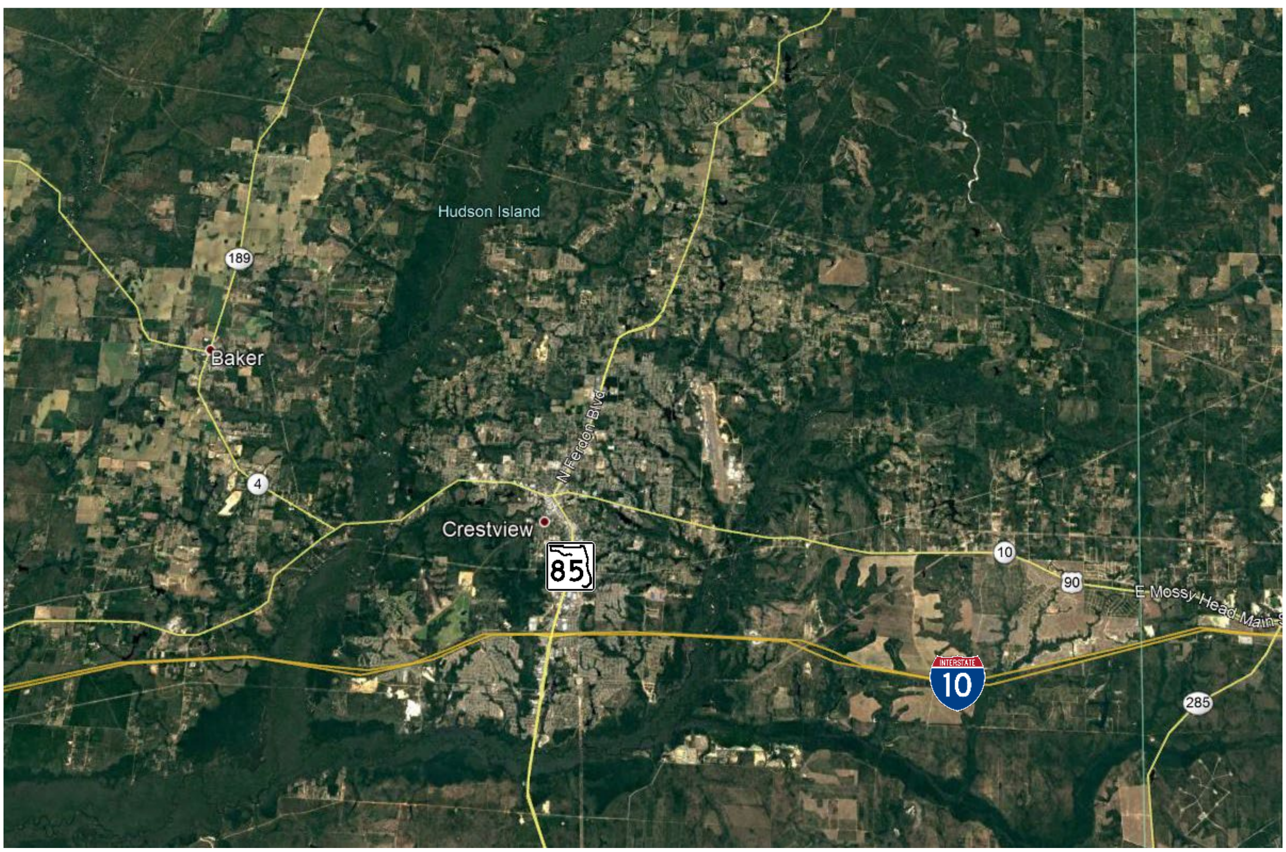
Traffic Analysis Memorandum

First Iteration

SR 85 | EASTERN CRESTVIEW BYPASS

FEASIBILITY Study

FDOT District 3 Project | ETDM No # 2891



April 2019

CHAPTER 1 INTRODUCTION

1.1 PROJECT DESCRIPTION

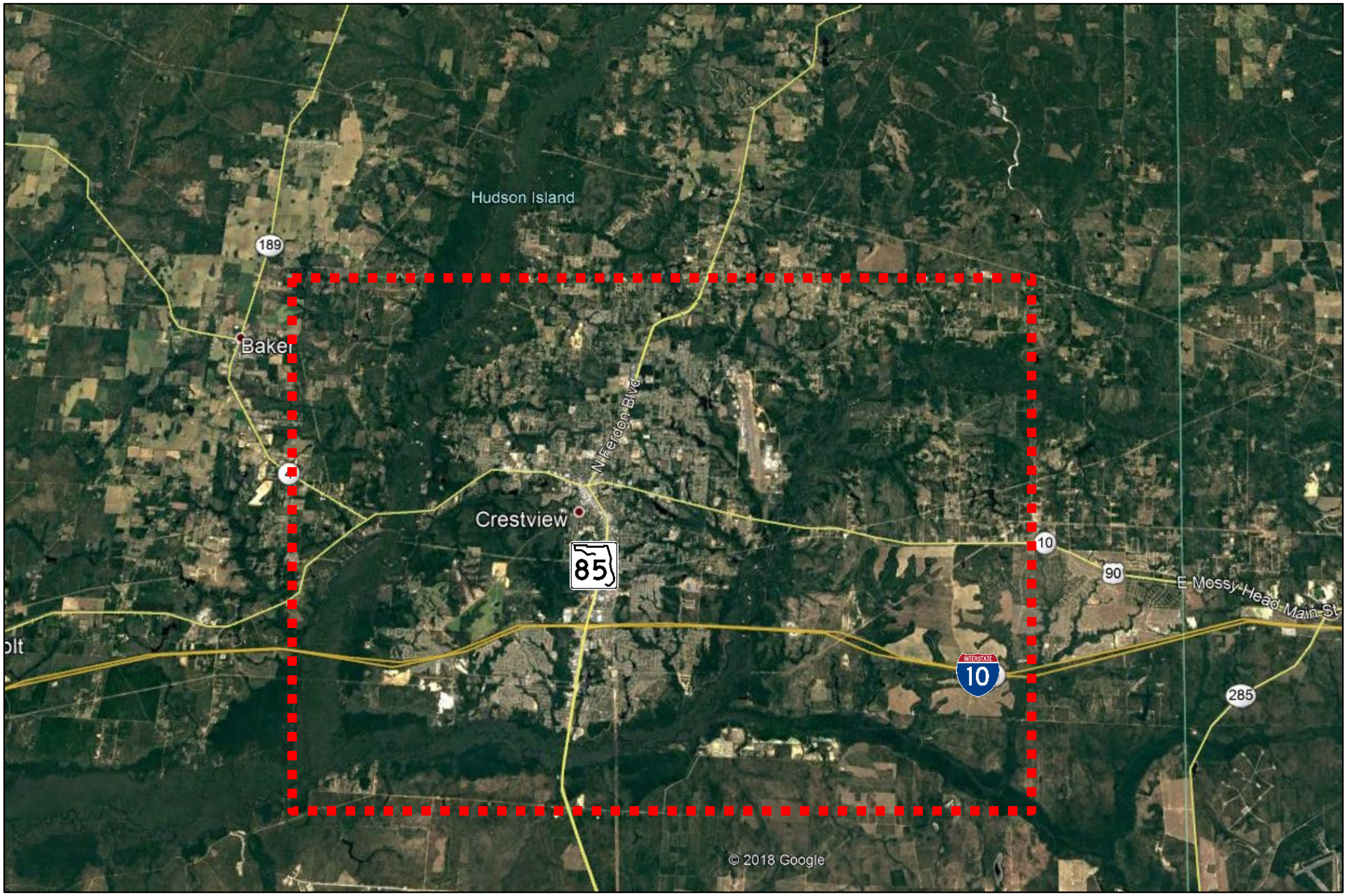
The primary aim of this project is to conduct a feasibility analysis of a bypass for SR 85 east of the City of Crestview. The analysis also considered the southern end of the Western Crestview Bypass and the 6-laning of SR 85, which are both cost feasible in the Okaloosa-Walton Transportation Planning Organization (OWTPO)'s Long Range Transportation Plan (LRTP), as well as a potential northern segment of the Western Crestview Bypass which is outside of the TPO Cost Feasible Plan. The bypass projects are proposed to provide a beltway around the city. The factors to be considered include but are not limited to: traffic and regional mobility; social, cultural, economic, natural, and physical environmental impacts; and engineering feasibility.

Traffic demand was measured for the Eastern bypass as well as the overall bypass of the City of Crestview (the Eastern and Western Bypass segments). The Northwest Florida Regional Planning Model (NWFRPM) Version 2.1 model which was released in June 2017, was used as the starting point for the travel demand modeling effort.

1.2 PROJECT LOCATION

The SR 85 Eastern Bypass project is located east of the City of Crestview, from SR 85 south of I-10 to SR 85 north of I-10 near the intersection of Airport Road. **Figure 1-1** shows the project location and study area.

Figure 1-1 Project Location Map



CHAPTER 2 ANALYSIS YEARS

The analysis years for the traffic analysis were established based on coordination with the Department. The proposed analysis years for the study are as follows:

- Year 2010 Base
- Year 2030 Opening
- Year 2040 Interim
- Year 2050 Design

CHAPTER 3 ALTERNATIVES

The alternatives considered as part of this study include a No-Build alternative and four Build alternatives. The alternatives are described below.

3.1 NO-BUILD ALTERNATIVE

The No-Build alternative assumes no proposed improvements and serves as a baseline for comparison against the other alternatives. It, however, includes on-going construction projects and all funded or programmed improvements scheduled to be opened to traffic in the analysis year being considered. These improvements must be part of the OWTPO Cost Feasible LRTP, and any developer-funded transportation improvements specified in approved development orders.

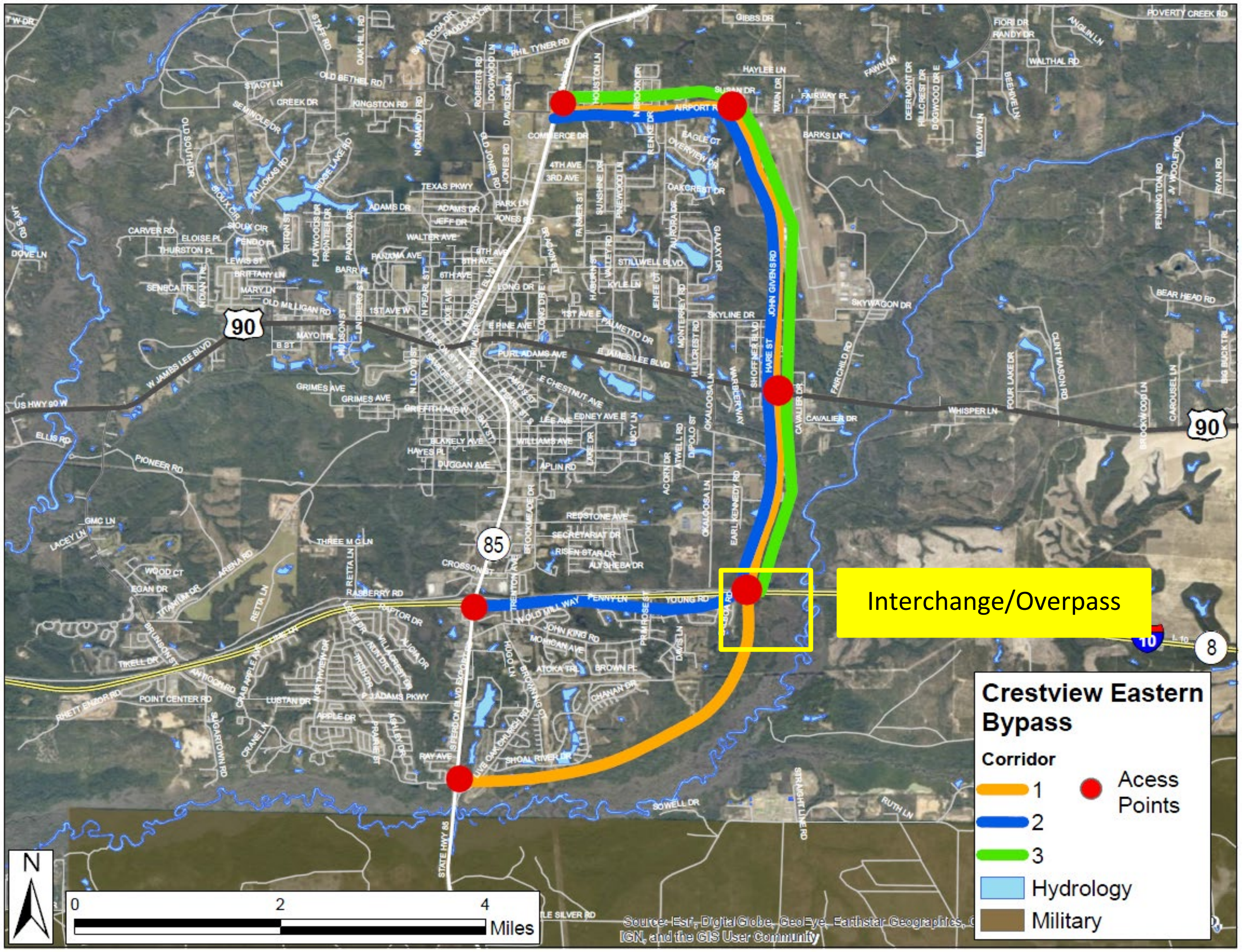
3.2 BUILD ALTERNATIVES

Four Build alternatives for the SR 85 Eastern bypass were approved for analysis. Each alternative alignment was tested as a two-lane roadway. **Figure 3-1** shows the proposed Build alternatives. The descriptions of the Build alternatives are listed as follows.

- Alternative 1A - Orange Line with an interchange at I-10. Alternative 1A has a southern terminus on SR 85 south of Shoal River Drive and a northern terminus on SR 85 near the intersection of Airport Road.
- Alternative 1B - Orange Line with an overpass at I-10. Alternative 1B has a southern terminus on SR 85 south of Shoal River Drive and a northern terminus on SR 85 near the intersection of Airport Road.
- Alternative 2 - Blue Line parallel to the interstate to the south, with an overpass at I-10. Alternative 2 has a southern terminus on SR 85 south of I-10 and a northern terminus on SR 85 near the intersection of Airport Road.
- Alternative 3 - Green Line with an interchange at I-10. Alternative 3 has a southern terminus on the new interchange of the new corridor with I-10 and a northern terminus on SR 85 near the intersection of Airport Road.

The proposed Build alternatives generally consider a tight diamond interchange configuration at the intersection of I-10 and the proposed new corridor alternative. All the other access points shown on the map are considered as at-grade intersections.

Figure 3-1 Proposed Build Alternatives



CHAPTER 4 TRAVEL DEMAND FORECASTING

4.1 TRAVEL DEMAND MODEL SELECTION

The Northwest Florida Regional Planning Model Version 2.1 (NWFRPM V2.1) released in June 2017 was used as the starting point for the modeling efforts. NWFRPM V2.1 has been validated for base year 2010 at the time of model release. The future year 2040 model is based on the OWTPO adopted year 2040 LRTP and was utilized as a starting point for future traffic and transit forecasts.

4.2 TRAVEL DEMAND MODEL VALIDATION

NWFRPM V2.1 has been validated for base year 2010 at the time of model release. Based on the discussion with the Department, no further validation/calibration was performed for this study.

4.3 FUTURE YEAR SOCIO-ECONOMIC DATA

To develop the year 2030 and 2050 model socio-economic data, the model socio-economic data from the available model years 2010 and 2040 were utilized to interpolate and extrapolate the socio-economic data to year 2030 and 2050. Upon review of the future year socio-economic data, the future year (2040) vacant and non-permanent percentages for several TAZs were identified lower than the base year (2010) vacant percentages, while the auto ownership percentage for future year does not sum up to 100% for certain TAZs, which seemed not reasonable. Therefore, the corresponding 2010 percentages were used to replace the 2040 percentages for interpolation.

4.3.1 Shoal River Ranch Development

The Shoal River Ranch Development was the major consideration of this area. The socio-economic data impact of the development was calculated and incorporated into the model social-economic data using ITE 9 trip rates and NWFRPM 2040 total attraction trips/total employment ratio. Year 2050 was considered as the fully build-out year of the Shoal River Ranch Development and year 2030 and 2040 data were interpolated. Tables 4-1 and 4-2 show the socio-economic data of TAZ 890 before and after incorporating the Shoal River Ranch Development.

Table 4-1 TAZ 890 Original Socio-Economic Data

Shoal River Ranch TAZ 890- Model Original	2010	2040
Industrial Employment	0	0
Commercial Employment	10	15
Service Employment	100	100
Total Employment	**110**	**115**

Table 4-2 TAZ 890 Updated Socio-Economic Data

Shoal River Ranch TAZ 890- Development Update	2010	2030	2040	2050
Industrial Employment	0	3,463	5,195	6,926
Commercial Employment	10	14	15	17
Service Employment	100	100	100	100
Total Employment	**110**	**3,577**	**5,310**	**7,043**

4.4 FUTURE YEAR MODEL NETWORK

To develop the year 2030 No-Build model network, the year 2040 Cost Feasible model network was used as the starting point. The network within the study area was reviewed and updated to reflect the year 2030 condition.

The year 2040 No-Build model network within the study area was reviewed to ensure that the southern end of the Western Crestview Bypass from Wild Horse Drive to I-10 and the 6-lane SR 85 are incorporated as outlined in the existing 2040 Cost Feasible Plan (CFP). The 2040 network was then updated to include the new interchange west of I-10 and the Western Bypass realignment from PJ Adams Pkwy to the new interchange only according to the latest Cost Feasible Plan amendment report and the discussion with the Department.

To develop the year 2050 No-Build model network, the updated 2040 No-Build network with 6-lane SR 85 and the Western Bypass (southern end) addition was used as the starting point. A potential northern segment of the Western Bypass from SR 10 to SR 85 (N Ferdon Blvd) was added to the 2050 network.

Figure 4-1 through 4-3 show the updated No-Build network for different year alternatives.

Figure 4-2 2030 No-Build Network

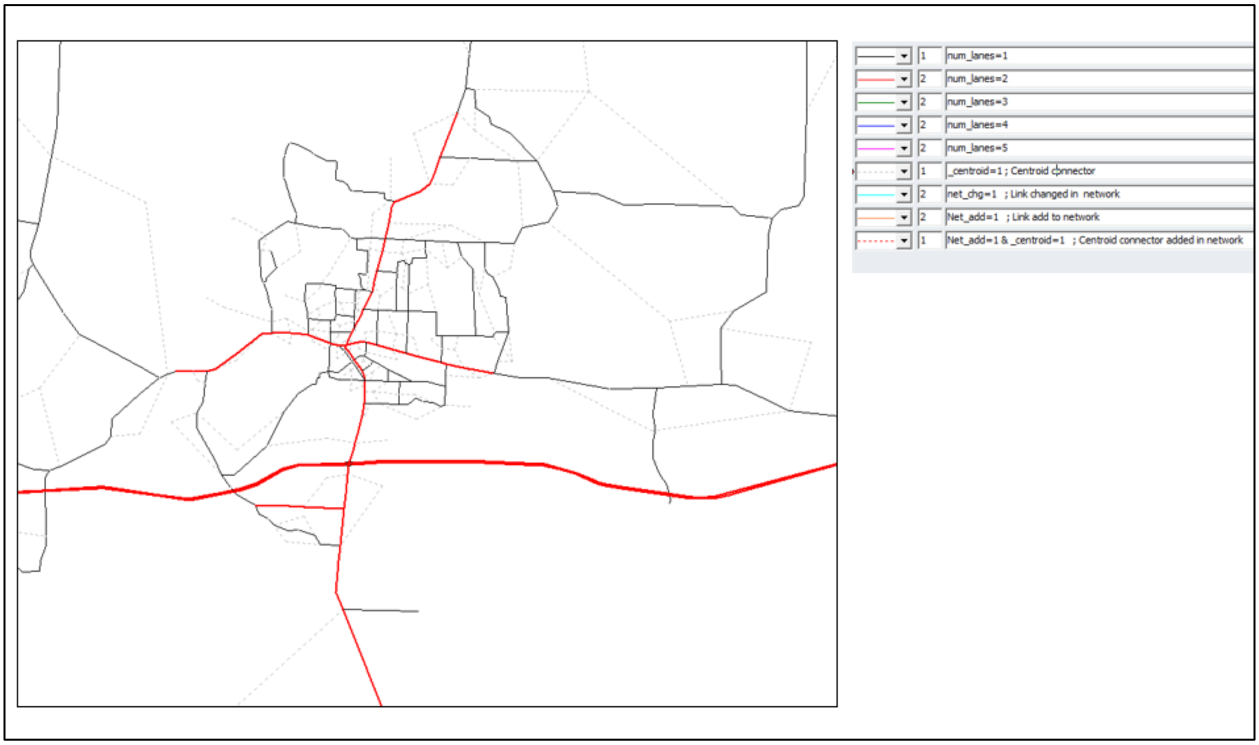


Figure 4-2 2040 No-Build Network

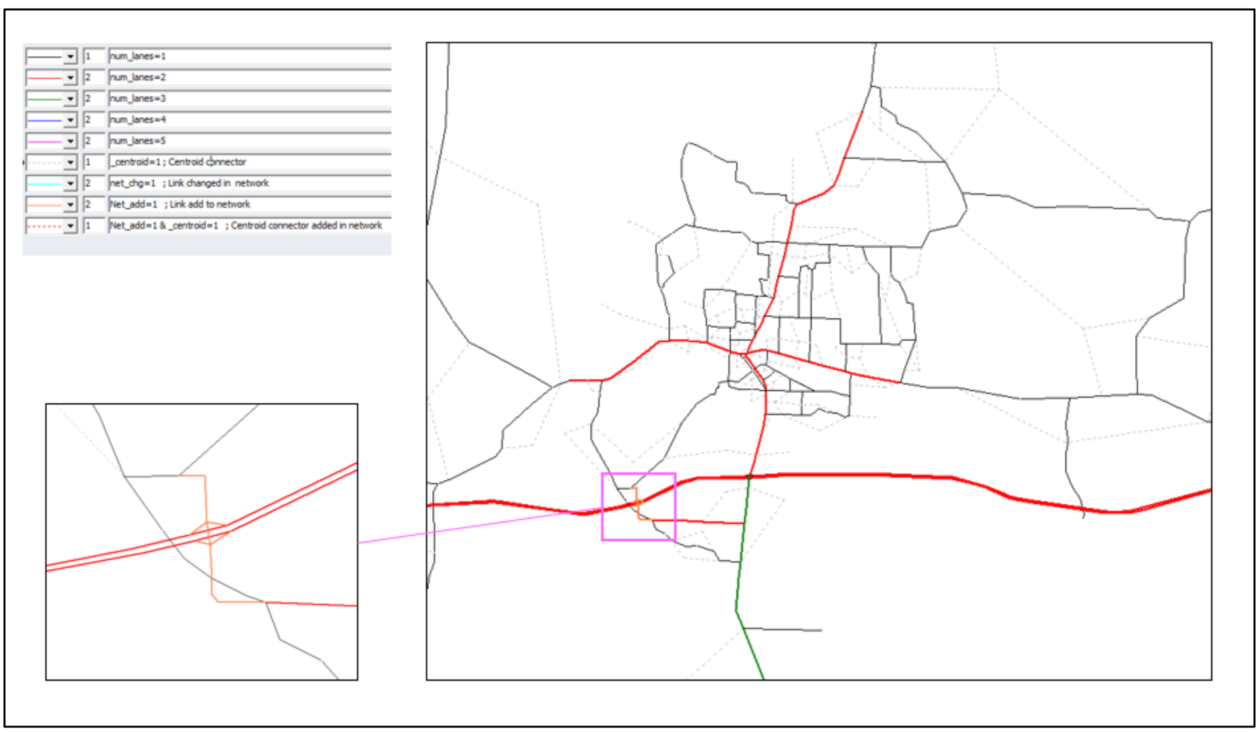
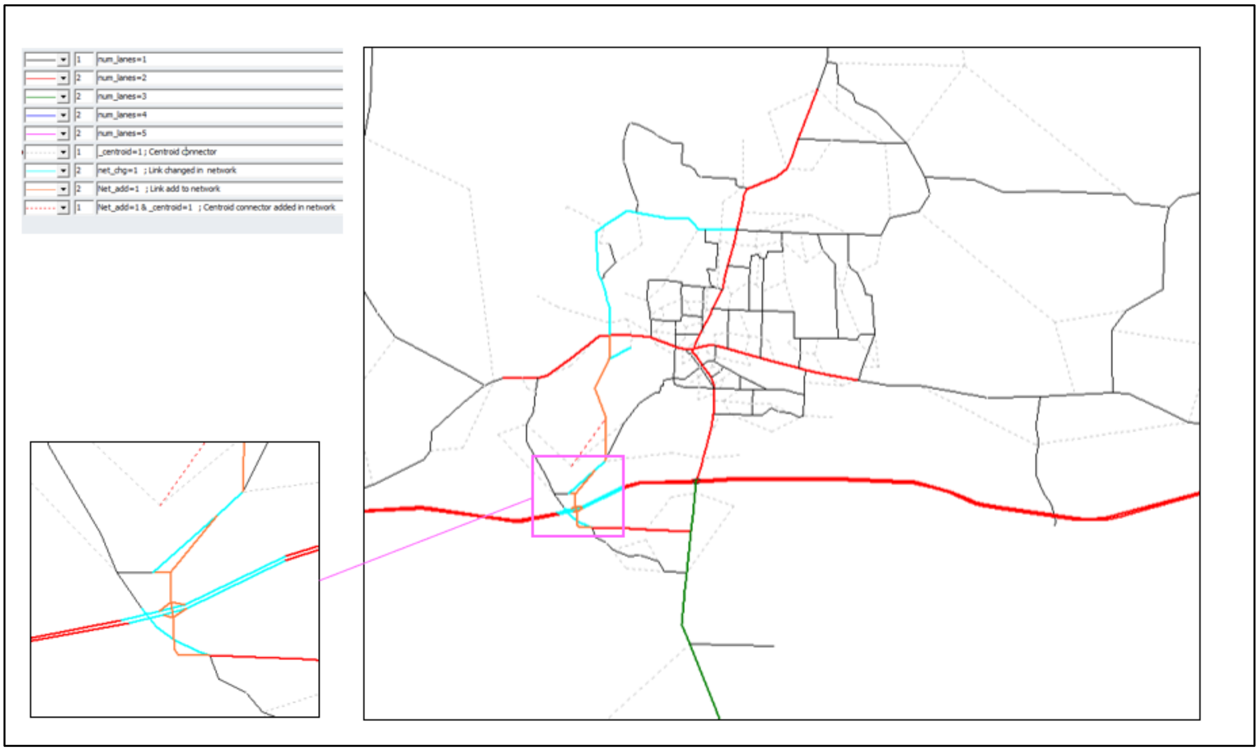


Figure 4-3 2050 No-Build Network



For the Build model scenarios, the new corridor alternatives described in Chapter 3 were added on top of the 2030, 2040 and 2050 No-Build model scenario networks accordingly. Figure 4-4 through 4-7 showed the new corridor coding for each alternative using 2040 network as examples.

Figure 4-4 Build Alternative 1A

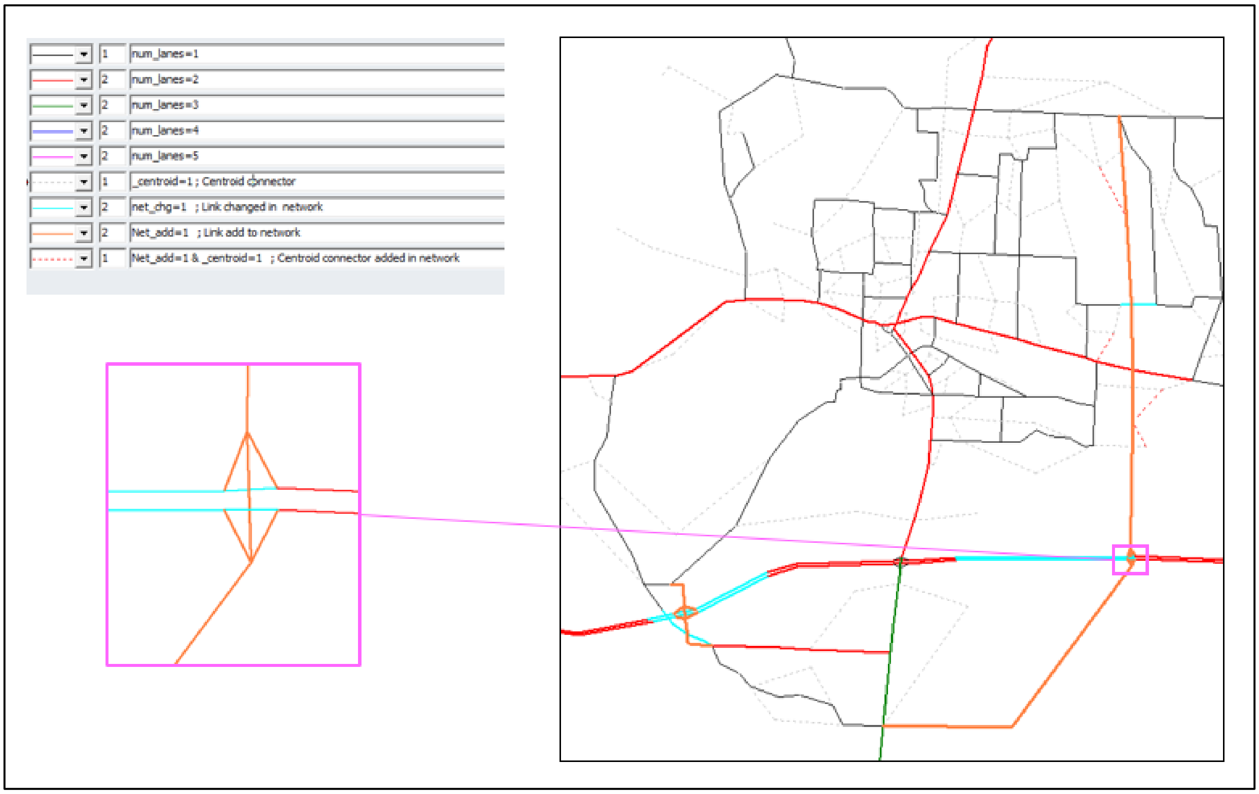


Figure 4-5 Build Alternative 1B

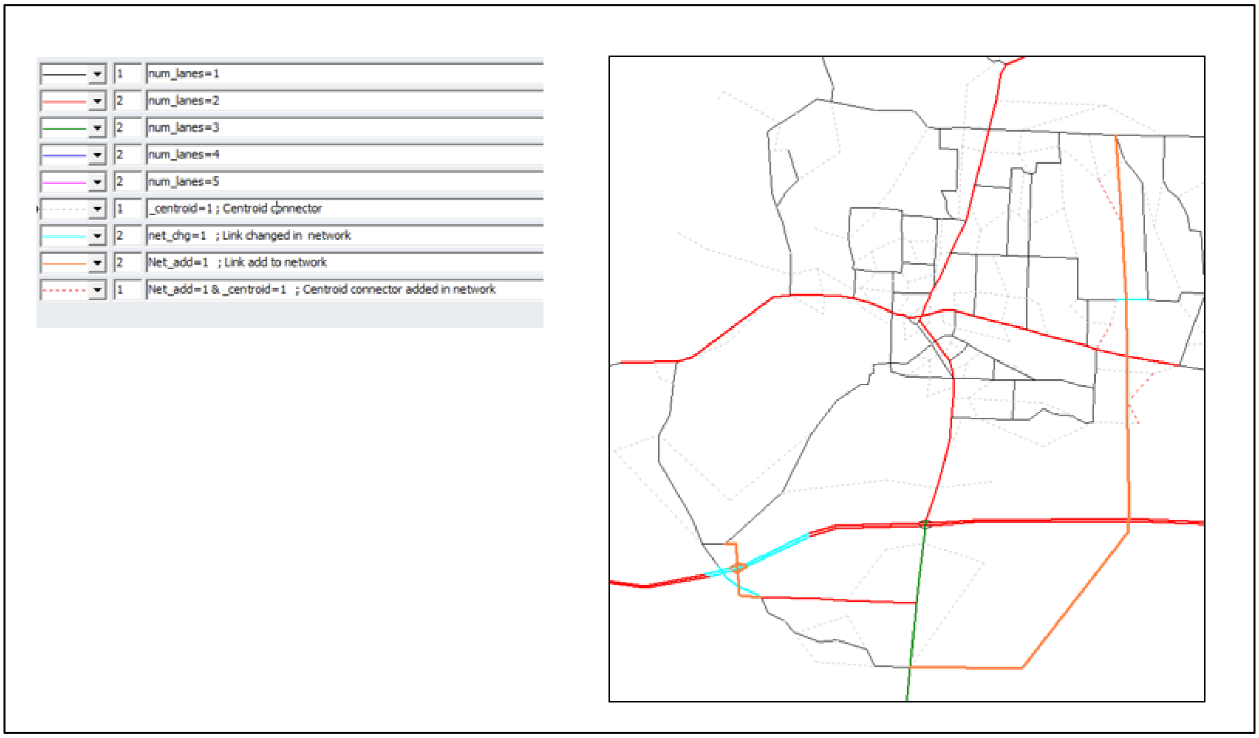


Figure 4-6 Build Alternative 2

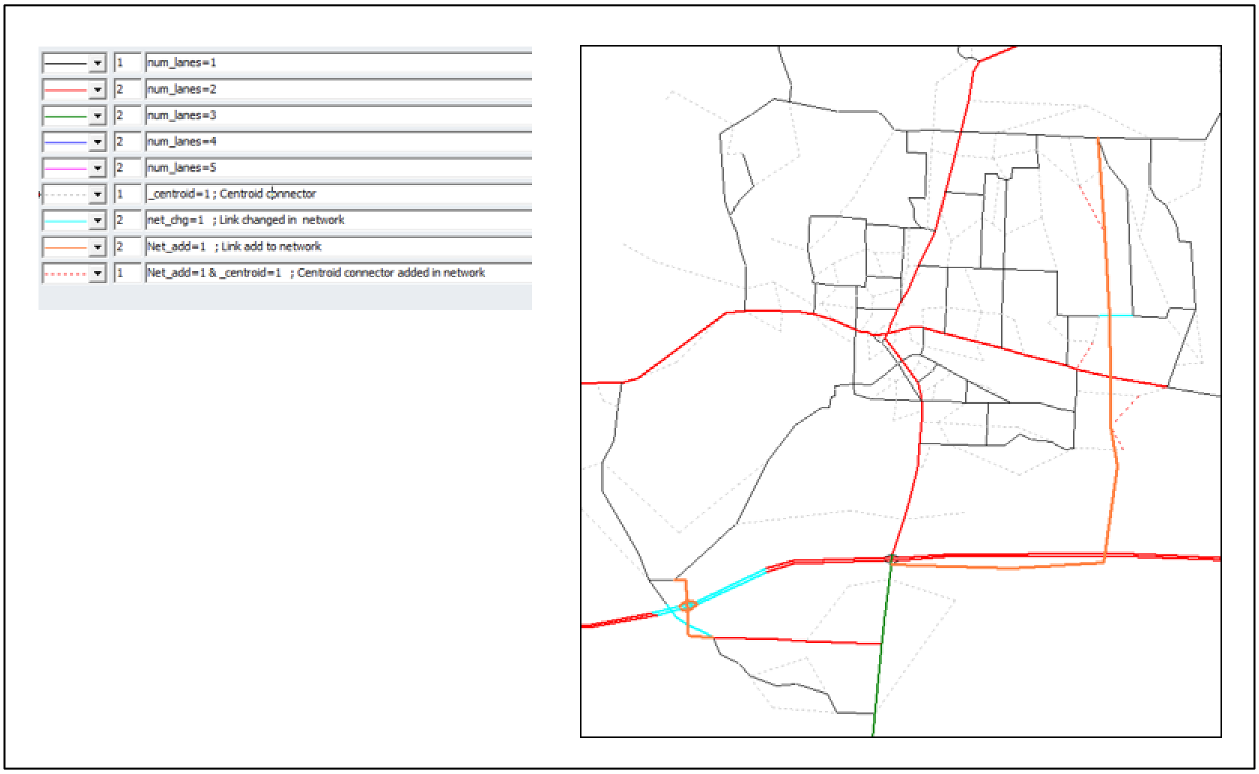
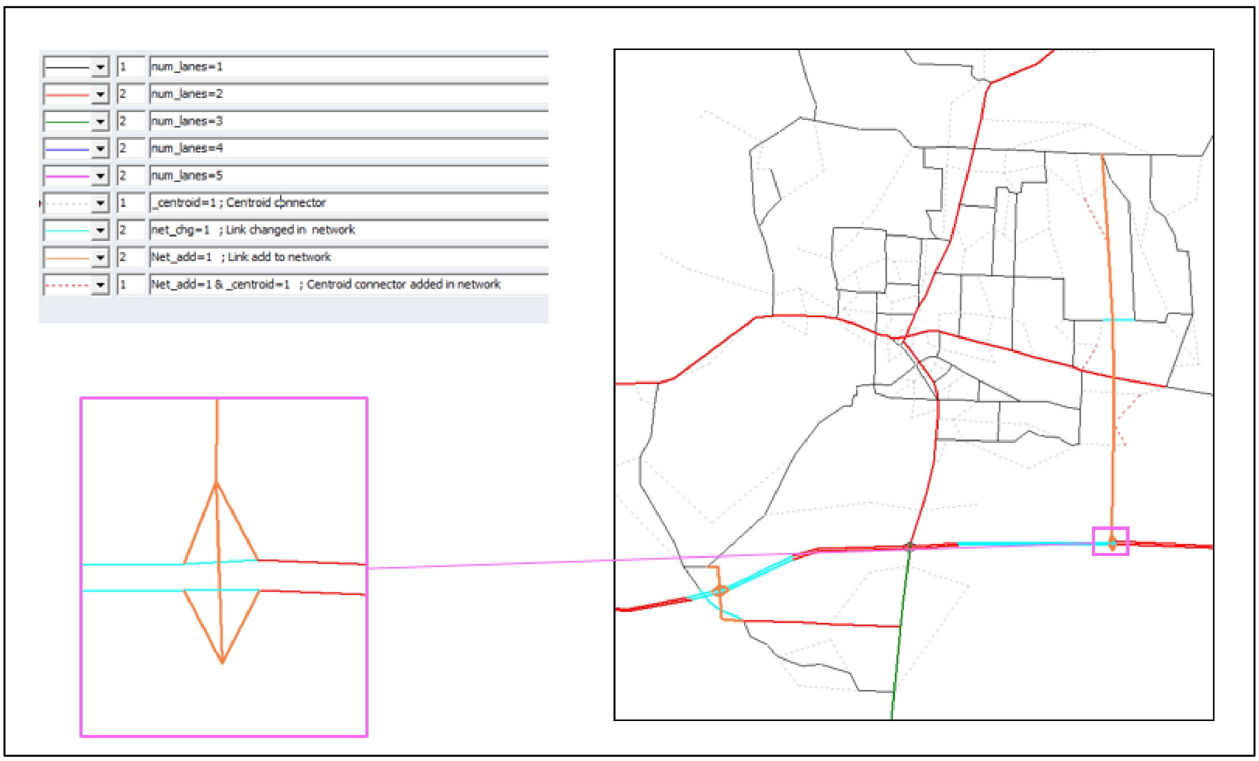


Figure 4-7 Build Alternative 3



4.5 TRAFFIC ANALYSIS

The following travel demand model scenarios were developed using NWFRPM V2.1:

- Base Year 2010 Scenario
- Year 2030 No-Build and Build Scenarios
- Year 2040 No-Build and Build Scenarios
- Year 2050 No-Build and Build Scenarios

For conceptual level traffic analysis, travel demand model Annual Average Daily Traffic (AADT) for each alternative was used for analysis.

4.5.1 Year 2010 and Year 2030 AADT

Table 4-3 lists and compares the year 2010 and year 2030 AADTs along the major roadway segments for different alternatives.

For 2030 No-Build Alternative, the traffic on I-10 increased by 2% at west of SR 85 and by 7% at east of SR 85 compared with the 2010 alternative. The traffic on SR 85 increased by 14% at south of Antioch Rd, by 16% at south of I-10 and by 20% at north of US 90. The traffic on US 90 increased by 32% at west of SR 85 and by 65% at east of SR 85.

For 2030 Build alternative 1A, the traffic on I-10 increased by 13% at west of SR 85 and 35% at east of SR 85 compared to the No-Build alternative. The traffic on SR 85 increased by 12% at south of Antioch Rd but decreased by 9% at south of I-10 and 14% at north of US 90. The traffic on US 90 increased by 9% at west of SR 85 but decreased by 7% at east of SR 85.

For 2030 Build alternative 1B, the traffic on I-10 increased by 12% at west of SR 85 and 6% at east of SR 85 compared to the No-Build alternative. The traffic on SR 85 increased by 12% at south of Antioch Rd but decreased by 14% at south of I-10 and 14% at north of US 90. The traffic on US 90 increased by 7% at west of SR 85 but decreased by 10% at east of SR 85.

For 2030 Build alternative 2, the traffic on I-10 increased by 12% at west of SR 85 but decreased by 7% at east of SR 85 compared to the No-Build alternative. The traffic on SR 85 increased by 4% at south of Antioch Rd and 6% at south of I-10 but decreased by 11% at north of US 90. The traffic on US 90 increased by 8% at west of SR 85 but decreased by 5% at east of SR 85.

For 2030 Build alternative 3, the traffic on I-10 increased by 13% at west of SR 85 and 84% at east of SR 85 compared to the No-Build alternative. The traffic on SR 85 increased by 3% at south of Antioch Rd and 6% at south of I-10 but decreased by 11% at north of US 90. The traffic on US 90 increased by 7% at west of SR 85 but decreased by 6% at east of SR 85.

Table 4-3 Year 2010 and 2030 AADT

Roadway	Location	2010 Model AADT	2030 No-Build AADT	2030 Build Alt 1A AADT	2030 Build Alt 1B AADT	2030 Build Alt 2 AADT	2030 Build Alt 3 AADT
I-10	Mainline West of SR 85	15,492	15,800	17,869	17,630	17,653	17,830
	EB Off-ramp to SR 85	3,188	3,009	3,390	4,002	4,049	3,354
	WB On-ramp from SR 85	3,151	2,956	3,418	3,989	3,981	3,345
	EB On-ramp from SR 85	2,532	2,922	4,652	3,186	2,155	8,312
	WB Off-ramp to SR 85	2,316	2,276	4,514	3,141	2,177	8,267
	Mainline East of SR 85	14,001	15,032	20,228	15,966	13,954	27,710
SR 85	South of Antioch Rd	29,995	34,092	38,312	38,305	35,340	35,178
	South of I-10	45,414	52,876	48,121	45,482	56,262	56,143
	South of Duggan Ave	40,024	43,828	38,582	39,903	39,007	39,122
	North of Cobb Ave	28,643	29,735	26,733	27,460	26,873	27,329
	South of US 90	25,543	26,054	24,815	23,964	24,974	24,843
	North of US 90	28,022	33,757	29,099	28,933	30,105	30,107
	North of Long Dr	25,571	31,350	26,167	25,968	27,281	27,371
	North of 3rd Ave	25,953	33,309	28,083	27,015	29,469	29,188
US 90	West of SR 4 (Baker Hwy)	2,474	5,421	3,859	3,961	3,980	3,866
	2 Mile West of SR 85	9,755	17,359	14,228	14,420	14,740	14,797
	West of Lindberg St	16,020	21,753	22,215	22,312	21,878	21,583
	West of Main St (East of Lloyd St)	18,635	24,043	25,208	25,108	25,169	24,966
	350 Ft West of SR 85 (Ferdon Blvd)	12,379	16,389	17,787	17,487	17,667	17,490
	375 Ft East of SR 85 (West of McCaskill)	5,913	9,727	9,068	8,721	9,275	9,169
	West of Valley Rd	11,207	14,882	11,366	13,093	11,276	12,287
	East of Fairchild Rd	5,426	10,095	12,313	12,979	13,003	10,666
PJ Adams Pkwy	850 Ft West of SR 85	2,032	8,162	8,748	8,715	6,569	6,827
Antioch Rd	300 Ft West of SR 85	12,580	11,508	11,728	11,916	12,182	12,012
	South of US 90	7,062	13,292	12,223	12,250	12,631	12,742
New Corridor	Segment South of I-10	NA	NA	12,836	14,976	14,362	NA
	NB Off-Ramp to I-10 EB	NA	NA	2,552	NA	NA	1,786
	SB On-Ramp from I-10 EB	NA	NA	3,707	NA	NA	7,137
	NB On-Ramp from I-10 WB	NA	NA	2,421	NA	NA	1,899
	SB Off-Ramp to I-10 WB	NA	NA	3,508	NA	NA	7,025
	Segment from I-10 to US 90	NA	NA	19,239	14,976	14,362	17,848
	Segment from US 90 to Airport Rd	NA	NA	10,644	10,948	9,157	9,554
	Airport Road East of SR 85	6,996	9,591	9,755	12,267	8,471	8,570

4.5.2 Year 2010 and Year 2040 AADT

Table 4-4 lists and compares the year 2010 and year 2040 AADTs along the major roadway segments for different alternatives.

For 2040 No-Build Alternative, the traffic on I-10 increased by 49% at west of SR 85 and by 48% at east of SR 85 compared with the 2010 alternative. The traffic on SR 85 increased by 43% at south of Antioch Rd, by 43% at south of I-10 and by 23% at north of US 90. The traffic on US 90 increased by 20% at west of SR 85 and by 132% at east of SR 85.

For 2040 Build alternative 1A, the traffic on I-10 decreased by 6% at west of SR 85 but increased by 18% at east of SR 85 compared with the No-Build alternative. The traffic on SR 85 increased by 3% at south of Antioch Rd but decreased by 9% at south of I-10 and by 9% at north of US 90. The traffic on US 90 increased by 26% at west of SR 85 but decreased by 29% at east of SR 85.

For 2040 Build alternative 1B, the traffic on I-10 decreased by 10% at west of SR 85 and by 11% at east of SR 85 compared with the No-Build alternative. The traffic on SR 85 increased by 4% at south of Antioch Rd but decreased by 15% at south of I-10 and by 8% at north of US 90. The traffic on US 90 increased by 25% at west of SR 85 but decreased by 27% at east of SR 85.

For 2040 Build alternative 2, the traffic on I-10 decreased by 16% at west of SR 85 and by 12% at east of SR 85 compared with the No-Build alternative. The traffic on SR 85 increased by 3% at south of Antioch Rd and by 5% at south of I-10 but decreased by 8% at north of US 90. The traffic on US 90 increased by 24% at west of SR 85 but decreased by 27% at east of SR 85.

For 2040 Build alternative 3, the traffic on I-10 decreased by 16% at west of SR 85 but increased by 59% at east of SR 85 compared with the No-Build alternative. The traffic on SR 85 increased by 1% at south of Antioch Rd and by 3% at south of I-10 but decreased by 7% at north of US 90. The traffic on US 90 increased by 21% at west of SR 85 but decreased by 26% at east of SR 85.

Table 4-4 Year 2010 and 2040 AADT

Roadway	Location	2010 Model AADT	2040 No-Build AADT	2040 Build Alt 1A AADT	2040 Build Alt 1B AADT	2040 Build Alt 2 AADT	2040 Build Alt 3 AADT
I-10	Mainline West of SR 85	15,492	23,108	21,635	20,718	19,492	19,377
	EB Off-ramp to SR 85	3,188	6,300	4,742	4,939	4,533	3,226
	WB On-ramp from SR 85	3,151	5,877	4,566	4,790	3,968	3,536
	EB On-ramp from SR 85	2,532	4,993	6,108	3,782	3,705	10,287
	WB Off-ramp to SR 85	2,316	4,790	6,061	3,664	3,553	9,999
	Mainline East of SR 85	14,001	20,714	24,497	18,436	18,249	32,899
SR 85	South of Antioch Rd	29,995	42,877	44,331	44,804	44,069	43,242
	South of I-10	45,414	64,985	59,097	55,449	68,230	66,650
	South of Duggan Ave	40,024	46,314	41,552	42,161	41,800	42,386
	North of Cobb Ave	28,643	30,529	28,426	28,463	28,636	29,128
	South of US 90	25,543	30,258	26,426	26,474	26,812	26,494
	North of US 90	28,022	34,331	31,226	31,469	31,708	31,825
	North of Long Dr	25,571	32,293	28,547	28,818	28,949	29,307
	North of 3rd Ave	25,953	35,716	32,275	31,323	32,713	32,573
US 90	West of SR 4 (Baker Hwy)	2,474	4,007	3,813	3,859	3,935	3,780
	2 Mile West of SR 85	9,755	18,088	15,292	15,355	15,524	16,104
	West of Lindberg St	16,020	22,176	24,447	24,612	24,110	24,202
	West of Main St (East of Lloyd St)	18,635	22,492	27,050	26,956	26,453	26,251
	350 Ft West of SR 85 (Ferdon Blvd)	12,379	14,910	18,732	18,648	18,423	18,008
	375 Ft East of SR 85 (West of McCaskill)	5,913	13,709	9,692	9,985	10,034	10,095
	West of Valley Rd	11,207	16,794	12,373	14,876	12,879	14,173
	East of Fairchild Rd	5,426	11,804	13,854	14,674	14,886	13,582
PJ Adams Pkwy	850 Ft West of SR 85	2,032	9,945	7,961	7,824	10,306	10,243
Antioch Rd	300 Ft West of SR 85	12,580	9,791	11,467	11,739	10,743	10,662
	South of US 90	7,062	15,542	14,165	14,161	14,418	14,132
New Corridor	Segment South of I-10	NA	NA	12,515	16,280	16,639	NA
	NB Off-Ramp to I-10 EB	NA	NA	2,194	NA	NA	1,623
	SB On-Ramp from I-10 EB	NA	NA	4,298	NA	NA	7,968
	NB On-Ramp from I-10 WB	NA	NA	2,413	NA	NA	1,616
	SB Off-Ramp to I-10 WB	NA	NA	4,562	NA	NA	8,269
	Segment from I-10 to US 90	NA	NA	21,081	16,280	16,639	19,477
	Segment from US 90 to Airport Rd	NA	NA	12,444	13,354	11,903	12,293
	Airport Road East of SR 85	6,996	10,927	10,526	12,892	9,671	9,975

4.5.3 Year 2010 and Year 2050 AADT

Table 4-5 lists and compares the year 2010 and 2050 AADTs along the major roadway segments for different alternatives.

For 2050 No-Build Alternative, the traffic on I-10 increased by 74% at west of SR 85 and by 69% at east of SR 85 compared with the 2010 alternative. The traffic on SR 85 increased by 66% at south of Antioch Rd, by 50% at south of I-10 and by 23% at north of US 90. The traffic on US 90 increased by 48% at west of SR 85 and by 170% at east of SR 85.

For 2050 Build alternative 1A, the traffic on I-10 increased by 3% at west of SR 85 and by 17% at east of SR 85 compared with the No-Build alternative. The traffic on SR 85 increased by 2% at south of Antioch Rd but decreased by 7% at south of I-10 and by 0.5% at north of US 90. The traffic on US 90 decreased by 1% at west of SR 85 and by 31% at east of SR 85.

For 2050 Build alternative 1B, the traffic on I-10 decreased by 1% at west of SR 85 and by 5% at east of SR 85 compared with the No-Build alternative. The traffic on SR 85 increased by 3% at south of Antioch Rd but decreased by 10% at south of I-10 and by 2% north of US 90. The traffic on US 90 decreased by 1% at west of SR 85 and by 27% at east of SR 85.

For 2050 Build alternative 2, the traffic on I-10 decreased by 13% at west of SR 85 and by 6% at east of SR 85 compared with the No-Build alternative. The traffic on SR 85 increased by 1% at south of Antioch Rd, by 6% at south of I-10 and by 0.2% at north of US 90. The traffic on US 90 decreased by 1% at west of SR 85 and by 28% at east of SR 85.

For 2050 Build alternative 3, the traffic on I-10 decreased by 17% at west of SR 85 but increased by 50% at east of SR 85 compared with the No-Build alternative. The traffic on SR 85 decreased by 1% at south of Antioch Rd, increased by 3% at south of I-10, and decreased by 1% at north of US 90. The traffic on US 90 increased by 0.3% at west of SR 85 but decreased by 19% at east of SR 85.

Table 4-5 Year 2010 and 2050 AADT

Roadway	Location	2010 Model AADT	2050 No-Build AADT	2050 Build Alt 1A AADT	2050 Build Alt 1B AADT	2050 Build Alt 2 AADT	2050 Build Alt 3 AADT
I-10	Mainline West of SR 85	15,492	26,991	27,771	26,852	23,409	22,377
	EB Off-ramp to SR 85	3,188	7,367	6,734	7,153	5,272	3,496
	WB On-ramp from SR 85	3,151	7,014	6,632	6,929	5,155	5,014
	EB On-ramp from SR 85	2,532	5,583	6,508	4,814	4,698	10,904
	WB Off-ramp to SR 85	2,316	5,435	6,699	4,834	4,480	10,770
	Mainline East of SR 85	14,001	23,628	27,611	22,417	22,162	35,541
SR 85	South of Antioch Rd	29,995	49,923	50,889	51,251	50,537	49,378
	South of I-10	45,414	68,017	63,396	61,197	72,090	69,906
	South of Duggan Ave	40,024	45,411	41,879	42,490	42,365	43,401
	North of Cobb Ave	28,643	29,827	29,036	28,565	28,957	29,389
	South of US 90	25,543	29,082	25,072	24,938	25,327	26,085
	North of US 90	28,022	34,587	34,430	33,884	34,641	34,212
	North of Long Dr	25,571	32,435	30,929	31,139	31,047	31,293
	North of 3rd Ave	25,953	35,631	34,717	34,575	34,767	34,736
US 90	West of SR 4 (Baker Hwy)	2,474	4,670	4,445	4,486	4,540	4,377
	2 Mile West of SR 85	9,755	16,139	16,012	16,085	16,056	16,292
	West of Lindberg St	16,020	26,624	26,447	26,713	26,578	26,641
	West of Main St (East of Lloyd St)	18,635	26,421	25,264	25,305	25,292	26,063
	350 Ft West of SR 85 (Ferdon Blvd)	12,379	18,275	18,094	18,129	18,080	18,335
	375 Ft East of SR 85 (West of McCaskill)	5,913	15,993	10,968	11,690	11,438	12,912
	West of Valley Rd	11,207	18,853	13,889	16,470	14,431	17,286
	East of Fairchild Rd	5,426	13,957	15,447	16,347	16,577	15,160
PJ Adams Pkwy	850 Ft West of SR 85	2,032	16,543	11,223	10,829	14,072	14,415
Antioch Rd	300 Ft West of SR 85	12,580	11,633	11,448	12,305	11,469	11,318
	South of US 90	7,062	13,474	13,281	13,291	13,322	12,935
New Corridor	Segment South of I-10	NA	NA	13,957	17,189	17,508	NA
	NB Off-Ramp to I-10 EB	NA	NA	2,791	NA	NA	2,165
	SB On-Ramp from I-10 EB	NA	NA	4,484	NA	NA	8,068
	NB On-Ramp from I-10 WB	NA	NA	3,069	NA	NA	1,773
	SB Off-Ramp to I-10 WB	NA	NA	4,905	NA	NA	8,342
	Segment from I-10 to US 90	NA	NA	21,984	17,189	17,508	20,348
	Segment from US 90 to Airport Rd	NA	NA	13,631	14,948	12,658	13,846
	Airport Road East of SR 85	6,996	12,271	11,326	13,608	11,463	11,321

4.5.4 Level of Service (LOS) Analysis

Future year conceptual level traffic analysis was based on Table 4-11, which is FDOT's generalized Level of Service (LOS) volume table for Florida's transitioning areas. Table 4-6 through 4-10 show the level of service analysis for each alternative based on AADTs present in table 4-3 through 4-5. For each segment, the post speed data was obtained from Google Street view to help determine the level of service threshold that the segment should refer to. The interim year LOS was determined by interpolating the AADTs to interim year and then applying the LOS table threshold accordingly.

For Build alternative 1A, the LOS on I-10 in the study area remained level B from 2030 to 2050, which is the same as the No-Build alternative. The LOS on SR 85 north of US 90 was improved from F to E from year 2030 to year 2040 compared to No-Build. The LOS on SR 85 north of Long Dr and north of 3rd Ave was also improved from the No-Build scenario. The LOS on US 90 east of SR 85 was improved from D to C from year 2031 to year 2040, while the LOS on US 90 east of Fairchild Rd changed from C to D from year 2044 to year 2050. The new corridors will generally remain level of service C or D. However, the new corridor segment from I-10 to US 90 will remain LOS F from year 2030 to year 2050.

For Build alternative 1B, the LOS on I-10 in the study area remained level B from 2030 to 2050, which is the same as the No-Build alternative. The LOS on SR 85 north of US 90 was improved from F to E from year 2030 to year 2040 compared to No-Build. The LOS on SR 85 north of Long Dr and north of 3rd Ave was also improved from the No-Build scenario. The LOS on US 90 east of SR 85 was improved from D to C from year 2031 to year 2038, while the LOS on US 90 east of Fairchild Rd changed from C to D from year 2039 to year 2049, and to LOS F in year 2050. The new corridors will generally remain level of service C or D. However, the new corridor segments south of I-10 and from I-10 to US 90 will remain LOS F from year 2030 to year 2050.

For Build alternative 2, the LOS on I-10 in the study area remained level B from 2030 to 2050, which is the same as the No-Build alternative. The LOS on SR 85 north of US 90 was improved from F to E from year 2030 to year 2037 compared to No-Build. The LOS on SR 85 north of Long Dr and north of 3rd Ave was also improved from the No-Build scenario. The LOS on US 90 east of SR 85 was improved from D to C from year 2031 to year 2036, while the LOS on US 90 east of Fairchild Rd changed from C to D from year 2038 to year 2047, and to LOS F in year 2048 to year 2050. The new corridors will generally remain level of service C or D. However, the new corridor segments south of I-10 and from I-10 to US 90 will remain LOS F from year 2031 to year 2050.

For Build alternative 3, the LOS on I-10 in the study area remained level B from 2030 to 2050, which is the same as the No-Build alternative. The LOS on SR 85 north of US 90 was improved from F to E from year 2030 to year 2037 compared to No-Build. The LOS on SR 85 north of Long Dr and north of 3rd Ave was also improved from the No-Build scenario. The LOS on US 90 east of SR 85 was improved from D to C from year 2031 to year 2035, while the LOS on US 90 east of Fairchild Rd changed from C to D from year 2046 to year 2050. The new corridors will generally remain level of service C or D. However, the new corridor segment from I-10 to US90 will remain LOS F from year 2030 to year 2050.

Table 4-6 Year 2030 – 2050 No-Build Alternative Level of Service Analysis

Roadway	Location	2030 No-Build	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040 No-Build	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050 No-Build
I-10	Mainline West of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Mainline East of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
SR 85	South of Antioch Rd	D	D	F	F	F	F	F	F	F	F	C	C	C	C	C	C	C	C	C	C	C
	South of I-10	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	South of Duggan Ave	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Cobb Ave	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
	South of US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	North of US 90	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Long Dr	E	E	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of 3rd Ave	C	C	C	D	D	D	D	D	D	D	F	D	D	D	D	D	F	F	F	F	F
US 90	West of SR 4 (Baker Hwy)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2 Mile West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Lindberg St	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Main St (East of Lloyd St)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	350 Ft West of SR 85 (Ferdon Blvd)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	375 Ft East of SR 85 (West of McCaskill)	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	West of Valley Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	East of Fairchild Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
PJ Adams Pkwy	850 Ft West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Antioch Rd	300 Ft West of SR 85	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	South of US 90	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
New Corridor	Segment South of I-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Segment from I-10 to US 90	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Segment from US 90 to Airport Rd	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Airport Road East of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

Table 4-7 Year 2030 – 2050 Build Alternative 1A Level of Service Analysis

Roadway	Location	2030 Alt 1A	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040 Alt 1A	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050 Alt 1A
I-10	Mainline West of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Mainline East of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
SR 85	South of Antioch Rd	F	F	F	F	F	F	F	F	F	F	C	C	C	C	C	C	C	C	C	C	C
	South of I-10	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	South of Duggan Ave	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Cobb Ave	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E
	South of US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	North of US 90	E	E	E	E	E	E	E	E	E	E	E	F	F	F	F	F	F	F	F	F	F
	North of Long Dr	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	E	E
	North of 3rd Ave	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D
US 90	West of SR 4 (Baker Hwy)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2 Mile West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Lindberg St	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Main St (East of Lloyd St)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	350 Ft West of SR 85 (Ferdon Blvd)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	375 Ft East of SR 85 (West of McCaskill)	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D
	West of Valley Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	East of Fairchild Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D
PJ Adams Pkwy	850 Ft West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Antioch Rd	300 Ft West of SR 85	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	South of US 90	E	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
New Corridor	Segment South of I-10	C	C	C	C	C	C	C	C	D	D	C	D	D	D	D	D	D	D	D	D	D
	Segment from I-10 to US 90	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	Segment from US 90 to Airport Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D
	Airport Road East of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

Table 4-8 Year 2030 – 2050 Build Alternative 1B Level of Service Analysis

Roadway	Location	2030 Alt 1B	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040 Alt 1B	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050 Alt 1B
I-10	Mainline West of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Mainline East of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
SR 85	South of Antioch Rd	F	F	F	F	F	F	F	F	F	F	C	C	C	C	C	C	C	C	C	C	C
	South of I-10	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	South of Duggan Ave	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Cobb Ave	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	South of US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	North of US 90	E	E	E	E	E	E	E	E	E	E	E	F	F	F	F	F	F	F	F	F	F
	North of Long Dr	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	E	E	E	E
	North of 3rd Ave	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D
US 90	West of SR 4 (Baker Hwy)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2 Mile West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Lindberg St	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Main St (East of Lloyd St)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	350 Ft West of SR 85 (Ferdon Blvd)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	375 Ft East of SR 85 (West of McCaskill)	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D
	West of Valley Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	East of Fairchild Rd	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	F
PJ Adams Pkwy	850 Ft West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Antioch Rd	300 Ft West of SR 85	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	E	E	E
	South of US 90	E	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
New Corridor	Segment South of I-10	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	Segment from I-10 to US 90	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	Segment from US 90 to Airport Rd	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	F	F	F
	Airport Road East of SR 85	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D

Table 4-9 Year 2030 – 2050 Build Alternative 2 Level of Service Analysis

Roadway	Location	2030 Alt 2	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040 Alt 2	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050 Alt 2
I-10	Mainline West of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Mainline East of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
SR 85	South of Antioch Rd	D	F	F	F	F	F	F	F	F	F	C	C	C	C	C	C	C	C	C	C	C
	South of I-10	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	South of Duggan Ave	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Cobb Ave	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E
	South of US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	North of US 90	E	E	E	E	E	E	E	E	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Long Dr	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	E	E	E	E	E
	North of 3rd Ave	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D
US 90	West of SR 4 (Baker Hwy)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2 Mile West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Lindberg St	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Main St (East of Lloyd St)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	350 Ft West of SR 85 (Ferdon Blvd)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	375 Ft East of SR 85 (West of McCaskill)	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	West of Valley Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	East of Fairchild Rd	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	F	F	F
PJ Adams Pkwy	850 Ft West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Antioch Rd	300 Ft West of SR 85	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	South of US 90	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
New Corridor	Segment South of I-10	D	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	Segment from I-10 to US 90	D	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	Segment from US 90 to Airport Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Airport Road East of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

Table 4-10 Year 2030 – 2050 Build Alternative 3 Level of Service Analysis

Roadway	Location	2030 Alt 3	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040 Alt 3	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050 Alt3
I-10	Mainline West of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Mainline East of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
SR 85	South of Antioch Rd	D	F	F	F	F	F	F	F	F	F	C	C	C	C	C	C	C	C	C	C	C
	South of I-10	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	South of Duggan Ave	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Cobb Ave	D	D	D	D	D	D	D	D	D	D	E	D	E	E	E	E	E	E	E	E	E
	South of US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	North of US 90	E	E	E	E	E	E	E	E	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Long Dr	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	E	E	E	E	E	E
	North of 3rd Ave	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D
US 90	West of SR 4 (Baker Hwy)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2 Mile West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Lindberg St	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Main St (East of Lloyd St)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	350 Ft West of SR 85 (Ferdon Blvd)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	375 Ft East of SR 85 (West of McCaskill)	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	West of Valley Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	East of Fairchild Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D
PJ Adams Pkwy	850 Ft West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Antioch Rd	300 Ft West of SR 85	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	South of US 90	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
New Corridor	Segment South of I-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Segment from I-10 to US 90	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	Segment from US 90 to Airport Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D
	Airport Road East of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

Table 4-11 FDOT Generalized LOS Table for Transitioning Area

TABLE 2

Generalized **Annual Average Daily** Volumes for Florida's **Transitioning Areas** and **Areas Over 5,000 Not In Urbanized Areas**[1]

12/18/12

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Class I (40 mph or higher posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	14,400	16,200	**
4	Divided	*	34,000	35,500	**
6	Divided	*	52,100	53,500	**

Class II (35 mph or slower posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	6,500	13,300	14,200
4	Divided	*	9,900	28,800	31,600
6	Divided	*	16,000	44,900	47,600

Non-State Signalized Roadway Adjustments
(Alter corresponding state volumes by the indicated percent.)
Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
2	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment
Multiply the corresponding two-directional volumes in this table by 0.6

BICYCLE MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	2,600	6,100	19,500
50-84%	1,900	5,500	18,400	>19,500
85-100%	7,500	19,500	>19,500	**

PEDESTRIAN MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	2,800	9,400
50-84%	*	1,600	8,600	15,600
85-100%	3,800	10,500	17,100	>19,500

BUS MODE (Scheduled Fixed Route)[3]

(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	> 5	≥ 4	≥ 3	≥ 2
85-100%	> 4	≥ 3	≥ 2	≥ 1

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Lanes	B	C	D	E
4	44,100	57,600	68,900	71,700
6	65,100	85,600	102,200	111,000
8	85,100	113,700	135,200	150,000
10	106,200	141,700	168,800	189,000

Freeway Adjustments

Auxiliary Lanes Present in Both Directions	Ramp Metering
+ 20,000	+ 5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
2	Undivided	9,200	17,300	24,400	33,300
4	Divided	35,300	49,600	62,900	69,600
6	Divided	52,800	74,500	94,300	104,500

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1] Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

[3] Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Planning Office
www.dot.state.fl.us/planning/systems/sm/los/default.shtm

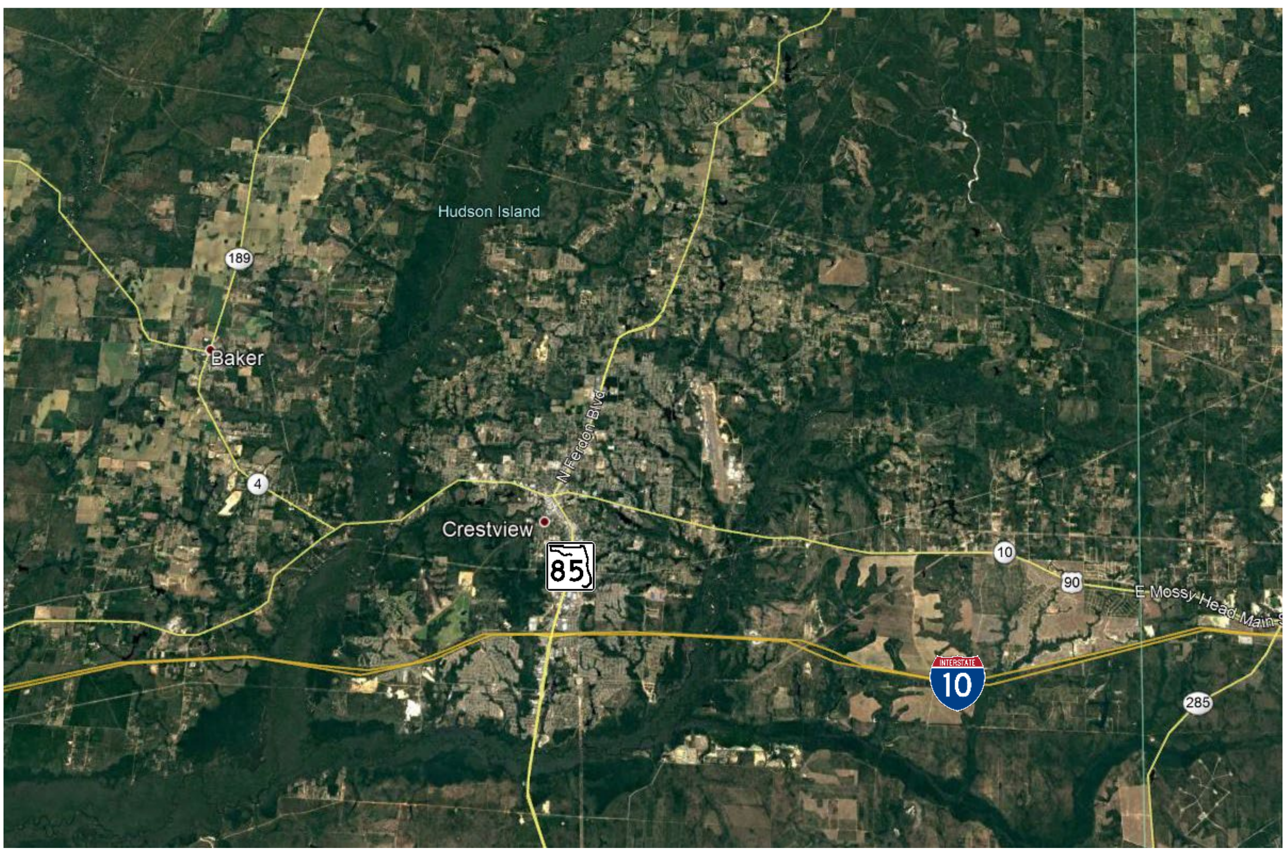
Traffic Analysis Memorandum

Second Iteration

SR 85 | EASTERN CRESTVIEW BYPASS

FEASIBILITY Study

FDOT District 3 Project | ETDM No # 2891



April 2019

CHAPTER 1 INTRODUCTION

1.1 PROJECT DESCRIPTION

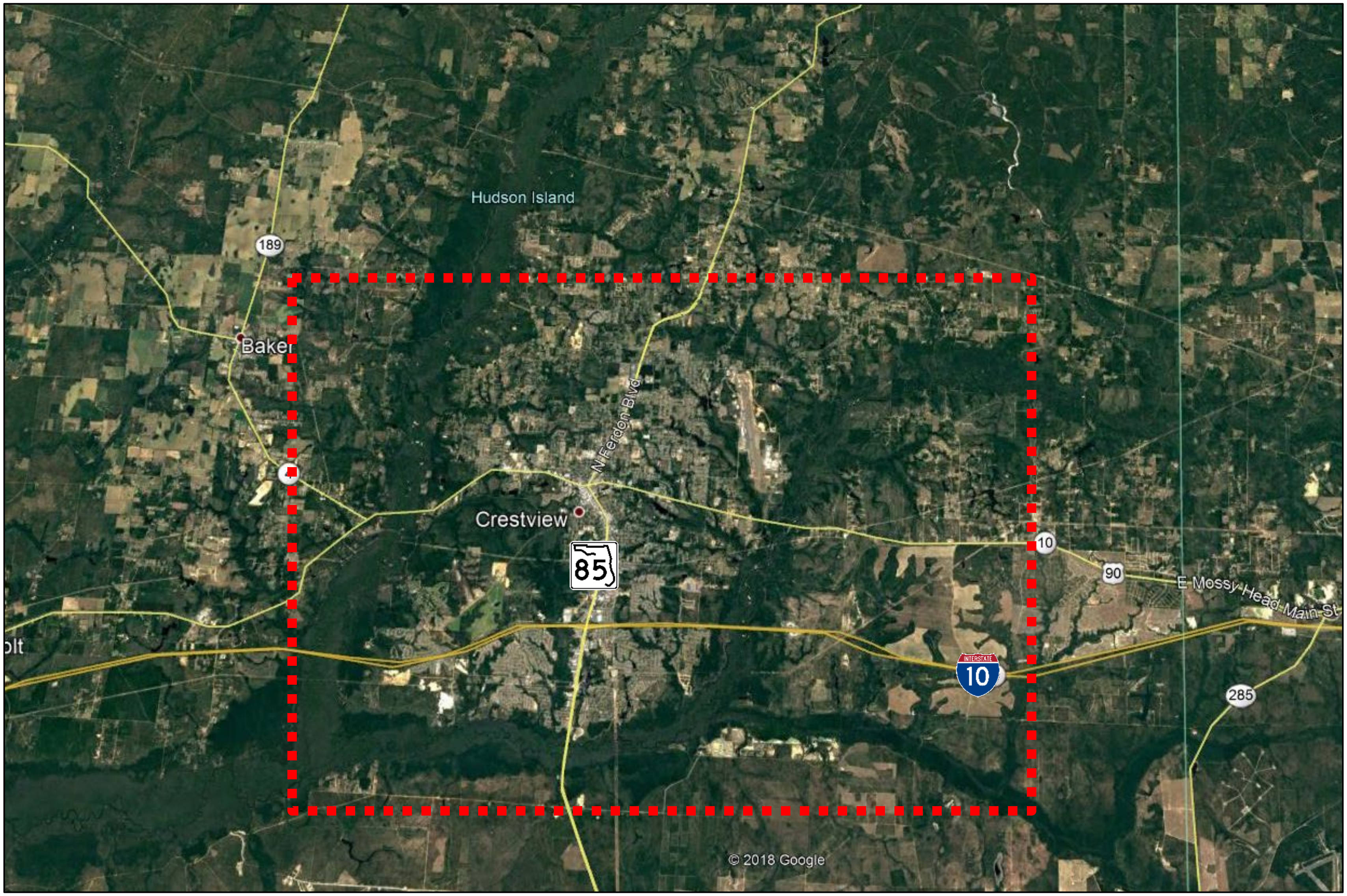
The primary aim of this project is to conduct a feasibility analysis of a bypass for SR 85 east of the City of Crestview. The analysis also considered the southern end of the Western Crestview Bypass and the 6-laning of SR 85, which are both cost feasible in the Okaloosa-Walton Transportation Planning Organization (OWTPO)'s Long Range Transportation Plan (LRTP), as well as a potential northern segment of the Western Crestview Bypass which is outside of the TPO Cost Feasible Plan. The bypass projects are proposed to provide a beltway around the city. The factors to be considered include but are not limited to: traffic and regional mobility; social, cultural, economic, natural, and physical environmental impacts; and engineering feasibility.

Traffic demand was measured for the Eastern bypass as well as the overall bypass of the City of Crestview (the Eastern and Western Bypass segments). The Northwest Florida Regional Planning Model (NWFRPM) Version 2.1 model which was released in June 2017, was used as the starting point for the travel demand modeling effort.

1.2 PROJECT LOCATION

The SR 85 Eastern Bypass project is located east of the City of Crestview, from SR 85 south of I-10 to SR 85 north of I-10 near the intersection of Airport Road. **Figure 1-1** shows the project location and study area.

Figure 1-1 Project Location Map



CHAPTER 2 ANALYSIS YEARS

The analysis years for the traffic analysis were established based on coordination with the Department. The proposed analysis years for the study are as follows:

- Year 2010 Base
- Year 2030 Opening
- Year 2040 Interim
- Year 2050 Design

CHAPTER 3 ALTERNATIVES

The alternatives considered as part of this study include a No-Build alternative and four Build alternatives. The alternatives are described below.

3.1 NO-BUILD ALTERNATIVE

The No-Build alternative assumes no proposed improvements and serves as a baseline for comparison against the other alternatives. It, however, includes on-going construction projects and all funded or programmed improvements scheduled to be opened to traffic in the analysis year being considered. These improvements must be part of the OWTPO Cost Feasible LRTP, and any developer-funded transportation improvements specified in approved development orders.

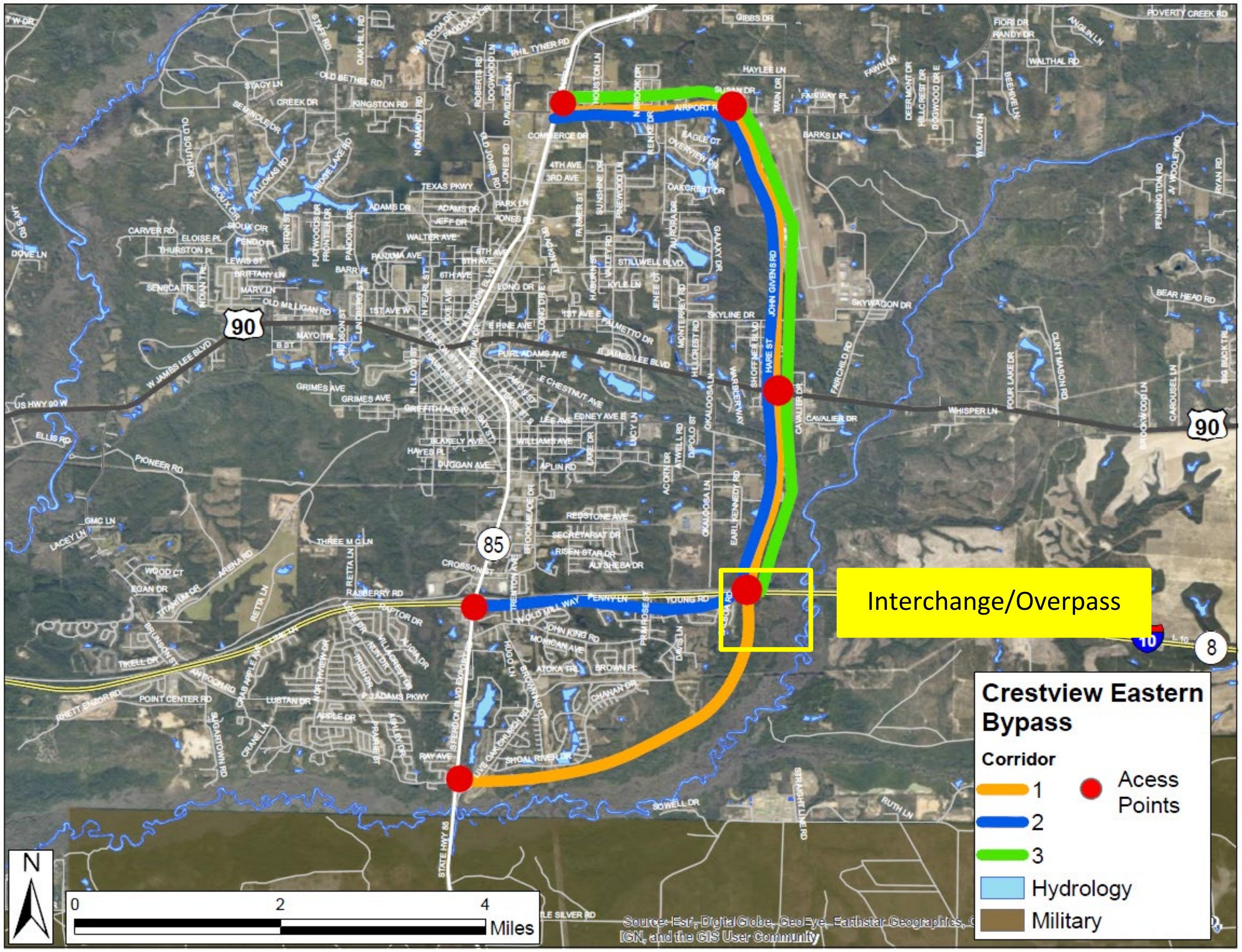
3.2 BUILD ALTERNATIVES

Four Build alternatives for the SR 85 Eastern bypass were approved for analysis. **Figure 3-1** shows the proposed Build alternatives. The descriptions of the Build alternatives are listed as follows.

- Alternative 1A - Orange Line with an interchange at I-10. Alternative 1A has a southern terminus on SR 85 south of Shoal River Drive and a northern terminus on SR 85 near the intersection of Airport Road. Alternative 1A is coded as two lanes south of I-10, four lanes from I-10 to US 90, and two lanes from US 90 to SR 85 in the model.
- Alternative 1B - Orange Line with an overpass at I-10. Alternative 1B has a southern terminus on SR 85 south of Shoal River Drive and a northern terminus on SR 85 near the intersection of Airport Road. Alternative 1B is coded as four lanes from south of I-10 to US 90, and two lanes from US 90 to SR 85 in the model.
- Alternative 2 - Blue Line parallel to the interstate to the south, with an overpass at I-10. Alternative 2 has a southern terminus on SR 85 south of I-10 and a northern terminus on SR 85 near the intersection of Airport Road. Alternative 2 is coded as four lanes from south of I-10 to US 90, and two lanes from US 90 to SR 85 in the model.
- Alternative 3 - Green Line with an interchange at I-10. Alternative 3 has a southern terminus on the new interchange of the new corridor with I-10 and a northern terminus on SR 85 near the intersection of Airport Road. Alternative 3 is coded as four lanes from I-10 to US 90, and two lanes from US 90 to SR 85 in the model.

The proposed Build alternatives generally consider a tight diamond interchange configuration at the intersection of I-10 and the proposed new corridor alternative. All the other access points shown on the map are considered as at-grade intersections.

Figure 3-1 Proposed Build Alternatives



CHAPTER 4 TRAVEL DEMAND FORECASTING

4.1 TRAVEL DEMAND MODEL SELECTION

The Northwest Florida Regional Planning Model Version 2.1 (NWFRPM V2.1) released in June 2017 was used as the starting point for the modeling efforts. NWFRPM V2.1 has been validated for base year 2010 at the time of model release. The future year 2040 model is based on the OWTPO adopted year 2040 LRTP and was utilized as a starting point for future traffic and transit forecasts.

4.2 TRAVEL DEMAND MODEL VALIDATION

NWFRPM V2.1 has been validated for base year 2010 at the time of model release. Based on the discussion with the Department, no further validation/calibration was performed for this study.

4.3 FUTURE YEAR SOCIO-ECONOMIC DATA

To develop the year 2030 and 2050 model socio-economic data, the model socio-economic data from the available model years 2010 and 2040 were utilized to interpolate and extrapolate the socio-economic data to year 2030 and 2050. Upon review of the future year socio-economic data, the future year (2040) vacant and non-permanent percentages for several TAZs were identified lower than the base year (2010) vacant percentages, while the auto ownership percentage for future year does not sum up to 100% for certain TAZs, which seemed not reasonable. Therefore, the corresponding 2010 percentages were used to replace the 2040 percentages for interpolation.

4.3.1 Shoal River Ranch Development

The Shoal River Ranch Development was the major consideration of this area. The socio-economic data impact of the development was calculated and incorporated into the model social-economic data using ITE 9 trip rates and NWFRPM 2040 total attraction trips/total employment ratio. Year 2050 was considered as the fully build-out year of the Shoal River Ranch Development and year 2030 and 2040 data were interpolated. Tables 4-1 and 4-2 show the socio-economic data of TAZ 890 before and after incorporating the Shoal River Ranch Development.

Table 4-1 TAZ 890 Original Socio-Economic Data

Shoal River Ranch TAZ 890- Model Original	2010	2040
Industrial Employment	0	0
Commercial Employment	10	15
Service Employment	100	100
Total Employment	**110**	**115**

Table 4-2 TAZ 890 Updated Socio-Economic Data

Shoal River Ranch TAZ 890- Development Update	2010	2030	2040	2050
Industrial Employment	0	3,463	5,195	6,926
Commercial Employment	10	14	15	17
Service Employment	100	100	100	100
Total Employment	**110**	**3,577**	**5,310**	**7,043**

4.4 FUTURE YEAR MODEL NETWORK

To develop the year 2030 No-Build model network, the year 2040 Cost Feasible model network was used as the starting point. The network within the study area was reviewed and updated to reflect the year 2030 condition.

The year 2040 No-Build model network within the study area was reviewed to ensure that the southern end of the Western Crestview Bypass from Wild Horse Drive to I-10 and the 6-lane SR 85 are incorporated as outlined in the existing 2040 Cost Feasible Plan (CFP). The 2040 network was then updated to include the new interchange west of I-10 and the Western Bypass realignment from PJ Adams Pkwy to the new interchange only according to the latest Cost Feasible Plan amendment report and the discussion with the Department.

To develop the year 2050 No-Build model network, the updated 2040 No-Build network with 6-lane SR 85 and the Western Bypass (southern end) addition was used as the starting point. A potential northern segment of the Western Bypass from SR 10 to SR 85 (N Ferdon Blvd) was added to the 2050 network.

Figure 4-1 through 4-3 show the updated No-Build network for different year alternatives.

Figure 4-2 2030 No-Build Network

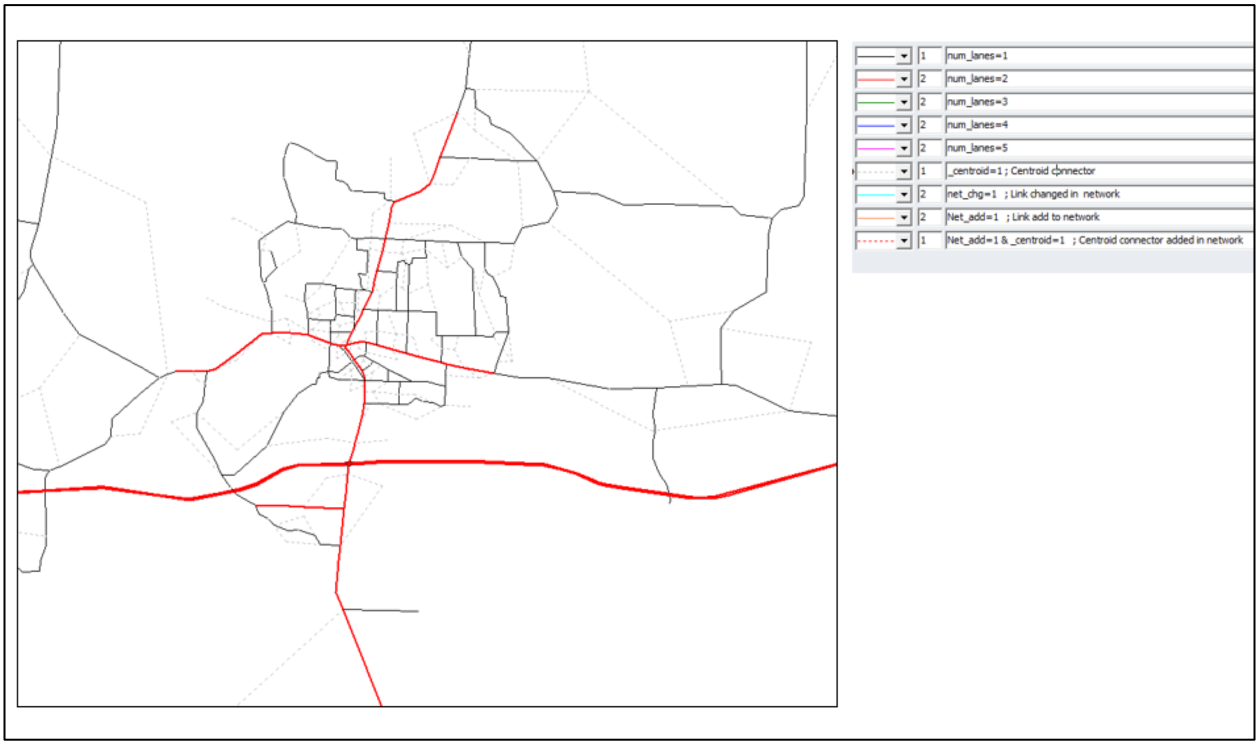


Figure 4-2 2040 No-Build Network

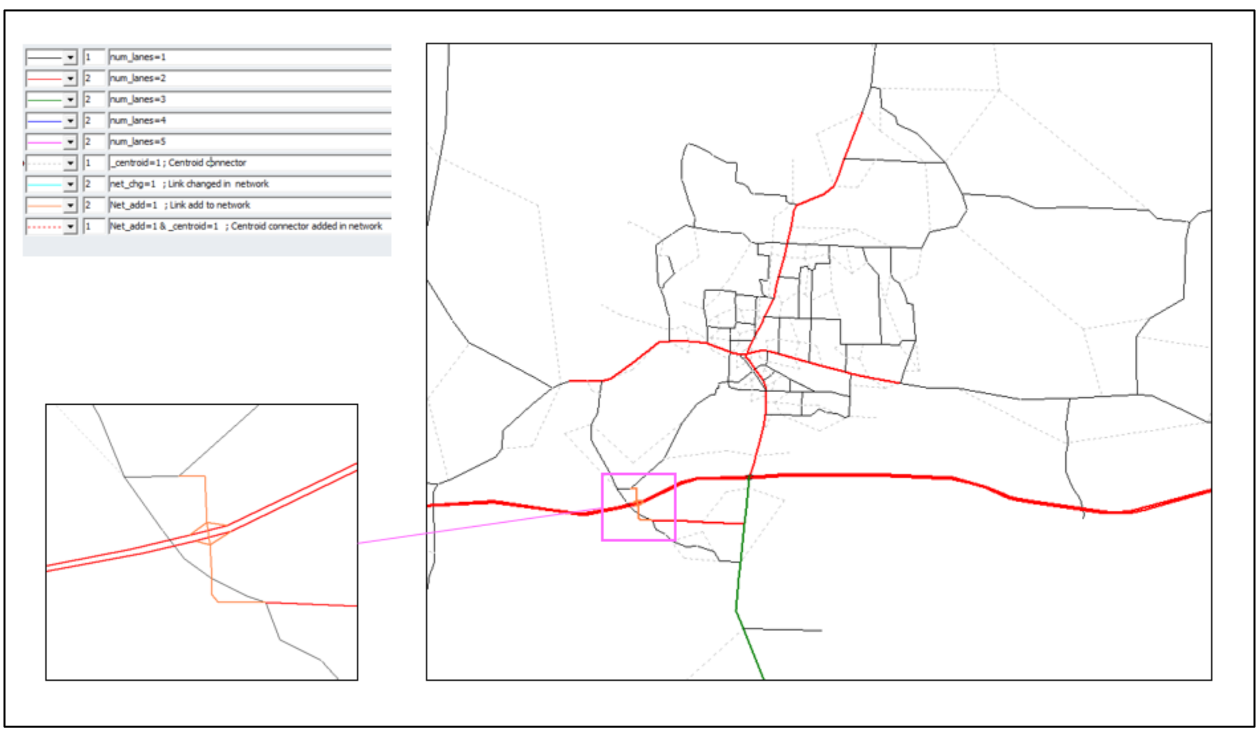
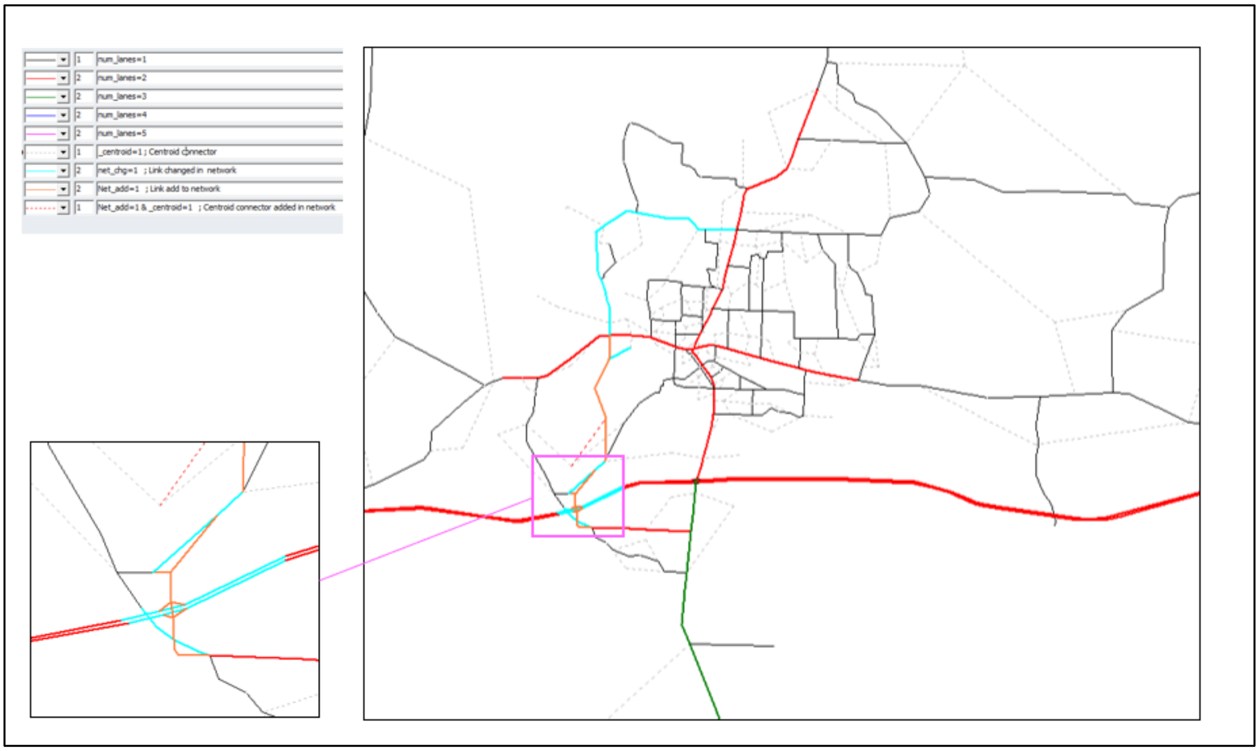


Figure 4-3 2050 No-Build Network



For the Build model scenarios, the new corridor alternatives described in Chapter 3 were added on top of the 2030, 2040 and 2050 No-Build model scenario networks accordingly. Figure 4-4 through 4-7 showed the new corridor coding for each alternative using 2040 network as examples.

Figure 4-4 Build Alternative 1A

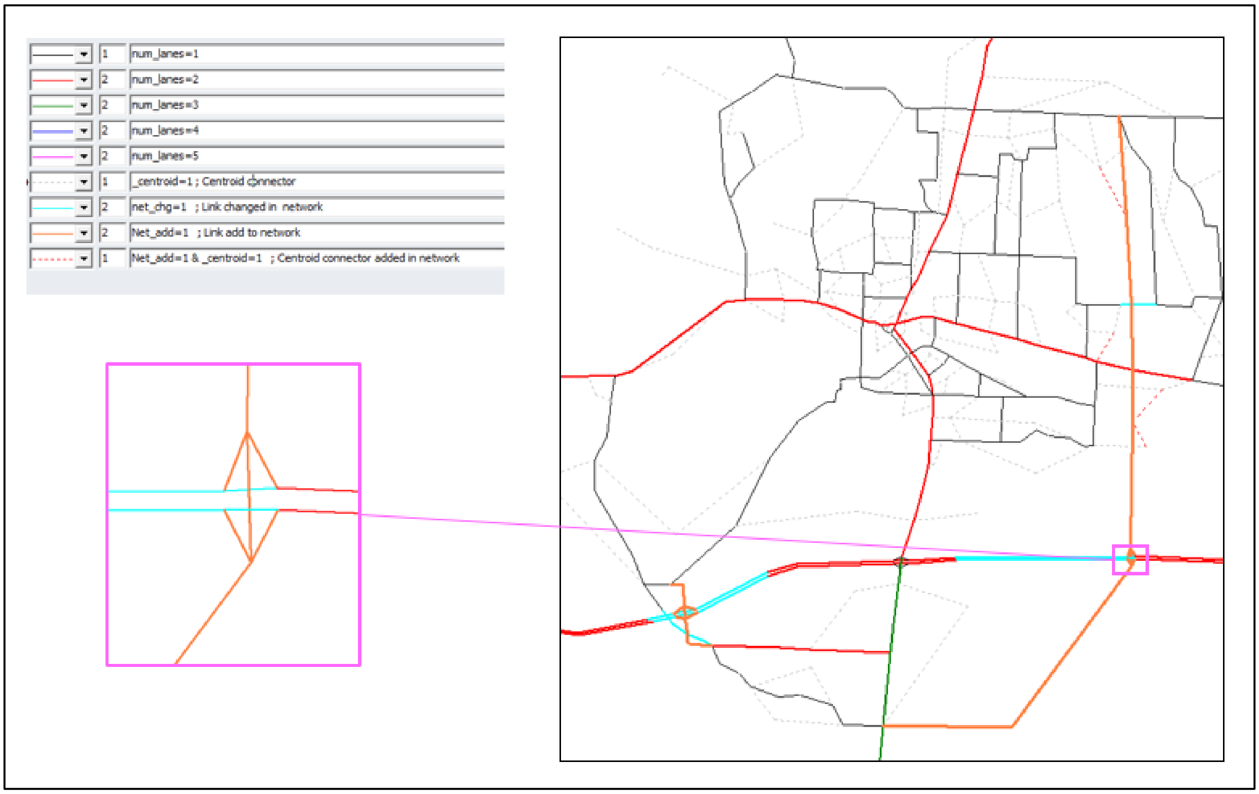


Figure 4-5 Build Alternative 1B

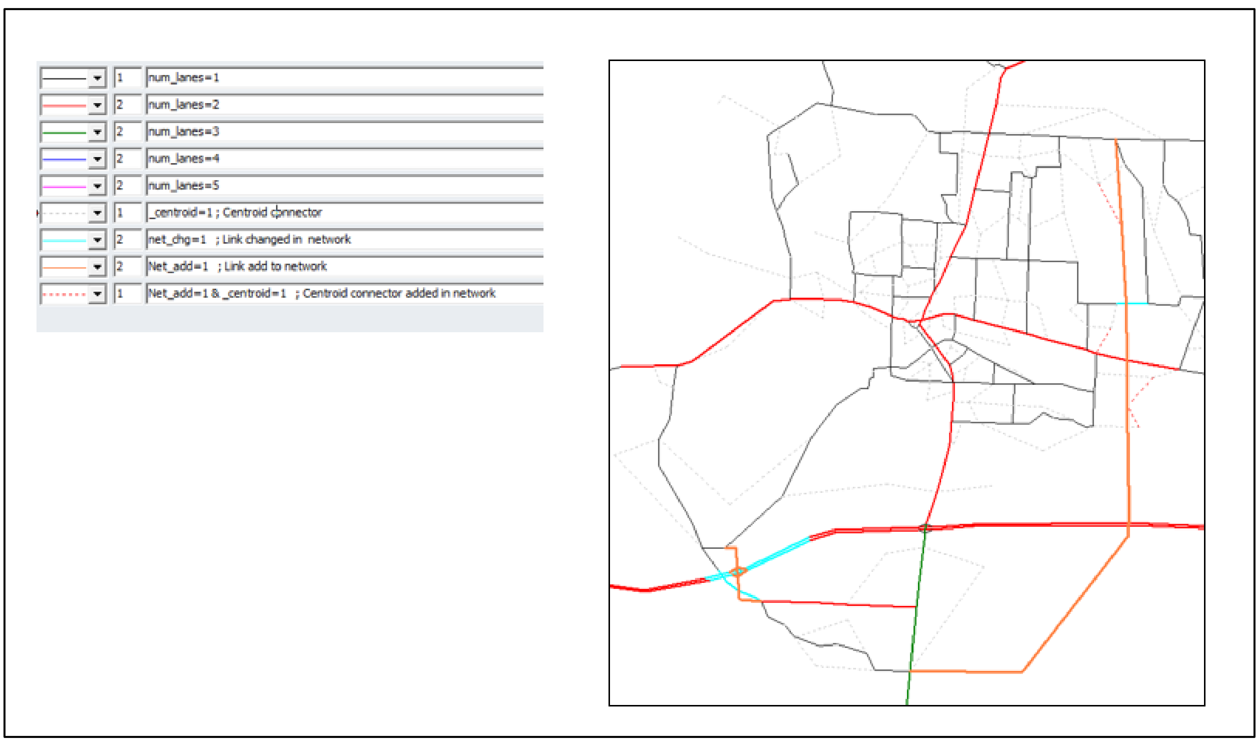


Figure 4-6 Build Alternative 2

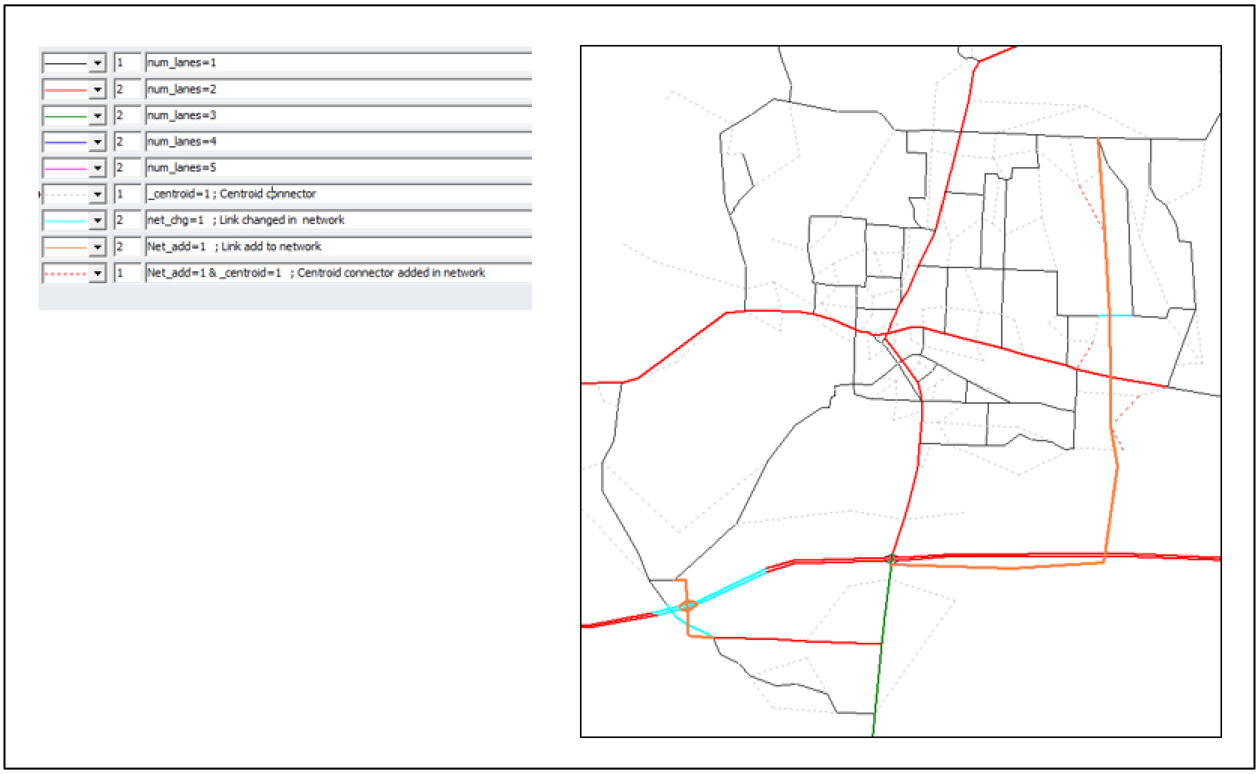
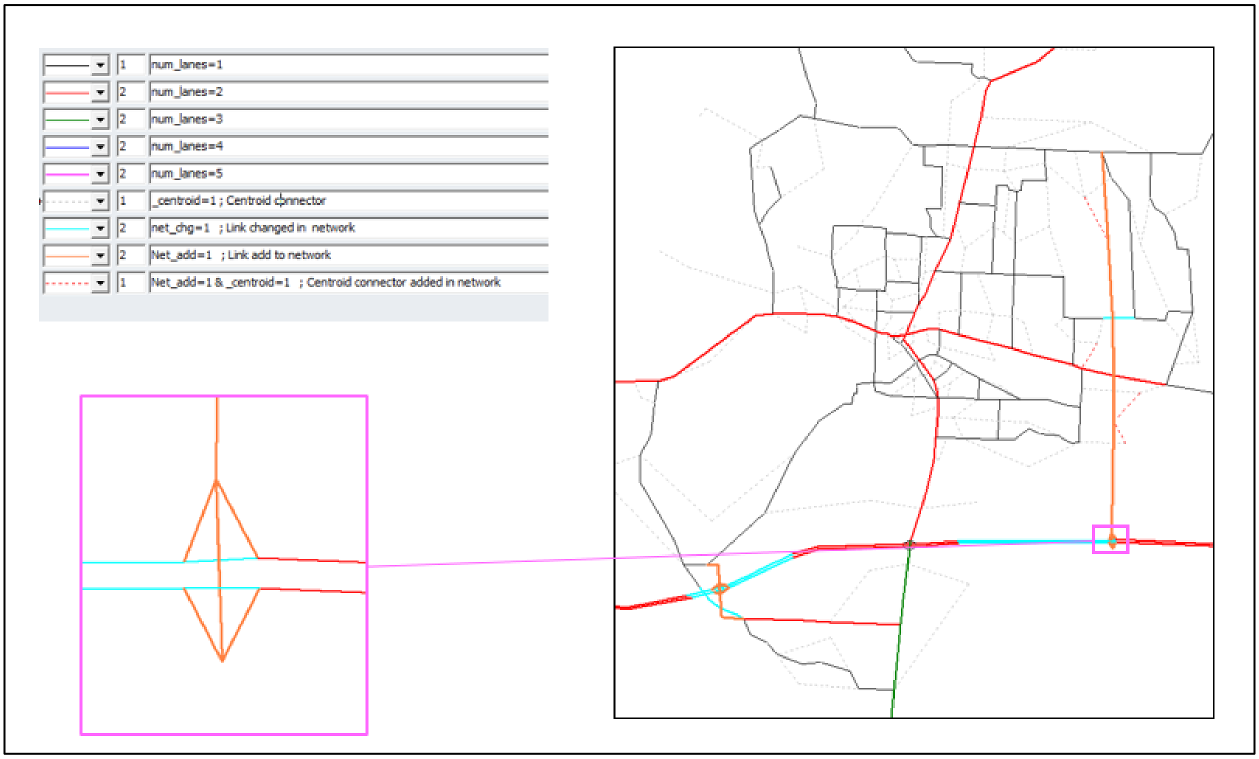


Figure 4-7 Build Alternative 3



4.5 TRAFFIC ANALYSIS

The following travel demand model scenarios were developed using NWFRPM V2.1:

- Base Year 2010 Scenario
- Year 2030 No-Build and Build Scenarios
- Year 2040 No-Build and Build Scenarios
- Year 2050 No-Build and Build Scenarios

For conceptual level traffic analysis, travel demand model Annual Average Daily Traffic (AADT) for each alternative was used for analysis.

4.5.1 Year 2010 and Year 2030 AADT

Table 4-3 lists and compares the year 2010 and year 2030 AADTs along the major roadway segments for different alternatives.

For 2030 No-Build Alternative, the traffic on I-10 increased by 2% at west of SR 85 and by 7% at east of SR 85 compared with the 2010 alternative. The traffic on SR 85 increased by 14% at south of Antioch Rd, by 16% at south of I-10 and by 20% at north of US 90. The traffic on US 90 increased by 32% at west of SR 85 and by 65% at east of SR 85.

For 2030 Build alternative 1A, the traffic on I-10 increased by 14% at west of SR 85 and 42% at east of SR 85 compared to the No-Build alternative. The traffic on SR 85 increased by 13% at south of Antioch Rd but decreased by 10% at south of I-10 and 19% at north of US 90. The traffic on US 90 increased by 13% at west of SR 85 but decreased by 11% at east of SR 85.

For 2030 Build alternative 1B, the traffic on I-10 increased by 12% at west of SR 85 and 7% at east of SR 85 compared to the No-Build alternative. The traffic on SR 85 increased by 13% at south of Antioch Rd but decreased by 15% at south of I-10 and 16% at north of US 90. The traffic on US 90 increased by 12% at west of SR 85 and by 4% at east of SR 85.

For 2030 Build alternative 2, the traffic on I-10 increased by 12% at west of SR 85 but decreased by 7% at east of SR 85 compared to the No-Build alternative. The traffic on SR 85 increased by 4% at south of Antioch Rd and 7% at south of I-10 but decreased by 11% at north of US 90. The traffic on US 90 increased by 8% at west of SR 85 but decreased by 5% at east of SR 85.

For 2030 Build alternative 3, the traffic on I-10 increased by 13% at west of SR 85 and 94% at east of SR 85 compared to the No-Build alternative. The traffic on SR 85 increased by 4% at south of Antioch Rd and 7% at south of I-10 but decreased by 12% at north of US 90. The traffic on US 90 increased by 10% at west of SR 85 but decreased by 5% at east of SR 85.

Table 4-3 Year 2010 and 2030 AADT

Roadway	Location	2010 Model AADT	2030 No-Build AADT	2030 Build Alt 1A AADT	2030 Build Alt 1B AADT	2030 Build Alt 2 AADT	2030 Build Alt 3 AADT
I-10	Mainline West of SR 85	15,492	15,800	17,934	17,636	17,749	17,837
	EB Off-ramp to SR 85	3,188	3,009	3,424	4,015	4,087	3,094
	WB On-ramp from SR 85	3,151	2,956	3,364	3,983	4,040	3,319
	EB On-ramp from SR 85	2,532	2,922	5,091	3,249	2,156	8,832
	WB Off-ramp to SR 85	2,316	2,276	5,126	3,191	2,194	8,963
	Mainline East of SR 85	14,001	15,032	21,363	16,078	13,974	29,219
SR 85	South of Antioch Rd	29,995	34,092	38,377	38,596	35,538	35,290
	South of I-10	45,414	52,876	47,719	44,682	56,487	56,485
	South of Duggan Ave	40,024	43,828	37,014	39,072	38,514	37,771
	North of Cobb Ave	28,643	29,735	25,604	27,017	26,570	26,721
	South of US 90	25,543	26,054	24,159	23,752	25,012	25,037
	North of US 90	28,022	33,757	27,429	28,340	29,916	29,729
	North of Long Dr	25,571	31,350	24,463	25,462	27,086	26,853
	North of 3rd Ave	25,953	33,309	26,138	26,694	29,108	28,788
US 90	West of SR 4 (Baker Hwy)	2,474	5,421	3,804	3,948	3,878	3,850
	2 Mile West of SR 85	9,755	17,359	13,367	13,619	14,603	14,533
	West of Lindberg St	16,020	21,753	22,946	22,965	21,813	21,880
	West of Main St (East of Lloyd St)	18,635	24,043	25,633	25,340	25,109	25,273
	350 Ft West of SR 85 (Ferdon Blvd)	12,379	16,389	18,522	18,373	17,698	17,997
	375 Ft East of SR 85 (West of McCaskill)	5,913	9,727	8,641	10,161	9,228	9,236
	West of Valley Rd	11,207	14,882	10,657	14,882	11,073	11,522
	East of Fairchild Rd	5,426	10,095	11,180	13,083	13,183	10,450
PJ Adams Pkwy	850 Ft West of SR 85	2,032	8,162	8,003	8,120	6,595	6,700
Antioch Rd	300 Ft West of SR 85	12,580	11,508	12,320	12,543	12,127	12,001
	South of US 90	7,062	13,292	11,538	11,648	12,605	12,550
New Corridor	Segment South of I-10	NA	NA	14,507	17,476	15,253	NA
	NB Off-Ramp to I-10 EB	NA	NA	3,341	NA	NA	2,184
	SB On-Ramp from I-10 EB	NA	NA	4,210	NA	NA	8,025
	NB On-Ramp from I-10 WB	NA	NA	3,246	NA	NA	2,149
	SB Off-Ramp to I-10 WB	NA	NA	4,278	NA	NA	7,839
	Segment from I-10 to US 90	NA	NA	24,060	17,476	15,253	20,197
	Segment from US 90 to Airport Rd	NA	NA	11,863	11,268	9,212	10,040
	Airport Road East of SR 85	6,996	9,591	10,842	12,289	8,459	9,005

4.5.2 Year 2010 and Year 2040 AADT

Table 4-4 lists and compares the year 2010 and year 2040 AADTs along the major roadway segments for different alternatives.

For 2040 No-Build Alternative, the traffic on I-10 increased by 49% at west of SR 85 and by 48% at east of SR 85 compared with the 2010 alternative. The traffic on SR 85 increased by 43% at south of Antioch Rd, by 43% at south of I-10 and by 23% at north of US 90. The traffic on US 90 increased by 20% at west of SR 85 and by 132% at east of SR 85.

For 2040 Build alternative 1A, the traffic on I-10 decreased by 5% at west of SR 85 but increased by 34% at east of SR 85 compared with the No-Build alternative. The traffic on SR 85 increased by 4% at south of Antioch Rd but decreased by 9% at south of I-10 and by 12% at north of US 90. The traffic on US 90 increased by 36% at west of SR 85 but decreased by 30% at east of SR 85.

For 2040 Build alternative 1B, the traffic on I-10 decreased by 10% at west of SR 85 and by 11% at east of SR 85 compared with the No-Build alternative. The traffic on SR 85 increased by 5% at south of Antioch Rd but decreased by 18% at south of I-10 and by 10% at north of US 90. The traffic on US 90 increased by 34% at west of SR 85 but decreased by 20% at east of SR 85.

For 2040 Build alternative 2, the traffic on I-10 decreased by 17% at west of SR 85 and by 11% at east of SR 85 compared with the No-Build alternative. The traffic on SR 85 increased by 4% at south of Antioch Rd and by 5% at south of I-10 but decreased by 12% at north of US 90. The traffic on US 90 increased by 31% at west of SR 85 but decreased by 30% at east of SR 85.

For 2040 Build alternative 3, the traffic on I-10 decreased by 16% at west of SR 85 but increased by 62% at east of SR 85 compared with the No-Build alternative. The traffic on SR 85 decreased by 1% at south of Antioch Rd, increased by 2% at south of I-10 and decreased by 8% at north of US 90. The traffic on US 90 increased by 26% at west of SR 85 but decreased by 23% at east of SR 85.

Table 4-4 Year 2010 and 2040 AADT

Roadway	Location	2010 Model AADT	2040 No-Build AADT	2040 Build Alt 1A AADT	2040 Build Alt 1B AADT	2040 Build Alt 2 AADT	2040 Build Alt 3 AADT
I-10	Mainline West of SR 85	15,492	23,108	22,003	20,912	19,151	19,450
	EB Off-ramp to SR 85	3,188	6,300	4,688	4,980	4,313	3,113
	WB On-ramp from SR 85	3,151	5,877	4,691	4,935	3,853	3,842
	EB On-ramp from SR 85	2,532	4,993	7,509	3,819	3,780	10,525
	WB Off-ramp to SR 85	2,316	4,790	7,573	3,706	3,651	10,542
	Mainline East of SR 85	14,001	20,714	27,704	18,521	18,417	33,562
SR 85	South of Antioch Rd	29,995	42,877	44,772	45,192	44,653	42,523
	South of I-10	45,414	64,985	59,268	53,095	68,519	66,338
	South of Duggan Ave	40,024	46,314	39,345	40,858	40,077	41,610
	North of Cobb Ave	28,643	30,529	27,000	27,569	27,270	28,774
	South of US 90	25,543	30,258	25,919	25,135	26,388	26,593
	North of US 90	28,022	34,331	30,057	30,976	30,162	31,425
	North of Long Dr	25,571	32,293	26,988	28,030	27,109	28,745
	North of 3rd Ave	25,953	35,716	29,954	29,979	30,635	32,439
US 90	West of SR 4 (Baker Hwy)	2,474	4,007	4,091	4,204	4,024	3,975
	2 Mile West of SR 85	9,755	18,088	14,676	14,325	14,412	16,459
	West of Lindberg St	16,020	22,176	26,133	25,777	25,394	24,720
	West of Main St (East of Lloyd St)	18,635	22,492	29,185	28,684	28,355	27,058
	350 Ft West of SR 85 (Ferdon Blvd)	12,379	14,910	20,254	20,005	19,600	18,768
	375 Ft East of SR 85 (West of McCaskill)	5,913	13,709	9,654	10,975	9,624	10,612
	West of Valley Rd	11,207	16,794	12,387	15,995	12,118	13,672
	East of Fairchild Rd	5,426	11,804	12,679	14,687	15,306	12,214
PJ Adams Pkwy	850 Ft West of SR 85	2,032	9,945	7,211	6,975	10,296	10,058
Antioch Rd	300 Ft West of SR 85	12,580	9,791	11,575	12,723	10,847	10,764
	South of US 90	7,062	15,542	13,107	13,562	13,740	13,899
New Corridor	Segment South of I-10	NA	NA	13,606	21,219	22,240	NA
	NB Off-Ramp to I-10 EB	NA	NA	2,766	NA	NA	2,881
	SB On-Ramp from I-10 EB	NA	NA	5,391	NA	NA	8,834
	NB On-Ramp from I-10 WB	NA	NA	2,737	NA	NA	2,826
	SB Off-Ramp to I-10 WB	NA	NA	5,445	NA	NA	9,432
	Segment from I-10 to US 90	NA	NA	29,100	21,219	22,240	23,972
	Segment from US 90 to Airport Rd	NA	NA	14,347	14,113	13,253	12,403
	Airport Road East of SR 85	6,996	10,927	12,465	12,926	12,266	10,031

4.5.3 Year 2010 and Year 2050 AADT

Table 4-5 lists and compares the year 2010 and 2050 AADTs along the major roadway segments for different alternatives.

For 2050 No-Build Alternative, the traffic on I-10 increased by 74% at west of SR 85 and by 69% at east of SR 85 compared with the 2010 alternative. The traffic on SR 85 increased by 66% at south of Antioch Rd, by 50% at south of I-10 and by 23% at north of US 90. The traffic on US 90 increased by 48% at west of SR 85 and by 170% at east of SR 85.

For 2050 Build alternative 1A, the traffic on I-10 decreased by 1% at west of SR 85 but increased by 32% at east of SR 85 compared with the No-Build alternative. The traffic on SR 85 increased by 2% at south of Antioch Rd but decreased by 7% at south of I-10 and by 5% at north of US 90. The traffic on US 90 increased by 4% at west of SR 85 but decreased by 34% at east of SR 85.

For 2050 Build alternative 1B, the traffic on I-10 decreased by 0.4% at west of SR 85 and by 4% at east of SR 85 compared with the No-Build alternative. The traffic on SR 85 increased by 4% at south of Antioch Rd but decreased by 13% at south of I-10 and by 4% north of US 90. The traffic on US 90 increased by 4% at west of SR 85 but decreased by 29% at east of SR 85.

For 2050 Build alternative 2, the traffic on I-10 decreased by 13% at west of SR 85 and by 6% at east of SR 85 compared with the No-Build alternative. The traffic on SR 85 increased by 2% at south of Antioch Rd, by 7% at south of I-10 but decreased by 5% at north of US 90. The traffic on US 90 increased by 2% at west of SR 85 but decreased by 38% at east of SR 85.

For 2050 Build alternative 3, the traffic on I-10 decreased by 18% at west of SR 85 but increased by 53% at east of SR 85 compared with the No-Build alternative. The traffic on SR 85 decreased by 3% at south of Antioch Rd, increased by 3% at south of I-10, and decreased by 1% at north of US 90. The traffic on US 90 increased by 3% at west of SR 85 but decreased by 21% at east of SR 85.

Table 4-5 Year 2010 and 2050 AADT

Roadway	Location	2010 Model AADT	2050 No-Build AADT	2050 Build Alt 1A AADT	2050 Build Alt 1B AADT	2050 Build Alt 2 AADT	2050 Build Alt 3 AADT
I-10	Mainline West of SR 85	15,492	26,991	26,806	26,884	23,365	22,055
	EB Off-ramp to SR 85	3,188	7,367	6,249	7,204	5,043	3,498
	WB On-ramp from SR 85	3,151	7,014	6,224	6,807	4,985	4,921
	EB On-ramp from SR 85	2,532	5,583	8,241	4,899	4,499	11,175
	WB Off-ramp to SR 85	2,316	5,435	8,528	4,907	4,449	11,255
	Mainline East of SR 85	14,001	23,628	31,103	22,680	22,287	36,067
SR 85	South of Antioch Rd	29,995	49,923	51,139	51,909	50,861	48,658
	South of I-10	45,414	68,017	63,583	58,837	72,770	69,788
	South of Duggan Ave	40,024	45,411	39,453	40,714	40,014	42,555
	North of Cobb Ave	28,643	29,827	27,084	27,087	26,714	29,175
	South of US 90	25,543	29,082	25,581	24,808	25,031	25,664
	North of US 90	28,022	34,587	32,909	33,063	32,757	34,254
	North of Long Dr	25,571	32,435	30,020	30,257	29,875	31,086
	North of 3rd Ave	25,953	35,631	33,683	33,077	33,958	34,722
US 90	West of SR 4 (Baker Hwy)	2,474	4,670	4,433	4,476	4,389	4,440
	2 Mile West of SR 85	9,755	16,139	16,036	16,107	15,903	16,626
	West of Lindberg St	16,020	26,624	24,585	24,153	24,656	27,191
	West of Main St (East of Lloyd St)	18,635	26,421	26,999	26,386	26,017	26,231
	350 Ft West of SR 85 (Ferdon Blvd)	12,379	18,275	19,082	18,938	18,609	18,759
	375 Ft East of SR 85 (West of McCaskill)	5,913	15,993	10,600	11,314	9,978	12,666
	West of Valley Rd	11,207	18,853	13,956	16,681	13,095	17,027
	East of Fairchild Rd	5,426	13,957	14,025	16,341	16,738	13,462
PJ Adams Pkwy	850 Ft West of SR 85	2,032	16,543	10,273	8,362	13,605	14,054
Antioch Rd	300 Ft West of SR 85	12,580	11,633	11,460	13,007	11,448	11,442
	South of US 90	7,062	13,474	13,194	13,265	13,323	12,729
New Corridor	Segment South of I-10	NA	NA	15,227	23,206	24,286	NA
	NB Off-Ramp to I-10 EB	NA	NA	3,632	NA	NA	3,583
	SB On-Ramp from I-10 EB	NA	NA	5,821	NA	NA	8,902
	NB On-Ramp from I-10 WB	NA	NA	3,731	NA	NA	3,593
	SB Off-Ramp to I-10 WB	NA	NA	6,143	NA	NA	9,654
	Segment from I-10 to US 90	NA	NA	32,028	23,206	24,286	25,733
	Segment from US 90 to Airport Rd	NA	NA	16,506	16,303	15,770	14,607
	Airport Road East of SR 85	6,996	12,271	13,032	13,637	12,978	11,352

4.5.4 Level of Service (LOS) Analysis

Future year conceptual level traffic analysis was based on Table 4-11, which is FDOT's generalized Level of Service (LOS) volume table for Florida's transitioning areas. Table 4-6 through 4-10 show the level of service analysis for each alternative based on AADTs present in table 4-3 through 4-5. For each segment, the post speed data was obtained from Google Street view to help determine the level of service threshold that the segment should refer to. The interim year LOS was determined by interpolating the AADTs to interim year and then applying the LOS table threshold accordingly.

For Build alternative 1A, the LOS on I-10 in the study area remained level B from 2030 to 2050, which is the same as the No-Build alternative. The LOS on SR 85 north of US 90 was improved from F to D and E from year 2030 to year 2045 compared to No-Build. The LOS on SR 85 north of Long Dr and north of 3rd Ave was also improved from the No-Build scenario. The LOS on US 90 east of SR 85 was improved from D to C from year 2031 to year 2042. The new corridors will generally remain level of service C or D. New corridor segment south of I-10 will reach LOS F from year 2044 to year 2050. Segment from US 90 to Airport Road will reach LOS F from year 2042 to year 2050.

For Build alternative 1B, the LOS on I-10 in the study area remained level B from 2030 to 2050, which is the same as the No-Build alternative. The LOS on SR 85 north of US 90 was improved from F to D and E from year 2030 to year 2043 compared to No-Build. The LOS on SR 85 north of Long Dr and north of 3rd Ave was also improved from the No-Build scenario. The LOS on US 90 east of Fairchild Rd changed from C to D from year 2039 to year 2049, and to LOS F in year 2050. The new corridors will generally remain level of service C or D. New corridor segment from US 90 to Airport Road will reach LOS F from year 2043 to year 2050.

For Build alternative 2, the LOS on I-10 in the study area remained level B from 2030 to 2050, which is the same as the No-Build alternative. The LOS on SR 85 north of US 90 was improved from F to E from year 2030 to year 2044 compared to No-Build. The LOS on SR 85 north of Long Dr and north of 3rd Ave was also improved from the No-Build scenario. The LOS on US 90 east of SR 85 was improved from D to C from year 2031 to year 2047, while the LOS on US 90 east of Fairchild Rd changed from C to D from year 2037 to year 2046, and to LOS F in year 2047 to year 2050. The new corridors will generally remain level of service C or D. New corridor segment from US 90 to Airport Road will reach LOS F from year 2046 to year 2050.

For Build alternative 3, the LOS on I-10 in the study area remained level B from 2030 to 2050, which is the same as the No-Build alternative. The LOS on SR 85 north of US 90 was improved from F to E from year 2030 to year 2040 compared to No-Build. The LOS on SR 85 north of Long Dr and north of 3rd Ave was also improved from the No-Build scenario. The LOS on US 90 east of SR 85 was improved from D to C from year 2031 to year 2034. The new corridors will generally remain level of service C or D. New corridor segment from US 90 to Airport Road will reach LOS F in year 2050.

Table 4-6 Year 2030 – 2050 No-Build Alternative Level of Service Analysis

Roadway	Location	2030 No-Build	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040 No-Build	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050 No-Build
I-10	Mainline West of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Mainline East of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
SR 85	South of Antioch Rd	D	D	F	F	F	F	F	F	F	F	C	C	C	C	C	C	C	C	C	C	C
	South of I-10	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	South of Duggan Ave	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Cobb Ave	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
	South of US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	North of US 90	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Long Dr	E	E	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of 3rd Ave	C	C	C	D	D	D	D	D	D	D	F	D	D	D	D	D	F	F	F	F	F
US 90	West of SR 4 (Baker Hwy)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2 Mile West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Lindberg St	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Main St (East of Lloyd St)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	350 Ft West of SR 85 (Ferdon Blvd)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	375 Ft East of SR 85 (West of McCaskill)	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	West of Valley Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	East of Fairchild Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
PJ Adams Pkwy	850 Ft West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Antioch Rd	300 Ft West of SR 85	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	South of US 90	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
New Corridor	Segment South of I-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Segment from I-10 to US 90	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Segment from US 90 to Airport Rd	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Airport Road East of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

Table 4-7 Year 2030 – 2050 Build Alternative 1A Level of Service Analysis

Roadway	Location	2030 Alt 1A	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040 Alt 1A	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050 Alt 1A
I-10	Mainline West of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Mainline East of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
SR 85	South of Antioch Rd	F	F	F	F	F	F	F	F	F	F	C	C	C	C	C	C	C	C	C	C	C
	South of I-10	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	South of Duggan Ave	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Cobb Ave	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	South of US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	North of US 90	D	D	D	D	D	D	E	E	E	E	E	E	E	E	E	E	F	F	F	F	F
	North of Long Dr	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E
	North of 3rd Ave	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
US 90	West of SR 4 (Baker Hwy)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2 Mile West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Lindberg St	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Main St (East of Lloyd St)	D	D	D	D	D	D	D	D	D	D	E	D	D	D	D	D	D	D	D	D	D
	350 Ft West of SR 85 (Ferdon Blvd)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	375 Ft East of SR 85 (West of McCaskill)	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D
	West of Valley Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	East of Fairchild Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
PJ Adams Pkwy	850 Ft West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Antioch Rd	300 Ft West of SR 85	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	South of US 90	D	D	D	E	E	E	E	E	E	E	F	E	E	F	F	F	F	F	F	F	F
New Corridor	Segment South of I-10	D	D	D	D	D	D	D	D	D	D	D	D	D	D	F	F	F	F	F	F	F
	Segment from I-10 to US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Segment from US 90 to Airport Rd	C	C	C	C	C	D	D	D	D	D	D	D	F	F	F	F	F	F	F	F	F
	Airport Road East of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D

Table 4-8 Year 2030 – 2050 Build Alternative 1B Level of Service Analysis

Roadway	Location	2030 Alt 1B	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040 Alt 1B	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050 Alt 1B
I-10	Mainline West of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Mainline East of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
SR 85	South of Antioch Rd	F	F	F	F	F	F	F	F	F	F	C	C	C	C	C	C	C	C	C	C	C
	South of I-10	F	F	F	F	F	F	F	F	F	F	D	D	F	F	F	F	F	F	F	F	F
	South of Duggan Ave	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Cobb Ave	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	South of US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	North of US 90	D	D	E	E	E	E	E	E	E	E	E	E	E	E	F	F	F	F	F	F	F
	North of Long Dr	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
	North of 3rd Ave	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
US 90	West of SR 4 (Baker Hwy)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2 Mile West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Lindberg St	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Main St (East of Lloyd St)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	350 Ft West of SR 85 (Ferdon Blvd)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	375 Ft East of SR 85 (West of McCaskill)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	West of Valley Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	East of Fairchild Rd	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	F
PJ Adams Pkwy	850 Ft West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Antioch Rd	300 Ft West of SR 85	E	E	E	E	E	E	E	E	E	E	E	F	F	F	F	F	F	F	F	F	F
	South of US 90	D	E	E	E	E	E	E	E	E	E	F	F	F	F	F	F	F	F	F	F	F
New Corridor	Segment South of I-10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Segment from I-10 to US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Segment from US 90 to Airport Rd	C	C	C	C	C	C	C	D	D	D	D	D	D	F	F	F	F	F	F	F	F
	Airport Road East of SR 85	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D

Table 4-9 Year 2030 – 2050 Build Alternative 2 Level of Service Analysis

Roadway	Location	2030 Alt 2	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040 Alt 2	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050 Alt 2
I-10	Mainline West of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Mainline East of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
SR 85	South of Antioch Rd	F	F	F	F	F	F	F	F	F	F	C	C	C	C	C	C	C	C	C	C	C
	South of I-10	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	South of Duggan Ave	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Cobb Ave	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	South of US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	North of US 90	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	F	F	F	F	F	F
	North of Long Dr	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E
	North of 3rd Ave	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
US 90	West of SR 4 (Baker Hwy)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2 Mile West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Lindberg St	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Main St (East of Lloyd St)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	350 Ft West of SR 85 (Ferdon Blvd)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	375 Ft East of SR 85 (West of McCaskill)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D
	West of Valley Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	East of Fairchild Rd	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	F	F	F	F
PJ Adams Pkwy	850 Ft West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Antioch Rd	300 Ft West of SR 85	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	South of US 90	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
New Corridor	Segment South of I-10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Segment from I-10 to US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Segment from US 90 to Airport Rd	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	F	F	F	F	F
	Airport Road East of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D

Table 4-10 Year 2030 – 2050 Build Alternative 3 Level of Service Analysis

Roadway	Location	2030 Alt 3	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040 Alt 3	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050 Alt3
I-10	Mainline West of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Mainline East of SR 85	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
SR 85	South of Antioch Rd	D	F	F	F	F	F	F	F	F	F	C	C	C	C	C	C	C	C	C	C	C
	South of I-10	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	South of Duggan Ave	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	North of Cobb Ave	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
	South of US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	North of US 90	E	E	E	E	E	E	E	E	E	E	E	F	F	F	F	F	F	F	F	F	F
	North of Long Dr	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	E	E	E
	North of 3rd Ave	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D
US 90	West of SR 4 (Baker Hwy)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2 Mile West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Lindberg St	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	West of Main St (East of Lloyd St)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	350 Ft West of SR 85 (Ferdon Blvd)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	375 Ft East of SR 85 (West of McCaskill)	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	West of Valley Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	East of Fairchild Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
PJ Adams Pkwy	850 Ft West of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Antioch Rd	300 Ft West of SR 85	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	South of US 90	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	E
New Corridor	Segment South of I-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Segment from I-10 to US 90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Segment from US 90 to Airport Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	F
	Airport Road East of SR 85	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

Table 4-11 FDOT Generalized LOS Table for Transitioning Area

TABLE 2

Generalized **Annual Average Daily** Volumes for Florida's **Transitioning Areas** and **Areas Over 5,000 Not In Urbanized Areas**[1]

12/18/12

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Class I (40 mph or higher posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	14,400	16,200	**
4	Divided	*	34,000	35,500	**
6	Divided	*	52,100	53,500	**

Class II (35 mph or slower posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	6,500	13,300	14,200
4	Divided	*	9,900	28,800	31,600
6	Divided	*	16,000	44,900	47,600

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
2	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment

Multiply the corresponding two-directional volumes in this table by 0.6

BICYCLE MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	2,600	6,100	19,500
50-84%	1,900	5,500	18,400	>19,500
85-100%	7,500	19,500	>19,500	**

PEDESTRIAN MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	2,800	9,400
50-84%	*	1,600	8,600	15,600
85-100%	3,800	10,500	17,100	>19,500

BUS MODE (Scheduled Fixed Route)[3]

(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	> 5	≥ 4	≥ 3	≥ 2
85-100%	> 4	≥ 3	≥ 2	≥ 1

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Lanes	B	C	D	E
4	44,100	57,600	68,900	71,700
6	65,100	85,600	102,200	111,000
8	85,100	113,700	135,200	150,000
10	106,200	141,700	168,800	189,000

Freeway Adjustments

Auxiliary Lanes Present in Both Directions	Ramp Metering
+ 20,000	+ 5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
2	Undivided	9,200	17,300	24,400	33,300
4	Divided	35,300	49,600	62,900	69,600
6	Divided	52,800	74,500	94,300	104,500

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1]Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

[3] Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* Cannot be achieved using table input value defaults.

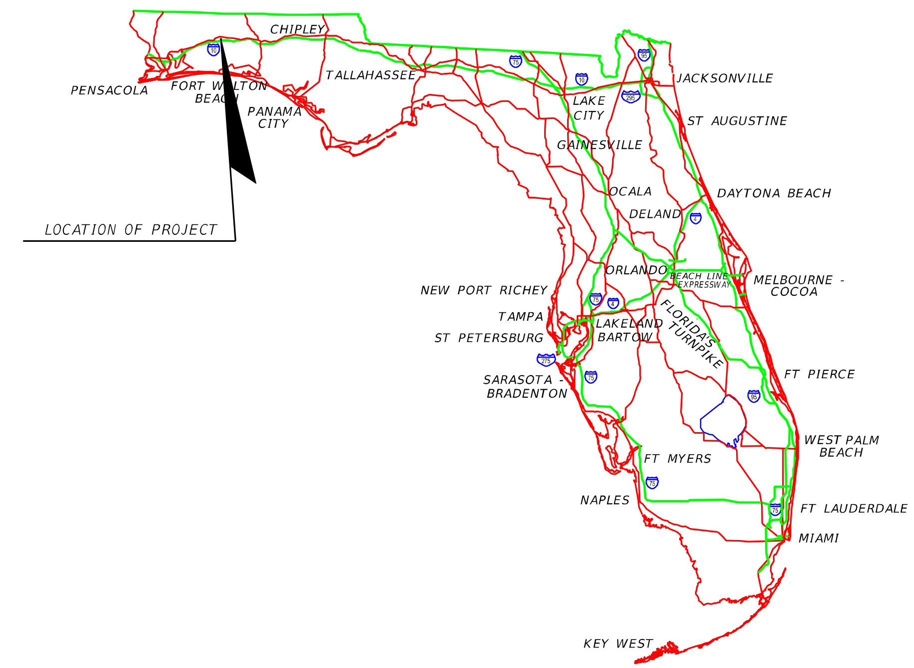
** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Planning Office
www.dot.state.fl.us/planning/systems/sm/los/default.shtm

Appendix D: Concept Plans

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PRELIMINARY CONCEPT PLANS

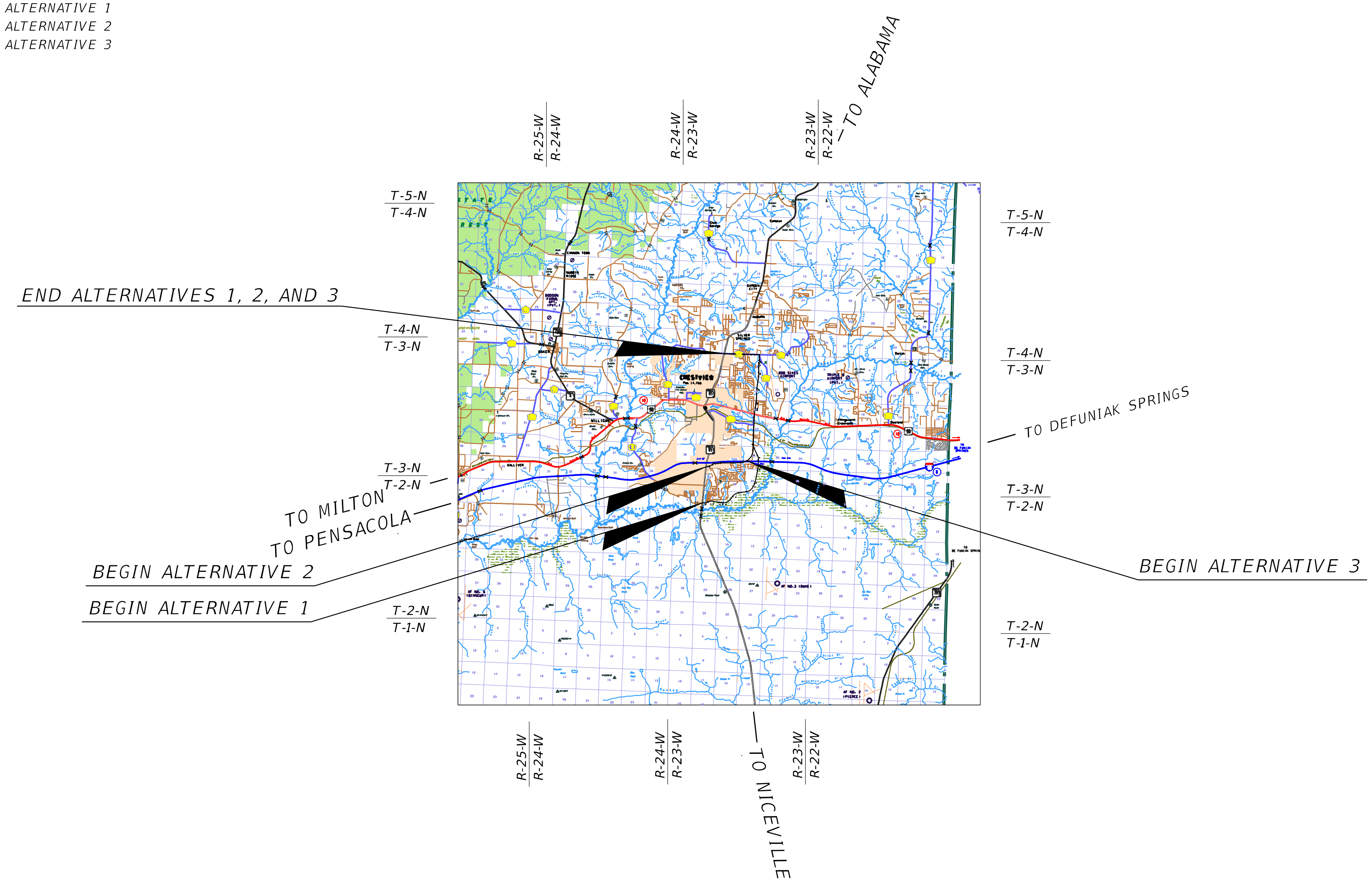


INDEX OF CONCEPT PLANS

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2-3	TYPICAL SECTION
4	PROJECT LAYOUT
5-24	ALTERNATIVE 1
25-41	ALTERNATIVE 2
42-54	ALTERNATIVE 3

OKALOOSA COUNTY (57000)

SR 85 EASTERN CRESTVIEW BYPASS



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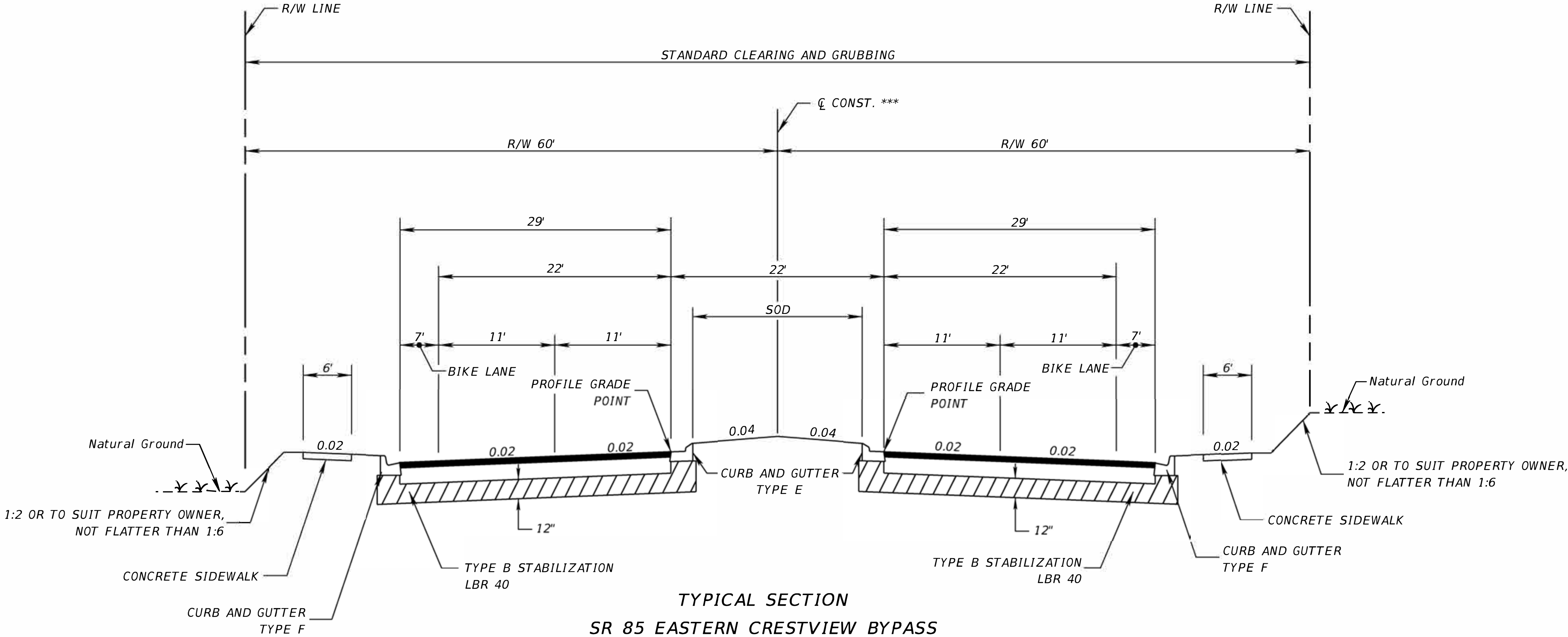
CONCEPT PLANS - NOT FOR CONSTRUCTION



TYPICAL SECTION
SR 85 EASTERN CRESTVIEW BYPASS
NEW ALIGNMENT
ALTERNATIVES 1, 2, AND 3

CONCEPT PLANS
NOT FOR CONSTRUCTION

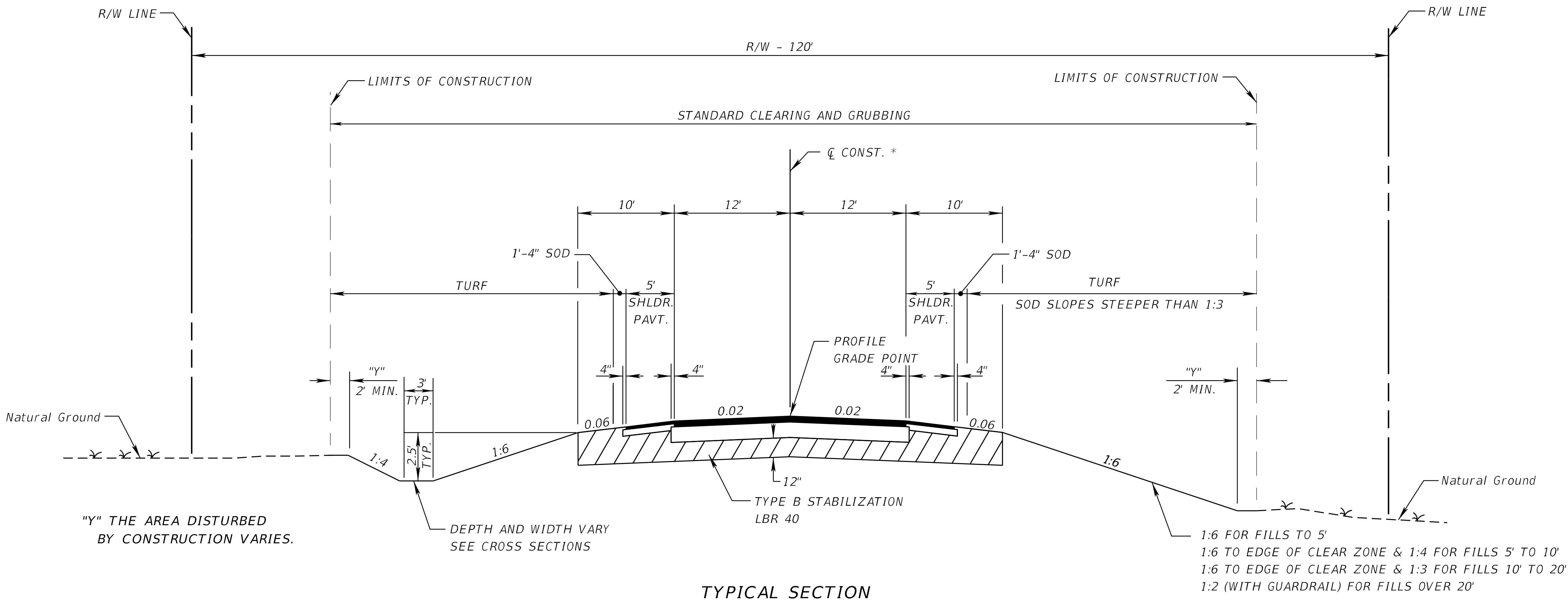
METRIC ENGINEERING, INC.
P.O. Box 1008
CHIPLEY, FLORIDA 32428
CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

TYPICAL SECTION

SHEET NO.
2



TYPICAL SECTION
SR 85 EASTERN CRESTVIEW BYPASS
C.R. 188/Airport Road
ALTERNATIVES 1, 2, AND 3

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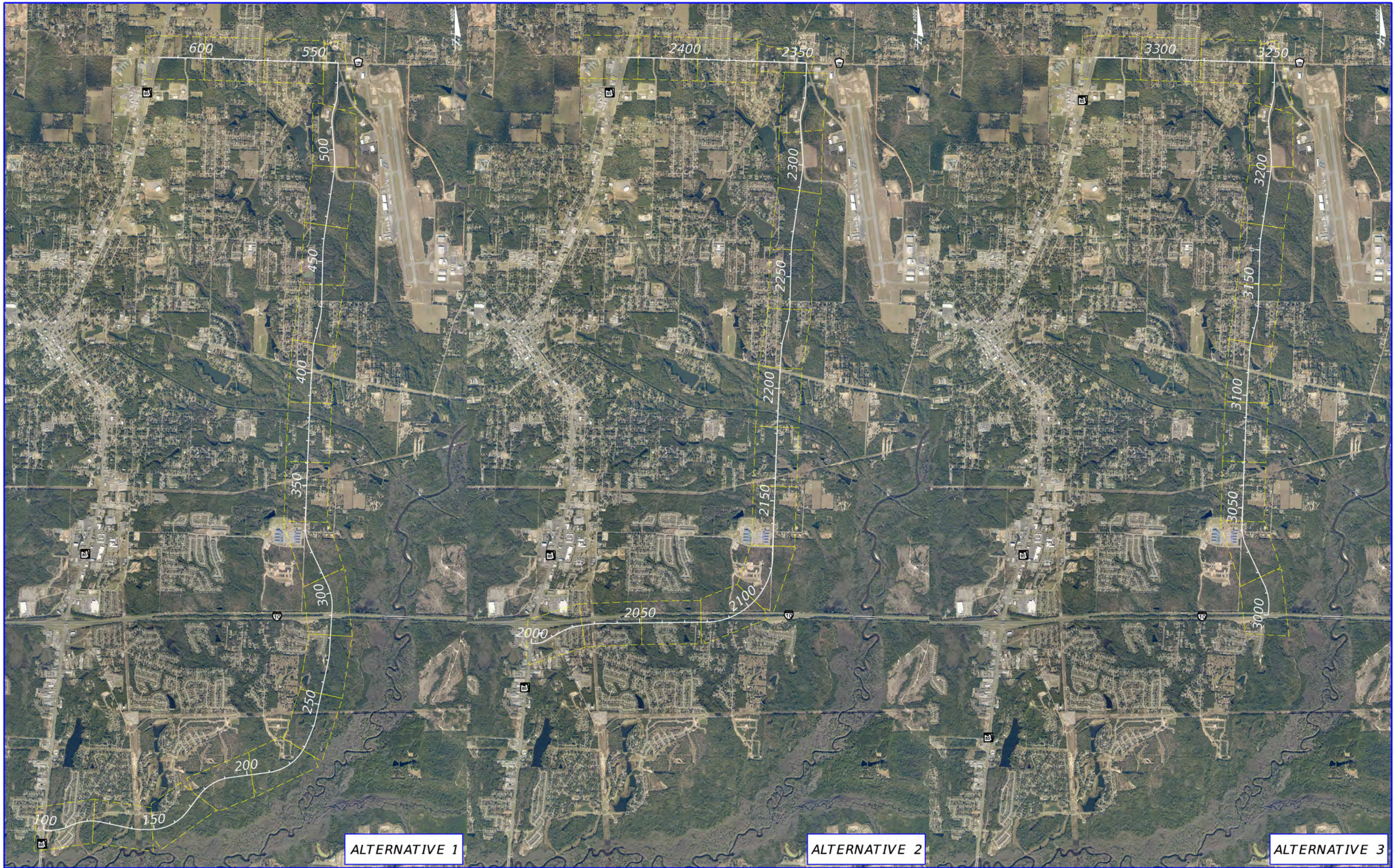
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

TYPICAL SECTION



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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

PROJECT LAYOUT

SHEET NO.
4

CURVE DATA C1

PI STA.	= 106+26.02
Δ	= 29° 33' 42" (LT)
D	= 2° 45' 02"
T	= 549.61
L	= 1,074.72
R	= 2,083.00
PC STA.	= 100+76.41
PT STA.	= 111+51.14

CURVE DATA C2

PI STA.	= 119+54.96
Δ	= 36° 01' 22" (RT)
D	= 2° 45' 02"
T	= 677.27
L	= 1,309.62
R	= 2,083.00
PC STA.	= 112+77.70
PT STA.	= 125+87.31

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 1

SHEET NO.
5

CURVE DATA C2

PI STA.	= 119+54.96
Δ	= 36° 01' 22" (RT)
D	= 2° 45' 02"
T	= 677.27
L	= 1,309.62
R	= 2,083.00
PC STA.	= 112+77.70
PT STA.	= 125+87.31

CURVE DATA C3

PI STA.	= 141+73.12
Δ	= 10° 44' 34" (LT)
D	= 2° 45' 02"
T	= 195.85
L	= 390.55
R	= 2,083.00
PC STA.	= 139+77.27
PT STA.	= 143+67.82

CURVE DATA C4

PI STA.	= 158+48.65
Δ	= 54° 09' 52" (LT)
D	= 2° 45' 02"
T	= 1,065.11
L	= 1,969.16
R	= 2,083.00
PC STA.	= 147+83.54
PT STA.	= 167+52.69

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 1

SHEET NO. 6

CONCEPT PLANS
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 1

SHEET NO.
7

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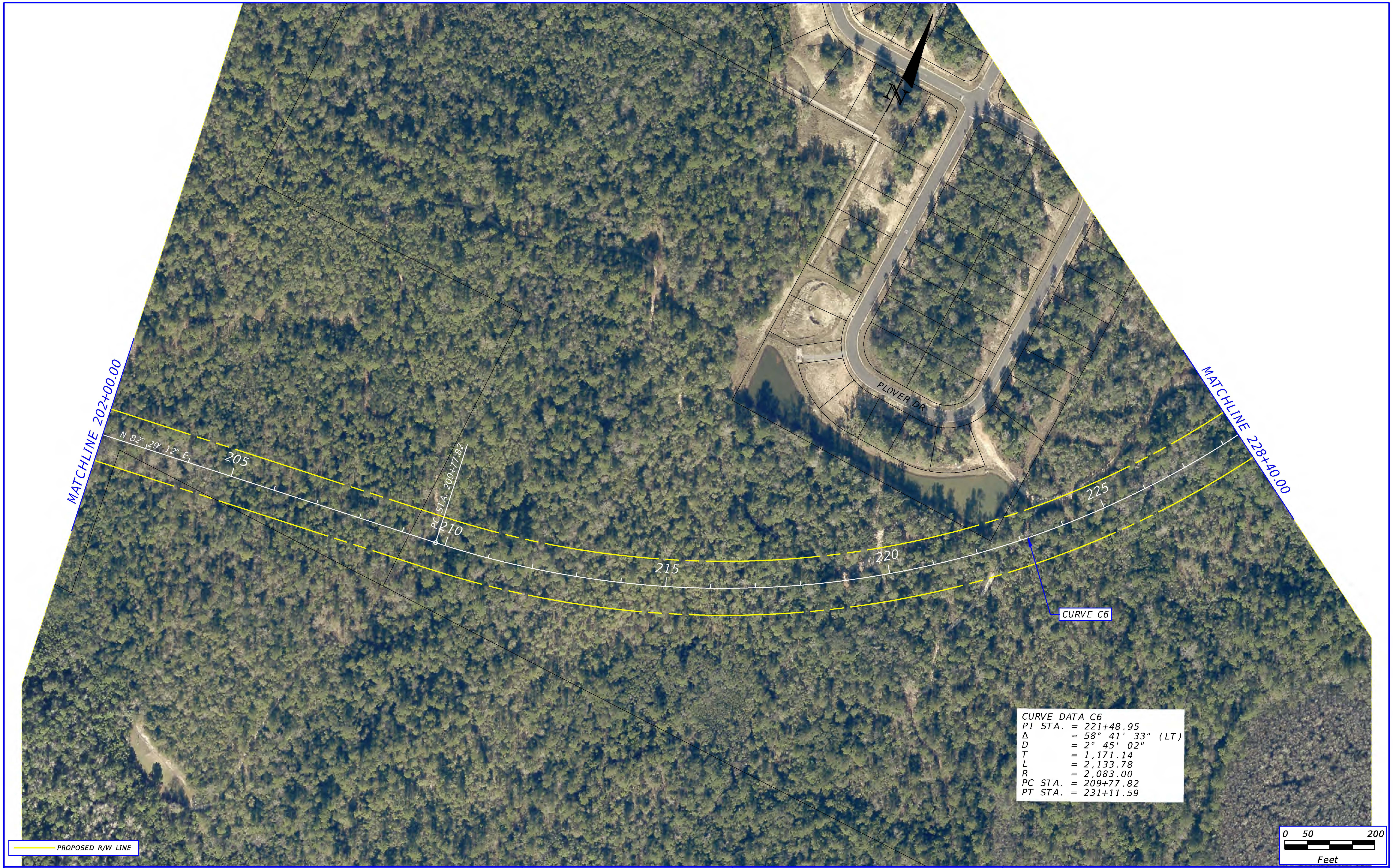
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 1

SHEET NO. 8



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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 1

SHEET NO.
9

CONCEPT PLANS
NOT FOR CONSTRUCTION

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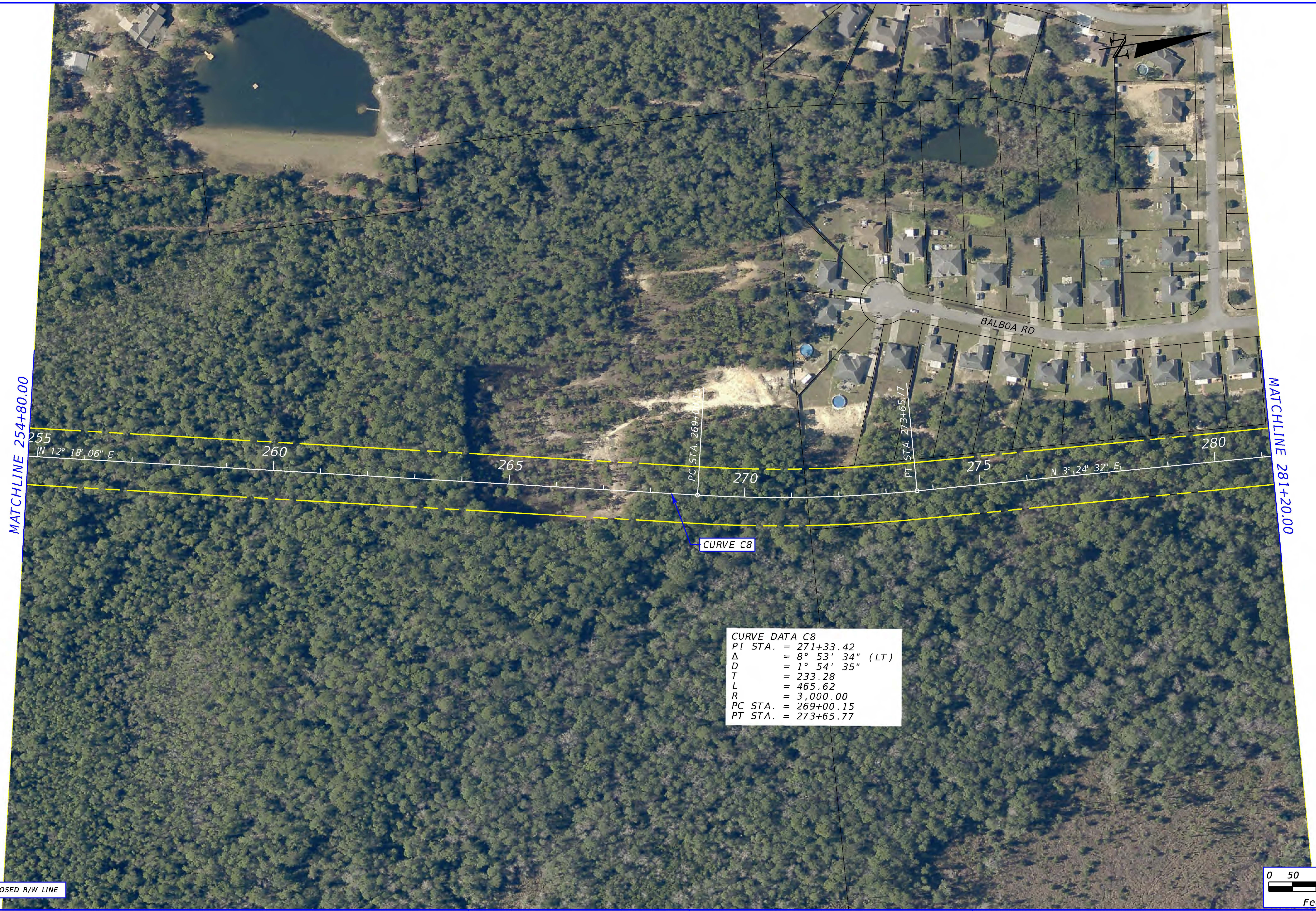
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 1

SHEET NO.
10



CONCEPT PLANS
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 1

SHEET NO.
11

CONCEPT PLANS
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 1

SHEET NO.
12

CONCEPT PLANS
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DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 1

SHEET NO.
13

CONCEPT PLANS
NOT FOR CONSTRUCTION

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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	
PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 1

SHEET NO.
14

CONCEPT PLANS
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 1

SHEET NO.
15

CONCEPT PLANS
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 1

SHEET NO.
16

CURVE DATA C12
PI STA. = 426+90.94
Δ = 12° 38' 14" (LT)
D = 2° 45' 02"
T = 230.65
L = 459.43
R = 2,083.00
PC STA. = 424+60.29
PT STA. = 429+19.72

CURVE DATA C11
PI STA. = 412+64.30
Δ = 10° 24' 26" (RT)
D = 2° 17' 31"
T = 227.67
L = 454.10
R = 2,500.00
PC STA. = 410+36.63
PT STA. = 414+90.73

CONCEPT PLANS
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 1

SHEET NO.
17

CURVE DATA C13
PI STA. = 457+54.82
Δ = 6° 59' 02" (RT)
D = 1° 25' 57"
T = 244.08
L = 487.56
R = 4,000.00
PC STA. = 455+10.74
PT STA. = 459+98.30

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DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 1

SHEET NO.
18

PROPOSED R/W LINE

0 50 200
Feet

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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	
PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 1

SHEET NO.
19

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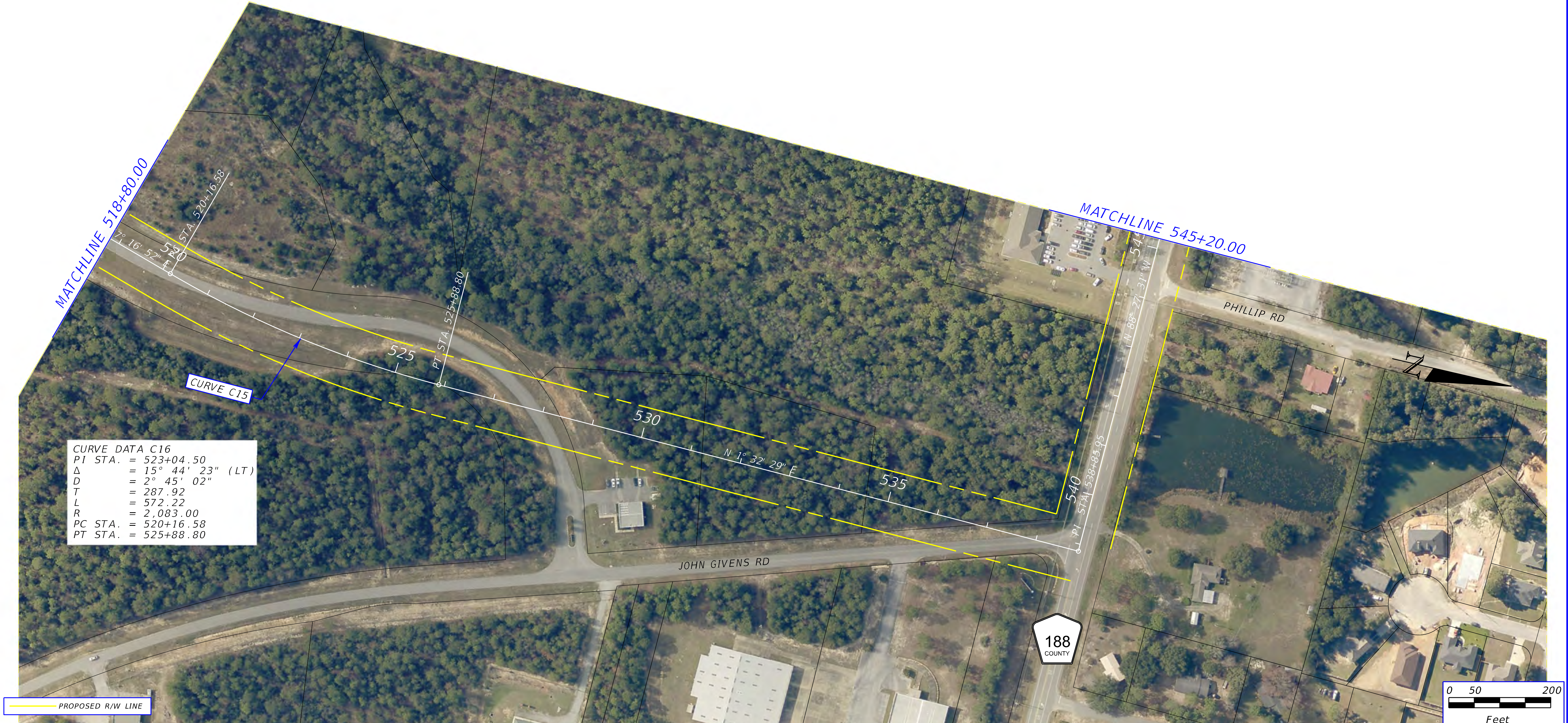
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 1

SHEET NO.
20



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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 1

SHEET NO.
21

CONCEPT PLANS
NOT FOR CONSTRUCTION

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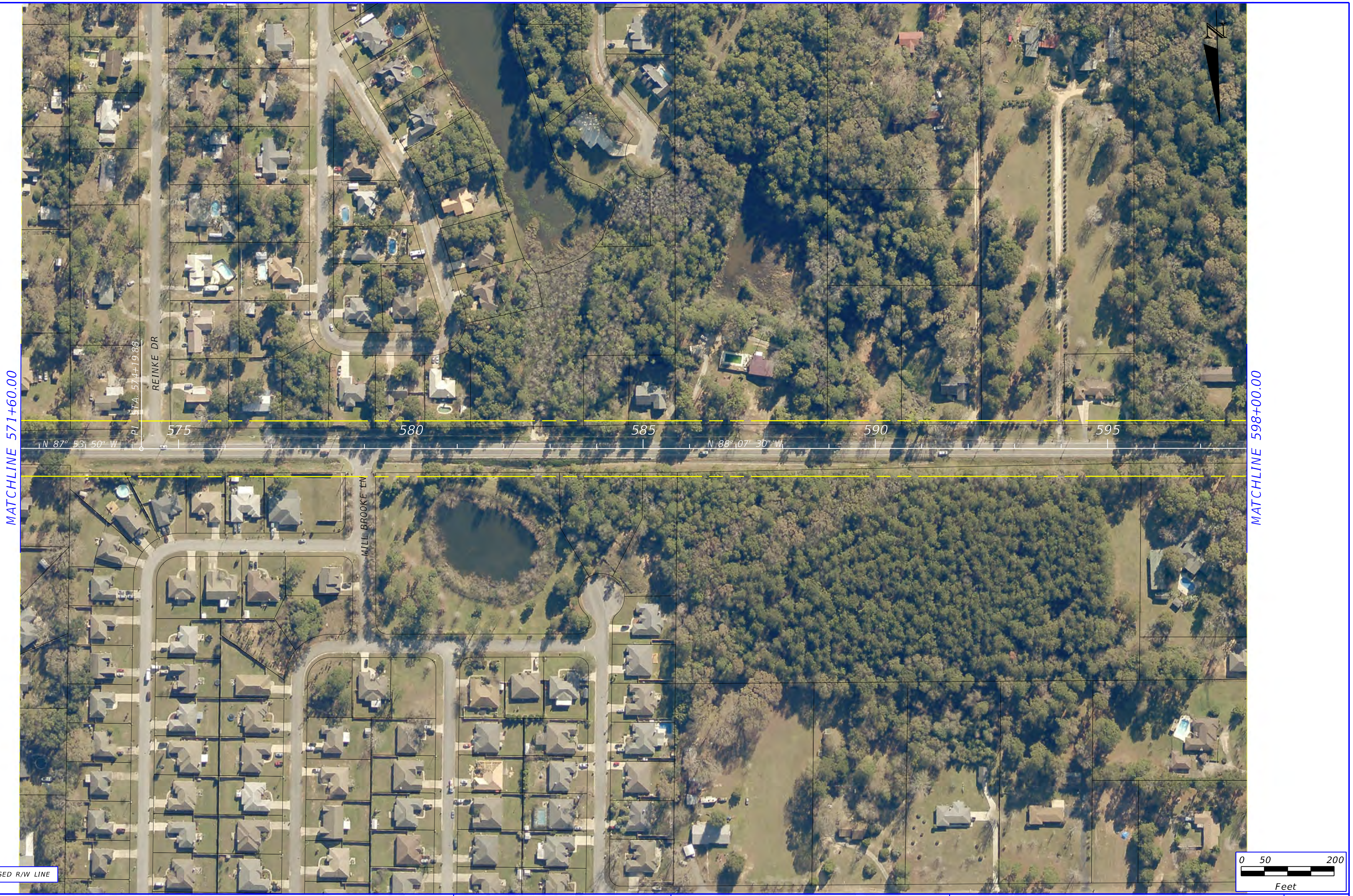
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 1

SHEET NO.

22



CONCEPT PLANS
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P.O. Box 1008
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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	
PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 1

SHEET NO.

23

CONCEPT PLANS NOT FOR CONSTRUCTION	METRIC ENGINEERING, INC. P.O. Box 1008 CHIPLEY, FLORIDA 32428 CERTIFICATE OF AUTHORIZATION 00002294	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION PROJECT NAME: SR 85 EASTERN CRESTVIEW BYPASS COUNTY: OKALOOSA	ALTERNATIVE 1	SHEET NO. 24

CONCEPT PLANS
NOT FOR CONSTRUCTION

METRIC ENGINEERING, INC.
P.O. Box 1008
CHIPLEY, FLORIDA 32428
CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 2

SHEET NO.
25

PROPOSED R/W LINE

0 50 200
Feet

CONCEPT PLANS
NOT FOR CONSTRUCTION

METRIC ENGINEERING, INC.
P.O. Box 1008
CHIPLEY, FLORIDA 32428
CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	
PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 2

SHEET NO.
26

CONCEPT PLANS
NOT FOR CONSTRUCTION

METRIC ENGINEERING, INC.
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CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 2

SHEET NO.
27

CONCEPT PLANS
NOT FOR CONSTRUCTION

METRIC ENGINEERING, INC.
P.O. Box 1008
CHIPLEY, FLORIDA 32428
CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	
PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 2

SHEET NO.
28

CONCEPT PLANS
NOT FOR CONSTRUCTION

METRIC ENGINEERING, INC.
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CHIPLEY, FLORIDA 32428
CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 2

SHEET NO.
29

CONCEPT PLANS
NOT FOR CONSTRUCTION

METRIC ENGINEERING, INC.
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CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 2

SHEET NO.
30

CONCEPT PLANS
NOT FOR CONSTRUCTION

METRIC ENGINEERING, INC.
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CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	
PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 2

SHEET NO.
31

CONCEPT PLANS
NOT FOR CONSTRUCTION

METRIC ENGINEERING, INC.
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CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	
PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 2

SHEET NO.
32

CONCEPT PLANS
NOT FOR CONSTRUCTION

METRIC ENGINEERING, INC.
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CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 2

SHEET NO.
33

CONCEPT PLANS
NOT FOR CONSTRUCTION

METRIC ENGINEERING, INC.
P.O. Box 1008
CHIPLEY, FLORIDA 32428
CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	
PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 2

SHEET NO.
34

CONCEPT PLANS
NOT FOR CONSTRUCTION

METRIC ENGINEERING, INC.
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CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 2

SHEET NO.
35

CONCEPT PLANS
NOT FOR CONSTRUCTION

METRIC ENGINEERING, INC.
P.O. Box 1008
CHIPLEY, FLORIDA 32428
CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 2

SHEET NO. 36

CURVE DATA C208

PI STA.	=	2321+29.08
Δ	=	21° 47' 30" (RT)
D	=	2° 45' 02"
T	=	400.97
L	=	792.24
R	=	2,083.00
PC STA.	=	2317+28.11
PT STA.	=	2325+20.36

CURVE DATA C209

PI STA.	=	2329+86.97
Δ	=	15° 44' 23" (LT)
D	=	2° 45' 02"
T	=	287.92
L	=	572.22
R	=	2,083.00
PC STA.	=	2326+99.05
PT STA.	=	2332+71.27

CONCEPT PLANS
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 2

SHEET NO.
37

CONCEPT PLANS
NOT FOR CONSTRUCTION

METRIC ENGINEERING, INC.
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CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	
PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 2

SHEET NO.
38

PROPOSED R/W LINE

0 50 200
Feet

CONCEPT PLANS
NOT FOR CONSTRUCTION

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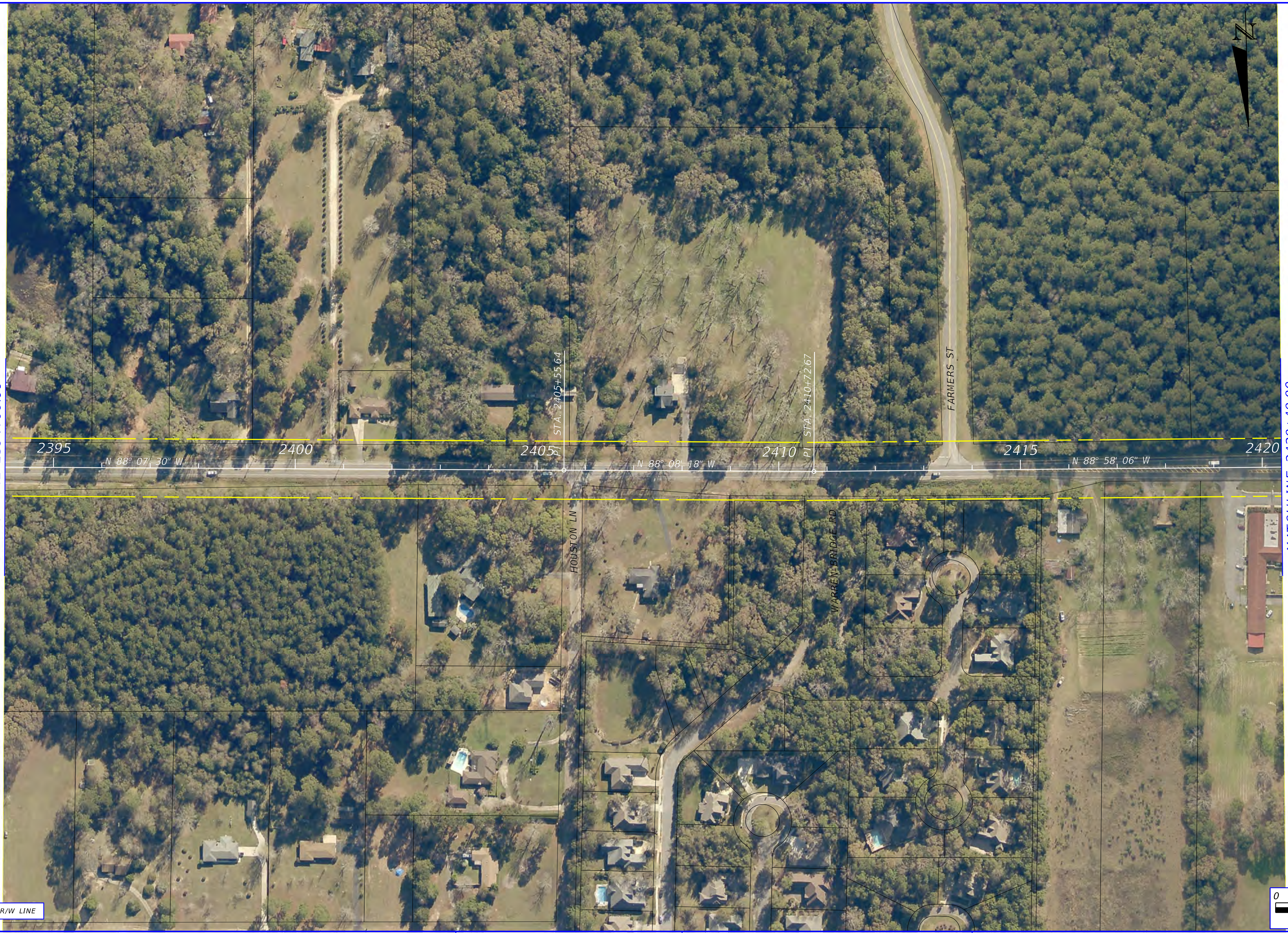
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 2

SHEET NO.
39



CONCEPT PLANS
NOT FOR CONSTRUCTION

METRIC ENGINEERING, INC.
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CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	
PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 2

SHEET NO.
40

CONCEPT PLANS
NOT FOR CONSTRUCTION

METRIC ENGINEERING, INC.
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CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

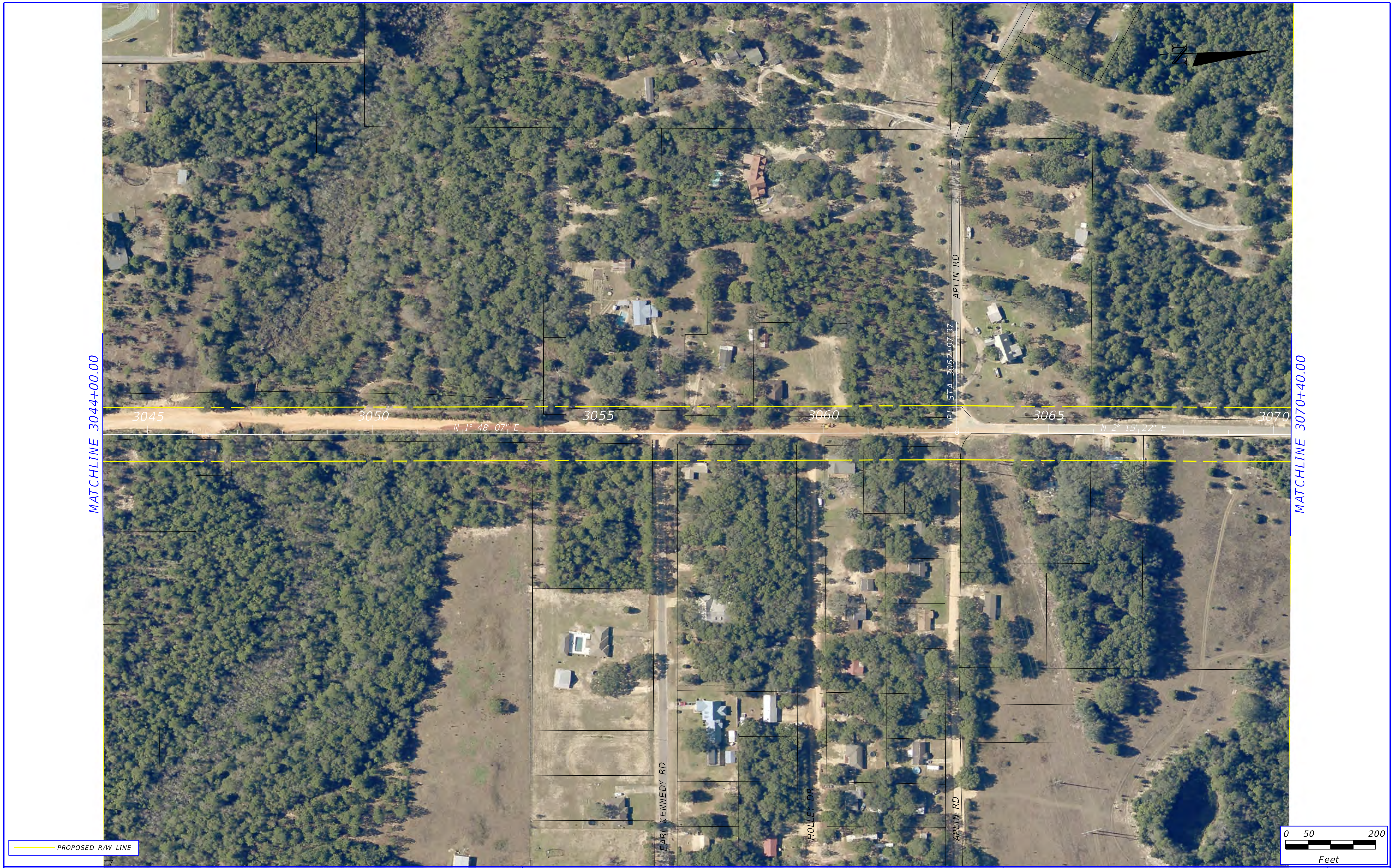
ALTERNATIVE 2

CONCEPT PLANS NOT FOR CONSTRUCTION	METRIC ENGINEERING, INC. P.O. Box 1008 CHIPLEY, FLORIDA 32428 CERTIFICATE OF AUTHORIZATION 00002294	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION PROJECT NAME: SR 85 EASTERN CRESTVIEW BYPASS COUNTY: OKALOOSA	ALTERNATIVE 3

SHEET NO.

42

CONCEPT PLANS NOT FOR CONSTRUCTION	METRIC ENGINEERING, INC. P.O. Box 1008 CHIPLEY, FLORIDA 32428 CERTIFICATE OF AUTHORIZATION 00002294	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION PROJECT NAME: SR 85 EASTERN CRESTVIEW BYPASS	COUNTY: OKALOOSA	ALTERNATIVE 3	SHEET NO. 43



CONCEPT PLANS
NOT FOR CONSTRUCTION

METRIC ENGINEERING, INC.
P.O. Box 1008
CHIPLEY, FLORIDA 32428
CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	
PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 3

SHEET NO.

44

CONCEPT PLANS
NOT FOR CONSTRUCTION

METRIC ENGINEERING, INC.
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CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	
PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 3

SHEET NO.
45

CONCEPT PLANS
NOT FOR CONSTRUCTION

METRIC ENGINEERING, INC.
P.O. Box 1008
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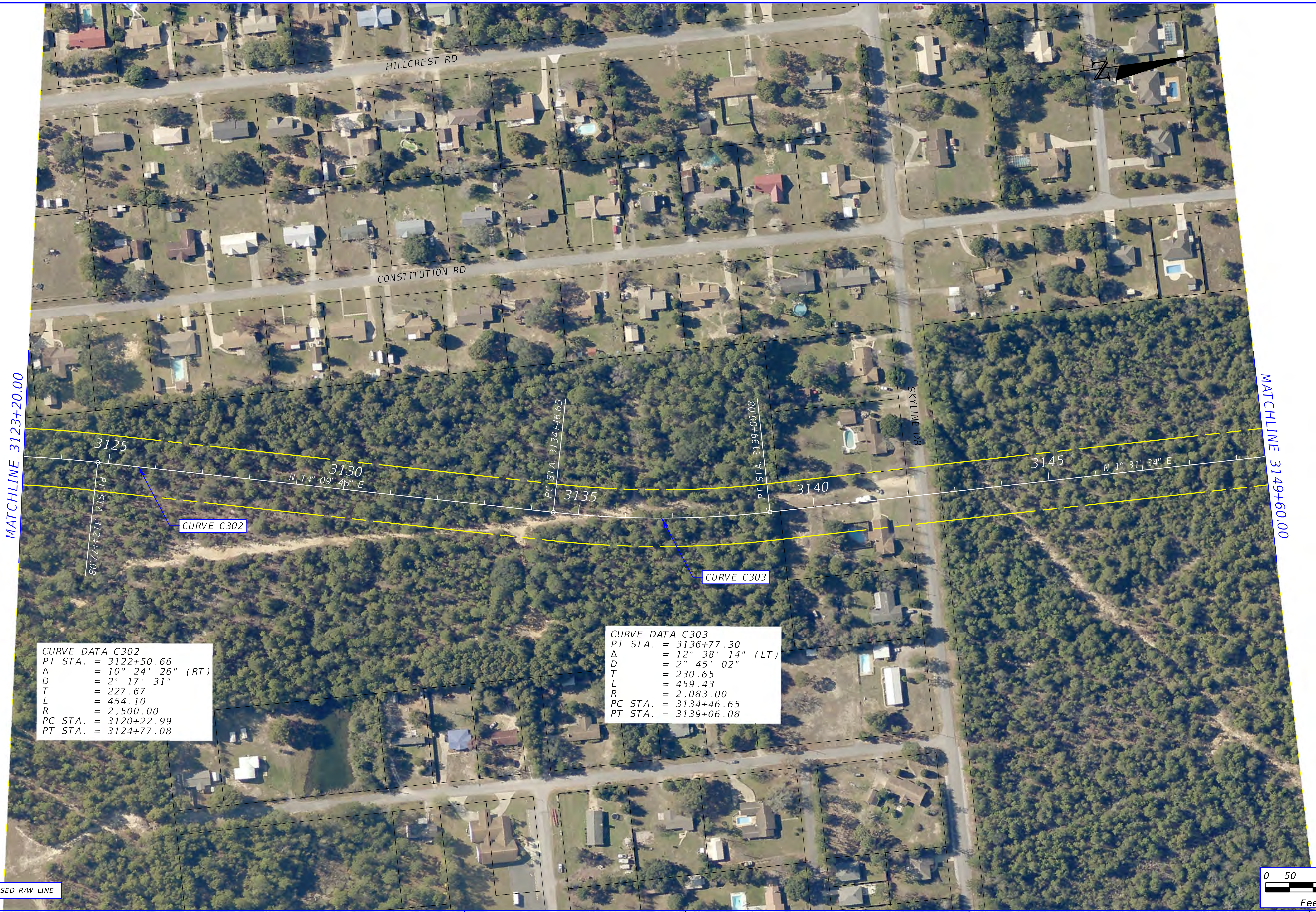
CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 3

SHEET NO. 46



CONCEPT PLANS
NOT FOR CONSTRUCTION

METRIC ENGINEERING, INC.
P.O. Box 1008
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CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 3

SHEET NO.
47

CURVE DATA C304
PI STA. = 2+44.08
Δ = 6° 59' 02" (RT)
D = 1° 25' 57"
T = 244.08
L = 487.56
R = 4,000.00
PC STA. = 0+00.00
PT STA. = 4+87.56

CONCEPT PLANS NOT FOR CONSTRUCTION	METRIC ENGINEERING, INC. P.O. Box 1008 CHIPLEY, FLORIDA 32428 CERTIFICATE OF AUTHORIZATION 00002294	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION PROJECT NAME: SR 85 EASTERN CRESTVIEW BYPASS COUNTY: OKALOOSA	ALTERNATIVE 3	SHEET NO. 48

CONCEPT PLANS
NOT FOR CONSTRUCTION

METRIC ENGINEERING, INC.
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CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	
PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 3

SHEET NO.
49

CONCEPT PLANS
NOT FOR CONSTRUCTION

METRIC ENGINEERING, INC.
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 3

SHEET NO.
50

CONCEPT PLANS
NOT FOR CONSTRUCTION

METRIC ENGINEERING, INC.
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 3

SHEET NO.
51

CONCEPT PLANS
NOT FOR CONSTRUCTION

METRIC ENGINEERING, INC.
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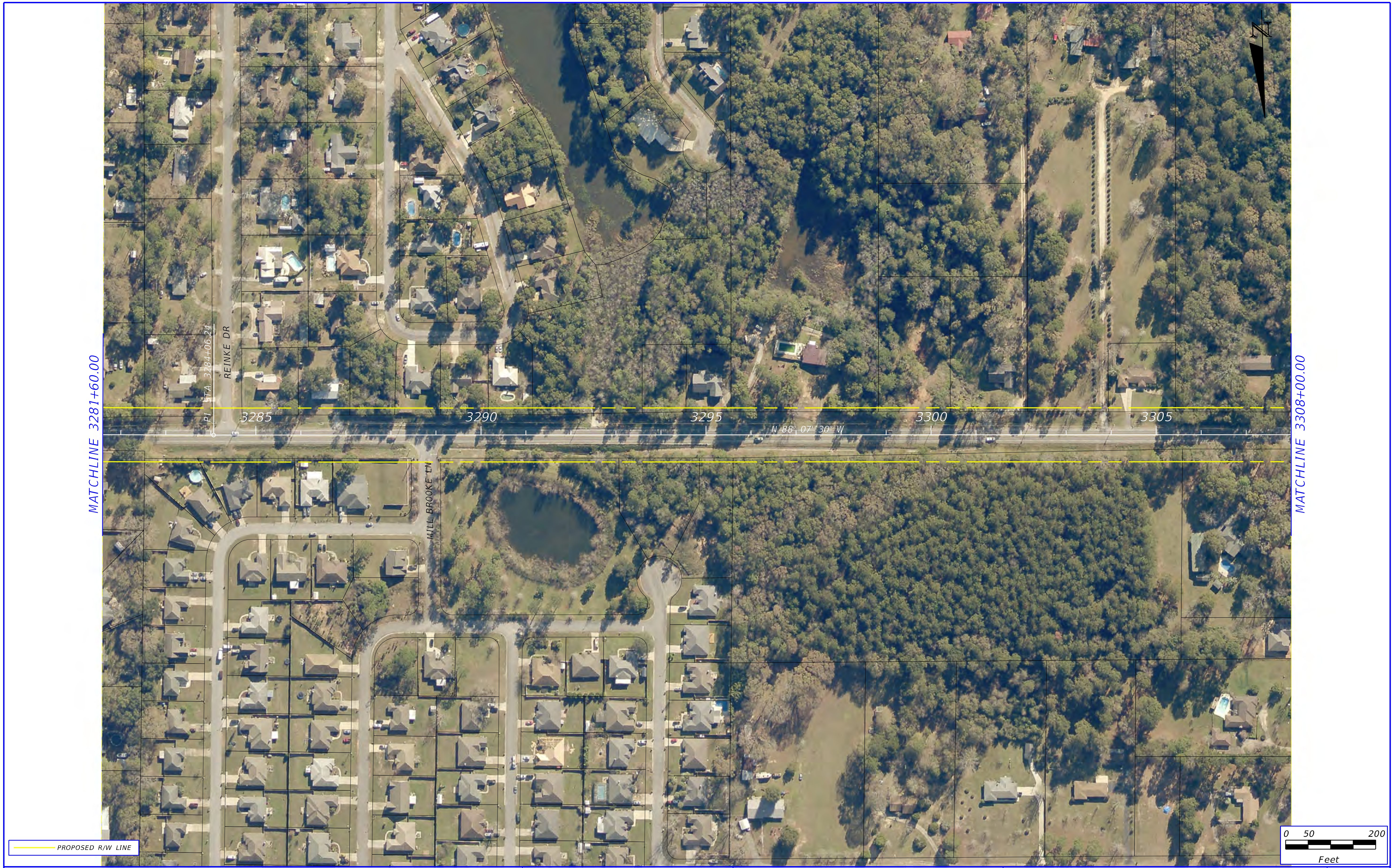
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 3

SHEET NO. 52



CONCEPT PLANS
NOT FOR CONSTRUCTION

METRIC ENGINEERING, INC.
P.O. Box 1008
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CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	
PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 3

SHEET NO. 53

CONCEPT PLANS
NOT FOR CONSTRUCTION

METRIC ENGINEERING, INC.
P.O. Box 1008
CHIPLEY, FLORIDA 32428
CERTIFICATE OF AUTHORIZATION 00002294

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PROJECT NAME	COUNTY
SR 85 EASTERN CRESTVIEW BYPASS	OKALOOSA

ALTERNATIVE 3

SHEET NO.
54

Appendix E: Benefit Cost Analysis

Table 1. Estimating Benefits from Reduced Travel Time - Alternative 1A

	Antioch Rd to I-10							I-10 to US 90			US 90 to Airport Road									
Year	AADT- South of Antioch Road (1)	Time (1)	Saving (1)	AADT-South of I-10 (2)	Time-(2)	Saving-(2)	Avg. AADT (1) & (2)	AADT- North of US 90 (3)	Time-(3)	Saving-(3)	AADT- North of 3rd Ave (4)	Time-(4)	Saving-(4)	Tot Sav/day	Tot Sav/year	$PCPI/min	$PCPI/min/car	$Saving/year	Discount	PV-savings
Instructions		(4-4.77) (Minutes)	(1)x(2)		(4-4.77) (Minutes)	(4)x(5)	((3)+(6))/2		(5-3) (Minutes)	(7)x(8)		(5-6) (Minutes)	(10)x(11)	(*)+(9)+(12)	(13)x365min.	$ 0.380	(15)x1.64	(14)x(16)	d=7%	(17)x(18)
Columns	(1)	(2)	(3)	(4)	(5)	(6)	(*)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
2030	38,687	-0.770	-29,789	46,400	-0.770	-35,728	-32,758	26,544	2.000	53,088	24,680	-1.000	-24,680	-4,350	-1,587,931	0.3800	0.6232	-989,598.40	0.5083	-503,013
2040	45,129	-0.770	-34,749	55,293	-0.770	-42,576	-38,662	28,926	2.000	57,852	28,767	-1.000	-28,767	-9,577	-3,495,777	0.3800	0.6232	-2,178,567.95	0.2584	-562,942
2050	51,653	-0.770	-39,773	60,175	-0.770	-46,335	-43,054	30,790	2.000	61,580	31,996	-1.000	-31,996	-13,470	-4,916,470	0.3800	0.6232	-3,063,943.92	0.1314	-402,602

Table 2. Estimating Benefits from Reduced Travel Time - Alternative 1B

	Antioch Rd to I-10							I-10 to US 90			US 90 to Airport Road									
Year	AADT- South of Antioch Road (1)	Time (1)	Saving (1)	AADT-South of I-10 (2)	Time-(2)	Saving-(2)	Avg. AADT (1) & (2)	AADT- North of US 90 (3)	Time-(3)	Saving-(3)	AADT- North of 3rd Ave (4)	Time-(4)	Saving-(4)	Tot Sav/day	Tot Sav/year	$PCPI/min	$PCPI/min/car	$Saving/year	Discount	PV-savings
Instructions		(4-4.77) (Minutes)	(1)x(2)		(4-4.77) (Minutes)	(4)x(5)	((3)+(6))/2		(5-3) (Minutes)	(7)x(8)		(5-6) (Minutes)	(10)x(11)	(*)+(9)+(12)	(13)x365min.	$ 0.380	(15)x1.64	(14)x(16)	d=7%	(17)x(18)
Columns	(1)	(2)	(3)	(4)	(5)	(6)	(*)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
2030	38,593	-0.770	-29,717	44,585	-0.770	-34,330	-32,024	27,626	2.000	55,252	26,351	-1.000	-26,351	-3,123	-1,139,723	0.3800	0.6232	-710,275.65	0.5083	-361,033
2040	45,198	-0.770	-34,802	53,053	-0.770	-40,851	-37,827	30,532	2.000	61,064	29,843	-1.000	-29,843	-6,606	-2,411,057	0.3800	0.6232	-1,502,570.58	0.2584	-388,264
2050	51,936	-0.770	-39,991	58,789	-0.770	-45,268	-42,629	32,260	2.000	64,520	32,374	-1.000	-32,374	-10,483	-3,826,341	0.3800	0.6232	-2,384,575.48	0.1314	-313,333

Table 3. Estimating Benefits from Reduced Travel Time - Alternative 2

	Antioch Rd to I-10							I-10 to US 90			US 90 to Airport Road									
Year	AADT- South of Antioch Road (1)	Time (1)	Saving (1)	AADT-South of I-10 (2)	Time-(2)	Saving-(2)	Avg. AADT (1) & (2)	AADT- North of US 90 (3)	Time-(3)	Saving-(3)	AADT- North of 3rd Ave (4)	Time-(4)	Saving-(4)	Tot Sav/day	Tot Sav/year	$PCPI/min	$PCPI/min/car	$Saving/year	Discount	PV-savings
Instructions		(4-4.37) (Minutes)	(1)x(2)		(4-4.37) (Minutes)	(4)x(5)	((3)+(6))/2		(5-3) (Minutes)	(7)x(8)		(5-6) (Minutes)	(10)x(11)	(*)+(9)+(12)	(13)x365min.	$ 0.380	(15)x1.64	(14)x(16)	d=7%	(17)x(18)
Columns	(1)	(2)	(3)	(4)	(5)	(6)	(*)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
2030	35,535	-0.370	-13,148	56,500	-0.370	-20,905	-17,026	29,901	2.000	59,802	29,054	-1.000	-29,054	13,722	5,008,357	0.3800	0.6232	3,121,207.85	0.5083	1,586,510
2040	44,661	-0.370	-16,525	68,551	-0.370	-25,364	-20,944	29,859	2.000	59,718	29,875	-1.000	-29,875	8,899	3,248,055	0.3800	0.6232	2,024,187.69	0.2584	523,050
2050	50,852	-0.370	-18,815	72,923	-0.370	-26,982	-22,898	31,257	2.000	62,514	32,061	-1.000	-32,061	7,555	2,757,438	0.3800	0.6232	1,718,435.44	0.1314	225,802

Table 4. Estimating Benefits from Reduced Travel Time - Alternative 3

	Antioch Rd to I-10							I-10 to US 90			US 90 to Airport Road									
Year	AADT- South of Antioch Road (1)	Time (1)	Saving (1)	AADT-South of I-10 (2)	Time-(2)	Saving-(2)	Avg. AADT (1) & (2)	AADT- North of US 90 (3)	Time-(3)	Saving-(3)	AADT- North of 3rd Ave (4)	Time-(4)	Saving-(4)	Tot Sav/day	Tot Sav/year	$PCPI/min	$PCPI/min/car	$Saving/year	Discount	PV-savings
Instructions		(4-3.77) (Minutes)	(1)x(2)		(4-3.77) (Minutes)	(4)x(5)	((3)+(6))/2		(5-3) (Minutes)	(7)x(8)		(5-6) (Minutes)	(10)x(11)	(*)+(9)+(12)	(13)x365min.	$ 0.380	(15)x1.64	(14)x(16)	d=7%	(17)x(18)
Columns	(1)	(2)	(3)	(4)	(5)	(6)	(*)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
2030	35,289	0.230	8,116	56,482	0.230	12,991	10,554	29,697	2.000	59,394	28,780	-1.000	-28,780	41,168	15,026,198	0.3800	0.6232	9,364,326.42	0.5083	4,759,887
2040	42,492	0.230	9,773	66,344	0.230	15,259	12,516	31,279	2.000	62,558	32,168	-1.000	-32,168	42,906	15,660,741	0.3800	0.6232	9,759,773.85	0.2584	2,521,926
2050	48,651	0.230	11,190	69,792	0.230	16,052	13,621	33,963	2.000	67,926	34,745	-1.000	-34,745	46,802	17,082,710	0.3800	0.6232	10,645,944.83	0.1314	1,398,877

2030 No Build

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments			
General Information		**Location Information**	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Antioch Rd to I-10
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2030

Input Data		**Base Conditions**	**Site Conditions**
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	52,876
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Not Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	3
Minor commercial driveways (number)		--	15
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	10
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.03	0.99	1.00	1.00	1.02

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	20.879	1.000	20.879	1.02	0.68	14.427
Fatal and Injury (FI)	-12.76	1.28	1.31	5.747	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.262	5.462	1.02	0.68	3.775
Property Damage Only (PDO)	-12.81	1.38	1.34	16.220	$(5)_{TOTAL}-(5)_{FI}$ 0.738	15.417	1.02	0.68	10.653

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type(FI)**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type (PDO)**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	3.775	1.000	10.653	14.427
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.832	3.140	0.662	7.052	10.193
Head-on collision	0.020	0.075	0.007	0.075	0.150
Angle collision	0.040	0.151	0.036	0.384	0.534
Sideswipe, same direction	0.050	0.189	0.223	2.376	2.564
Sideswipe, opposite direction	0.010	0.038	0.001	0.011	0.048
Other multiple-vehicle collision	0.048	0.181	0.071	0.756	0.938

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	1.914	1.000	1.914	1.02	0.68	1.323
Fatal and Injury (FI)	-8.71	0.66	0.28	0.389	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.200	0.383	1.02	0.68	0.265
Property Damage Only (PDO)	-5.04	0.45	1.06	1.556	$(5)_{TOTAL}-(5)_{FI}$ 0.800	1.531	1.02	0.68	1.058

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type(FI)**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type (PDO)**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.265	1.000	1.058	1.323
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.067	0.067
Collision with fixed object	0.500	0.132	0.813	0.860	0.993
Collision with other object	0.028	0.007	0.016	0.017	0.024
Other single-vehicle collision	0.471	0.125	0.108	0.114	0.239

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	3	0.033	1.106	0.399	--
Minor commercial	15	0.011	1.106	0.665	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	1.064	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	1.064	1.000	1.064	1.02	0.68	0.735
Fatal and injury (FI)	--	0.284	0.302	1.02	0.68	0.209
Property damage only (PDO)	--	0.716	0.762	1.02	0.68	0.526

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	14.427	1.323	0.735	16.485	0.019	0.68	0.213
Fatal and injury (FI)	--	--	--	--	--	0.68	0.213

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	14.427	1.323	0.735	16.485	0.005	0.68	0.056
Fatal and injury (FI)	--	--	--	--	--	0.68	0.056

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	3.140	7.052	10.193
Head-on collisions (from Worksheet 1D)	0.075	0.075	0.150
Angle collisions (from Worksheet 1D)	0.151	0.384	0.534
Sideswipe, same direction (from Worksheet 1D)	0.189	2.376	2.564
Sideswipe, opposite direction (from Worksheet 1D)	0.038	0.011	0.048
Driveway-related collisions (from Worksheet 1H)	0.209	0.526	0.735
Other multiple-vehicle collision (from Worksheet 1D)	0.181	0.756	0.938
Subtotal	3.983	11.179	15.162
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.067	0.067
Collision with fixed object (from Worksheet 1F)	0.132	0.860	0.993
Collision with other object (from Worksheet 1F)	0.007	0.017	0.024
Other single-vehicle collision (from Worksheet 1F)	0.125	0.114	0.239
Collision with pedestrian (from Worksheet 1I)	0.213	0.000	0.213
Collision with bicycle (from Worksheet 1J)	0.056	0.000	0.056
Subtotal	0.534	1.058	1.592
Total	4.517	12.237	16.754

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	16.8	1.80	9.3
Fatal and injury (FI)	4.5	1.80	2.5
Property damage only (PDO)	12.2	1.80	6.8

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	I-10 to Brock Ave
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2030

Input Data	Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)	--	4D
Length of segment, L (mi)	--	1.8
AADT (veh/day) — $AADT_{MAX}$ = 66,000 (veh/day)	--	33,757
Type of on-street parking (none/parallel/angle)	None	Parallel (Comm/Ind)
Proportion of curb length with on-street parking	--	0.38
Median width (ft) - for divided only	15	20
Lighting (present / not present)	Not Present	Present
Auto speed enforcement (present / not present)	Not Present	Not Present
Major commercial driveways (number)	--	4
Minor commercial driveways (number)	--	25
Major industrial / institutional driveways (number)	--	0
Minor industrial / institutional driveways (number)	--	0
Major residential driveways (number)	--	0
Minor residential driveways (number)	--	0
Other driveways (number)	--	15
Speed Category	--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)	0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]	30	12
Calibration Factor, Cr	1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.27	1.02	0.99	0.91	1.00	1.17

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	11.341	1.000	11.341	1.17	0.68	9.033
Fatal and Injury (FI)	-12.76	1.28	1.31	3.236	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.270	3.066	1.17	0.68	2.442
Property Damage Only (PDO)	-12.81	1.38	1.34	8.732	$(5)_{TOTAL}-(5)_{FI}$ 0.730	8.275	1.17	0.68	6.591

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision $Type_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	2.442	1.000	6.591	9.033
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.832	2.032	0.662	4.363	6.395
Head-on collision	0.020	0.049	0.007	0.046	0.095
Angle collision	0.040	0.098	0.036	0.237	0.335
Sideswipe, same direction	0.050	0.122	0.223	1.470	1.592
Sideswipe, opposite direction	0.010	0.024	0.001	0.007	0.031
Other multiple-vehicle collision	0.048	0.117	0.071	0.468	0.585

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	1.550	1.000	1.550	1.17	0.68	1.235
Fatal and Injury (FI)	-8.71	0.66	0.28	0.289	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.185	0.287	1.17	0.68	0.229
Property Damage Only (PDO)	-5.04	0.45	1.06	1.271	$(5)_{TOTAL}-(5)_{FI}$ 0.815	1.263	1.17	0.68	1.006

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision $Type_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.229	1.000	1.006	1.235
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.063	0.064
Collision with fixed object	0.500	0.114	0.813	0.818	0.932
Collision with other object	0.028	0.006	0.016	0.016	0.023
Other single-vehicle collision	0.471	0.108	0.108	0.109	0.216

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15{,}000)^t$	from Table 12-7
Major commercial	4	0.033	1.106	0.324	--
Minor commercial	25	0.011	1.106	0.674	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	15	0.005	1.106	0.184	
Total	--	--	--	1.182	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	1.182	1.000	1.182	1.17	0.68	0.942
Fatal and injury (FI)	--	0.284	0.336	1.17	0.68	0.267
Property damage only (PDO)	--	0.716	0.846	1.17	0.68	0.674

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	9.033	1.235	0.942	11.209	0.019	0.68	0.145
Fatal and injury (FI)	--	--	--	--	--	0.68	0.145

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	9.033	1.235	0.942	11.209	0.005	0.68	0.038
Fatal and injury (FI)	--	--	--	--	--	0.68	0.038

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	2.032	4.363	6.395
Head-on collisions (from Worksheet 1D)	0.049	0.046	0.095
Angle collisions (from Worksheet 1D)	0.098	0.237	0.335
Sideswipe, same direction (from Worksheet 1D)	0.122	1.470	1.592
Sideswipe, opposite direction (from Worksheet 1D)	0.024	0.007	0.031
Driveway-related collisions (from Worksheet 1H)	0.267	0.674	0.942
Other multiple-vehicle collision (from Worksheet 1D)	0.117	0.468	0.585
Subtotal	2.710	7.265	9.974
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.063	0.064
Collision with fixed object (from Worksheet 1F)	0.114	0.818	0.932
Collision with other object (from Worksheet 1F)	0.006	0.016	0.023
Other single-vehicle collision (from Worksheet 1F)	0.108	0.109	0.216
Collision with pedestrian (from Worksheet 1I)	0.145	0.000	0.145
Collision with bicycle (from Worksheet 1J)	0.038	0.000	0.038
Subtotal	0.412	1.006	1.418
Total	3.122	8.271	11.392

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	11.4	1.80	6.3
Fatal and injury (FI)	3.1	1.80	1.7
Property damage only (PDO)	8.3	1.80	4.6

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Brock Ave to Airport Rd
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2030

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	5T
Length of segment, L (mi)		--	3.4
AADT (veh/day)	$AADT_{MAX}$ = 53,800 (veh/day)	--	33,309
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	10
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	5
Minor commercial driveways (number)		--	45
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	20
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	45
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.70

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.04	1.01	0.94	1.00	0.99

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-9.70	1.17	0.81	40.759	1.000	40.759	0.99	0.70	28.178
Fatal and Injury (FI)	-10.47	1.12	0.62	11.212	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.265	10.797	0.99	0.70	7.464
Property Damage Only (PDO)	-9.97	1.17	0.88	31.114	$(5)_{TOTAL}-(5)_{FI}$ 0.735	29.962	0.99	0.70	20.714

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	7.464	1.000	20.714	28.178
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.846	6.315	0.651	13.485	19.800
Head-on collision	0.021	0.157	0.004	0.083	0.240
Angle collision	0.050	0.373	0.059	1.222	1.595
Sideswipe, same direction	0.061	0.455	0.248	5.137	5.592
Sideswipe, opposite direction	0.004	0.030	0.009	0.186	0.216
Other multiple-vehicle collision	0.018	0.134	0.029	0.601	0.735

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N$_{brsv}$**	**Proportion of Total Crashes**	**Adjusted N$_{brsv}$**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N$_{brsv}$**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-4.82	0.54	0.52	7.592	1.000	7.592	0.99	0.70	5.249
Fatal and Injury (FI)	-4.43	0.35	0.36	1.550	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.213	1.616	0.99	0.70	1.117
Property Damage Only (PDO)	-5.83	0.61	0.55	5.732	(5)$_{TOTAL}$-(5)$_{FI}$ 0.787	5.976	0.99	0.70	4.131

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	1.117	1.000	4.131	5.249
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.016	0.018	0.049	0.202	0.220
Collision with fixed object	0.398	0.445	0.768	3.173	3.618
Collision with other object	0.005	0.006	0.061	0.252	0.258
Other single-vehicle collision	0.581	0.649	0.122	0.504	1.153

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 n_j * N_j * $(AADT/15,000)^t$	from Table 12-7
Major commercial	5	0.165	1.172	2.101	--
Minor commercial	45	0.053	1.172	6.075	
Major industrial/institutional	0	0.181	1.172	0.000	
Minor industrial/institutional	0	0.024	1.172	0.000	
Major residential	0	0.087	1.172	0.000	
Minor residential	0	0.016	1.172	0.000	
Other	20	0.027	1.172	1.375	
Total	--	--	--	9.552	0.10

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	9.552	1.000	9.552	0.99	0.70	6.604
Fatal and injury (FI)	--	0.269	2.569	0.99	0.70	1.776
Property damage only (PDO)	--	0.731	6.983	0.99	0.70	4.827

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	28.178	5.249	6.604	40.031	0.023	0.70	0.644
Fatal and injury (FI)	--	--	--	--	--	0.70	0.644

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	28.178	5.249	6.604	40.031	0.012	0.70	0.336
Fatal and injury (FI)	--	--	--	--	--	0.70	0.336

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	6.315	13.485	19.800
Head-on collisions (from Worksheet 1D)	0.157	0.083	0.240
Angle collisions (from Worksheet 1D)	0.373	1.222	1.595
Sideswipe, same direction (from Worksheet 1D)	0.455	5.137	5.592
Sideswipe, opposite direction (from Worksheet 1D)	0.030	0.186	0.216
Driveway-related collisions (from Worksheet 1H)	1.776	4.827	6.604
Other multiple-vehicle collision (from Worksheet 1D)	0.134	0.601	0.735
Subtotal	9.241	25.541	34.782
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.018	0.202	0.220
Collision with fixed object (from Worksheet 1F)	0.445	3.173	3.618
Collision with other object (from Worksheet 1F)	0.006	0.252	0.258
Other single-vehicle collision (from Worksheet 1F)	0.649	0.504	1.153
Collision with pedestrian (from Worksheet 1I)	0.644	0.000	0.644
Collision with bicycle (from Worksheet 1J)	0.336	0.000	0.336
Subtotal	2.098	4.131	6.230
Total	11.339	29.673	41.012

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	41.0	3.40	12.1
Fatal and injury (FI)	11.3	3.40	3.3
Property damage only (PDO)	29.7	3.40	8.7

2030 Alt 1A

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Antioch Rd to I-10
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2030

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	46,400
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Not Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	3
Minor commercial driveways (number)		--	15
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	10
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.03	0.99	1.00	1.00	1.02

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	17.480	1.000	17.480	1.02	0.68	12.079
Fatal and Injury (FI)	-12.76	1.28	1.31	4.862	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.264	4.617	1.02	0.68	3.191
Property Damage Only (PDO)	-12.81	1.38	1.34	13.544	$(5)_{TOTAL}-(5)_{FI}$ 0.736	12.863	1.02	0.68	8.888

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	3.191	1.000	8.888	12.079
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.832	2.655	0.662	5.884	8.539
Head-on collision	0.020	0.064	0.007	0.062	0.126
Angle collision	0.040	0.128	0.036	0.320	0.448
Sideswipe, same direction	0.050	0.160	0.223	1.982	2.142
Sideswipe, opposite direction	0.010	0.032	0.001	0.009	0.041
Other multiple-vehicle collision	0.048	0.153	0.071	0.631	0.784

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N$_{brsv}$**	**Proportion of Total Crashes**	**Adjusted N$_{brsv}$**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N$_{brsv}$**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	1.800	1.000	1.800	1.02	0.68	1.244
Fatal and Injury (FI)	-8.71	0.66	0.28	0.357	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.196	0.352	1.02	0.68	0.243
Property Damage Only (PDO)	-5.04	0.45	1.06	1.467	(5)$_{TOTAL}$-(5)$_{FI}$ 0.804	1.448	1.02	0.68	1.001

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	0.243	1.000	1.001	1.244
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.063	0.063
Collision with fixed object	0.500	0.122	0.813	0.813	0.935
Collision with other object	0.028	0.007	0.016	0.016	0.023
Other single-vehicle collision	0.471	0.115	0.108	0.108	0.223

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	3	0.033	1.106	0.345	--
Minor commercial	15	0.011	1.106	0.575	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.920	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.920	1.000	0.920	1.02	0.68	0.636
Fatal and injury (FI)	--	0.284	0.261	1.02	0.68	0.181
Property damage only (PDO)	--	0.716	0.659	1.02	0.68	0.455

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	12.079	1.244	0.636	13.959	0.019	0.68	0.180
Fatal and injury (FI)	--	--	--	--	--	0.68	0.180

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	12.079	1.244	0.636	13.959	0.005	0.68	0.047
Fatal and injury (FI)	--	--	--	--	--	0.68	0.047

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	2.655	5.884	8.539
Head-on collisions (from Worksheet 1D)	0.064	0.062	0.126
Angle collisions (from Worksheet 1D)	0.128	0.320	0.448
Sideswipe, same direction (from Worksheet 1D)	0.160	1.982	2.142
Sideswipe, opposite direction (from Worksheet 1D)	0.032	0.009	0.041
Driveway-related collisions (from Worksheet 1H)	0.181	0.455	0.636
Other multiple-vehicle collision (from Worksheet 1D)	0.153	0.631	0.784
Subtotal	3.371	9.344	12.715
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.063	0.063
Collision with fixed object (from Worksheet 1F)	0.122	0.813	0.935
Collision with other object (from Worksheet 1F)	0.007	0.016	0.023
Other single-vehicle collision (from Worksheet 1F)	0.115	0.108	0.223
Collision with pedestrian (from Worksheet 1I)	0.180	0.000	0.180
Collision with bicycle (from Worksheet 1J)	0.047	0.000	0.047
Subtotal	0.471	1.001	1.472
Total	3.843	10.344	14.187

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	14.2	1.80	7.9
Fatal and injury (FI)	3.8	1.80	2.1
Property damage only (PDO)	10.3	1.80	5.7

2030 Alt 1A

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments			
General Information		**Location Information**	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	I-10 to Brock Ave
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2030

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	26,544
Type of on-street parking (none/parallel/angle)		None	Parallel (Comm/Ind)
Proportion of curb length with on-street parking		--	0.38
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	4
Minor commercial driveways (number)		--	25
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	15
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.27	1.02	0.99	0.91	1.00	1.17

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	8.178	1.000	8.178	1.17	0.68	6.514
Fatal and Injury (FI)	-12.76	1.28	1.31	2.379	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.275	2.250	1.17	0.68	1.792
Property Damage Only (PDO)	-12.81	1.38	1.34	6.267	$(5)_{TOTAL}-(5)_{FI}$ 0.725	5.928	1.17	0.68	4.722

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	1.792	1.000	4.722	6.514
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.832	1.491	0.662	3.126	4.617
Head-on collision	0.020	0.036	0.007	0.033	0.069
Angle collision	0.040	0.072	0.036	0.170	0.242
Sideswipe, same direction	0.050	0.090	0.223	1.053	1.143
Sideswipe, opposite direction	0.010	0.018	0.001	0.005	0.023
Other multiple-vehicle collision	0.048	0.086	0.071	0.335	0.421

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N$_{brsv}$**	**Proportion of Total Crashes**	**Adjusted N$_{brsv}$**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N$_{brsv}$**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	1.385	1.000	1.385	1.17	0.68	1.103
Fatal and Injury (FI)	-8.71	0.66	0.28	0.247	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.178	0.246	1.17	0.68	0.196
Property Damage Only (PDO)	-5.04	0.45	1.06	1.141	(5)$_{TOTAL}$-(5)$_{FI}$ 0.822	1.138	1.17	0.68	0.907

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	0.196	1.000	0.907	1.103
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.057	0.057
Collision with fixed object	0.500	0.098	0.813	0.737	0.835
Collision with other object	0.028	0.005	0.016	0.015	0.020
Other single-vehicle collision	0.471	0.092	0.108	0.098	0.190

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 n_j * N_j * $(AADT/15{,}000)^t$	from Table 12-7
Major commercial	4	0.033	1.106	0.248	--
Minor commercial	25	0.011	1.106	0.517	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	15	0.005	1.106	0.141	
Total	--	--	--	0.906	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.906	1.000	0.906	1.17	0.68	0.722
Fatal and injury (FI)	--	0.284	0.257	1.17	0.68	0.205
Property damage only (PDO)	--	0.716	0.649	1.17	0.68	0.517

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	6.514	1.103	0.722	8.338	0.019	0.68	0.108
Fatal and injury (FI)	--	--	--	--	--	0.68	0.108

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	6.514	1.103	0.722	8.338	0.005	0.68	0.028
Fatal and injury (FI)	--	--	--	--	--	0.68	0.028

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
	MULTIPLE-VEHICLE		
Rear-end collisions (from Worksheet 1D)	1.491	3.126	4.617
Head-on collisions (from Worksheet 1D)	0.036	0.033	0.069
Angle collisions (from Worksheet 1D)	0.072	0.170	0.242
Sideswipe, same direction (from Worksheet 1D)	0.090	1.053	1.143
Sideswipe, opposite direction (from Worksheet 1D)	0.018	0.005	0.023
Driveway-related collisions (from Worksheet 1H)	0.205	0.517	0.722
Other multiple-vehicle collision (from Worksheet 1D)	0.086	0.335	0.421
Subtotal	1.997	5.238	7.236
	SINGLE-VEHICLE		
Collision with animal (from Worksheet 1F)	0.000	0.057	0.057
Collision with fixed object (from Worksheet 1F)	0.098	0.737	0.835
Collision with other object (from Worksheet 1F)	0.005	0.015	0.020
Other single-vehicle collision (from Worksheet 1F)	0.092	0.098	0.190
Collision with pedestrian (from Worksheet 1I)	0.108	0.000	0.108
Collision with bicycle (from Worksheet 1J)	0.028	0.000	0.028
Subtotal	0.332	0.907	1.239
Total	2.330	6.145	8.475

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	8.5	1.80	4.7
Fatal and injury (FI)	2.3	1.80	1.3
Property damage only (PDO)	6.1	1.80	3.4

2030 Alt 1A

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments			
General Information		**Location Information**	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Brock Ave to Airport Rd
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2030

Input Data		**Base Conditions**	**Site Conditions**
Roadway type (2U, 3T, 4U, 4D, ST)		--	5T
Length of segment, L (mi)		--	3.4
AADT (veh/day)	$AADT_{MAX}$ = 53,800 (veh/day)	--	24,680
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	10
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	5
Minor commercial driveways (number)		--	45
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	20
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	45
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.70

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.04	1.01	0.94	1.00	0.99

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-9.70	1.17	0.81	28.699	1.000	28.699	0.99	0.70	19.841
Fatal and Injury (FI)	-10.47	1.12	0.62	8.014	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.268	7.686	0.99	0.70	5.314
Property Damage Only (PDO)	-9.97	1.17	0.88	21.908	$(5)_{TOTAL}-(5)_{FI}$ 0.732	21.013	0.99	0.70	14.527

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	5.314	1.000	14.527	19.841
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.846	4.496	0.651	9.457	13.953
Head-on collision	0.021	0.112	0.004	0.058	0.170
Angle collision	0.050	0.266	0.059	0.857	1.123
Sideswipe, same direction	0.061	0.324	0.248	3.603	3.927
Sideswipe, opposite direction	0.004	0.021	0.009	0.131	0.152
Other multiple-vehicle collision	0.018	0.096	0.029	0.421	0.517

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N$_{brsv}$**	**Proportion of Total Crashes**	**Adjusted N$_{brsv}$**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N$_{brsv}$**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-4.82	0.54	0.52	6.457	1.000	6.457	0.99	0.70	4.464
Fatal and Injury (FI)	-4.43	0.35	0.36	1.396	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.226	1.461	0.99	0.70	1.010
Property Damage Only (PDO)	-5.83	0.61	0.55	4.774	(5)$_{TOTAL}$-(5)$_{FI}$ 0.774	4.996	0.99	0.70	3.454

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	1.010	1.000	3.454	4.464
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.016	0.016	0.049	0.169	0.185
Collision with fixed object	0.398	0.402	0.768	2.653	3.055
Collision with other object	0.005	0.005	0.061	0.211	0.216
Other single-vehicle collision	0.581	0.587	0.122	0.421	1.008

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15{,}000)^t$	from Table 12-7
Major commercial	5	0.165	1.172	1.479	--
Minor commercial	45	0.053	1.172	4.275	
Major industrial/institutional	0	0.181	1.172	0.000	
Minor industrial/institutional	0	0.024	1.172	0.000	
Major residential	0	0.087	1.172	0.000	
Minor residential	0	0.016	1.172	0.000	
Other	20	0.027	1.172	0.968	
Total	--	--	--	6.722	0.10

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	6.722	1.000	6.722	0.99	0.70	4.647
Fatal and injury (FI)	--	0.269	1.808	0.99	0.70	1.250
Property damage only (PDO)	--	0.731	4.914	0.99	0.70	3.397

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	19.841	4.464	4.647	28.952	0.023	0.70	0.466
Fatal and injury (FI)	--	--	--	--	--	0.70	0.466

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	19.841	4.464	4.647	28.952	0.012	0.70	0.243
Fatal and injury (FI)	--	--	--	--	--	0.70	0.243

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	**Property damage only (PDO)** (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	**Total** (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	4.496	9.457	13.953
Head-on collisions (from Worksheet 1D)	0.112	0.058	0.170
Angle collisions (from Worksheet 1D)	0.266	0.857	1.123
Sideswipe, same direction (from Worksheet 1D)	0.324	3.603	3.927
Sideswipe, opposite direction (from Worksheet 1D)	0.021	0.131	0.152
Driveway-related collisions (from Worksheet 1H)	1.250	3.397	4.647
Other multiple-vehicle collision (from Worksheet 1D)	0.096	0.421	0.517
Subtotal	6.564	17.924	24.488
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.016	0.169	0.185
Collision with fixed object (from Worksheet 1F)	0.402	2.653	3.055
Collision with other object (from Worksheet 1F)	0.005	0.211	0.216
Other single-vehicle collision (from Worksheet 1F)	0.587	0.421	1.008
Collision with pedestrian (from Worksheet 1I)	0.466	0.000	0.466
Collision with bicycle (from Worksheet 1J)	0.243	0.000	0.243
Subtotal	1.719	3.454	5.174
Total	8.283	21.378	29.661

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	29.7	3.40	8.7
Fatal and injury (FI)	8.3	3.40	2.4
Property damage only (PDO)	21.4	3.40	6.3

2030 Alt 1B

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments			
General Information		**Location Information**	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Antioch Rd to I-10
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2030

Input Data		**Base Conditions**	**Site Conditions**
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	44,585
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Not Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	3
Minor commercial driveways (number)		--	15
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	10
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.03	0.99	1.00	1.00	1.02

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	16.557	1.000	16.557	1.02	0.68	11.441
Fatal and Injury (FI)	-12.76	1.28	1.31	4.620	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.265	4.386	1.02	0.68	3.031
Property Damage Only (PDO)	-12.81	1.38	1.34	12.819	$(5)_{TOTAL}-(5)_{FI}$ 0.735	12.170	1.02	0.68	8.410

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	3.031	1.000	8.410	11.441
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.832	2.522	0.662	5.567	8.089
Head-on collision	0.020	0.061	0.007	0.059	0.119
Angle collision	0.040	0.121	0.036	0.303	0.424
Sideswipe, same direction	0.050	0.152	0.223	1.875	2.027
Sideswipe, opposite direction	0.010	0.030	0.001	0.008	0.039
Other multiple-vehicle collision	0.048	0.145	0.071	0.597	0.743

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	1.767	1.000	1.767	1.02	0.68	1.221
Fatal and Injury (FI)	-8.71	0.66	0.28	0.348	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.194	0.343	1.02	0.68	0.237
Property Damage Only (PDO)	-5.04	0.45	1.06	1.441	$(5)_{TOTAL}-(5)_{FI}$ 0.806	1.423	1.02	0.68	0.984

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.237	1.000	0.984	1.221
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.062	0.062
Collision with fixed object	0.500	0.119	0.813	0.800	0.918
Collision with other object	0.028	0.007	0.016	0.016	0.022
Other single-vehicle collision	0.471	0.112	0.108	0.106	0.218

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 n_j * N_j * $(AADT/15,000)^t$	from Table 12-7
Major commercial	3	0.033	1.106	0.330	--
Minor commercial	15	0.011	1.106	0.550	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.881	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.881	1.000	0.881	1.02	0.68	0.609
Fatal and injury (FI)	--	0.284	0.250	1.02	0.68	0.173
Property damage only (PDO)	--	0.716	0.631	1.02	0.68	0.436

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	11.441	1.221	0.609	13.270	0.019	0.68	0.171
Fatal and injury (FI)	--	--	--	--	--	0.68	0.171

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	11.441	1.221	0.609	13.270	0.005	0.68	0.045
Fatal and injury (FI)	--	--	--	--	--	0.68	0.045

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	2.522	5.567	8.089
Head-on collisions (from Worksheet 1D)	0.061	0.059	0.119
Angle collisions (from Worksheet 1D)	0.121	0.303	0.424
Sideswipe, same direction (from Worksheet 1D)	0.152	1.875	2.027
Sideswipe, opposite direction (from Worksheet 1D)	0.030	0.008	0.039
Driveway-related collisions (from Worksheet 1H)	0.173	0.436	0.609
Other multiple-vehicle collision (from Worksheet 1D)	0.145	0.597	0.743
Subtotal	3.204	8.846	12.049
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.062	0.062
Collision with fixed object (from Worksheet 1F)	0.119	0.800	0.918
Collision with other object (from Worksheet 1F)	0.007	0.016	0.022
Other single-vehicle collision (from Worksheet 1F)	0.112	0.106	0.218
Collision with pedestrian (from Worksheet 1I)	0.171	0.000	0.171
Collision with bicycle (from Worksheet 1J)	0.045	0.000	0.045
Subtotal	0.454	0.984	1.437
Total	3.658	9.829	13.487

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	13.5	1.80	7.5
Fatal and injury (FI)	3.7	1.80	2.0
Property damage only (PDO)	9.8	1.80	5.5

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Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments			
General Information		**Location Information**	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	I-10 to Brock Ave
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2030

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	27,626
Type of on-street parking (none/parallel/angle)		None	Parallel (Comm/Ind)
Proportion of curb length with on-street parking		--	0.38
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	4
Minor commercial driveways (number)		--	25
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	15
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.27	1.02	0.99	0.91	1.00	1.17

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	8.635	1.000	8.635	1.17	0.68	6.878
Fatal and Injury (FI)	-12.76	1.28	1.31	2.504	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.274	2.369	1.17	0.68	1.887
Property Damage Only (PDO)	-12.81	1.38	1.34	6.622	$(5)_{TOTAL}-(5)_{FI}$ 0.726	6.266	1.17	0.68	4.991

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted $N_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted $N_{brmv\ (PDO)}$ (crashes/year)**	**Predicted $N_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	1.887	1.000	4.991	6.878
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.832	1.570	0.662	3.304	4.874
Head-on collision	0.020	0.038	0.007	0.035	0.073
Angle collision	0.040	0.075	0.036	0.180	0.255
Sideswipe, same direction	0.050	0.094	0.223	1.113	1.207
Sideswipe, opposite direction	0.010	0.019	0.001	0.005	0.024
Other multiple-vehicle collision	0.048	0.091	0.071	0.354	0.445

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	1.411	1.000	1.411	1.17	0.68	1.124
Fatal and Injury (FI)	-8.71	0.66	0.28	0.253	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.179	0.253	1.17	0.68	0.201
Property Damage Only (PDO)	-5.04	0.45	1.06	1.162	$(5)_{TOTAL}-(5)_{FI}$ 0.821	1.158	1.17	0.68	0.922

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted $N_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted $N_{brsv\ (PDO)}$ (crashes/year)**	**Predicted $N_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.201	1.000	0.922	1.124
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.058	0.058
Collision with fixed object	0.500	0.101	0.813	0.750	0.851
Collision with other object	0.028	0.006	0.016	0.015	0.020
Other single-vehicle collision	0.471	0.095	0.108	0.100	0.194

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15{,}000)^t$	from Table 12-7
Major commercial	4	0.033	1.106	0.259	--
Minor commercial	25	0.011	1.106	0.540	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	15	0.005	1.106	0.147	
Total	--	--	--	0.947	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.947	1.000	0.947	1.17	0.68	0.754
Fatal and injury (FI)	--	0.284	0.269	1.17	0.68	0.214
Property damage only (PDO)	--	0.716	0.678	1.17	0.68	0.540

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	6.878	1.124	0.754	8.756	0.019	0.68	0.113
Fatal and injury (FI)	--	--	--	--	--	0.68	0.113

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	6.878	1.124	0.754	8.756	0.005	0.68	0.030
Fatal and injury (FI)	--	--	--	--	--	0.68	0.030

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	**Property damage only (PDO)** (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	**Total** (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	1.570	3.304	4.874
Head-on collisions (from Worksheet 1D)	0.038	0.035	0.073
Angle collisions (from Worksheet 1D)	0.075	0.180	0.255
Sideswipe, same direction (from Worksheet 1D)	0.094	1.113	1.207
Sideswipe, opposite direction (from Worksheet 1D)	0.019	0.005	0.024
Driveway-related collisions (from Worksheet 1H)	0.214	0.540	0.754
Other multiple-vehicle collision (from Worksheet 1D)	0.091	0.354	0.445
Subtotal	2.101	5.531	7.632
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.058	0.058
Collision with fixed object (from Worksheet 1F)	0.101	0.750	0.851
Collision with other object (from Worksheet 1F)	0.006	0.015	0.020
Other single-vehicle collision (from Worksheet 1F)	0.095	0.100	0.194
Collision with pedestrian (from Worksheet 1I)	0.113	0.000	0.113
Collision with bicycle (from Worksheet 1J)	0.030	0.000	0.030
Subtotal	0.344	0.922	1.267
Total	2.445	6.453	8.899

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	8.9	1.80	4.9
Fatal and injury (FI)	2.4	1.80	1.4
Property damage only (PDO)	6.5	1.80	3.6

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Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments			
General Information		**Location Information**	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Brock Ave to Airport Rd
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2030

Input Data		**Base Conditions**	**Site Conditions**
Roadway type (2U, 3T, 4U, 4D, ST)		--	5T
Length of segment, L (mi)		--	3.4
AADT (veh/day)	$AADT_{MAX}$ = 53,800 (veh/day)	--	26,351
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	10
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	5
Minor commercial driveways (number)		--	45
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	20
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	45
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.70

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.04	1.01	0.94	1.00	0.99

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-9.70	1.17	0.81	30.985	1.000	30.985	0.99	0.70	21.422
Fatal and Injury (FI)	-10.47	1.12	0.62	8.624	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.267	8.279	0.99	0.70	5.723
Property Damage Only (PDO)	-9.97	1.17	0.88	23.654	$(5)_{TOTAL}-(5)_{FI}$ 0.733	22.707	0.99	0.70	15.698

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	5.723	1.000	15.698	21.422
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.846	4.842	0.651	10.219	15.062
Head-on collision	0.021	0.120	0.004	0.063	0.183
Angle collision	0.050	0.286	0.059	0.926	1.212
Sideswipe, same direction	0.061	0.349	0.248	3.893	4.242
Sideswipe, opposite direction	0.004	0.023	0.009	0.141	0.164
Other multiple-vehicle collision	0.018	0.103	0.029	0.455	0.558

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N$_{brsv}$**	**Proportion of Total Crashes**	**Adjusted N$_{brsv}$**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N$_{brsv}$**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-4.82	0.54	0.52	6.690	1.000	6.690	0.99	0.70	4.625
Fatal and Injury (FI)	-4.43	0.35	0.36	1.428	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.223	1.494	0.99	0.70	1.033
Property Damage Only (PDO)	-5.83	0.61	0.55	4.969	(5)$_{TOTAL}$-(5)$_{FI}$ 0.777	5.196	0.99	0.70	3.592

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	1.033	1.000	3.592	4.625
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.016	0.017	0.049	0.176	0.193
Collision with fixed object	0.398	0.411	0.768	2.759	3.170
Collision with other object	0.005	0.005	0.061	0.219	0.224
Other single-vehicle collision	0.581	0.600	0.122	0.438	1.038

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 n_j * N_j * (AADT/15,000)^t	from Table 12-7
Major commercial	5	0.165	1.172	1.597	--
Minor commercial	45	0.053	1.172	4.616	
Major industrial/institutional	0	0.181	1.172	0.000	
Minor industrial/institutional	0	0.024	1.172	0.000	
Major residential	0	0.087	1.172	0.000	
Minor residential	0	0.016	1.172	0.000	
Other	20	0.027	1.172	1.045	
Total	--	--	--	7.258	0.10

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	7.258	1.000	7.258	0.99	0.70	5.018
Fatal and injury (FI)	--	0.269	1.952	0.99	0.70	1.350
Property damage only (PDO)	--	0.731	5.306	0.99	0.70	3.668

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	21.422	4.625	5.018	31.064	0.023	0.70	0.500
Fatal and injury (FI)	--	--	--	--	--	0.70	0.500

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	21.422	4.625	5.018	31.064	0.012	0.70	0.261
Fatal and injury (FI)	--	--	--	--	--	0.70	0.261

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	4.842	10.219	15.062
Head-on collisions (from Worksheet 1D)	0.120	0.063	0.183
Angle collisions (from Worksheet 1D)	0.286	0.926	1.212
Sideswipe, same direction (from Worksheet 1D)	0.349	3.893	4.242
Sideswipe, opposite direction (from Worksheet 1D)	0.023	0.141	0.164
Driveway-related collisions (from Worksheet 1H)	1.350	3.668	5.018
Other multiple-vehicle collision (from Worksheet 1D)	0.103	0.455	0.558
Subtotal	7.073	19.366	26.439
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.017	0.176	0.193
Collision with fixed object (from Worksheet 1F)	0.411	2.759	3.170
Collision with other object (from Worksheet 1F)	0.005	0.219	0.224
Other single-vehicle collision (from Worksheet 1F)	0.600	0.438	1.038
Collision with pedestrian (from Worksheet 1I)	0.500	0.000	0.500
Collision with bicycle (from Worksheet 1J)	0.261	0.000	0.261
Subtotal	1.794	3.592	5.386
Total	8.867	22.958	31.825

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	31.8	3.40	9.4
Fatal and injury (FI)	8.9	3.40	2.6
Property damage only (PDO)	23.0	3.40	6.8

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Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Antioch Rd to I-10
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2030

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	56,500
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Not Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	3
Minor commercial driveways (number)		--	15
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	10
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.03	0.99	1.00	1.00	1.02

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	22.849	1.000	22.849	1.02	0.68	15.789
Fatal and Injury (FI)	-12.76	1.28	1.31	6.256	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.260	5.948	1.02	0.68	4.110
Property Damage Only (PDO)	-12.81	1.38	1.34	17.774	$(5)_{TOTAL}-(5)_{FI}$ 0.740	16.900	1.02	0.68	11.678

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	4.110	1.000	11.678	15.789
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.832	3.420	0.662	7.731	11.151
Head-on collision	0.020	0.082	0.007	0.082	0.164
Angle collision	0.040	0.164	0.036	0.420	0.585
Sideswipe, same direction	0.050	0.206	0.223	2.604	2.810
Sideswipe, opposite direction	0.010	0.041	0.001	0.012	0.053
Other multiple-vehicle collision	0.048	0.197	0.071	0.829	1.026

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	1.975	1.000	1.975	1.02	0.68	1.365
Fatal and Injury (FI)	-8.71	0.66	0.28	0.406	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.202	0.399	1.02	0.68	0.276
Property Damage Only (PDO)	-5.04	0.45	1.06	1.603	(5)$_{TOTAL}$-(5)$_{FI}$ 0.798	1.575	1.02	0.68	1.089

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	0.276	1.000	1.089	1.365
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.069	0.069
Collision with fixed object	0.500	0.138	0.813	0.885	1.023
Collision with other object	0.028	0.008	0.016	0.017	0.025
Other single-vehicle collision	0.471	0.130	0.108	0.118	0.248

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15{,}000)^t$	from Table 12-7
Major commercial	3	0.033	1.106	0.429	--
Minor commercial	15	0.011	1.106	0.715	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	1.144	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	1.144	1.000	1.144	1.02	0.68	0.791
Fatal and injury (FI)	--	0.284	0.325	1.02	0.68	0.225
Property damage only (PDO)	--	0.716	0.819	1.02	0.68	0.566

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	15.789	1.365	0.791	17.944	0.019	0.68	0.232
Fatal and injury (FI)	--	--	--	--	--	0.68	0.232

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	15.789	1.365	0.791	17.944	0.005	0.68	0.061
Fatal and injury (FI)	--	--	--	--	--	0.68	0.061

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	**Property damage only (PDO)** (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	**Total** (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	3.420	7.731	11.151
Head-on collisions (from Worksheet 1D)	0.082	0.082	0.164
Angle collisions (from Worksheet 1D)	0.164	0.420	0.585
Sideswipe, same direction (from Worksheet 1D)	0.206	2.604	2.810
Sideswipe, opposite direction (from Worksheet 1D)	0.041	0.012	0.053
Driveway-related collisions (from Worksheet 1H)	0.225	0.566	0.791
Other multiple-vehicle collision (from Worksheet 1D)	0.197	0.829	1.026
Subtotal	4.335	12.244	16.580
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.069	0.069
Collision with fixed object (from Worksheet 1F)	0.138	0.885	1.023
Collision with other object (from Worksheet 1F)	0.008	0.017	0.025
Other single-vehicle collision (from Worksheet 1F)	0.130	0.118	0.248
Collision with pedestrian (from Worksheet 1I)	0.232	0.000	0.232
Collision with bicycle (from Worksheet 1J)	0.061	0.000	0.061
Subtotal	0.569	1.089	1.658
Total	4.904	13.333	18.237

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	18.2	1.80	10.1
Fatal and injury (FI)	4.9	1.80	2.7
Property damage only (PDO)	13.3	1.80	7.4

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Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	I-10 to Brock Ave
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2030

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	29,901
Type of on-street parking (none/parallel/angle)		None	Parallel (Comm/Ind)
Proportion of curb length with on-street parking		--	0.38
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	4
Minor commercial driveways (number)		--	25
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	15
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.27	1.02	0.99	0.91	1.00	1.17

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	9.616	1.000	9.616	1.17	0.68	7.659
Fatal and Injury (FI)	-12.76	1.28	1.31	2.770	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.273	2.623	1.17	0.68	2.089
Property Damage Only (PDO)	-12.81	1.38	1.34	7.386	$(5)_{TOTAL}-(5)_{FI}$ 0.727	6.993	1.17	0.68	5.570

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted $N_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted $N_{brmv\ (PDO)}$ (crashes/year)**	**Predicted $N_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	2.089	1.000	5.570	7.659
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.832	1.738	0.662	3.687	5.426
Head-on collision	0.020	0.042	0.007	0.039	0.081
Angle collision	0.040	0.084	0.036	0.201	0.284
Sideswipe, same direction	0.050	0.104	0.223	1.242	1.347
Sideswipe, opposite direction	0.010	0.021	0.001	0.006	0.026
Other multiple-vehicle collision	0.048	0.100	0.071	0.395	0.496

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	1.464	1.000	1.464	1.17	0.68	1.166
Fatal and Injury (FI)	-8.71	0.66	0.28	0.267	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.182	0.266	1.17	0.68	0.212
Property Damage Only (PDO)	-5.04	0.45	1.06	1.204	$(5)_{TOTAL}-(5)_{FI}$ 0.818	1.199	1.17	0.68	0.955

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted $N_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted $N_{brsv\ (PDO)}$ (crashes/year)**	**Predicted $N_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.212	1.000	0.955	1.166
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.060	0.060
Collision with fixed object	0.500	0.106	0.813	0.776	0.882
Collision with other object	0.028	0.006	0.016	0.015	0.021
Other single-vehicle collision	0.471	0.100	0.108	0.103	0.203

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15{,}000)^t$	from Table 12-7
Major commercial	4	0.033	1.106	0.283	--
Minor commercial	25	0.011	1.106	0.590	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	15	0.005	1.106	0.161	
Total	--	--	--	1.034	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	1.034	1.000	1.034	1.17	0.68	0.823
Fatal and injury (FI)	--	0.284	0.294	1.17	0.68	0.234
Property damage only (PDO)	--	0.716	0.740	1.17	0.68	0.589

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	7.659	1.166	0.823	9.649	0.019	0.68	0.125
Fatal and injury (FI)	--	--	--	--	--	0.68	0.125

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	7.659	1.166	0.823	9.649	0.005	0.68	0.033
Fatal and injury (FI)	--	--	--	--	--	0.68	0.033

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	1.738	3.687	5.426
Head-on collisions (from Worksheet 1D)	0.042	0.039	0.081
Angle collisions (from Worksheet 1D)	0.084	0.201	0.284
Sideswipe, same direction (from Worksheet 1D)	0.104	1.242	1.347
Sideswipe, opposite direction (from Worksheet 1D)	0.021	0.006	0.026
Driveway-related collisions (from Worksheet 1H)	0.234	0.589	0.823
Other multiple-vehicle collision (from Worksheet 1D)	0.100	0.395	0.496
Subtotal	2.323	6.159	8.482
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.060	0.060
Collision with fixed object (from Worksheet 1F)	0.106	0.776	0.882
Collision with other object (from Worksheet 1F)	0.006	0.015	0.021
Other single-vehicle collision (from Worksheet 1F)	0.100	0.103	0.203
Collision with pedestrian (from Worksheet 1I)	0.125	0.000	0.125
Collision with bicycle (from Worksheet 1J)	0.033	0.000	0.033
Subtotal	0.369	0.955	1.324
Total	2.692	7.114	9.806

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	9.8	1.80	5.4
Fatal and injury (FI)	2.7	1.80	1.5
Property damage only (PDO)	7.1	1.80	4.0

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Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments			
General Information		**Location Information**	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Brock Ave to Airport Rd
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2030

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	5T
Length of segment, L (mi)		--	3.4
AADT (veh/day)	$AADT_{MAX}$ = 53,800 (veh/day)	--	29,054
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	10
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	5
Minor commercial driveways (number)		--	45
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	20
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	45
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.70

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.04	1.01	0.94	1.00	0.99

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-9.70	1.17	0.81	34.735	1.000	34.735	0.99	0.70	24.014
Fatal and Injury (FI)	-10.47	1.12	0.62	9.621	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.266	9.248	0.99	0.70	6.393
Property Damage Only (PDO)	-9.97	1.17	0.88	26.516	$(5)_{TOTAL}-(5)_{FI}$ 0.734	25.488	0.99	0.70	17.621

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	6.393	1.000	17.621	24.014
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.846	5.409	0.651	11.471	16.880
Head-on collision	0.021	0.134	0.004	0.070	0.205
Angle collision	0.050	0.320	0.059	1.040	1.359
Sideswipe, same direction	0.061	0.390	0.248	4.370	4.760
Sideswipe, opposite direction	0.004	0.026	0.009	0.159	0.184
Other multiple-vehicle collision	0.018	0.115	0.029	0.511	0.626

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N$_{brsv}$**	**Proportion of Total Crashes**	**Adjusted N$_{brsv}$**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N$_{brsv}$**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-4.82	0.54	0.52	7.052	1.000	7.052	0.99	0.70	4.875
Fatal and Injury (FI)	-4.43	0.35	0.36	1.478	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.219	1.544	0.99	0.70	1.067
Property Damage Only (PDO)	-5.83	0.61	0.55	5.273	(5)$_{TOTAL}$-(5)$_{FI}$ 0.781	5.508	0.99	0.70	3.808

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	1.067	1.000	3.808	4.875
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.016	0.017	0.049	0.187	0.204
Collision with fixed object	0.398	0.425	0.768	2.925	3.349
Collision with other object	0.005	0.005	0.061	0.232	0.238
Other single-vehicle collision	0.581	0.620	0.122	0.465	1.085

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	5	0.165	1.172	1.790	--
Minor commercial	45	0.053	1.172	5.176	
Major industrial/institutional	0	0.181	1.172	0.000	
Minor industrial/institutional	0	0.024	1.172	0.000	
Major residential	0	0.087	1.172	0.000	
Minor residential	0	0.016	1.172	0.000	
Other	20	0.027	1.172	1.172	
Total	--	--	--	8.138	0.10

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	8.138	1.000	8.138	0.99	0.70	5.626
Fatal and injury (FI)	--	0.269	2.189	0.99	0.70	1.513
Property damage only (PDO)	--	0.731	5.949	0.99	0.70	4.113

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	24.014	4.875	5.626	34.516	0.023	0.70	0.556
Fatal and injury (FI)	--	--	--	--	--	0.70	0.556

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	24.014	4.875	5.626	34.516	0.012	0.70	0.290
Fatal and injury (FI)	--	--	--	--	--	0.70	0.290

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	5.409	11.471	16.880
Head-on collisions (from Worksheet 1D)	0.134	0.070	0.205
Angle collisions (from Worksheet 1D)	0.320	1.040	1.359
Sideswipe, same direction (from Worksheet 1D)	0.390	4.370	4.760
Sideswipe, opposite direction (from Worksheet 1D)	0.026	0.159	0.184
Driveway-related collisions (from Worksheet 1H)	1.513	4.113	5.626
Other multiple-vehicle collision (from Worksheet 1D)	0.115	0.511	0.626
Subtotal	7.907	21.734	29.641
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.017	0.187	0.204
Collision with fixed object (from Worksheet 1F)	0.425	2.925	3.349
Collision with other object (from Worksheet 1F)	0.005	0.232	0.238
Other single-vehicle collision (from Worksheet 1F)	0.620	0.465	1.085
Collision with pedestrian (from Worksheet 1I)	0.556	0.000	0.556
Collision with bicycle (from Worksheet 1J)	0.290	0.000	0.290
Subtotal	1.913	3.808	5.721
Total	9.820	25.542	35.362

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	35.4	3.40	10.4
Fatal and injury (FI)	9.8	3.40	2.9
Property damage only (PDO)	25.5	3.40	7.5

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Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments			
General Information		**Location Information**	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Antioch Rd to I-10
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2030

Input Data		**Base Conditions**	**Site Conditions**
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	56,482
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Not Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	3
Minor commercial driveways (number)		--	15
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	10
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.03	0.99	1.00	1.00	1.02

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	22.839	1.000	22.839	1.02	0.68	15.782
Fatal and Injury (FI)	-12.76	1.28	1.31	6.253	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.260	5.946	1.02	0.68	4.109
Property Damage Only (PDO)	-12.81	1.38	1.34	17.766	$(5)_{TOTAL}-(5)_{FI}$ 0.740	16.893	1.02	0.68	11.673

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	4.109	1.000	11.673	15.782
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.832	3.418	0.662	7.728	11.146
Head-on collision	0.020	0.082	0.007	0.082	0.164
Angle collision	0.040	0.164	0.036	0.420	0.585
Sideswipe, same direction	0.050	0.205	0.223	2.603	2.809
Sideswipe, opposite direction	0.010	0.041	0.001	0.012	0.053
Other multiple-vehicle collision	0.048	0.197	0.071	0.829	1.026

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N$_{brsv}$**	**Proportion of Total Crashes**	**Adjusted N$_{brsv}$**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N$_{brsv}$**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	1.975	1.000	1.975	1.02	0.68	1.364
Fatal and Injury (FI)	-8.71	0.66	0.28	0.406	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.202	0.399	1.02	0.68	0.276
Property Damage Only (PDO)	-5.04	0.45	1.06	1.602	(5)$_{TOTAL}$-(5)$_{FI}$ 0.798	1.575	1.02	0.68	1.088

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	0.276	1.000	1.088	1.364
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.069	0.069
Collision with fixed object	0.500	0.138	0.813	0.885	1.023
Collision with other object	0.028	0.008	0.016	0.017	0.025
Other single-vehicle collision	0.471	0.130	0.108	0.118	0.248

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	3	0.033	1.106	0.429	--
Minor commercial	15	0.011	1.106	0.715	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	1.144	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	1.144	1.000	1.144	1.02	0.68	0.791
Fatal and injury (FI)	--	0.284	0.325	1.02	0.68	0.225
Property damage only (PDO)	--	0.716	0.819	1.02	0.68	0.566

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	15.782	1.364	0.791	17.937	0.019	0.68	0.232
Fatal and injury (FI)	--	--	--	--	--	0.68	0.232

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	15.782	1.364	0.791	17.937	0.005	0.68	0.061
Fatal and injury (FI)	--	--	--	--	--	0.68	0.061

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	**Property damage only (PDO)** (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	**Total** (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	3.418	7.728	11.146
Head-on collisions (from Worksheet 1D)	0.082	0.082	0.164
Angle collisions (from Worksheet 1D)	0.164	0.420	0.585
Sideswipe, same direction (from Worksheet 1D)	0.205	2.603	2.809
Sideswipe, opposite direction (from Worksheet 1D)	0.041	0.012	0.053
Driveway-related collisions (from Worksheet 1H)	0.225	0.566	0.791
Other multiple-vehicle collision (from Worksheet 1D)	0.197	0.829	1.026
Subtotal	4.333	12.239	16.572
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.069	0.069
Collision with fixed object (from Worksheet 1F)	0.138	0.885	1.023
Collision with other object (from Worksheet 1F)	0.008	0.017	0.025
Other single-vehicle collision (from Worksheet 1F)	0.130	0.118	0.248
Collision with pedestrian (from Worksheet 1I)	0.232	0.000	0.232
Collision with bicycle (from Worksheet 1J)	0.061	0.000	0.061
Subtotal	0.569	1.088	1.657
Total	4.902	13.328	18.230

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	18.2	1.80	10.1
Fatal and injury (FI)	4.9	1.80	2.7
Property damage only (PDO)	13.3	1.80	7.4

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Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments			
General Information		**Location Information**	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	I-10 to Brock Ave
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2030

Input Data		**Base Conditions**	**Site Conditions**
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	29,697
Type of on-street parking (none/parallel/angle)		None	Parallel (Comm/Ind)
Proportion of curb length with on-street parking		--	0.38
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	4
Minor commercial driveways (number)		--	25
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	15
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.27	1.02	0.99	0.91	1.00	1.17

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	9.527	1.000	9.527	1.17	0.68	7.588
Fatal and Injury (FI)	-12.76	1.28	1.31	2.746	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.273	2.600	1.17	0.68	2.071
Property Damage Only (PDO)	-12.81	1.38	1.34	7.317	$(5)_{TOTAL}-(5)_{FI}$ 0.727	6.927	1.17	0.68	5.517

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	2.071	1.000	5.517	7.588
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.832	1.723	0.662	3.652	5.375
Head-on collision	0.020	0.041	0.007	0.039	0.080
Angle collision	0.040	0.083	0.036	0.199	0.281
Sideswipe, same direction	0.050	0.104	0.223	1.230	1.334
Sideswipe, opposite direction	0.010	0.021	0.001	0.006	0.026
Other multiple-vehicle collision	0.048	0.099	0.071	0.392	0.491

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N$_{brsv}$**	**Proportion of Total Crashes**	**Adjusted N$_{brsv}$**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N$_{brsv}$**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	1.460	1.000	1.460	1.17	0.68	1.163
Fatal and Injury (FI)	-8.71	0.66	0.28	0.266	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.181	0.265	1.17	0.68	0.211
Property Damage Only (PDO)	-5.04	0.45	1.06	1.200	(5)$_{TOTAL}$-(5)$_{FI}$ 0.819	1.195	1.17	0.68	0.952

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	0.211	1.000	0.952	1.163
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.060	0.060
Collision with fixed object	0.500	0.105	0.813	0.774	0.879
Collision with other object	0.028	0.006	0.016	0.015	0.021
Other single-vehicle collision	0.471	0.099	0.108	0.103	0.202

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	4	0.033	1.106	0.281	--
Minor commercial	25	0.011	1.106	0.585	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	15	0.005	1.106	0.160	
Total	--	--	--	1.026	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	1.026	1.000	1.026	1.17	0.68	0.817
Fatal and injury (FI)	--	0.284	0.291	1.17	0.68	0.232
Property damage only (PDO)	--	0.716	0.735	1.17	0.68	0.585

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	7.588	1.163	0.817	9.568	0.019	0.68	0.124
Fatal and injury (FI)	--	--	--	--	--	0.68	0.124

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	7.588	1.163	0.817	9.568	0.005	0.68	0.033
Fatal and injury (FI)	--	--	--	--	--	0.68	0.033

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	**Property damage only (PDO)** (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	**Total** (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	1.723	3.652	5.375
Head-on collisions (from Worksheet 1D)	0.041	0.039	0.080
Angle collisions (from Worksheet 1D)	0.083	0.199	0.281
Sideswipe, same direction (from Worksheet 1D)	0.104	1.230	1.334
Sideswipe, opposite direction (from Worksheet 1D)	0.021	0.006	0.026
Driveway-related collisions (from Worksheet 1H)	0.232	0.585	0.817
Other multiple-vehicle collision (from Worksheet 1D)	0.099	0.392	0.491
Subtotal	2.303	6.102	8.405
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.060	0.060
Collision with fixed object (from Worksheet 1F)	0.105	0.774	0.879
Collision with other object (from Worksheet 1F)	0.006	0.015	0.021
Other single-vehicle collision (from Worksheet 1F)	0.099	0.103	0.202
Collision with pedestrian (from Worksheet 1I)	0.124	0.000	0.124
Collision with bicycle (from Worksheet 1J)	0.033	0.000	0.033
Subtotal	0.367	0.952	1.319
Total	2.670	7.054	9.724

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	9.7	1.80	5.4
Fatal and injury (FI)	2.7	1.80	1.5
Property damage only (PDO)	7.1	1.80	3.9

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Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments			
General Information		**Location Information**	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Brock Ave to Airport Rd
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2030

Input Data		**Base Conditions**	**Site Conditions**
Roadway type (2U, 3T, 4U, 4D, ST)		--	5T
Length of segment, L (mi)		--	3.4
AADT (veh/day)	$AADT_{MAX}$ = 53,800 (veh/day)	--	28,780
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	10
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	5
Minor commercial driveways (number)		--	45
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	20
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	45
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.70

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.04	1.01	0.94	1.00	0.99

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-9.70	1.17	0.81	34.353	1.000	34.353	0.99	0.70	23.749
Fatal and Injury (FI)	-10.47	1.12	0.62	9.519	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.266	9.149	0.99	0.70	6.325
Property Damage Only (PDO)	-9.97	1.17	0.88	26.224	$(5)_{TOTAL}-(5)_{FI}$ 0.734	25.204	0.99	0.70	17.425

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	6.325	1.000	17.425	23.749
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.846	5.351	0.651	11.343	16.694
Head-on collision	0.021	0.133	0.004	0.070	0.203
Angle collision	0.050	0.316	0.059	1.028	1.344
Sideswipe, same direction	0.061	0.386	0.248	4.321	4.707
Sideswipe, opposite direction	0.004	0.025	0.009	0.157	0.182
Other multiple-vehicle collision	0.018	0.114	0.029	0.505	0.619

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-4.82	0.54	0.52	7.016	1.000	7.016	0.99	0.70	4.850
Fatal and Injury (FI)	-4.43	0.35	0.36	1.473	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.219	1.539	0.99	0.70	1.064
Property Damage Only (PDO)	-5.83	0.61	0.55	5.243	$(5)_{TOTAL}-(5)_{FI}$ 0.781	5.477	0.99	0.70	3.787

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	1.064	1.000	3.787	4.850
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.016	0.017	0.049	0.186	0.203
Collision with fixed object	0.398	0.423	0.768	2.908	3.332
Collision with other object	0.005	0.005	0.061	0.231	0.236
Other single-vehicle collision	0.581	0.618	0.122	0.462	1.080

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	5	0.165	1.172	1.771	--
Minor commercial	45	0.053	1.172	5.119	
Major industrial/institutional	0	0.181	1.172	0.000	
Minor industrial/institutional	0	0.024	1.172	0.000	
Major residential	0	0.087	1.172	0.000	
Minor residential	0	0.016	1.172	0.000	
Other	20	0.027	1.172	1.159	
Total	--	--	--	8.048	0.10

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	8.048	1.000	8.048	0.99	0.70	5.564
Fatal and injury (FI)	--	0.269	2.165	0.99	0.70	1.497
Property damage only (PDO)	--	0.731	5.883	0.99	0.70	4.067

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	23.749	4.850	5.564	34.164	0.023	0.70	0.550
Fatal and injury (FI)	--	--	--	--	--	0.70	0.550

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	23.749	4.850	5.564	34.164	0.012	0.70	0.287
Fatal and injury (FI)	--	--	--	--	--	0.70	0.287

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	5.351	11.343	16.694
Head-on collisions (from Worksheet 1D)	0.133	0.070	0.203
Angle collisions (from Worksheet 1D)	0.316	1.028	1.344
Sideswipe, same direction (from Worksheet 1D)	0.386	4.321	4.707
Sideswipe, opposite direction (from Worksheet 1D)	0.025	0.157	0.182
Driveway-related collisions (from Worksheet 1H)	1.497	4.067	5.564
Other multiple-vehicle collision (from Worksheet 1D)	0.114	0.505	0.619
Subtotal	7.822	21.492	29.314
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.017	0.186	0.203
Collision with fixed object (from Worksheet 1F)	0.423	2.908	3.332
Collision with other object (from Worksheet 1F)	0.005	0.231	0.236
Other single-vehicle collision (from Worksheet 1F)	0.618	0.462	1.080
Collision with pedestrian (from Worksheet 1I)	0.550	0.000	0.550
Collision with bicycle (from Worksheet 1J)	0.287	0.000	0.287
Subtotal	1.901	3.787	5.687
Total	9.723	25.279	35.001

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	35.0	3.40	10.3
Fatal and injury (FI)	9.7	3.40	2.9
Property damage only (PDO)	25.3	3.40	7.4

2040 No Build

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments			
General Information		**Location Information**	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Antioch Rd to I-10
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2040

Input Data		**Base Conditions**	**Site Conditions**
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	64,985
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Not Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	3
Minor commercial driveways (number)		--	15
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	10
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.03	0.99	1.00	1.00	1.02

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	27.638	1.000	27.638	1.02	0.68	19.098
Fatal and Injury (FI)	-12.76	1.28	1.31	7.483	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.258	7.121	1.02	0.68	4.921
Property Damage Only (PDO)	-12.81	1.38	1.34	21.560	$(5)_{TOTAL}-(5)_{FI}$ 0.742	20.517	1.02	0.68	14.177

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	4.921	1.000	14.177	19.098
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.832	4.094	0.662	9.385	13.479
Head-on collision	0.020	0.098	0.007	0.099	0.198
Angle collision	0.040	0.197	0.036	0.510	0.707
Sideswipe, same direction	0.050	0.246	0.223	3.162	3.408
Sideswipe, opposite direction	0.010	0.049	0.001	0.014	0.063
Other multiple-vehicle collision	0.048	0.236	0.071	1.007	1.243

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N$_{brsv}$**	**Proportion of Total Crashes**	**Adjusted N$_{brsv}$**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N$_{brsv}$**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	2.109	1.000	2.109	1.02	0.68	1.457
Fatal and Injury (FI)	-8.71	0.66	0.28	0.446	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.207	0.437	1.02	0.68	0.302
Property Damage Only (PDO)	-5.04	0.45	1.06	1.707	(5)$_{TOTAL}$-(5)$_{FI}$ 0.793	1.672	1.02	0.68	1.156

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	0.302	1.000	1.156	1.457
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.073	0.073
Collision with fixed object	0.500	0.151	0.813	0.940	1.090
Collision with other object	0.028	0.008	0.016	0.018	0.027
Other single-vehicle collision	0.471	0.142	0.108	0.125	0.267

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	3	0.033	1.106	0.501	--
Minor commercial	15	0.011	1.106	0.835	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	1.336	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	1.336	1.000	1.336	1.02	0.68	0.923
Fatal and injury (FI)	--	0.284	0.379	1.02	0.68	0.262
Property damage only (PDO)	--	0.716	0.957	1.02	0.68	0.661

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	19.098	1.457	0.923	21.479	0.019	0.68	0.278
Fatal and injury (FI)	--	--	--	--	--	0.68	0.278

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	19.098	1.457	0.923	21.479	0.005	0.68	0.073
Fatal and injury (FI)	--	--	--	--	--	0.68	0.073

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	4.094	9.385	13.479
Head-on collisions (from Worksheet 1D)	0.098	0.099	0.198
Angle collisions (from Worksheet 1D)	0.197	0.510	0.707
Sideswipe, same direction (from Worksheet 1D)	0.246	3.162	3.408
Sideswipe, opposite direction (from Worksheet 1D)	0.049	0.014	0.063
Driveway-related collisions (from Worksheet 1H)	0.262	0.661	0.923
Other multiple-vehicle collision (from Worksheet 1D)	0.236	1.007	1.243
Subtotal	5.183	14.838	20.021
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.073	0.073
Collision with fixed object (from Worksheet 1F)	0.151	0.940	1.090
Collision with other object (from Worksheet 1F)	0.008	0.018	0.027
Other single-vehicle collision (from Worksheet 1F)	0.142	0.125	0.267
Collision with pedestrian (from Worksheet 1I)	0.278	0.000	0.278
Collision with bicycle (from Worksheet 1J)	0.073	0.000	0.073
Subtotal	0.652	1.156	1.808
Total	5.835	15.994	21.829

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	21.8	1.80	12.1
Fatal and injury (FI)	5.8	1.80	3.2
Property damage only (PDO)	16.0	1.80	8.9

2040 No Build

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	I-10 to Brock Ave
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	34,331
Type of on-street parking (none/parallel/angle)		None	Parallel (Comm/Ind)
Proportion of curb length with on-street parking		--	0.38
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	4
Minor commercial driveways (number)		--	25
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	15
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.27	1.02	0.99	0.91	1.00	1.17

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	11.604	1.000	11.604	1.17	0.68	9.242
Fatal and Injury (FI)	-12.76	1.28	1.31	3.306	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.270	3.134	1.17	0.68	2.496
Property Damage Only (PDO)	-12.81	1.38	1.34	8.937	$(5)_{TOTAL}-(5)_{FI}$ 0.730	8.470	1.17	0.68	6.746

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	2.496	1.000	6.746	9.242
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.832	2.077	0.662	4.466	6.543
Head-on collision	0.020	0.050	0.007	0.047	0.097
Angle collision	0.040	0.100	0.036	0.243	0.343
Sideswipe, same direction	0.050	0.125	0.223	1.504	1.629
Sideswipe, opposite direction	0.010	0.025	0.001	0.007	0.032
Other multiple-vehicle collision	0.048	0.120	0.071	0.479	0.599

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N$_{brsv}$**	**Proportion of Total Crashes**	**Adjusted N$_{brsv}$**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N$_{brsv}$**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	1.563	1.000	1.563	1.17	0.68	1.245
Fatal and Injury (FI)	-8.71	0.66	0.28	0.292	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.186	0.291	1.17	0.68	0.231
Property Damage Only (PDO)	-5.04	0.45	1.06	1.281	(5)$_{TOTAL}$-(5)$_{FI}$ 0.814	1.272	1.17	0.68	1.013

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	0.231	1.000	1.013	1.245
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.064	0.064
Collision with fixed object	0.500	0.116	0.813	0.824	0.939
Collision with other object	0.028	0.006	0.016	0.016	0.023
Other single-vehicle collision	0.471	0.109	0.108	0.109	0.218

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15{,}000)^t$	from Table 12-7
Major commercial	4	0.033	1.106	0.330	--
Minor commercial	25	0.011	1.106	0.687	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	15	0.005	1.106	0.187	
Total	--	--	--	1.204	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	1.204	1.000	1.204	1.17	0.68	0.959
Fatal and injury (FI)	--	0.284	0.342	1.17	0.68	0.272
Property damage only (PDO)	--	0.716	0.862	1.17	0.68	0.687

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	9.242	1.245	0.959	11.446	0.019	0.68	0.148
Fatal and injury (FI)	--	--	--	--	--	0.68	0.148

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	9.242	1.245	0.959	11.446	0.005	0.68	0.039
Fatal and injury (FI)	--	--	--	--	--	0.68	0.039

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	**Property damage only (PDO)** (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	**Total** (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
	MULTIPLE-VEHICLE		
Rear-end collisions (from Worksheet 1D)	2.077	4.466	6.543
Head-on collisions (from Worksheet 1D)	0.050	0.047	0.097
Angle collisions (from Worksheet 1D)	0.100	0.243	0.343
Sideswipe, same direction (from Worksheet 1D)	0.125	1.504	1.629
Sideswipe, opposite direction (from Worksheet 1D)	0.025	0.007	0.032
Driveway-related collisions (from Worksheet 1H)	0.272	0.687	0.959
Other multiple-vehicle collision (from Worksheet 1D)	0.120	0.479	0.599
Subtotal	2.768	7.433	10.202
	SINGLE-VEHICLE		
Collision with animal (from Worksheet 1F)	0.000	0.064	0.064
Collision with fixed object (from Worksheet 1F)	0.116	0.824	0.939
Collision with other object (from Worksheet 1F)	0.006	0.016	0.023
Other single-vehicle collision (from Worksheet 1F)	0.109	0.109	0.218
Collision with pedestrian (from Worksheet 1I)	0.148	0.000	0.148
Collision with bicycle (from Worksheet 1J)	0.039	0.000	0.039
Subtotal	0.418	1.013	1.431
Total	3.186	8.446	11.633

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	11.6	1.80	6.5
Fatal and injury (FI)	3.2	1.80	1.8
Property damage only (PDO)	8.4	1.80	4.7

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Brock Ave to Airport Rd
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	5T
Length of segment, L (mi)		--	3.4
AADT (veh/day)	$AADT_{MAX}$ = 53,800 (veh/day)	--	35,716
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	10
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	5
Minor commercial driveways (number)		--	45
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	20
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	45
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.70

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.04	1.01	0.94	1.00	0.99

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-9.70	1.17	0.81	44.225	1.000	44.225	0.99	0.70	30.575
Fatal and Injury (FI)	-10.47	1.12	0.62	12.123	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.264	11.685	0.99	0.70	8.078
Property Damage Only (PDO)	-9.97	1.17	0.88	33.761	$(5)_{TOTAL}-(5)_{FI}$ 0.736	32.540	0.99	0.70	22.497

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	8.078	1.000	22.497	30.575
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.846	6.834	0.651	14.645	21.480
Head-on collision	0.021	0.170	0.004	0.090	0.260
Angle collision	0.050	0.404	0.059	1.327	1.731
Sideswipe, same direction	0.061	0.493	0.248	5.579	6.072
Sideswipe, opposite direction	0.004	0.032	0.009	0.202	0.235
Other multiple-vehicle collision	0.018	0.145	0.029	0.652	0.798

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N$_{brsv}$**	**Proportion of Total Crashes**	**Adjusted N$_{brsv}$**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N$_{brsv}$**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-4.82	0.54	0.52	7.884	1.000	7.884	0.99	0.70	5.450
Fatal and Injury (FI)	-4.43	0.35	0.36	1.589	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.210	1.655	0.99	0.70	1.144
Property Damage Only (PDO)	-5.83	0.61	0.55	5.981	(5)$_{TOTAL}$-(5)$_{FI}$ 0.790	6.229	0.99	0.70	4.306

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	1.144	1.000	4.306	5.450
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.016	0.018	0.049	0.211	0.229
Collision with fixed object	0.398	0.455	0.768	3.307	3.763
Collision with other object	0.005	0.006	0.061	0.263	0.268
Other single-vehicle collision	0.581	0.665	0.122	0.525	1.190

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	5	0.165	1.172	2.281	--
Minor commercial	45	0.053	1.172	6.593	
Major industrial/institutional	0	0.181	1.172	0.000	
Minor industrial/institutional	0	0.024	1.172	0.000	
Major residential	0	0.087	1.172	0.000	
Minor residential	0	0.016	1.172	0.000	
Other	20	0.027	1.172	1.493	
Total	--	--	--	10.366	0.10

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	10.366	1.000	10.366	0.99	0.70	7.166
Fatal and injury (FI)	--	0.269	2.788	0.99	0.70	1.928
Property damage only (PDO)	--	0.731	7.577	0.99	0.70	5.239

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	30.575	5.450	7.166	43.192	0.023	0.70	0.695
Fatal and injury (FI)	--	--	--	--	--	0.70	0.695

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	30.575	5.450	7.166	43.192	0.012	0.70	0.363
Fatal and injury (FI)	--	--	--	--	--	0.70	0.363

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	6.834	14.645	21.480
Head-on collisions (from Worksheet 1D)	0.170	0.090	0.260
Angle collisions (from Worksheet 1D)	0.404	1.327	1.731
Sideswipe, same direction (from Worksheet 1D)	0.493	5.579	6.072
Sideswipe, opposite direction (from Worksheet 1D)	0.032	0.202	0.235
Driveway-related collisions (from Worksheet 1H)	1.928	5.239	7.166
Other multiple-vehicle collision (from Worksheet 1D)	0.145	0.652	0.798
Subtotal	10.006	27.735	37.742
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.018	0.211	0.229
Collision with fixed object (from Worksheet 1F)	0.455	3.307	3.763
Collision with other object (from Worksheet 1F)	0.006	0.263	0.268
Other single-vehicle collision (from Worksheet 1F)	0.665	0.525	1.190
Collision with pedestrian (from Worksheet 1I)	0.695	0.000	0.695
Collision with bicycle (from Worksheet 1J)	0.363	0.000	0.363
Subtotal	2.202	4.306	6.509
Total	12.208	32.042	44.250

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	44.3	3.40	13.0
Fatal and injury (FI)	12.2	3.40	3.6
Property damage only (PDO)	32.0	3.40	9.4

2040 Alt 1A

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments			
General Information		**Location Information**	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Antioch Rd to I-10
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2040

Input Data		**Base Conditions**	**Site Conditions**
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	55,293
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Not Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	3
Minor commercial driveways (number)		--	15
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	10
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.03	0.99	1.00	1.00	1.02

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	22.188	1.000	22.188	1.02	0.68	15.332
Fatal and Injury (FI)	-12.76	1.28	1.31	6.085	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.261	5.786	1.02	0.68	3.998
Property Damage Only (PDO)	-12.81	1.38	1.34	17.252	$(5)_{TOTAL}-(5)_{FI}$ 0.739	16.402	1.02	0.68	11.334

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	3.998	1.000	11.334	15.332
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.832	3.326	0.662	7.503	10.829
Head-on collision	0.020	0.080	0.007	0.079	0.159
Angle collision	0.040	0.160	0.036	0.408	0.568
Sideswipe, same direction	0.050	0.200	0.223	2.527	2.727
Sideswipe, opposite direction	0.010	0.040	0.001	0.011	0.051
Other multiple-vehicle collision	0.048	0.192	0.071	0.805	0.997

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	1.955	1.000	1.955	1.02	0.68	1.351
Fatal and Injury (FI)	-8.71	0.66	0.28	0.401	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.202	0.394	1.02	0.68	0.272
Property Damage Only (PDO)	-5.04	0.45	1.06	1.587	$(5)_{TOTAL}-(5)_{FI}$ 0.798	1.561	1.02	0.68	1.079

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.272	1.000	1.079	1.351
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.068	0.068
Collision with fixed object	0.500	0.136	0.813	0.877	1.013
Collision with other object	0.028	0.008	0.016	0.017	0.025
Other single-vehicle collision	0.471	0.128	0.108	0.116	0.245

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	3	0.033	1.106	0.419	--
Minor commercial	15	0.011	1.106	0.698	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	1.117	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	1.117	1.000	1.117	1.02	0.68	0.772
Fatal and injury (FI)	--	0.284	0.317	1.02	0.68	0.219
Property damage only (PDO)	--	0.716	0.800	1.02	0.68	0.553

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	15.332	1.351	0.772	17.455	0.019	0.68	0.226
Fatal and injury (FI)	--	--	--	--	--	0.68	0.226

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	15.332	1.351	0.772	17.455	0.005	0.68	0.059
Fatal and injury (FI)	--	--	--	--	--	0.68	0.059

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	3.326	7.503	10.829
Head-on collisions (from Worksheet 1D)	0.080	0.079	0.159
Angle collisions (from Worksheet 1D)	0.160	0.408	0.568
Sideswipe, same direction (from Worksheet 1D)	0.200	2.527	2.727
Sideswipe, opposite direction (from Worksheet 1D)	0.040	0.011	0.051
Driveway-related collisions (from Worksheet 1H)	0.219	0.553	0.772
Other multiple-vehicle collision (from Worksheet 1D)	0.192	0.805	0.997
Subtotal	4.217	11.887	16.104
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.068	0.068
Collision with fixed object (from Worksheet 1F)	0.136	0.877	1.013
Collision with other object (from Worksheet 1F)	0.008	0.017	0.025
Other single-vehicle collision (from Worksheet 1F)	0.128	0.116	0.245
Collision with pedestrian (from Worksheet 1I)	0.226	0.000	0.226
Collision with bicycle (from Worksheet 1J)	0.059	0.000	0.059
Subtotal	0.557	1.079	1.636
Total	4.774	12.965	17.740

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	17.7	1.80	9.9
Fatal and injury (FI)	4.8	1.80	2.7
Property damage only (PDO)	13.0	1.80	7.2

2040 Alt 1A

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments			
General Information		**Location Information**	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	I-10 to Brock Ave
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2040

Input Data		**Base Conditions**	**Site Conditions**
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	28,926
Type of on-street parking (none/parallel/angle)		None	Parallel (Comm/Ind)
Proportion of curb length with on-street parking		--	0.38
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	4
Minor commercial driveways (number)		--	25
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	15
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.27	1.02	0.99	0.91	1.00	1.17

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	9.192	1.000	9.192	1.17	0.68	7.322
Fatal and Injury (FI)	-12.76	1.28	1.31	2.655	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.273	2.514	1.17	0.68	2.002
Property Damage Only (PDO)	-12.81	1.38	1.34	7.056	$(5)_{TOTAL}-(5)_{FI}$ 0.727	6.679	1.17	0.68	5.320

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted $N_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted $N_{brmv\ (PDO)}$ (crashes/year)**	**Predicted $N_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	2.002	1.000	5.320	7.322
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.832	1.666	0.662	3.522	5.187
Head-on collision	0.020	0.040	0.007	0.037	0.077
Angle collision	0.040	0.080	0.036	0.192	0.272
Sideswipe, same direction	0.050	0.100	0.223	1.186	1.286
Sideswipe, opposite direction	0.010	0.020	0.001	0.005	0.025
Other multiple-vehicle collision	0.048	0.096	0.071	0.378	0.474

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	1.442	1.000	1.442	1.17	0.68	1.148
Fatal and Injury (FI)	-8.71	0.66	0.28	0.261	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.181	0.260	1.17	0.68	0.207
Property Damage Only (PDO)	-5.04	0.45	1.06	1.186	$(5)_{TOTAL}-(5)_{FI}$ 0.819	1.181	1.17	0.68	0.941

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted $N_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted $N_{brsv\ (PDO)}$ (crashes/year)**	**Predicted $N_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.207	1.000	0.941	1.148
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.059	0.059
Collision with fixed object	0.500	0.104	0.813	0.765	0.869
Collision with other object	0.028	0.006	0.016	0.015	0.021
Other single-vehicle collision	0.471	0.098	0.108	0.102	0.199

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 n_j * N_j * $(AADT/15{,}000)^t$	from Table 12-7
Major commercial	4	0.033	1.106	0.273	--
Minor commercial	25	0.011	1.106	0.569	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	15	0.005	1.106	0.155	
Total	--	--	--	0.996	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.996	1.000	0.996	1.17	0.68	0.794
Fatal and injury (FI)	--	0.284	0.283	1.17	0.68	0.225
Property damage only (PDO)	--	0.716	0.713	1.17	0.68	0.568

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	7.322	1.148	0.794	9.263	0.019	0.68	0.120
Fatal and injury (FI)	--	--	--	--	--	0.68	0.120

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	7.322	1.148	0.794	9.263	0.005	0.68	0.031
Fatal and injury (FI)	--	--	--	--	--	0.68	0.031

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	1.666	3.522	5.187
Head-on collisions (from Worksheet 1D)	0.040	0.037	0.077
Angle collisions (from Worksheet 1D)	0.080	0.192	0.272
Sideswipe, same direction (from Worksheet 1D)	0.100	1.186	1.286
Sideswipe, opposite direction (from Worksheet 1D)	0.020	0.005	0.025
Driveway-related collisions (from Worksheet 1H)	0.225	0.568	0.794
Other multiple-vehicle collision (from Worksheet 1D)	0.096	0.378	0.474
Subtotal	2.227	5.888	8.115
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.059	0.059
Collision with fixed object (from Worksheet 1F)	0.104	0.765	0.869
Collision with other object (from Worksheet 1F)	0.006	0.015	0.021
Other single-vehicle collision (from Worksheet 1F)	0.098	0.102	0.199
Collision with pedestrian (from Worksheet 1I)	0.120	0.000	0.120
Collision with bicycle (from Worksheet 1J)	0.031	0.000	0.031
Subtotal	0.358	0.941	1.299
Total	2.586	6.829	9.415

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	9.4	1.80	5.2
Fatal and injury (FI)	2.6	1.80	1.4
Property damage only (PDO)	6.8	1.80	3.8

2040 Alt 1A

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Brock Ave to Airport Rd
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	5T
Length of segment, L (mi)		--	3.4
AADT (veh/day)	$AADT_{MAX}$ = 53,800 (veh/day)	--	28,767
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	10
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	5
Minor commercial driveways (number)		--	45
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	20
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	45
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.70

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.04	1.01	0.94	1.00	0.99

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-9.70	1.17	0.81	34.334	1.000	34.334	0.99	0.70	23.737
Fatal and Injury (FI)	-10.47	1.12	0.62	9.514	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.266	9.144	0.99	0.70	6.322
Property Damage Only (PDO)	-9.97	1.17	0.88	26.210	$(5)_{TOTAL}-(5)_{FI}$ 0.734	25.190	0.99	0.70	17.415

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted $N_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted $N_{brmv\ (PDO)}$ (crashes/year)**	**Predicted $N_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	6.322	1.000	17.415	23.737
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.846	5.348	0.651	11.337	16.685
Head-on collision	0.021	0.133	0.004	0.070	0.202
Angle collision	0.050	0.316	0.059	1.027	1.344
Sideswipe, same direction	0.061	0.386	0.248	4.319	4.705
Sideswipe, opposite direction	0.004	0.025	0.009	0.157	0.182
Other multiple-vehicle collision	0.018	0.114	0.029	0.505	0.619

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-4.82	0.54	0.52	7.014	1.000	7.014	0.99	0.70	4.849
Fatal and Injury (FI)	-4.43	0.35	0.36	1.473	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.219	1.539	0.99	0.70	1.064
Property Damage Only (PDO)	-5.83	0.61	0.55	5.242	$(5)_{TOTAL}-(5)_{FI}$ 0.781	5.476	0.99	0.70	3.786

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted $N_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted $N_{brsv\ (PDO)}$ (crashes/year)**	**Predicted $N_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	1.064	1.000	3.786	4.849
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.016	0.017	0.049	0.185	0.203
Collision with fixed object	0.398	0.423	0.768	2.907	3.331
Collision with other object	0.005	0.005	0.061	0.231	0.236
Other single-vehicle collision	0.581	0.618	0.122	0.462	1.080

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	Number of driveways, n_j	Crashes per driveway per year, N_j	Coefficient for traffic adjustment, t	Initial N_{brdwy}	Overdispersion parameter, k
		from Table 12-7	from Table 12-7	Equation 12-16 n_j * N_j * (AADT/15,000)^t	from Table 12-7
Major commercial	5	0.165	1.172	1.770	--
Minor commercial	45	0.053	1.172	5.116	
Major industrial/institutional	0	0.181	1.172	0.000	
Minor industrial/institutional	0	0.024	1.172	0.000	
Major residential	0	0.087	1.172	0.000	
Minor residential	0	0.016	1.172	0.000	
Other	20	0.027	1.172	1.158	
Total	--	--	--	8.044	0.10

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Initial N_{brdwy}	Proportion of total crashes (f_{dwy})	Adjusted N_{brdwy}	Combined CMFs	Calibration factor, C_r	Predicted N_{brdwy}
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	8.044	1.000	8.044	0.99	0.70	5.561
Fatal and injury (FI)	--	0.269	2.164	0.99	0.70	1.496
Property damage only (PDO)	--	0.731	5.880	0.99	0.70	4.065

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	Predicted N_{brmv}	Predicted N_{brsv}	Predicted N_{brdwy}	Predicted N_{br}	f_{pedr}	Calibration factor, C_r	Predicted N_{pedr}
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	23.737	4.849	5.561	34.147	0.023	0.70	0.550
Fatal and injury (FI)	--	--	--	--	--	0.70	0.550

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	Predicted N_{brmv}	Predicted N_{brsv}	Predicted N_{brdwy}	Predicted N_{br}	f_{biker}	Calibration factor, C_r	Predicted N_{biker}
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	23.737	4.849	5.561	34.147	0.012	0.70	0.287
Fatal and injury (FI)	--	--	--	--	--	0.70	0.287

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	5.348	11.337	16.685
Head-on collisions (from Worksheet 1D)	0.133	0.070	0.202
Angle collisions (from Worksheet 1D)	0.316	1.027	1.344
Sideswipe, same direction (from Worksheet 1D)	0.386	4.319	4.705
Sideswipe, opposite direction (from Worksheet 1D)	0.025	0.157	0.182
Driveway-related collisions (from Worksheet 1H)	1.496	4.065	5.561
Other multiple-vehicle collision (from Worksheet 1D)	0.114	0.505	0.619
Subtotal	7.818	21.480	29.298
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.017	0.185	0.203
Collision with fixed object (from Worksheet 1F)	0.423	2.907	3.331
Collision with other object (from Worksheet 1F)	0.005	0.231	0.236
Other single-vehicle collision (from Worksheet 1F)	0.618	0.462	1.080
Collision with pedestrian (from Worksheet 1I)	0.550	0.000	0.550
Collision with bicycle (from Worksheet 1J)	0.287	0.000	0.287
Subtotal	1.900	3.786	5.686
Total	9.718	25.266	34.984

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	35.0	3.40	10.3
Fatal and injury (FI)	9.7	3.40	2.9
Property damage only (PDO)	25.3	3.40	7.4

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Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments			
General Information		**Location Information**	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Antioch Rd to I-10
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2040

Input Data		**Base Conditions**	**Site Conditions**
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	53,053
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Not Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	3
Minor commercial driveways (number)		--	15
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	10
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.03	0.99	1.00	1.00	1.02

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	20.974	1.000	20.974	1.02	0.68	14.493
Fatal and Injury (FI)	-12.76	1.28	1.31	5.772	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.262	5.486	1.02	0.68	3.791
Property Damage Only (PDO)	-12.81	1.38	1.34	16.295	$(5)_{TOTAL}-(5)_{FI}$ 0.738	15.488	1.02	0.68	10.702

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted $N_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted $N_{brmv\ (PDO)}$ (crashes/year)**	**Predicted $N_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	3.791	1.000	10.702	14.493
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.832	3.154	0.662	7.085	10.239
Head-on collision	0.020	0.076	0.007	0.075	0.151
Angle collision	0.040	0.152	0.036	0.385	0.537
Sideswipe, same direction	0.050	0.190	0.223	2.387	2.576
Sideswipe, opposite direction	0.010	0.038	0.001	0.011	0.049
Other multiple-vehicle collision	0.048	0.182	0.071	0.760	0.942

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	1.917	1.000	1.917	1.02	0.68	1.325
Fatal and Injury (FI)	-8.71	0.66	0.28	0.390	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.200	0.384	1.02	0.68	0.265
Property Damage Only (PDO)	-5.04	0.45	1.06	1.558	$(5)_{TOTAL}-(5)_{FI}$ 0.800	1.534	1.02	0.68	1.060

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted $N_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted $N_{brsv\ (PDO)}$ (crashes/year)**	**Predicted $N_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.265	1.000	1.060	1.325
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.067	0.067
Collision with fixed object	0.500	0.133	0.813	0.862	0.994
Collision with other object	0.028	0.007	0.016	0.017	0.024
Other single-vehicle collision	0.471	0.125	0.108	0.114	0.239

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 n_j * N_j * $(AADT/15,000)^t$	from Table 12-7
Major commercial	3	0.033	1.106	0.400	--
Minor commercial	15	0.011	1.106	0.667	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	1.068	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	1.068	1.000	1.068	1.02	0.68	0.738
Fatal and injury (FI)	--	0.284	0.303	1.02	0.68	0.209
Property damage only (PDO)	--	0.716	0.764	1.02	0.68	0.528

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	14.493	1.325	0.738	16.556	0.019	0.68	0.214
Fatal and injury (FI)	--	--	--	--	--	0.68	0.214

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	14.493	1.325	0.738	16.556	0.005	0.68	0.056
Fatal and injury (FI)	--	--	--	--	--	0.68	0.056

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	3.154	7.085	10.239
Head-on collisions (from Worksheet 1D)	0.076	0.075	0.151
Angle collisions (from Worksheet 1D)	0.152	0.385	0.537
Sideswipe, same direction (from Worksheet 1D)	0.190	2.387	2.576
Sideswipe, opposite direction (from Worksheet 1D)	0.038	0.011	0.049
Driveway-related collisions (from Worksheet 1H)	0.209	0.528	0.738
Other multiple-vehicle collision (from Worksheet 1D)	0.182	0.760	0.942
Subtotal	4.000	11.231	15.231
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.067	0.067
Collision with fixed object (from Worksheet 1F)	0.133	0.862	0.994
Collision with other object (from Worksheet 1F)	0.007	0.017	0.024
Other single-vehicle collision (from Worksheet 1F)	0.125	0.114	0.239
Collision with pedestrian (from Worksheet 1I)	0.214	0.000	0.214
Collision with bicycle (from Worksheet 1J)	0.056	0.000	0.056
Subtotal	0.535	1.060	1.595
Total	4.536	12.290	16.826

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	16.8	1.80	9.3
Fatal and injury (FI)	4.5	1.80	2.5
Property damage only (PDO)	12.3	1.80	6.8

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Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	I-10 to Brock Ave
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	30,532
Type of on-street parking (none/parallel/angle)		None	Parallel (Comm/Ind)
Proportion of curb length with on-street parking		--	0.38
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	4
Minor commercial driveways (number)		--	25
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	15
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.27	1.02	0.99	0.91	1.00	1.17

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	9.893	1.000	9.893	1.17	0.68	7.880
Fatal and Injury (FI)	-12.76	1.28	1.31	2.846	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.272	2.695	1.17	0.68	2.146
Property Damage Only (PDO)	-12.81	1.38	1.34	7.602	$(5)_{TOTAL}-(5)_{FI}$ 0.728	7.199	1.17	0.68	5.734

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted $N_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted $N_{brmv\ (PDO)}$ (crashes/year)**	**Predicted $N_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	2.146	1.000	5.734	7.880
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.832	1.786	0.662	3.796	5.581
Head-on collision	0.020	0.043	0.007	0.040	0.083
Angle collision	0.040	0.086	0.036	0.206	0.292
Sideswipe, same direction	0.050	0.107	0.223	1.279	1.386
Sideswipe, opposite direction	0.010	0.021	0.001	0.006	0.027
Other multiple-vehicle collision	0.048	0.103	0.071	0.407	0.510

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	1.479	1.000	1.479	1.17	0.68	1.178
Fatal and Injury (FI)	-8.71	0.66	0.28	0.271	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.182	0.269	1.17	0.68	0.215
Property Damage Only (PDO)	-5.04	0.45	1.06	1.215	$(5)_{TOTAL}-(5)_{FI}$ 0.818	1.209	1.17	0.68	0.963

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted $N_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted $N_{brsv\ (PDO)}$ (crashes/year)**	**Predicted $N_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.215	1.000	0.963	1.178
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.061	0.061
Collision with fixed object	0.500	0.107	0.813	0.783	0.890
Collision with other object	0.028	0.006	0.016	0.015	0.021
Other single-vehicle collision	0.471	0.101	0.108	0.104	0.205

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	Number of driveways, n_j	Crashes per driveway per year, N_j	Coefficient for traffic adjustment, t	Initial N_{brdwy}	Overdispersion parameter, k
		from Table 12-7	from Table 12-7	Equation 12-16 n_j * N_j * $(AADT/15{,}000)^t$	from Table 12-7
Major commercial	4	0.033	1.106	0.290	--
Minor commercial	25	0.011	1.106	0.604	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	15	0.005	1.106	0.165	
Total	--	--	--	1.058	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Initial N_{brdwy}	Proportion of total crashes (f_{dwy})	Adjusted N_{brdwy}	Combined CMFs	Calibration factor, C_r	Predicted N_{brdwy}
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	1.058	1.000	1.058	1.17	0.68	0.843
Fatal and injury (FI)	--	0.284	0.300	1.17	0.68	0.239
Property damage only (PDO)	--	0.716	0.757	1.17	0.68	0.603

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	Predicted N_{brmv}	Predicted N_{brsv}	Predicted N_{brdwy}	Predicted N_{br}	f_{pedr}	Calibration factor, C_r	Predicted N_{pedr}
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	7.880	1.178	0.843	9.900	0.019	0.68	0.128
Fatal and injury (FI)	--	--	--	--	--	0.68	0.128

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	Predicted N_{brmv}	Predicted N_{brsv}	Predicted N_{brdwy}	Predicted N_{br}	f_{biker}	Calibration factor, C_r	Predicted N_{biker}
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	7.880	1.178	0.843	9.900	0.005	0.68	0.034
Fatal and injury (FI)	--	--	--	--	--	0.68	0.034

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	1.786	3.796	5.581
Head-on collisions (from Worksheet 1D)	0.043	0.040	0.083
Angle collisions (from Worksheet 1D)	0.086	0.206	0.292
Sideswipe, same direction (from Worksheet 1D)	0.107	1.279	1.386
Sideswipe, opposite direction (from Worksheet 1D)	0.021	0.006	0.027
Driveway-related collisions (from Worksheet 1H)	0.239	0.603	0.843
Other multiple-vehicle collision (from Worksheet 1D)	0.103	0.407	0.510
Subtotal	2.385	6.337	8.722
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.061	0.061
Collision with fixed object (from Worksheet 1F)	0.107	0.783	0.890
Collision with other object (from Worksheet 1F)	0.006	0.015	0.021
Other single-vehicle collision (from Worksheet 1F)	0.101	0.104	0.205
Collision with pedestrian (from Worksheet 1I)	0.128	0.000	0.128
Collision with bicycle (from Worksheet 1J)	0.034	0.000	0.034
Subtotal	0.376	0.963	1.339
Total	2.762	7.300	10.062

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	10.1	1.80	5.6
Fatal and injury (FI)	2.8	1.80	1.5
Property damage only (PDO)	7.3	1.80	4.1

2040 Alt 1B

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Brock Ave to Airport Rd
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	5T
Length of segment, L (mi)		--	3.4
AADT (veh/day)	$AADT_{MAX}$ = 53,800 (veh/day)	--	29,843
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	10
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	5
Minor commercial driveways (number)		--	45
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	20
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	45
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.70

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.04	1.01	0.94	1.00	0.99

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-9.70	1.17	0.81	35.842	1.000	35.842	0.99	0.70	24.779
Fatal and Injury (FI)	-10.47	1.12	0.62	9.914	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.266	9.533	0.99	0.70	6.590
Property Damage Only (PDO)	-9.97	1.17	0.88	27.361	$(5)_{TOTAL}-(5)_{FI}$ 0.734	26.309	0.99	0.70	18.189

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	6.590	1.000	18.189	24.779
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.846	5.575	0.651	11.841	17.416
Head-on collision	0.021	0.138	0.004	0.073	0.211
Angle collision	0.050	0.330	0.059	1.073	1.403
Sideswipe, same direction	0.061	0.402	0.248	4.511	4.913
Sideswipe, opposite direction	0.004	0.026	0.009	0.164	0.190
Other multiple-vehicle collision	0.018	0.119	0.029	0.527	0.646

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N$_{brsv}$**	**Proportion of Total Crashes**	**Adjusted N$_{brsv}$**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N$_{brsv}$**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-4.82	0.54	0.52	7.155	1.000	7.155	0.99	0.70	4.946
Fatal and Injury (FI)	-4.43	0.35	0.36	1.492	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.218	1.558	0.99	0.70	1.077
Property Damage Only (PDO)	-5.83	0.61	0.55	5.360	(5)$_{TOTAL}$-(5)$_{FI}$ 0.782	5.597	0.99	0.70	3.869

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	1.077	1.000	3.869	4.946
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.016	0.017	0.049	0.190	0.207
Collision with fixed object	0.398	0.429	0.768	2.972	3.400
Collision with other object	0.005	0.005	0.061	0.236	0.241
Other single-vehicle collision	0.581	0.626	0.122	0.472	1.098

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	Number of driveways, n_j	Crashes per driveway per year, N_j	Coefficient for traffic adjustment, t	Initial N_{brdwy}	Overdispersion parameter, k
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	5	0.165	1.172	1.848	--
Minor commercial	45	0.053	1.172	5.341	
Major industrial/institutional	0	0.181	1.172	0.000	
Minor industrial/institutional	0	0.024	1.172	0.000	
Major residential	0	0.087	1.172	0.000	
Minor residential	0	0.016	1.172	0.000	
Other	20	0.027	1.172	1.209	
Total	--	--	--	8.398	0.10

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Initial N_{brdwy}	Proportion of total crashes (f_{dwy})	Adjusted N_{brdwy}	Combined CMFs	Calibration factor, C_r	Predicted N_{brdwy}
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	8.398	1.000	8.398	0.99	0.70	5.806
Fatal and injury (FI)	--	0.269	2.259	0.99	0.70	1.562
Property damage only (PDO)	--	0.731	6.139	0.99	0.70	4.244

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	Predicted N_{brmv}	Predicted N_{brsv}	Predicted N_{brdwy}	Predicted N_{br}	f_{pedr}	Calibration factor, C_r	Predicted N_{pedr}
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	24.779	4.946	5.806	35.531	0.023	0.70	0.572
Fatal and injury (FI)	--	--	--	--	--	0.70	0.572

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	Predicted N_{brmv}	Predicted N_{brsv}	Predicted N_{brdwy}	Predicted N_{br}	f_{biker}	Calibration factor, C_r	Predicted N_{biker}
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	24.779	4.946	5.806	35.531	0.012	0.70	0.298
Fatal and injury (FI)	--	--	--	--	--	0.70	0.298

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	5.575	11.841	17.416
Head-on collisions (from Worksheet 1D)	0.138	0.073	0.211
Angle collisions (from Worksheet 1D)	0.330	1.073	1.403
Sideswipe, same direction (from Worksheet 1D)	0.402	4.511	4.913
Sideswipe, opposite direction (from Worksheet 1D)	0.026	0.164	0.190
Driveway-related collisions (from Worksheet 1H)	1.562	4.244	5.806
Other multiple-vehicle collision (from Worksheet 1D)	0.119	0.527	0.646
Subtotal	8.152	22.433	30.585
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.017	0.190	0.207
Collision with fixed object (from Worksheet 1F)	0.429	2.972	3.400
Collision with other object (from Worksheet 1F)	0.005	0.236	0.241
Other single-vehicle collision (from Worksheet 1F)	0.626	0.472	1.098
Collision with pedestrian (from Worksheet 1I)	0.572	0.000	0.572
Collision with bicycle (from Worksheet 1J)	0.298	0.000	0.298
Subtotal	1.947	3.869	5.817
Total	10.100	26.302	36.402

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	36.4	3.40	10.7
Fatal and injury (FI)	10.1	3.40	3.0
Property damage only (PDO)	26.3	3.40	7.7

2040 Alt 2

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments			
General Information		**Location Information**	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Antioch Rd to I-10
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2040

Input Data		**Base Conditions**	**Site Conditions**
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	66,000
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Not Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	3
Minor commercial driveways (number)		--	15
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	10
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.03	0.99	1.00	1.00	1.02

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	28.227	1.000	28.227	1.02	0.68	19.505
Fatal and Injury (FI)	-12.76	1.28	1.31	7.633	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.257	7.264	1.02	0.68	5.020
Property Damage Only (PDO)	-12.81	1.38	1.34	22.026	$(5)_{TOTAL}-(5)_{FI}$ 0.743	20.962	1.02	0.68	14.485

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type(FI)**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type (PDO)**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	5.020	1.000	14.485	19.505
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.832	4.176	0.662	9.589	13.765
Head-on collision	0.020	0.100	0.007	0.101	0.202
Angle collision	0.040	0.201	0.036	0.521	0.722
Sideswipe, same direction	0.050	0.251	0.223	3.230	3.481
Sideswipe, opposite direction	0.010	0.050	0.001	0.014	0.065
Other multiple-vehicle collision	0.048	0.241	0.071	1.028	1.269

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	2.125	1.000	2.125	1.02	0.68	1.468
Fatal and Injury (FI)	-8.71	0.66	0.28	0.450	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.208	0.441	1.02	0.68	0.305
Property Damage Only (PDO)	-5.04	0.45	1.06	1.719	$(5)_{TOTAL}-(5)_{FI}$ 0.792	1.684	1.02	0.68	1.163

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type(FI)**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type (PDO)**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.305	1.000	1.163	1.468
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.073	0.074
Collision with fixed object	0.500	0.152	0.813	0.946	1.098
Collision with other object	0.028	0.009	0.016	0.019	0.027
Other single-vehicle collision	0.471	0.144	0.108	0.126	0.269

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	3	0.033	1.106	0.510	--
Minor commercial	15	0.011	1.106	0.849	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	1.359	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	1.359	1.000	1.359	1.02	0.68	0.939
Fatal and injury (FI)	--	0.284	0.386	1.02	0.68	0.267
Property damage only (PDO)	--	0.716	0.973	1.02	0.68	0.672

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	19.505	1.468	0.939	21.912	0.019	0.68	0.283
Fatal and injury (FI)	--	--	--	--	--	0.68	0.283

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	19.505	1.468	0.939	21.912	0.005	0.68	0.075
Fatal and injury (FI)	--	--	--	--	--	0.68	0.075

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	4.176	9.589	13.765
Head-on collisions (from Worksheet 1D)	0.100	0.101	0.202
Angle collisions (from Worksheet 1D)	0.201	0.521	0.722
Sideswipe, same direction (from Worksheet 1D)	0.251	3.230	3.481
Sideswipe, opposite direction (from Worksheet 1D)	0.050	0.014	0.065
Driveway-related collisions (from Worksheet 1H)	0.267	0.672	0.939
Other multiple-vehicle collision (from Worksheet 1D)	0.241	1.028	1.269
Subtotal	5.286	15.157	20.444
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.073	0.074
Collision with fixed object (from Worksheet 1F)	0.152	0.946	1.098
Collision with other object (from Worksheet 1F)	0.009	0.019	0.027
Other single-vehicle collision (from Worksheet 1F)	0.144	0.126	0.269
Collision with pedestrian (from Worksheet 1I)	0.283	0.000	0.283
Collision with bicycle (from Worksheet 1J)	0.075	0.000	0.075
Subtotal	0.662	1.163	1.826
Total	5.949	16.321	22.270

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	22.3	1.80	12.4
Fatal and injury (FI)	5.9	1.80	3.3
Property damage only (PDO)	16.3	1.80	9.1

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Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	I-10 to Brock Ave
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	29,859
Type of on-street parking (none/parallel/angle)		None	Parallel (Comm/Ind)
Proportion of curb length with on-street parking		--	0.38
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	4
Minor commercial driveways (number)		--	25
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	15
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.27	1.02	0.99	0.91	1.00	1.17

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	9.598	1.000	9.598	1.17	0.68	7.645
Fatal and Injury (FI)	-12.76	1.28	1.31	2.765	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.273	2.618	1.17	0.68	2.085
Property Damage Only (PDO)	-12.81	1.38	1.34	7.372	$(5)_{TOTAL}-(5)_{FI}$ 0.727	6.980	1.17	0.68	5.559

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	2.085	1.000	5.559	7.645
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.832	1.735	0.662	3.680	5.415
Head-on collision	0.020	0.042	0.007	0.039	0.081
Angle collision	0.040	0.083	0.036	0.200	0.284
Sideswipe, same direction	0.050	0.104	0.223	1.240	1.344
Sideswipe, opposite direction	0.010	0.021	0.001	0.006	0.026
Other multiple-vehicle collision	0.048	0.100	0.071	0.395	0.495

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	1.463	1.000	1.463	1.17	0.68	1.166
Fatal and Injury (FI)	-8.71	0.66	0.28	0.267	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.182	0.266	1.17	0.68	0.212
Property Damage Only (PDO)	-5.04	0.45	1.06	1.203	$(5)_{TOTAL}-(5)_{FI}$ 0.818	1.198	1.17	0.68	0.954

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.212	1.000	0.954	1.166
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.060	0.060
Collision with fixed object	0.500	0.106	0.813	0.776	0.881
Collision with other object	0.028	0.006	0.016	0.015	0.021
Other single-vehicle collision	0.471	0.100	0.108	0.103	0.203

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 n_j * N_j * $(AADT/15{,}000)^t$	from Table 12-7
Major commercial	4	0.033	1.106	0.283	--
Minor commercial	25	0.011	1.106	0.589	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	15	0.005	1.106	0.161	
Total	--	--	--	1.032	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	1.032	1.000	1.032	1.17	0.68	0.822
Fatal and injury (FI)	--	0.284	0.293	1.17	0.68	0.233
Property damage only (PDO)	--	0.716	0.739	1.17	0.68	0.589

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	7.645	1.166	0.822	9.632	0.019	0.68	0.124
Fatal and injury (FI)	--	--	--	--	--	0.68	0.124

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	7.645	1.166	0.822	9.632	0.005	0.68	0.033
Fatal and injury (FI)	--	--	--	--	--	0.68	0.033

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	**Property damage only (PDO)** (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	**Total** (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	1.735	3.680	5.415
Head-on collisions (from Worksheet 1D)	0.042	0.039	0.081
Angle collisions (from Worksheet 1D)	0.083	0.200	0.284
Sideswipe, same direction (from Worksheet 1D)	0.104	1.240	1.344
Sideswipe, opposite direction (from Worksheet 1D)	0.021	0.006	0.026
Driveway-related collisions (from Worksheet 1H)	0.233	0.589	0.822
Other multiple-vehicle collision (from Worksheet 1D)	0.100	0.395	0.495
Subtotal	2.319	6.148	8.467
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.060	0.060
Collision with fixed object (from Worksheet 1F)	0.106	0.776	0.881
Collision with other object (from Worksheet 1F)	0.006	0.015	0.021
Other single-vehicle collision (from Worksheet 1F)	0.100	0.103	0.203
Collision with pedestrian (from Worksheet 1I)	0.124	0.000	0.124
Collision with bicycle (from Worksheet 1J)	0.033	0.000	0.033
Subtotal	0.369	0.954	1.323
Total	2.688	7.102	9.789

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	9.8	1.80	5.4
Fatal and injury (FI)	2.7	1.80	1.5
Property damage only (PDO)	7.1	1.80	3.9

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments			
General Information		**Location Information**	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Brock Ave to Airport Rd
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	5T
Length of segment, L (mi)		--	3.4
AADT (veh/day)	$AADT_{MAX}$ = 53,800 (veh/day)	--	29,875
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	10
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	5
Minor commercial driveways (number)		--	45
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	20
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	45
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.70

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.04	1.01	0.94	1.00	0.99

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-9.70	1.17	0.81	35.887	1.000	35.887	0.99	0.70	24.810
Fatal and Injury (FI)	-10.47	1.12	0.62	9.926	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.266	9.544	0.99	0.70	6.598
Property Damage Only (PDO)	-9.97	1.17	0.88	27.395	$(5)_{TOTAL}-(5)_{FI}$ 0.734	26.342	0.99	0.70	18.212

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	6.598	1.000	18.212	24.810
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.846	5.582	0.651	11.856	17.438
Head-on collision	0.021	0.139	0.004	0.073	0.211
Angle collision	0.050	0.330	0.059	1.074	1.404
Sideswipe, same direction	0.061	0.403	0.248	4.517	4.919
Sideswipe, opposite direction	0.004	0.026	0.009	0.164	0.190
Other multiple-vehicle collision	0.018	0.119	0.029	0.528	0.647

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N$_{brsv}$**	**Proportion of Total Crashes**	**Adjusted N$_{brsv}$**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N$_{brsv}$**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-4.82	0.54	0.52	7.159	1.000	7.159	0.99	0.70	4.949
Fatal and Injury (FI)	-4.43	0.35	0.36	1.492	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.218	1.558	0.99	0.70	1.077
Property Damage Only (PDO)	-5.83	0.61	0.55	5.364	(5)$_{TOTAL}$-(5)$_{FI}$ 0.782	5.601	0.99	0.70	3.872

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	1.077	1.000	3.872	4.949
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.016	0.017	0.049	0.190	0.207
Collision with fixed object	0.398	0.429	0.768	2.974	3.402
Collision with other object	0.005	0.005	0.061	0.236	0.242
Other single-vehicle collision	0.581	0.626	0.122	0.472	1.098

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15{,}000)^t$	from Table 12-7
Major commercial	5	0.165	1.172	1.850	--
Minor commercial	45	0.053	1.172	5.348	
Major industrial/institutional	0	0.181	1.172	0.000	
Minor industrial/institutional	0	0.024	1.172	0.000	
Major residential	0	0.087	1.172	0.000	
Minor residential	0	0.016	1.172	0.000	
Other	20	0.027	1.172	1.211	
Total	--	--	--	8.408	0.10

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	8.408	1.000	8.408	0.99	0.70	5.813
Fatal and injury (FI)	--	0.269	2.262	0.99	0.70	1.564
Property damage only (PDO)	--	0.731	6.147	0.99	0.70	4.249

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	24.810	4.949	5.813	35.572	0.023	0.70	0.573
Fatal and injury (FI)	--	--	--	--	--	0.70	0.573

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	24.810	4.949	5.813	35.572	0.012	0.70	0.299
Fatal and injury (FI)	--	--	--	--	--	0.70	0.299

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	**Property damage only (PDO)** (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	**Total** (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
	MULTIPLE-VEHICLE		
Rear-end collisions (from Worksheet 1D)	5.582	11.856	17.438
Head-on collisions (from Worksheet 1D)	0.139	0.073	0.211
Angle collisions (from Worksheet 1D)	0.330	1.074	1.404
Sideswipe, same direction (from Worksheet 1D)	0.403	4.517	4.919
Sideswipe, opposite direction (from Worksheet 1D)	0.026	0.164	0.190
Driveway-related collisions (from Worksheet 1H)	1.564	4.249	5.813
Other multiple-vehicle collision (from Worksheet 1D)	0.119	0.528	0.647
Subtotal	8.162	22.461	30.623
	SINGLE-VEHICLE		
Collision with animal (from Worksheet 1F)	0.017	0.190	0.207
Collision with fixed object (from Worksheet 1F)	0.429	2.974	3.402
Collision with other object (from Worksheet 1F)	0.005	0.236	0.242
Other single-vehicle collision (from Worksheet 1F)	0.626	0.472	1.098
Collision with pedestrian (from Worksheet 1I)	0.573	0.000	0.573
Collision with bicycle (from Worksheet 1J)	0.299	0.000	0.299
Subtotal	1.949	3.872	5.821
Total	10.111	26.333	36.444

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	36.4	3.40	10.7
Fatal and injury (FI)	10.1	3.40	3.0
Property damage only (PDO)	26.3	3.40	7.7

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Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Antioch Rd to I-10
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	66,000
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Not Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	3
Minor commercial driveways (number)		--	15
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	10
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.03	0.99	1.00	1.00	1.02

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	28.227	1.000	28.227	1.02	0.68	19.505
Fatal and Injury (FI)	-12.76	1.28	1.31	7.633	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.257	7.264	1.02	0.68	5.020
Property Damage Only (PDO)	-12.81	1.38	1.34	22.026	$(5)_{TOTAL}-(5)_{FI}$ 0.743	20.962	1.02	0.68	14.485

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	5.020	1.000	14.485	19.505
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.832	4.176	0.662	9.589	13.765
Head-on collision	0.020	0.100	0.007	0.101	0.202
Angle collision	0.040	0.201	0.036	0.521	0.722
Sideswipe, same direction	0.050	0.251	0.223	3.230	3.481
Sideswipe, opposite direction	0.010	0.050	0.001	0.014	0.065
Other multiple-vehicle collision	0.048	0.241	0.071	1.028	1.269

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N$_{brsv}$**	**Proportion of Total Crashes**	**Adjusted N$_{brsv}$**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N$_{brsv}$**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	2.125	1.000	2.125	1.02	0.68	1.468
Fatal and Injury (FI)	-8.71	0.66	0.28	0.450	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.208	0.441	1.02	0.68	0.305
Property Damage Only (PDO)	-5.04	0.45	1.06	1.719	(5)$_{TOTAL}$-(5)$_{FI}$ 0.792	1.684	1.02	0.68	1.163

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	0.305	1.000	1.163	1.468
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.073	0.074
Collision with fixed object	0.500	0.152	0.813	0.946	1.098
Collision with other object	0.028	0.009	0.016	0.019	0.027
Other single-vehicle collision	0.471	0.144	0.108	0.126	0.269

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	3	0.033	1.106	0.510	--
Minor commercial	15	0.011	1.106	0.849	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	1.359	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	1.359	1.000	1.359	1.02	0.68	0.939
Fatal and injury (FI)	--	0.284	0.386	1.02	0.68	0.267
Property damage only (PDO)	--	0.716	0.973	1.02	0.68	0.672

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	19.505	1.468	0.939	21.912	0.019	0.68	0.283
Fatal and injury (FI)	--	--	--	--	--	0.68	0.283

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	19.505	1.468	0.939	21.912	0.005	0.68	0.075
Fatal and injury (FI)	--	--	--	--	--	0.68	0.075

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	**Property damage only (PDO)** (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	**Total** (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	4.176	9.589	13.765
Head-on collisions (from Worksheet 1D)	0.100	0.101	0.202
Angle collisions (from Worksheet 1D)	0.201	0.521	0.722
Sideswipe, same direction (from Worksheet 1D)	0.251	3.230	3.481
Sideswipe, opposite direction (from Worksheet 1D)	0.050	0.014	0.065
Driveway-related collisions (from Worksheet 1H)	0.267	0.672	0.939
Other multiple-vehicle collision (from Worksheet 1D)	0.241	1.028	1.269
Subtotal	5.286	15.157	20.444
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.073	0.074
Collision with fixed object (from Worksheet 1F)	0.152	0.946	1.098
Collision with other object (from Worksheet 1F)	0.009	0.019	0.027
Other single-vehicle collision (from Worksheet 1F)	0.144	0.126	0.269
Collision with pedestrian (from Worksheet 1I)	0.283	0.000	0.283
Collision with bicycle (from Worksheet 1J)	0.075	0.000	0.075
Subtotal	0.662	1.163	1.826
Total	5.949	16.321	22.270

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	22.3	1.80	12.4
Fatal and injury (FI)	5.9	1.80	3.3
Property damage only (PDO)	16.3	1.80	9.1

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	I-10 to Brock Ave
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	31,279
Type of on-street parking (none/parallel/angle)		None	Parallel (Comm/Ind)
Proportion of curb length with on-street parking		--	0.38
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	4
Minor commercial driveways (number)		--	25
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	15
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.27	1.02	0.99	0.91	1.00	1.17

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	10.224	1.000	10.224	1.17	0.68	8.143
Fatal and Injury (FI)	-12.76	1.28	1.31	2.935	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.272	2.780	1.17	0.68	2.214
Property Damage Only (PDO)	-12.81	1.38	1.34	7.860	$(5)_{TOTAL}-(5)_{FI}$ 0.728	7.444	1.17	0.68	5.929

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted $N_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted $N_{brmv\ (PDO)}$ (crashes/year)**	**Predicted $N_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	2.214	1.000	5.929	8.143
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.832	1.842	0.662	3.925	5.767
Head-on collision	0.020	0.044	0.007	0.042	0.086
Angle collision	0.040	0.089	0.036	0.213	0.302
Sideswipe, same direction	0.050	0.111	0.223	1.322	1.433
Sideswipe, opposite direction	0.010	0.022	0.001	0.006	0.028
Other multiple-vehicle collision	0.048	0.106	0.071	0.421	0.527

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	1.496	1.000	1.496	1.17	0.68	1.191
Fatal and Injury (FI)	-8.71	0.66	0.28	0.275	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.183	0.274	1.17	0.68	0.218
Property Damage Only (PDO)	-5.04	0.45	1.06	1.228	$(5)_{TOTAL}-(5)_{FI}$ 0.817	1.222	1.17	0.68	0.973

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted $N_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted $N_{brsv\ (PDO)}$ (crashes/year)**	**Predicted $N_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.218	1.000	0.973	1.191
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.061	0.062
Collision with fixed object	0.500	0.109	0.813	0.791	0.900
Collision with other object	0.028	0.006	0.016	0.016	0.022
Other single-vehicle collision	0.471	0.103	0.108	0.105	0.208

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15{,}000)^t$	from Table 12-7
Major commercial	4	0.033	1.106	0.298	--
Minor commercial	25	0.011	1.106	0.620	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	15	0.005	1.106	0.169	
Total	--	--	--	1.087	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	1.087	1.000	1.087	1.17	0.68	0.865
Fatal and injury (FI)	--	0.284	0.309	1.17	0.68	0.246
Property damage only (PDO)	--	0.716	0.778	1.17	0.68	0.620

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	8.143	1.191	0.865	10.200	0.019	0.68	0.132
Fatal and injury (FI)	--	--	--	--	--	0.68	0.132

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	8.143	1.191	0.865	10.200	0.005	0.68	0.035
Fatal and injury (FI)	--	--	--	--	--	0.68	0.035

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	1.842	3.925	5.767
Head-on collisions (from Worksheet 1D)	0.044	0.042	0.086
Angle collisions (from Worksheet 1D)	0.089	0.213	0.302
Sideswipe, same direction (from Worksheet 1D)	0.111	1.322	1.433
Sideswipe, opposite direction (from Worksheet 1D)	0.022	0.006	0.028
Driveway-related collisions (from Worksheet 1H)	0.246	0.620	0.865
Other multiple-vehicle collision (from Worksheet 1D)	0.106	0.421	0.527
Subtotal	2.460	6.549	9.009
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.061	0.062
Collision with fixed object (from Worksheet 1F)	0.109	0.791	0.900
Collision with other object (from Worksheet 1F)	0.006	0.016	0.022
Other single-vehicle collision (from Worksheet 1F)	0.103	0.105	0.208
Collision with pedestrian (from Worksheet 1I)	0.132	0.000	0.132
Collision with bicycle (from Worksheet 1J)	0.035	0.000	0.035
Subtotal	0.384	0.973	1.358
Total	2.844	7.522	10.366

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	10.4	1.80	5.8
Fatal and injury (FI)	2.8	1.80	1.6
Property damage only (PDO)	7.5	1.80	4.2

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments			
General Information		**Location Information**	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Brock Ave to Airport Rd
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2040

Input Data		**Base Conditions**	**Site Conditions**
Roadway type (2U, 3T, 4U, 4D, ST)		--	5T
Length of segment, L (mi)		--	3.4
AADT (veh/day)	$AADT_{MAX}$ = 53,800 (veh/day)	--	32,168
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	10
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	5
Minor commercial driveways (number)		--	45
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	20
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	45
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.70

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.04	1.01	0.94	1.00	0.99

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-9.70	1.17	0.81	39.130	1.000	39.130	0.99	0.70	27.052
Fatal and Injury (FI)	-10.47	1.12	0.62	10.783	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.265	10.379	0.99	0.70	7.175
Property Damage Only (PDO)	-9.97	1.17	0.88	29.871	$(5)_{TOTAL}-(5)_{FI}$ 0.735	28.751	0.99	0.70	19.877

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	7.175	1.000	19.877	27.052
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.846	6.070	0.651	12.940	19.010
Head-on collision	0.021	0.151	0.004	0.080	0.230
Angle collision	0.050	0.359	0.059	1.173	1.532
Sideswipe, same direction	0.061	0.438	0.248	4.930	5.367
Sideswipe, opposite direction	0.004	0.029	0.009	0.179	0.208
Other multiple-vehicle collision	0.018	0.129	0.029	0.576	0.706

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N$_{brsv}$**	**Proportion of Total Crashes**	**Adjusted N$_{brsv}$**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N$_{brsv}$**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-4.82	0.54	0.52	7.451	1.000	7.451	0.99	0.70	5.151
Fatal and Injury (FI)	-4.43	0.35	0.36	1.532	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.214	1.598	0.99	0.70	1.104
Property Damage Only (PDO)	-5.83	0.61	0.55	5.611	(5)$_{TOTAL}$-(5)$_{FI}$ 0.786	5.853	0.99	0.70	4.046

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	1.104	1.000	4.046	5.151
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.016	0.018	0.049	0.198	0.216
Collision with fixed object	0.398	0.440	0.768	3.108	3.547
Collision with other object	0.005	0.006	0.061	0.247	0.252
Other single-vehicle collision	0.581	0.642	0.122	0.494	1.135

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	5	0.165	1.172	2.017	--
Minor commercial	45	0.053	1.172	5.832	
Major industrial/institutional	0	0.181	1.172	0.000	
Minor industrial/institutional	0	0.024	1.172	0.000	
Major residential	0	0.087	1.172	0.000	
Minor residential	0	0.016	1.172	0.000	
Other	20	0.027	1.172	1.320	
Total	--	--	--	9.170	0.10

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	9.170	1.000	9.170	0.99	0.70	6.339
Fatal and injury (FI)	--	0.269	2.467	0.99	0.70	1.705
Property damage only (PDO)	--	0.731	6.703	0.99	0.70	4.634

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	27.052	5.151	6.339	38.543	0.023	0.70	0.621
Fatal and injury (FI)	--	--	--	--	--	0.70	0.621

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	27.052	5.151	6.339	38.543	0.012	0.70	0.324
Fatal and injury (FI)	--	--	--	--	--	0.70	0.324

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	6.070	12.940	19.010
Head-on collisions (from Worksheet 1D)	0.151	0.080	0.230
Angle collisions (from Worksheet 1D)	0.359	1.173	1.532
Sideswipe, same direction (from Worksheet 1D)	0.438	4.930	5.367
Sideswipe, opposite direction (from Worksheet 1D)	0.029	0.179	0.208
Driveway-related collisions (from Worksheet 1H)	1.705	4.634	6.339
Other multiple-vehicle collision (from Worksheet 1D)	0.129	0.576	0.706
Subtotal	8.881	24.511	33.392
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.018	0.198	0.216
Collision with fixed object (from Worksheet 1F)	0.440	3.108	3.547
Collision with other object (from Worksheet 1F)	0.006	0.247	0.252
Other single-vehicle collision (from Worksheet 1F)	0.642	0.494	1.135
Collision with pedestrian (from Worksheet 1I)	0.621	0.000	0.621
Collision with bicycle (from Worksheet 1J)	0.324	0.000	0.324
Subtotal	2.049	4.046	6.095
Total	10.929	28.558	39.487

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	39.5	3.40	11.6
Fatal and injury (FI)	10.9	3.40	3.2
Property damage only (PDO)	28.6	3.40	8.4

2050 No Build

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments			
General Information		**Location Information**	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Antioch Rd to I-10
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2050

Input Data		**Base Conditions**	**Site Conditions**
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	66,000
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Not Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	3
Minor commercial driveways (number)		--	15
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	10
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.03	0.99	1.00	1.00	1.02

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	28.227	1.000	28.227	1.02	0.68	19.505
Fatal and Injury (FI)	-12.76	1.28	1.31	7.633	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.257	7.264	1.02	0.68	5.020
Property Damage Only (PDO)	-12.81	1.38	1.34	22.026	$(5)_{TOTAL}-(5)_{FI}$ 0.743	20.962	1.02	0.68	14.485

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	5.020	1.000	14.485	19.505
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.832	4.176	0.662	9.589	13.765
Head-on collision	0.020	0.100	0.007	0.101	0.202
Angle collision	0.040	0.201	0.036	0.521	0.722
Sideswipe, same direction	0.050	0.251	0.223	3.230	3.481
Sideswipe, opposite direction	0.010	0.050	0.001	0.014	0.065
Other multiple-vehicle collision	0.048	0.241	0.071	1.028	1.269

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N$_{brsv}$**	**Proportion of Total Crashes**	**Adjusted N$_{brsv}$**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N$_{brsv}$**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	2.125	1.000	2.125	1.02	0.68	1.468
Fatal and Injury (FI)	-8.71	0.66	0.28	0.450	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.208	0.441	1.02	0.68	0.305
Property Damage Only (PDO)	-5.04	0.45	1.06	1.719	(5)$_{TOTAL}$-(5)$_{FI}$ 0.792	1.684	1.02	0.68	1.163

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	0.305	1.000	1.163	1.468
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.073	0.074
Collision with fixed object	0.500	0.152	0.813	0.946	1.098
Collision with other object	0.028	0.009	0.016	0.019	0.027
Other single-vehicle collision	0.471	0.144	0.108	0.126	0.269

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15{,}000)^t$	from Table 12-7
Major commercial	3	0.033	1.106	0.510	--
Minor commercial	15	0.011	1.106	0.849	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	1.359	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	1.359	1.000	1.359	1.02	0.68	0.939
Fatal and injury (FI)	--	0.284	0.386	1.02	0.68	0.267
Property damage only (PDO)	--	0.716	0.973	1.02	0.68	0.672

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	19.505	1.468	0.939	21.912	0.019	0.68	0.283
Fatal and injury (FI)	--	--	--	--	--	0.68	0.283

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	19.505	1.468	0.939	21.912	0.005	0.68	0.075
Fatal and injury (FI)	--	--	--	--	--	0.68	0.075

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	4.176	9.589	13.765
Head-on collisions (from Worksheet 1D)	0.100	0.101	0.202
Angle collisions (from Worksheet 1D)	0.201	0.521	0.722
Sideswipe, same direction (from Worksheet 1D)	0.251	3.230	3.481
Sideswipe, opposite direction (from Worksheet 1D)	0.050	0.014	0.065
Driveway-related collisions (from Worksheet 1H)	0.267	0.672	0.939
Other multiple-vehicle collision (from Worksheet 1D)	0.241	1.028	1.269
Subtotal	5.286	15.157	20.444
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.073	0.074
Collision with fixed object (from Worksheet 1F)	0.152	0.946	1.098
Collision with other object (from Worksheet 1F)	0.009	0.019	0.027
Other single-vehicle collision (from Worksheet 1F)	0.144	0.126	0.269
Collision with pedestrian (from Worksheet 1I)	0.283	0.000	0.283
Collision with bicycle (from Worksheet 1J)	0.075	0.000	0.075
Subtotal	0.662	1.163	1.826
Total	5.949	16.321	22.270

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	22.3	1.80	12.4
Fatal and injury (FI)	5.9	1.80	3.3
Property damage only (PDO)	16.3	1.80	9.1

2050 No Build

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments			
General Information		**Location Information**	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	I-10 to Brock Ave
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2050

Input Data		**Base Conditions**	**Site Conditions**
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	34,587
Type of on-street parking (none/parallel/angle)		None	Parallel (Comm/Ind)
Proportion of curb length with on-street parking		--	0.38
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	4
Minor commercial driveways (number)		--	25
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	15
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.27	1.02	0.99	0.91	1.00	1.17

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	11.722	1.000	11.722	1.17	0.68	9.336
Fatal and Injury (FI)	-12.76	1.28	1.31	3.338	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.270	3.164	1.17	0.68	2.520
Property Damage Only (PDO)	-12.81	1.38	1.34	9.029	$(5)_{TOTAL}-(5)_{FI}$ 0.730	8.558	1.17	0.68	6.816

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted $N_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted $N_{brmv\ (PDO)}$ (crashes/year)**	**Predicted $N_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	2.520	1.000	6.816	9.336
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.832	2.097	0.662	4.512	6.609
Head-on collision	0.020	0.050	0.007	0.048	0.098
Angle collision	0.040	0.101	0.036	0.245	0.346
Sideswipe, same direction	0.050	0.126	0.223	1.520	1.646
Sideswipe, opposite direction	0.010	0.025	0.001	0.007	0.032
Other multiple-vehicle collision	0.048	0.121	0.071	0.484	0.605

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	1.568	1.000	1.568	1.17	0.68	1.249
Fatal and Injury (FI)	-8.71	0.66	0.28	0.294	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.186	0.292	1.17	0.68	0.232
Property Damage Only (PDO)	-5.04	0.45	1.06	1.285	$(5)_{TOTAL}-(5)_{FI}$ 0.814	1.276	1.17	0.68	1.016

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted $N_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted $N_{brsv\ (PDO)}$ (crashes/year)**	**Predicted $N_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.232	1.000	1.016	1.249
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.064	0.064
Collision with fixed object	0.500	0.116	0.813	0.826	0.943
Collision with other object	0.028	0.007	0.016	0.016	0.023
Other single-vehicle collision	0.471	0.110	0.108	0.110	0.219

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15{,}000)^t$	from Table 12-7
Major commercial	4	0.033	1.106	0.333	--
Minor commercial	25	0.011	1.106	0.693	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	15	0.005	1.106	0.189	
Total	--	--	--	1.214	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	1.214	1.000	1.214	1.17	0.68	0.967
Fatal and injury (FI)	--	0.284	0.345	1.17	0.68	0.275
Property damage only (PDO)	--	0.716	0.869	1.17	0.68	0.692

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	9.336	1.249	0.967	11.552	0.019	0.68	0.149
Fatal and injury (FI)	--	--	--	--	--	0.68	0.149

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	9.336	1.249	0.967	11.552	0.005	0.68	0.039
Fatal and injury (FI)	--	--	--	--	--	0.68	0.039

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	2.097	4.512	6.609
Head-on collisions (from Worksheet 1D)	0.050	0.048	0.098
Angle collisions (from Worksheet 1D)	0.101	0.245	0.346
Sideswipe, same direction (from Worksheet 1D)	0.126	1.520	1.646
Sideswipe, opposite direction (from Worksheet 1D)	0.025	0.007	0.032
Driveway-related collisions (from Worksheet 1H)	0.275	0.692	0.967
Other multiple-vehicle collision (from Worksheet 1D)	0.121	0.484	0.605
Subtotal	2.795	7.509	10.303
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.064	0.064
Collision with fixed object (from Worksheet 1F)	0.116	0.826	0.943
Collision with other object (from Worksheet 1F)	0.007	0.016	0.023
Other single-vehicle collision (from Worksheet 1F)	0.110	0.110	0.219
Collision with pedestrian (from Worksheet 1I)	0.149	0.000	0.149
Collision with bicycle (from Worksheet 1J)	0.039	0.000	0.039
Subtotal	0.421	1.016	1.437
Total	3.216	8.525	11.741

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	11.7	1.80	6.5
Fatal and injury (FI)	3.2	1.80	1.8
Property damage only (PDO)	8.5	1.80	4.7

2050 No Build

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Brock Ave to Airport Rd
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2050

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	5T
Length of segment, L (mi)		--	3.4
AADT (veh/day)	$AADT_{MAX}$ = 53,800 (veh/day)	--	35,631
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	10
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	5
Minor commercial driveways (number)		--	45
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	20
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	45
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.70

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.04	1.01	0.94	1.00	0.99

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-9.70	1.17	0.81	44.102	1.000	44.102	0.99	0.70	30.490
Fatal and Injury (FI)	-10.47	1.12	0.62	12.091	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.264	11.654	0.99	0.70	8.057
Property Damage Only (PDO)	-9.97	1.17	0.88	33.667	$(5)_{TOTAL}-(5)_{FI}$ 0.736	32.449	0.99	0.70	22.433

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	8.057	1.000	22.433	30.490
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.846	6.816	0.651	14.604	21.420
Head-on collision	0.021	0.169	0.004	0.090	0.259
Angle collision	0.050	0.403	0.059	1.324	1.726
Sideswipe, same direction	0.061	0.491	0.248	5.563	6.055
Sideswipe, opposite direction	0.004	0.032	0.009	0.202	0.234
Other multiple-vehicle collision	0.018	0.145	0.029	0.651	0.796

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-4.82	0.54	0.52	7.873	1.000	7.873	0.99	0.70	5.443
Fatal and Injury (FI)	-4.43	0.35	0.36	1.587	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.210	1.653	0.99	0.70	1.143
Property Damage Only (PDO)	-5.83	0.61	0.55	5.973	$(5)_{TOTAL}-(5)_{FI}$ 0.790	6.220	0.99	0.70	4.300

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	1.143	1.000	4.300	5.443
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.016	0.018	0.049	0.211	0.229
Collision with fixed object	0.398	0.455	0.768	3.303	3.758
Collision with other object	0.005	0.006	0.061	0.262	0.268
Other single-vehicle collision	0.581	0.664	0.122	0.525	1.189

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	5	0.165	1.172	2.274	--
Minor commercial	45	0.053	1.172	6.574	
Major industrial/institutional	0	0.181	1.172	0.000	
Minor industrial/institutional	0	0.024	1.172	0.000	
Major residential	0	0.087	1.172	0.000	
Minor residential	0	0.016	1.172	0.000	
Other	20	0.027	1.172	1.489	
Total	--	--	--	10.337	0.10

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	10.337	1.000	10.337	0.99	0.70	7.146
Fatal and injury (FI)	--	0.269	2.781	0.99	0.70	1.922
Property damage only (PDO)	--	0.731	7.556	0.99	0.70	5.224

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	30.490	5.443	7.146	43.080	0.023	0.70	0.694
Fatal and injury (FI)	--	--	--	--	--	0.70	0.694

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	30.490	5.443	7.146	43.080	0.012	0.70	0.362
Fatal and injury (FI)	--	--	--	--	--	0.70	0.362

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	**Property damage only (PDO)** (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	**Total** (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	6.816	14.604	21.420
Head-on collisions (from Worksheet 1D)	0.169	0.090	0.259
Angle collisions (from Worksheet 1D)	0.403	1.324	1.726
Sideswipe, same direction (from Worksheet 1D)	0.491	5.563	6.055
Sideswipe, opposite direction (from Worksheet 1D)	0.032	0.202	0.234
Driveway-related collisions (from Worksheet 1H)	1.922	5.224	7.146
Other multiple-vehicle collision (from Worksheet 1D)	0.145	0.651	0.796
Subtotal	9.979	27.657	37.636
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.018	0.211	0.229
Collision with fixed object (from Worksheet 1F)	0.455	3.303	3.758
Collision with other object (from Worksheet 1F)	0.006	0.262	0.268
Other single-vehicle collision (from Worksheet 1F)	0.664	0.525	1.189
Collision with pedestrian (from Worksheet 1I)	0.694	0.000	0.694
Collision with bicycle (from Worksheet 1J)	0.362	0.000	0.362
Subtotal	2.198	4.300	6.499
Total	12.177	31.958	44.135

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	44.1	3.40	13.0
Fatal and injury (FI)	12.2	3.40	3.6
Property damage only (PDO)	32.0	3.40	9.4

2050 Alt 1A

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments			
General Information		**Location Information**	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Antioch Rd to I-10
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2050

Input Data		**Base Conditions**	**Site Conditions**
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	60,175
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Not Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	3
Minor commercial driveways (number)		--	15
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	10
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.03	0.99	1.00	1.00	1.02

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	24.893	1.000	24.893	1.02	0.68	17.201
Fatal and Injury (FI)	-12.76	1.28	1.31	6.782	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.259	6.451	1.02	0.68	4.457
Property Damage Only (PDO)	-12.81	1.38	1.34	19.389	$(5)_{TOTAL}-(5)_{FI}$ 0.741	18.443	1.02	0.68	12.744

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	4.457	1.000	12.744	17.201
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.832	3.709	0.662	8.437	12.145
Head-on collision	0.020	0.089	0.007	0.089	0.178
Angle collision	0.040	0.178	0.036	0.459	0.637
Sideswipe, same direction	0.050	0.223	0.223	2.842	3.065
Sideswipe, opposite direction	0.010	0.045	0.001	0.013	0.057
Other multiple-vehicle collision	0.048	0.214	0.071	0.905	1.119

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	2.034	1.000	2.034	1.02	0.68	1.406
Fatal and Injury (FI)	-8.71	0.66	0.28	0.424	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.204	0.416	1.02	0.68	0.287
Property Damage Only (PDO)	-5.04	0.45	1.06	1.649	$(5)_{TOTAL}-(5)_{FI}$ 0.796	1.618	1.02	0.68	1.118

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.287	1.000	1.118	1.406
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.070	0.071
Collision with fixed object	0.500	0.144	0.813	0.909	1.053
Collision with other object	0.028	0.008	0.016	0.018	0.026
Other single-vehicle collision	0.471	0.135	0.108	0.121	0.256

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	3	0.033	1.106	0.460	--
Minor commercial	15	0.011	1.106	0.767	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	1.227	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	1.227	1.000	1.227	1.02	0.68	0.848
Fatal and injury (FI)	--	0.284	0.348	1.02	0.68	0.241
Property damage only (PDO)	--	0.716	0.879	1.02	0.68	0.607

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	17.201	1.406	0.848	19.455	0.019	0.68	0.251
Fatal and injury (FI)	--	--	--	--	--	0.68	0.251

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	17.201	1.406	0.848	19.455	0.005	0.68	0.066
Fatal and injury (FI)	--	--	--	--	--	0.68	0.066

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	3.709	8.437	12.145
Head-on collisions (from Worksheet 1D)	0.089	0.089	0.178
Angle collisions (from Worksheet 1D)	0.178	0.459	0.637
Sideswipe, same direction (from Worksheet 1D)	0.223	2.842	3.065
Sideswipe, opposite direction (from Worksheet 1D)	0.045	0.013	0.057
Driveway-related collisions (from Worksheet 1H)	0.241	0.607	0.848
Other multiple-vehicle collision (from Worksheet 1D)	0.214	0.905	1.119
Subtotal	4.698	13.351	18.049
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.070	0.071
Collision with fixed object (from Worksheet 1F)	0.144	0.909	1.053
Collision with other object (from Worksheet 1F)	0.008	0.018	0.026
Other single-vehicle collision (from Worksheet 1F)	0.135	0.121	0.256
Collision with pedestrian (from Worksheet 1I)	0.251	0.000	0.251
Collision with bicycle (from Worksheet 1J)	0.066	0.000	0.066
Subtotal	0.605	1.118	1.723
Total	5.303	14.470	19.773

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	19.8	1.80	11.0
Fatal and injury (FI)	5.3	1.80	2.9
Property damage only (PDO)	14.5	1.80	8.0

2050 Alt 1A

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		**Location Information**	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	I-10 to Brock Ave
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2050

Input Data		**Base Conditions**	**Site Conditions**
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	30,790
Type of on-street parking (none/parallel/angle)		None	Parallel (Comm/Ind)
Proportion of curb length with on-street parking		--	0.38
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	4
Minor commercial driveways (number)		--	25
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	15
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.27	1.02	0.99	0.91	1.00	1.17

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	10.007	1.000	10.007	1.17	0.68	7.970
Fatal and Injury (FI)	-12.76	1.28	1.31	2.876	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.272	2.724	1.17	0.68	2.170
Property Damage Only (PDO)	-12.81	1.38	1.34	7.691	$(5)_{TOTAL}-(5)_{FI}$ 0.728	7.283	1.17	0.68	5.801

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	2.170	1.000	5.801	7.970
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.832	1.805	0.662	3.840	5.645
Head-on collision	0.020	0.043	0.007	0.041	0.084
Angle collision	0.040	0.087	0.036	0.209	0.296
Sideswipe, same direction	0.050	0.108	0.223	1.294	1.402
Sideswipe, opposite direction	0.010	0.022	0.001	0.006	0.027
Other multiple-vehicle collision	0.048	0.104	0.071	0.412	0.516

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N$_{brsv}$**	**Proportion of Total Crashes**	**Adjusted N$_{brsv}$**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N$_{brsv}$**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	1.485	1.000	1.485	1.17	0.68	1.183
Fatal and Injury (FI)	-8.71	0.66	0.28	0.272	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.182	0.271	1.17	0.68	0.216
Property Damage Only (PDO)	-5.04	0.45	1.06	1.220	(5)$_{TOTAL}$-(5)$_{FI}$ 0.818	1.214	1.17	0.68	0.967

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	0.216	1.000	0.967	1.183
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.061	0.061
Collision with fixed object	0.500	0.108	0.813	0.786	0.894
Collision with other object	0.028	0.006	0.016	0.015	0.022
Other single-vehicle collision	0.471	0.102	0.108	0.104	0.206

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	Number of driveways, n_j	Crashes per driveway per year, N_j	Coefficient for traffic adjustment, t	Initial N_{brdwy}	Overdispersion parameter, k
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	4	0.033	1.106	0.292	--
Minor commercial	25	0.011	1.106	0.609	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	15	0.005	1.106	0.166	
Total	--	--	--	1.068	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Initial N_{brdwy}	Proportion of total crashes (f_{dwy})	Adjusted N_{brdwy}	Combined CMFs	Calibration factor, C_r	Predicted N_{brdwy}
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	1.068	1.000	1.068	1.17	0.68	0.850
Fatal and injury (FI)	--	0.284	0.303	1.17	0.68	0.242
Property damage only (PDO)	--	0.716	0.765	1.17	0.68	0.609

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	Predicted N_{brmv}	Predicted N_{brsv}	Predicted N_{brdwy}	Predicted N_{br}	f_{pedr}	Calibration factor, C_r	Predicted N_{pedr}
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	7.970	1.183	0.850	10.003	0.019	0.68	0.129
Fatal and injury (FI)	--	--	--	--	--	0.68	0.129

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	Predicted N_{brmv}	Predicted N_{brsv}	Predicted N_{brdwy}	Predicted N_{br}	f_{biker}	Calibration factor, C_r	Predicted N_{biker}
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	7.970	1.183	0.850	10.003	0.005	0.68	0.034
Fatal and injury (FI)	--	--	--	--	--	0.68	0.034

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	**Property damage only (PDO)** (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	**Total** (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	1.805	3.840	5.645
Head-on collisions (from Worksheet 1D)	0.043	0.041	0.084
Angle collisions (from Worksheet 1D)	0.087	0.209	0.296
Sideswipe, same direction (from Worksheet 1D)	0.108	1.294	1.402
Sideswipe, opposite direction (from Worksheet 1D)	0.022	0.006	0.027
Driveway-related collisions (from Worksheet 1H)	0.242	0.609	0.850
Other multiple-vehicle collision (from Worksheet 1D)	0.104	0.412	0.516
Subtotal	2.411	6.410	8.821
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.061	0.061
Collision with fixed object (from Worksheet 1F)	0.108	0.786	0.894
Collision with other object (from Worksheet 1F)	0.006	0.015	0.022
Other single-vehicle collision (from Worksheet 1F)	0.102	0.104	0.206
Collision with pedestrian (from Worksheet 1I)	0.129	0.000	0.129
Collision with bicycle (from Worksheet 1J)	0.034	0.000	0.034
Subtotal	0.379	0.967	1.346
Total	2.790	7.377	10.167

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	10.2	1.80	5.6
Fatal and injury (FI)	2.8	1.80	1.6
Property damage only (PDO)	7.4	1.80	4.1

2050 Alt 1A

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Brock Ave to Airport Rd
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2050

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	5T
Length of segment, L (mi)		--	3.4
AADT (veh/day)	$AADT_{MAX}$ = 53,800 (veh/day)	--	31,996
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	10
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	5
Minor commercial driveways (number)		--	45
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	20
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	45
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.70

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.04	1.01	0.94	1.00	0.99

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-9.70	1.17	0.81	38.885	1.000	38.885	0.99	0.70	26.883
Fatal and Injury (FI)	-10.47	1.12	0.62	10.718	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.265	10.316	0.99	0.70	7.132
Property Damage Only (PDO)	-9.97	1.17	0.88	29.684	$(5)_{TOTAL}-(5)_{FI}$ 0.735	28.569	0.99	0.70	19.751

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	7.132	1.000	19.751	26.883
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.846	6.033	0.651	12.858	18.892
Head-on collision	0.021	0.150	0.004	0.079	0.229
Angle collision	0.050	0.357	0.059	1.165	1.522
Sideswipe, same direction	0.061	0.435	0.248	4.898	5.333
Sideswipe, opposite direction	0.004	0.029	0.009	0.178	0.206
Other multiple-vehicle collision	0.018	0.128	0.029	0.573	0.701

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-4.82	0.54	0.52	7.429	1.000	7.429	0.99	0.70	5.136
Fatal and Injury (FI)	-4.43	0.35	0.36	1.529	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.215	1.595	0.99	0.70	1.102
Property Damage Only (PDO)	-5.83	0.61	0.55	5.593	(5)$_{TOTAL}$-(5)$_{FI}$ 0.785	5.834	0.99	0.70	4.034

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	1.102	1.000	4.034	5.136
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.016	0.018	0.049	0.198	0.215
Collision with fixed object	0.398	0.439	0.768	3.098	3.537
Collision with other object	0.005	0.006	0.061	0.246	0.252
Other single-vehicle collision	0.581	0.641	0.122	0.492	1.133

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	5	0.165	1.172	2.005	--
Minor commercial	45	0.053	1.172	5.795	
Major industrial/institutional	0	0.181	1.172	0.000	
Minor industrial/institutional	0	0.024	1.172	0.000	
Major residential	0	0.087	1.172	0.000	
Minor residential	0	0.016	1.172	0.000	
Other	20	0.027	1.172	1.312	
Total	--	--	--	9.112	0.10

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	9.112	1.000	9.112	0.99	0.70	6.300
Fatal and injury (FI)	--	0.269	2.451	0.99	0.70	1.695
Property damage only (PDO)	--	0.731	6.661	0.99	0.70	4.605

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	26.883	5.136	6.300	38.319	0.023	0.70	0.617
Fatal and injury (FI)	--	--	--	--	--	0.70	0.617

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	26.883	5.136	6.300	38.319	0.012	0.70	0.322
Fatal and injury (FI)	--	--	--	--	--	0.70	0.322

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	6.033	12.858	18.892
Head-on collisions (from Worksheet 1D)	0.150	0.079	0.229
Angle collisions (from Worksheet 1D)	0.357	1.165	1.522
Sideswipe, same direction (from Worksheet 1D)	0.435	4.898	5.333
Sideswipe, opposite direction (from Worksheet 1D)	0.029	0.178	0.206
Driveway-related collisions (from Worksheet 1H)	1.695	4.605	6.300
Other multiple-vehicle collision (from Worksheet 1D)	0.128	0.573	0.701
Subtotal	8.826	24.356	33.183
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.018	0.198	0.215
Collision with fixed object (from Worksheet 1F)	0.439	3.098	3.537
Collision with other object (from Worksheet 1F)	0.006	0.246	0.252
Other single-vehicle collision (from Worksheet 1F)	0.641	0.492	1.133
Collision with pedestrian (from Worksheet 1I)	0.617	0.000	0.617
Collision with bicycle (from Worksheet 1J)	0.322	0.000	0.322
Subtotal	2.041	4.034	6.075
Total	10.868	28.390	39.258

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	39.3	3.40	11.5
Fatal and injury (FI)	10.9	3.40	3.2
Property damage only (PDO)	28.4	3.40	8.4

2050 Alt 1B

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Antioch Rd to I-10
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2050

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	58,789
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Not Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	3
Minor commercial driveways (number)		--	15
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	10
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.03	0.99	1.00	1.00	1.02

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	24.117	1.000	24.117	1.02	0.68	16.665
Fatal and Injury (FI)	-12.76	1.28	1.31	6.582	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.260	6.260	1.02	0.68	4.326
Property Damage Only (PDO)	-12.81	1.38	1.34	18.775	$(5)_{TOTAL}-(5)_{FI}$ 0.740	17.857	1.02	0.68	12.339

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted $N_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted $N_{brmv\ (PDO)}$ (crashes/year)**	**Predicted $N_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	4.326	1.000	12.339	16.665
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.832	3.599	0.662	8.168	11.768
Head-on collision	0.020	0.087	0.007	0.086	0.173
Angle collision	0.040	0.173	0.036	0.444	0.617
Sideswipe, same direction	0.050	0.216	0.223	2.752	2.968
Sideswipe, opposite direction	0.010	0.043	0.001	0.012	0.056
Other multiple-vehicle collision	0.048	0.208	0.071	0.876	1.084

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	2.012	1.000	2.012	1.02	0.68	1.390
Fatal and Injury (FI)	-8.71	0.66	0.28	0.417	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.204	0.410	1.02	0.68	0.283
Property Damage Only (PDO)	-5.04	0.45	1.06	1.632	$(5)_{TOTAL}-(5)_{FI}$ 0.796	1.602	1.02	0.68	1.107

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted $N_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted $N_{brsv\ (PDO)}$ (crashes/year)**	**Predicted $N_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.283	1.000	1.107	1.390
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.070	0.070
Collision with fixed object	0.500	0.142	0.813	0.900	1.042
Collision with other object	0.028	0.008	0.016	0.018	0.026
Other single-vehicle collision	0.471	0.133	0.108	0.120	0.253

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	3	0.033	1.106	0.448	--
Minor commercial	15	0.011	1.106	0.747	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	1.196	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	1.196	1.000	1.196	1.02	0.68	0.826
Fatal and injury (FI)	--	0.284	0.340	1.02	0.68	0.235
Property damage only (PDO)	--	0.716	0.856	1.02	0.68	0.592

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	16.665	1.390	0.826	18.882	0.019	0.68	0.244
Fatal and injury (FI)	--	--	--	--	--	0.68	0.244

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	16.665	1.390	0.826	18.882	0.005	0.68	0.064
Fatal and injury (FI)	--	--	--	--	--	0.68	0.064

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	**Property damage only (PDO)** (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	**Total** (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	3.599	8.168	11.768
Head-on collisions (from Worksheet 1D)	0.087	0.086	0.173
Angle collisions (from Worksheet 1D)	0.173	0.444	0.617
Sideswipe, same direction (from Worksheet 1D)	0.216	2.752	2.968
Sideswipe, opposite direction (from Worksheet 1D)	0.043	0.012	0.056
Driveway-related collisions (from Worksheet 1H)	0.235	0.592	0.826
Other multiple-vehicle collision (from Worksheet 1D)	0.208	0.876	1.084
Subtotal	4.560	12.931	17.491
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.070	0.070
Collision with fixed object (from Worksheet 1F)	0.142	0.900	1.042
Collision with other object (from Worksheet 1F)	0.008	0.018	0.026
Other single-vehicle collision (from Worksheet 1F)	0.133	0.120	0.253
Collision with pedestrian (from Worksheet 1I)	0.244	0.000	0.244
Collision with bicycle (from Worksheet 1J)	0.064	0.000	0.064
Subtotal	0.591	1.107	1.699
Total	5.152	14.038	19.190

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	19.2	1.80	10.7
Fatal and injury (FI)	5.2	1.80	2.9
Property damage only (PDO)	14.0	1.80	7.8

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Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments			
General Information		**Location Information**	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	I-10 to Brock Ave
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2050

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	32,260
Type of on-street parking (none/parallel/angle)		None	Parallel (Comm/Ind)
Proportion of curb length with on-street parking		--	0.38
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	4
Minor commercial driveways (number)		--	25
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	15
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.27	1.02	0.99	0.91	1.00	1.17

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	10.663	1.000	10.663	1.17	0.68	8.492
Fatal and Injury (FI)	-12.76	1.28	1.31	3.053	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.271	2.893	1.17	0.68	2.304
Property Damage Only (PDO)	-12.81	1.38	1.34	8.202	$(5)_{TOTAL}-(5)_{FI}$ 0.729	7.770	1.17	0.68	6.189

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	2.304	1.000	6.189	8.492
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.832	1.917	0.662	4.097	6.014
Head-on collision	0.020	0.046	0.007	0.043	0.089
Angle collision	0.040	0.092	0.036	0.223	0.315
Sideswipe, same direction	0.050	0.115	0.223	1.380	1.495
Sideswipe, opposite direction	0.010	0.023	0.001	0.006	0.029
Other multiple-vehicle collision	0.048	0.111	0.071	0.439	0.550

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N$_{brsv}$**	**Proportion of Total Crashes**	**Adjusted N$_{brsv}$**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N$_{brsv}$**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	1.518	1.000	1.518	1.17	0.68	1.209
Fatal and Injury (FI)	-8.71	0.66	0.28	0.281	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.184	0.279	1.17	0.68	0.222
Property Damage Only (PDO)	-5.04	0.45	1.06	1.245	(5)$_{TOTAL}$-(5)$_{FI}$ 0.816	1.238	1.17	0.68	0.986

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	0.222	1.000	0.986	1.209
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.062	0.062
Collision with fixed object	0.500	0.111	0.813	0.802	0.913
Collision with other object	0.028	0.006	0.016	0.016	0.022
Other single-vehicle collision	0.471	0.105	0.108	0.107	0.211

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	4	0.033	1.106	0.308	--
Minor commercial	25	0.011	1.106	0.641	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	15	0.005	1.106	0.175	
Total	--	--	--	1.124	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	1.124	1.000	1.124	1.17	0.68	0.895
Fatal and injury (FI)	--	0.284	0.319	1.17	0.68	0.254
Property damage only (PDO)	--	0.716	0.805	1.17	0.68	0.641

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	8.492	1.209	0.895	10.597	0.019	0.68	0.137
Fatal and injury (FI)	--	--	--	--	--	0.68	0.137

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	8.492	1.209	0.895	10.597	0.005	0.68	0.036
Fatal and injury (FI)	--	--	--	--	--	0.68	0.036

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	**Property damage only (PDO)** (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	**Total** (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	1.917	4.097	6.014
Head-on collisions (from Worksheet 1D)	0.046	0.043	0.089
Angle collisions (from Worksheet 1D)	0.092	0.223	0.315
Sideswipe, same direction (from Worksheet 1D)	0.115	1.380	1.495
Sideswipe, opposite direction (from Worksheet 1D)	0.023	0.006	0.029
Driveway-related collisions (from Worksheet 1H)	0.254	0.641	0.895
Other multiple-vehicle collision (from Worksheet 1D)	0.111	0.439	0.550
Subtotal	2.558	6.830	9.388
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.062	0.062
Collision with fixed object (from Worksheet 1F)	0.111	0.802	0.913
Collision with other object (from Worksheet 1F)	0.006	0.016	0.022
Other single-vehicle collision (from Worksheet 1F)	0.105	0.107	0.211
Collision with pedestrian (from Worksheet 1I)	0.137	0.000	0.137
Collision with bicycle (from Worksheet 1J)	0.036	0.000	0.036
Subtotal	0.395	0.986	1.382
Total	2.953	7.816	10.770

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	10.8	1.80	6.0
Fatal and injury (FI)	3.0	1.80	1.6
Property damage only (PDO)	7.8	1.80	4.3

2050 Alt 1B

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Brock Ave to Airport Rd
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2050

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	5T
Length of segment, L (mi)		--	3.4
AADT (veh/day)	$AADT_{MAX}$ = 53,800 (veh/day)	--	32,374
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	10
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	5
Minor commercial driveways (number)		--	45
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	20
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	45
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.70

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.04	1.01	0.94	1.00	0.99

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-9.70	1.17	0.81	39.423	1.000	39.423	0.99	0.70	27.255
Fatal and Injury (FI)	-10.47	1.12	0.62	10.860	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.265	10.454	0.99	0.70	7.227
Property Damage Only (PDO)	-9.97	1.17	0.88	30.095	$(5)_{TOTAL}-(5)_{FI}$ 0.735	28.969	0.99	0.70	20.028

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	7.227	1.000	20.028	27.255
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.846	6.114	0.651	13.038	19.152
Head-on collision	0.021	0.152	0.004	0.080	0.232
Angle collision	0.050	0.361	0.059	1.182	1.543
Sideswipe, same direction	0.061	0.441	0.248	4.967	5.408
Sideswipe, opposite direction	0.004	0.029	0.009	0.180	0.209
Other multiple-vehicle collision	0.018	0.130	0.029	0.581	0.711

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-4.82	0.54	0.52	7.476	1.000	7.476	0.99	0.70	5.169
Fatal and Injury (FI)	-4.43	0.35	0.36	1.535	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.214	1.601	0.99	0.70	1.107
Property Damage Only (PDO)	-5.83	0.61	0.55	5.633	(5)$_{TOTAL}$-(5)$_{FI}$ 0.786	5.875	0.99	0.70	4.062

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	1.107	1.000	4.062	5.169
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.016	0.018	0.049	0.199	0.217
Collision with fixed object	0.398	0.441	0.768	3.120	3.560
Collision with other object	0.005	0.006	0.061	0.248	0.253
Other single-vehicle collision	0.581	0.643	0.122	0.496	1.139

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15{,}000)^t$	from Table 12-7
Major commercial	5	0.165	1.172	2.032	--
Minor commercial	45	0.053	1.172	5.876	
Major industrial/institutional	0	0.181	1.172	0.000	
Minor industrial/institutional	0	0.024	1.172	0.000	
Major residential	0	0.087	1.172	0.000	
Minor residential	0	0.016	1.172	0.000	
Other	20	0.027	1.172	1.330	
Total	--	--	--	9.239	0.10

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	9.239	1.000	9.239	0.99	0.70	6.387
Fatal and injury (FI)	--	0.269	2.485	0.99	0.70	1.718
Property damage only (PDO)	--	0.731	6.753	0.99	0.70	4.669

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	27.255	5.169	6.387	38.811	0.023	0.70	0.625
Fatal and injury (FI)	--	--	--	--	--	0.70	0.625

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	27.255	5.169	6.387	38.811	0.012	0.70	0.326
Fatal and injury (FI)	--	--	--	--	--	0.70	0.326

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	6.114	13.038	19.152
Head-on collisions (from Worksheet 1D)	0.152	0.080	0.232
Angle collisions (from Worksheet 1D)	0.361	1.182	1.543
Sideswipe, same direction (from Worksheet 1D)	0.441	4.967	5.408
Sideswipe, opposite direction (from Worksheet 1D)	0.029	0.180	0.209
Driveway-related collisions (from Worksheet 1H)	1.718	4.669	6.387
Other multiple-vehicle collision (from Worksheet 1D)	0.130	0.581	0.711
Subtotal	8.945	24.697	33.642
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.018	0.199	0.217
Collision with fixed object (from Worksheet 1F)	0.441	3.120	3.560
Collision with other object (from Worksheet 1F)	0.006	0.248	0.253
Other single-vehicle collision (from Worksheet 1F)	0.643	0.496	1.139
Collision with pedestrian (from Worksheet 1I)	0.625	0.000	0.625
Collision with bicycle (from Worksheet 1J)	0.326	0.000	0.326
Subtotal	2.058	4.062	6.120
Total	11.003	28.759	39.762

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	39.8	3.40	11.7
Fatal and injury (FI)	11.0	3.40	3.2
Property damage only (PDO)	28.8	3.40	8.5

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Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Antioch Rd to I-10
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2050

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	66,000
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Not Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	3
Minor commercial driveways (number)		--	15
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	10
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.03	0.99	1.00	1.00	1.02

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	28.227	1.000	28.227	1.02	0.68	19.505
Fatal and Injury (FI)	-12.76	1.28	1.31	7.633	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.257	7.264	1.02	0.68	5.020
Property Damage Only (PDO)	-12.81	1.38	1.34	22.026	$(5)_{TOTAL}-(5)_{FI}$ 0.743	20.962	1.02	0.68	14.485

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	5.020	1.000	14.485	19.505
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.832	4.176	0.662	9.589	13.765
Head-on collision	0.020	0.100	0.007	0.101	0.202
Angle collision	0.040	0.201	0.036	0.521	0.722
Sideswipe, same direction	0.050	0.251	0.223	3.230	3.481
Sideswipe, opposite direction	0.010	0.050	0.001	0.014	0.065
Other multiple-vehicle collision	0.048	0.241	0.071	1.028	1.269

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N$_{brsv}$**	**Proportion of Total Crashes**	**Adjusted N$_{brsv}$**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N$_{brsv}$**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	2.125	1.000	2.125	1.02	0.68	1.468
Fatal and Injury (FI)	-8.71	0.66	0.28	0.450	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.208	0.441	1.02	0.68	0.305
Property Damage Only (PDO)	-5.04	0.45	1.06	1.719	(5)$_{TOTAL}$-(5)$_{FI}$ 0.792	1.684	1.02	0.68	1.163

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	0.305	1.000	1.163	1.468
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.073	0.074
Collision with fixed object	0.500	0.152	0.813	0.946	1.098
Collision with other object	0.028	0.009	0.016	0.019	0.027
Other single-vehicle collision	0.471	0.144	0.108	0.126	0.269

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 n_j * N_j * $(AADT/15{,}000)^t$	from Table 12-7
Major commercial	3	0.033	1.106	0.510	--
Minor commercial	15	0.011	1.106	0.849	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	1.359	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	1.359	1.000	1.359	1.02	0.68	0.939
Fatal and injury (FI)	--	0.284	0.386	1.02	0.68	0.267
Property damage only (PDO)	--	0.716	0.973	1.02	0.68	0.672

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	19.505	1.468	0.939	21.912	0.019	0.68	0.283
Fatal and injury (FI)	--	--	--	--	--	0.68	0.283

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	19.505	1.468	0.939	21.912	0.005	0.68	0.075
Fatal and injury (FI)	--	--	--	--	--	0.68	0.075

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	**Property damage only (PDO)** (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	**Total** (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	4.176	9.589	13.765
Head-on collisions (from Worksheet 1D)	0.100	0.101	0.202
Angle collisions (from Worksheet 1D)	0.201	0.521	0.722
Sideswipe, same direction (from Worksheet 1D)	0.251	3.230	3.481
Sideswipe, opposite direction (from Worksheet 1D)	0.050	0.014	0.065
Driveway-related collisions (from Worksheet 1H)	0.267	0.672	0.939
Other multiple-vehicle collision (from Worksheet 1D)	0.241	1.028	1.269
Subtotal	5.286	15.157	20.444
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.073	0.074
Collision with fixed object (from Worksheet 1F)	0.152	0.946	1.098
Collision with other object (from Worksheet 1F)	0.009	0.019	0.027
Other single-vehicle collision (from Worksheet 1F)	0.144	0.126	0.269
Collision with pedestrian (from Worksheet 1I)	0.283	0.000	0.283
Collision with bicycle (from Worksheet 1J)	0.075	0.000	0.075
Subtotal	0.662	1.163	1.826
Total	5.949	16.321	22.270

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	22.3	1.80	12.4
Fatal and injury (FI)	5.9	1.80	3.3
Property damage only (PDO)	16.3	1.80	9.1

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Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	I-10 to Brock Ave
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2050

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	31,257
Type of on-street parking (none/parallel/angle)		None	Parallel (Comm/Ind)
Proportion of curb length with on-street parking		--	0.38
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	4
Minor commercial driveways (number)		--	25
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	15
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.27	1.02	0.99	0.91	1.00	1.17

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	10.214	1.000	10.214	1.17	0.68	8.135
Fatal and Injury (FI)	-12.76	1.28	1.31	2.932	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.272	2.777	1.17	0.68	2.212
Property Damage Only (PDO)	-12.81	1.38	1.34	7.852	$(5)_{TOTAL}-(5)_{FI}$ 0.728	7.437	1.17	0.68	5.923

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	2.212	1.000	5.923	8.135
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.832	1.840	0.662	3.921	5.762
Head-on collision	0.020	0.044	0.007	0.041	0.086
Angle collision	0.040	0.088	0.036	0.213	0.302
Sideswipe, same direction	0.050	0.111	0.223	1.321	1.432
Sideswipe, opposite direction	0.010	0.022	0.001	0.006	0.028
Other multiple-vehicle collision	0.048	0.106	0.071	0.421	0.527

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N$_{brsv}$**	**Proportion of Total Crashes**	**Adjusted N$_{brsv}$**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N$_{brsv}$**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	1.495	1.000	1.495	1.17	0.68	1.191
Fatal and Injury (FI)	-8.71	0.66	0.28	0.275	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.183	0.274	1.17	0.68	0.218
Property Damage Only (PDO)	-5.04	0.45	1.06	1.228	(5)$_{TOTAL}$-(5)$_{FI}$ 0.817	1.222	1.17	0.68	0.973

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	0.218	1.000	0.973	1.191
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.061	0.062
Collision with fixed object	0.500	0.109	0.813	0.791	0.900
Collision with other object	0.028	0.006	0.016	0.016	0.022
Other single-vehicle collision	0.471	0.103	0.108	0.105	0.208

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15{,}000)^t$	from Table 12-7
Major commercial	4	0.033	1.106	0.297	--
Minor commercial	25	0.011	1.106	0.619	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	15	0.005	1.106	0.169	
Total	--	--	--	1.086	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	1.086	1.000	1.086	1.17	0.68	0.865
Fatal and injury (FI)	--	0.284	0.308	1.17	0.68	0.246
Property damage only (PDO)	--	0.716	0.777	1.17	0.68	0.619

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	8.135	1.191	0.865	10.191	0.019	0.68	0.132
Fatal and injury (FI)	--	--	--	--	--	0.68	0.132

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	8.135	1.191	0.865	10.191	0.005	0.68	0.035
Fatal and injury (FI)	--	--	--	--	--	0.68	0.035

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	1.840	3.921	5.762
Head-on collisions (from Worksheet 1D)	0.044	0.041	0.086
Angle collisions (from Worksheet 1D)	0.088	0.213	0.302
Sideswipe, same direction (from Worksheet 1D)	0.111	1.321	1.432
Sideswipe, opposite direction (from Worksheet 1D)	0.022	0.006	0.028
Driveway-related collisions (from Worksheet 1H)	0.246	0.619	0.865
Other multiple-vehicle collision (from Worksheet 1D)	0.106	0.421	0.527
Subtotal	2.458	6.542	9.000
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.061	0.062
Collision with fixed object (from Worksheet 1F)	0.109	0.791	0.900
Collision with other object (from Worksheet 1F)	0.006	0.016	0.022
Other single-vehicle collision (from Worksheet 1F)	0.103	0.105	0.208
Collision with pedestrian (from Worksheet 1I)	0.132	0.000	0.132
Collision with bicycle (from Worksheet 1J)	0.035	0.000	0.035
Subtotal	0.384	0.973	1.357
Total	2.842	7.516	10.357

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	10.4	1.80	5.8
Fatal and injury (FI)	2.8	1.80	1.6
Property damage only (PDO)	7.5	1.80	4.2

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Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Brock Ave to Airport Rd
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2050

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	5T
Length of segment, L (mi)		--	3.4
AADT (veh/day)	$AADT_{MAX}$ = 53,800 (veh/day)	--	32,601
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	10
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	5
Minor commercial driveways (number)		--	45
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	20
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	45
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.70

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.04	1.01	0.94	1.00	0.99

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-9.70	1.17	0.81	39.747	1.000	39.747	0.99	0.70	27.479
Fatal and Injury (FI)	-10.47	1.12	0.62	10.945	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.265	10.537	0.99	0.70	7.285
Property Damage Only (PDO)	-9.97	1.17	0.88	30.342	$(5)_{TOTAL}-(5)_{FI}$ 0.735	29.210	0.99	0.70	20.194

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	7.285	1.000	20.194	27.479
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.846	6.163	0.651	13.146	19.309
Head-on collision	0.021	0.153	0.004	0.081	0.234
Angle collision	0.050	0.364	0.059	1.191	1.556
Sideswipe, same direction	0.061	0.444	0.248	5.008	5.453
Sideswipe, opposite direction	0.004	0.029	0.009	0.182	0.211
Other multiple-vehicle collision	0.018	0.131	0.029	0.586	0.717

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N$_{brsv}$**	**Proportion of Total Crashes**	**Adjusted N$_{brsv}$**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N$_{brsv}$**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-4.82	0.54	0.52	7.505	1.000	7.505	0.99	0.70	5.188
Fatal and Injury (FI)	-4.43	0.35	0.36	1.539	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.214	1.605	0.99	0.70	1.109
Property Damage Only (PDO)	-5.83	0.61	0.55	5.657	(5)$_{TOTAL}$-(5)$_{FI}$ 0.786	5.900	0.99	0.70	4.079

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	1.109	1.000	4.079	5.188
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.016	0.018	0.049	0.200	0.218
Collision with fixed object	0.398	0.442	0.768	3.133	3.574
Collision with other object	0.005	0.006	0.061	0.249	0.254
Other single-vehicle collision	0.581	0.645	0.122	0.498	1.142

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	5	0.165	1.172	2.049	--
Minor commercial	45	0.053	1.172	5.924	
Major industrial/institutional	0	0.181	1.172	0.000	
Minor industrial/institutional	0	0.024	1.172	0.000	
Major residential	0	0.087	1.172	0.000	
Minor residential	0	0.016	1.172	0.000	
Other	20	0.027	1.172	1.341	
Total	--	--	--	9.314	0.10

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	9.314	1.000	9.314	0.99	0.70	6.440
Fatal and injury (FI)	--	0.269	2.506	0.99	0.70	1.732
Property damage only (PDO)	--	0.731	6.809	0.99	0.70	4.707

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	27.479	5.188	6.440	39.107	0.023	0.70	0.630
Fatal and injury (FI)	--	--	--	--	--	0.70	0.630

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	27.479	5.188	6.440	39.107	0.012	0.70	0.328
Fatal and injury (FI)	--	--	--	--	--	0.70	0.328

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	6.163	13.146	19.309
Head-on collisions (from Worksheet 1D)	0.153	0.081	0.234
Angle collisions (from Worksheet 1D)	0.364	1.191	1.556
Sideswipe, same direction (from Worksheet 1D)	0.444	5.008	5.453
Sideswipe, opposite direction (from Worksheet 1D)	0.029	0.182	0.211
Driveway-related collisions (from Worksheet 1H)	1.732	4.707	6.440
Other multiple-vehicle collision (from Worksheet 1D)	0.131	0.586	0.717
Subtotal	9.017	24.901	33.918
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.018	0.200	0.218
Collision with fixed object (from Worksheet 1F)	0.442	3.133	3.574
Collision with other object (from Worksheet 1F)	0.006	0.249	0.254
Other single-vehicle collision (from Worksheet 1F)	0.645	0.498	1.142
Collision with pedestrian (from Worksheet 1I)	0.630	0.000	0.630
Collision with bicycle (from Worksheet 1J)	0.328	0.000	0.328
Subtotal	2.068	4.079	6.146
Total	11.085	28.980	40.065

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	40.1	3.40	11.8
Fatal and injury (FI)	11.1	3.40	3.3
Property damage only (PDO)	29.0	3.40	8.5

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Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Antioch Rd to I-10
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2050

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	66,000
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Not Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	3
Minor commercial driveways (number)		--	15
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	10
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.03	0.99	1.00	1.00	1.02

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	28.227	1.000	28.227	1.02	0.68	19.505
Fatal and Injury (FI)	-12.76	1.28	1.31	7.633	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.257	7.264	1.02	0.68	5.020
Property Damage Only (PDO)	-12.81	1.38	1.34	22.026	$(5)_{TOTAL}-(5)_{FI}$ 0.743	20.962	1.02	0.68	14.485

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	5.020	1.000	14.485	19.505
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.832	4.176	0.662	9.589	13.765
Head-on collision	0.020	0.100	0.007	0.101	0.202
Angle collision	0.040	0.201	0.036	0.521	0.722
Sideswipe, same direction	0.050	0.251	0.223	3.230	3.481
Sideswipe, opposite direction	0.010	0.050	0.001	0.014	0.065
Other multiple-vehicle collision	0.048	0.241	0.071	1.028	1.269

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N$_{brsv}$**	**Proportion of Total Crashes**	**Adjusted N$_{brsv}$**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N$_{brsv}$**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	2.125	1.000	2.125	1.02	0.68	1.468
Fatal and Injury (FI)	-8.71	0.66	0.28	0.450	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.208	0.441	1.02	0.68	0.305
Property Damage Only (PDO)	-5.04	0.45	1.06	1.719	(5)$_{TOTAL}$-(5)$_{FI}$ 0.792	1.684	1.02	0.68	1.163

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	0.305	1.000	1.163	1.468
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.073	0.074
Collision with fixed object	0.500	0.152	0.813	0.946	1.098
Collision with other object	0.028	0.009	0.016	0.019	0.027
Other single-vehicle collision	0.471	0.144	0.108	0.126	0.269

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	3	0.033	1.106	0.510	--
Minor commercial	15	0.011	1.106	0.849	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	1.359	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	1.359	1.000	1.359	1.02	0.68	0.939
Fatal and injury (FI)	--	0.284	0.386	1.02	0.68	0.267
Property damage only (PDO)	--	0.716	0.973	1.02	0.68	0.672

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	19.505	1.468	0.939	21.912	0.019	0.68	0.283
Fatal and injury (FI)	--	--	--	--	--	0.68	0.283

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	19.505	1.468	0.939	21.912	0.005	0.68	0.075
Fatal and injury (FI)	--	--	--	--	--	0.68	0.075

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	4.176	9.589	13.765
Head-on collisions (from Worksheet 1D)	0.100	0.101	0.202
Angle collisions (from Worksheet 1D)	0.201	0.521	0.722
Sideswipe, same direction (from Worksheet 1D)	0.251	3.230	3.481
Sideswipe, opposite direction (from Worksheet 1D)	0.050	0.014	0.065
Driveway-related collisions (from Worksheet 1H)	0.267	0.672	0.939
Other multiple-vehicle collision (from Worksheet 1D)	0.241	1.028	1.269
Subtotal	5.286	15.157	20.444
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.073	0.074
Collision with fixed object (from Worksheet 1F)	0.152	0.946	1.098
Collision with other object (from Worksheet 1F)	0.009	0.019	0.027
Other single-vehicle collision (from Worksheet 1F)	0.144	0.126	0.269
Collision with pedestrian (from Worksheet 1I)	0.283	0.000	0.283
Collision with bicycle (from Worksheet 1J)	0.075	0.000	0.075
Subtotal	0.662	1.163	1.826
Total	5.949	16.321	22.270

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	22.3	1.80	12.4
Fatal and injury (FI)	5.9	1.80	3.3
Property damage only (PDO)	16.3	1.80	9.1

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments			
General Information		**Location Information**	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	I-10 to Brock Ave
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2050

Input Data		**Base Conditions**	**Site Conditions**
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	1.8
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	33,963
Type of on-street parking (none/parallel/angle)		None	Parallel (Comm/Ind)
Proportion of curb length with on-street parking		--	0.38
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	4
Minor commercial driveways (number)		--	25
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	15
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.68

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.27	1.02	0.99	0.91	1.00	1.17

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	11.435	1.000	11.435	1.17	0.68	9.108
Fatal and Injury (FI)	-12.76	1.28	1.31	3.261	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.270	3.091	1.17	0.68	2.461
Property Damage Only (PDO)	-12.81	1.38	1.34	8.805	$(5)_{TOTAL}-(5)_{FI}$ 0.730	8.345	1.17	0.68	6.646

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted $N_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted $N_{brmv\ (PDO)}$ (crashes/year)**	**Predicted $N_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	2.461	1.000	6.646	9.108
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.832	2.048	0.662	4.400	6.448
Head-on collision	0.020	0.049	0.007	0.047	0.096
Angle collision	0.040	0.098	0.036	0.239	0.338
Sideswipe, same direction	0.050	0.123	0.223	1.482	1.605
Sideswipe, opposite direction	0.010	0.025	0.001	0.007	0.031
Other multiple-vehicle collision	0.048	0.118	0.071	0.472	0.590

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments									
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	1.555	1.000	1.555	1.17	0.68	1.238
Fatal and Injury (FI)	-8.71	0.66	0.28	0.290	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.186	0.289	1.17	0.68	0.230
Property Damage Only (PDO)	-5.04	0.45	1.06	1.275	$(5)_{TOTAL}-(5)_{FI}$ 0.814	1.266	1.17	0.68	1.009

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted $N_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted $N_{brsv\ (PDO)}$ (crashes/year)**	**Predicted $N_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.230	1.000	1.009	1.238
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.064	0.064
Collision with fixed object	0.500	0.115	0.813	0.820	0.935
Collision with other object	0.028	0.006	0.016	0.016	0.023
Other single-vehicle collision	0.471	0.108	0.108	0.109	0.217

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments					
(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15{,}000)^t$	from Table 12-7
Major commercial	4	0.033	1.106	0.326	--
Minor commercial	25	0.011	1.106	0.679	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	15	0.005	1.106	0.185	
Total	--	--	--	1.190	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	1.190	1.000	1.190	1.17	0.68	0.948
Fatal and injury (FI)	--	0.284	0.338	1.17	0.68	0.269
Property damage only (PDO)	--	0.716	0.852	1.17	0.68	0.679

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	9.108	1.238	0.948	11.294	0.019	0.68	0.146
Fatal and injury (FI)	--	--	--	--	--	0.68	0.146

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	9.108	1.238	0.948	11.294	0.005	0.68	0.038
Fatal and injury (FI)	--	--	--	--	--	0.68	0.038

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	2.048	4.400	6.448
Head-on collisions (from Worksheet 1D)	0.049	0.047	0.096
Angle collisions (from Worksheet 1D)	0.098	0.239	0.338
Sideswipe, same direction (from Worksheet 1D)	0.123	1.482	1.605
Sideswipe, opposite direction (from Worksheet 1D)	0.025	0.007	0.031
Driveway-related collisions (from Worksheet 1H)	0.269	0.679	0.948
Other multiple-vehicle collision (from Worksheet 1D)	0.118	0.472	0.590
Subtotal	2.731	7.325	10.056
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.064	0.064
Collision with fixed object (from Worksheet 1F)	0.115	0.820	0.935
Collision with other object (from Worksheet 1F)	0.006	0.016	0.023
Other single-vehicle collision (from Worksheet 1F)	0.108	0.109	0.217
Collision with pedestrian (from Worksheet 1I)	0.146	0.000	0.146
Collision with bicycle (from Worksheet 1J)	0.038	0.000	0.038
Subtotal	0.414	1.009	1.423
Total	3.145	8.334	11.478

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	11.5	1.80	6.4
Fatal and injury (FI)	3.1	1.80	1.7
Property damage only (PDO)	8.3	1.80	4.6

2050 Alt 3

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		**Location Information**	
Analyst	NM	Roadway	SR 85
Agency or Company	Metric	Roadway Section	Brock Ave to Airport Rd
Date Performed	04/01/19	Jurisdiction	Okaloosa County, FL
		Analysis Year	2050

Input Data		**Base Conditions**	**Site Conditions**
Roadway type (2U, 3T, 4U, 4D, ST)		--	5T
Length of segment, L (mi)		--	3.4
AADT (veh/day)	$AADT_{MAX}$ = 53,800 (veh/day)	--	34,745
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	10
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	5
Minor commercial driveways (number)		--	45
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	20
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	45
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	12
Calibration Factor, Cr		1.00	0.70

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.04	1.01	0.94	1.00	0.99

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-9.70	1.17	0.81	42.822	1.000	42.822	0.99	0.70	29.605
Fatal and Injury (FI)	-10.47	1.12	0.62	11.755	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.264	11.326	0.99	0.70	7.830
Property Damage Only (PDO)	-9.97	1.17	0.88	32.689	$(5)_{TOTAL}-(5)_{FI}$ 0.736	31.496	0.99	0.70	21.775

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	(9)$_{FI}$ from Worksheet 1C	from Table 12-4	(9)$_{PDO}$ from Worksheet 1C	(9)$_{TOTAL}$ from Worksheet 1C
Total	1.000	7.830	1.000	21.775	29.605
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Rear-end collision	0.846	6.624	0.651	14.175	20.800
Head-on collision	0.021	0.164	0.004	0.087	0.252
Angle collision	0.050	0.392	0.059	1.285	1.676
Sideswipe, same direction	0.061	0.478	0.248	5.400	5.878
Sideswipe, opposite direction	0.004	0.031	0.009	0.196	0.227
Other multiple-vehicle collision	0.018	0.141	0.029	0.631	0.772

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N$_{brsv}$**	**Proportion of Total Crashes**	**Adjusted N$_{brsv}$**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N$_{brsv}$**
	from Table 12-5		from Table 12-5	from Equation 12-13		(4)$_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-4.82	0.54	0.52	7.767	1.000	7.767	0.99	0.70	5.370
Fatal and Injury (FI)	-4.43	0.35	0.36	1.573	(4)$_{FI}$/((4)$_{FI}$+(4)$_{PDO}$) 0.211	1.639	0.99	0.70	1.133
Property Damage Only (PDO)	-5.83	0.61	0.55	5.881	(5)$_{TOTAL}$-(5)$_{FI}$ 0.789	6.128	0.99	0.70	4.236

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	(9)$_{FI}$ from Worksheet 1E	from Table 12-6	(9)$_{PDO}$ from Worksheet 1E	(9)$_{TOTAL}$ from Worksheet 1E
Total	1.000	1.133	1.000	4.236	5.370
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with animal	0.016	0.018	0.049	0.208	0.226
Collision with fixed object	0.398	0.451	0.768	3.254	3.705
Collision with other object	0.005	0.006	0.061	0.258	0.264
Other single-vehicle collision	0.581	0.658	0.122	0.517	1.175

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	5	0.165	1.172	2.208	--
Minor commercial	45	0.053	1.172	6.383	
Major industrial/institutional	0	0.181	1.172	0.000	
Minor industrial/institutional	0	0.024	1.172	0.000	
Major residential	0	0.087	1.172	0.000	
Minor residential	0	0.016	1.172	0.000	
Other	20	0.027	1.172	1.445	
Total	--	--	--	10.036	0.10

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	10.036	1.000	10.036	0.99	0.70	6.939
Fatal and injury (FI)	--	0.269	2.700	0.99	0.70	1.866
Property damage only (PDO)	--	0.731	7.337	0.99	0.70	5.072

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	29.605	5.370	6.939	41.913	0.023	0.70	0.675
Fatal and injury (FI)	--	--	--	--	--	0.70	0.675

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	29.605	5.370	6.939	41.913	0.012	0.70	0.352
Fatal and injury (FI)	--	--	--	--	--	0.70	0.352

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	**Property damage only (PDO)** (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	**Total** (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	6.624	14.175	20.800
Head-on collisions (from Worksheet 1D)	0.164	0.087	0.252
Angle collisions (from Worksheet 1D)	0.392	1.285	1.676
Sideswipe, same direction (from Worksheet 1D)	0.478	5.400	5.878
Sideswipe, opposite direction (from Worksheet 1D)	0.031	0.196	0.227
Driveway-related collisions (from Worksheet 1H)	1.866	5.072	6.939
Other multiple-vehicle collision (from Worksheet 1D)	0.141	0.631	0.772
Subtotal	9.696	26.847	36.543
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.018	0.208	0.226
Collision with fixed object (from Worksheet 1F)	0.451	3.254	3.705
Collision with other object (from Worksheet 1F)	0.006	0.258	0.264
Other single-vehicle collision (from Worksheet 1F)	0.658	0.517	1.175
Collision with pedestrian (from Worksheet 1I)	0.675	0.000	0.675
Collision with bicycle (from Worksheet 1J)	0.352	0.000	0.352
Subtotal	2.160	4.236	6.397
Total	11.857	31.083	42.940

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)** (Total) from Worksheet 1K	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)** (2) / (3)
Total	42.9	3.40	12.6
Fatal and injury (FI)	11.9	3.40	3.5
Property damage only (PDO)	31.1	3.40	9.1

Appendix F: Construction Cost LRE

Date: 3/29/2019 8:39:20 AM

FDOT Long Range Estimating System - Production

R2: Project Summary with Components Report

Project: 443460-1-52-01 **Letting Date:** 01/2099

Description: SR 85 Eastern Crestview Bypass Alternative 1

District: 03 **County:** 57 OKALOOSA

Project Manager: Starsky Harrell

Version 5 Project Grand Total **$93,203,236.19**

Description: Alternative 1A - 4 Lane Urban with interchange until CR 188, where it transitions to a 2 lane .

Sequence 1 NDU

Description: 4 lane urban

Component:	Component Subtotals:
Earthwork	$15,161,192.42
Roadway	$20,399,238.84
Shoulder	$6,459,021.97
Median	$2,444,290.11
Drainage	$13,505,359.11
Intersections	$1,315,867.96
Signing	$375,486.80
Signalizations	$491,223.58
Lighting	$2,645,724.05
Sequence 1 Total	**$62,797,404.84**

Sequence 2 NDU

Description: Crossroad Reconstruction - Four Lane Divided 1000' Either Side Of Bridge

Component:	Component Subtotals:
Earthwork	$2,153,186.72
Roadway	$1,304,505.11
Shoulder	$301,622.01
Median	$134,145.11
Drainage	$535,319.90
Signing	$157,670.06
Signalizations	$15,500.54
Bridges	$2,820,848.87
Sequence 2 Total	**$7,422,798.32**

Sequence 3 NUR

Description: Ramp A - One lane off-ramp

Component:	Component Subtotals:
Earthwork	$662,625.01
Roadway	$191,518.85
Shoulder	$46,288.30
Drainage	$63,960.28
Signing	$13,280.78
Sequence 3 Total	**$977,673.22**

Sequence 4 NUR
Description: Ramp A - Three lane portion of ramp at intersection of crossroad

Component:	**Component Subtotals:**
Earthwork	$286,647.73
Roadway	$137,563.54
Shoulder	$33,599.30
Drainage	$19,988.81
Signing	$7,394.78
Sequence 4 Total	**$485,194.16**

Sequence 5 NUR
Description: Ramp B - One lane off-ramp

Component:	**Component Subtotals:**
Earthwork	$662,625.01
Roadway	$191,518.85
Shoulder	$47,287.02
Drainage	$31,819.96
Signing	$13,280.78
Sequence 5 Total	**$946,531.62**

Sequence 6 NUR
Description: Ramp B - Three lane portion of ramp at intersection of crossroad

Component:	**Component Subtotals:**
Earthwork	$286,647.73
Roadway	$132,773.49
Shoulder	$33,599.30
Drainage	$19,988.81
Signing	$7,394.78
Sequence 6 Total	**$480,404.11**

Sequence 7 NUR
Description: Ramp C - One lane on-ramp

Component:	**Component Subtotals:**
Earthwork	$662,625.01
Roadway	$191,518.85
Shoulder	$46,288.30
Drainage	$63,960.28
Signing	$13,280.78
Sequence 7 Total	**$977,673.22**

Sequence 8 NUR
Description: Ramp C - Two lane portion of ramp at intersection of crossroad

Component:	**Component Subtotals:**
Earthwork	$245,707.18
Roadway	$89,685.18
Shoulder	$24,303.03
Drainage	$19,988.81
Signing	$7,394.78
Sequence 8 Total	**$387,078.98**

Sequence 9 NUR

Description:	Ramp D - One lane on-ramp		
	Component:		**Component Subtotals:**
	Earthwork		$662,625.01
	Roadway		$191,518.85
	Shoulder		$46,288.30
	Drainage		$63,960.28
	Signing		$13,280.78
Sequence 9 Total			**$977,673.22**
Sequence 10 NUR			
Description:	Ramp D - Two lane portion of ramp at intersection of crossroad		
	Component:		**Component Subtotals:**
	Earthwork		$245,707.18
	Roadway		$89,685.18
	Shoulder		$24,303.03
	Drainage		$19,988.81
	Signing		$7,394.78
Sequence 10 Total			**$387,078.98**
Sequence 11 RSU			
Description:	Existing road resurfacing CR 188		
	Component:		**Component Subtotals:**
	Earthwork		$114,726.26
	Roadway		$508,771.80
	Shoulder		$139,475.89
	Drainage		$1,425.00
	Signing		$53,979.57
	Signalizations		$245,611.79
Sequence 11 Total			**$1,063,990.31**
Project Sequences Subtotal			**$76,903,500.98**
Maintenance of Traffic		10.00 %	$7,690,350.10
Mobilization		10.00 %	$8,459,385.11
Project Sequences Total			**$93,053,236.19**
Project Unknowns		0.00 %	$0.00
Design/Build		0.00 %	$0.00
Project Non-Bid Subtotal			$150,000.00
Version 5 Project Grand Total			**$93,203,236.19**

Date: 3/29/2019 8:39:47 AM

FDOT Long Range Estimating System - Production

R2: Project Summary with Components Report

Project: 443460-1-52-01 **Letting Date:** 01/2099

Description: SR 85 Eastern Crestview Bypass Alternative 1

District: 03 **County:** 57 OKALOOSA

Project Manager: Starsky Harrell

Version 6 Project Grand Total				**$83,507,123.98**
Description:	Alternative 1B - 4 lane to CR 188 with Overpass			
	Sequence 1 NDU			
	Description:	4 lane divided urban		
		Component:		**Component Subtotals:**
		Earthwork		$15,312,017.00
		Roadway		$21,682,520.43
		Shoulder		$6,875,176.05
		Median		$2,601,176.52
		Drainage		$14,281,360.71
		Intersections		$1,315,867.96
		Signing		$399,066.60
		Signalizations		$491,223.58
		Lighting		$2,818,920.45
		Bridges		$2,048,865.50
	Sequence 1 Total			**$67,826,194.80**
	Sequence 2 RSU			
	Description:	CR 188 resurfacing		
		Component:		**Component Subtotals:**
		Earthwork		$114,726.26
		Roadway		$508,771.80
		Shoulder		$139,475.89
		Drainage		$1,425.00
		Signing		$53,979.57
		Signalizations		$245,611.79
	Sequence 2 Total			**$1,063,990.31**
Project Sequences Subtotal				**$68,890,185.11**
	Maintenance of Traffic		10.00 %	$6,889,018.51
	Mobilization		10.00 %	$7,577,920.36
Project Sequences Total				**$83,357,123.98**
	Project Unknowns		0.00 %	$0.00
	Design/Build		0.00 %	$0.00
	Project Non-Bid Subtotal			$150,000.00
Version 6 Project Grand Total				**$83,507,123.98**

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FDOT Long Range Estimating System - Production

R2: Project Summary with Components Report

Project: 443460-1-52-02 **Letting Date:** 01/2099

Description: Alternative 2 Overpass - SR 85 Eastern Crestview Bypass

District: 03 **County:** 57 OKALOOSA

Project Manager: Starsky Harrell

Version 2 Project Grand Total				**$70,209,006.63**
Description:	Alternative 2 with overpass			
	Sequence 2 NDU			
	Description:	4 lane urban with overpass		
		Component:		**Component Subtotals:**
		Earthwork		$12,864,710.21
		Roadway		$17,316,920.17
		Shoulder		$5,481,425.98
		Median		$2,074,038.21
		Drainage		$11,700,020.95
		Intersections		$1,315,867.96
		Signing		$326,895.20
		Signalizations		$491,223.58
		Lighting		$2,247,459.06
		Bridges		$3,016,865.50
	Sequence 2 Total			**$56,835,426.82**
	Sequence 3 RSU			
	Description:	CR 188 resurfacing		
		Component:		**Component Subtotals:**
		Earthwork		$114,726.26
		Roadway		$509,360.16
		Shoulder		$139,475.88
		Drainage		$1,425.00
		Signing		$53,979.57
		Signalizations		$245,611.79
	Sequence 3 Total			**$1,064,578.66**
Project Sequences Subtotal				**$57,900,005.48**
	Maintenance of Traffic		10.00 %	$5,790,000.55
	Mobilization		10.00 %	$6,369,000.60
Project Sequences Total				**$70,059,006.63**
	Project Unknowns		0.00 %	$0.00
	Design/Build		0.00 %	$0.00
	Project Non-Bid Subtotal			$150,000.00
Version 2 Project Grand Total				**$70,209,006.63**

Date: 3/29/2019 8:50:13 AM

FDOT Long Range Estimating System - Production

R2: Project Summary with Components Report

Project: 443460-1-52-03 **Letting Date:** 01/2099

Description: Interchange - SR 85 Eastern Crestview Bypass - Alternative 3

District: 03 **County:** 57 OKALOOSA

Project Manager: Starsky Harrell

Version 3 Project Grand Total **$57,889,662.62**

Description: Alternative 3

Sequence 1 NDU

Description: 4 lane from I-10 to Airport Rd

Component:	Component Subtotals:
Earthwork	$10,088,180.80
Roadway	$12,179,728.59
Shoulder	$3,550,774.11
Median	$1,412,960.66
Drainage	$7,275,926.37
Signing	$233,650.00
Lighting	$1,599,224.87
Sequence 1 Total	**$36,340,445.40**

Sequence 3 NUR

Description: Ramp A - One lane off-ramp

Component:	Component Subtotals:
Earthwork	$662,625.01
Roadway	$191,518.85
Shoulder	$46,288.30
Drainage	$63,960.28
Signing	$13,280.78
Sequence 3 Total	**$977,673.22**

Sequence 4 NUR

Description: Ramp A - Three lane portion of ramp at intersection of crossroad

Component:	Component Subtotals:
Earthwork	$286,647.73
Roadway	$137,709.91
Shoulder	$33,599.30
Drainage	$19,988.81
Signing	$7,394.78
Sequence 4 Total	**$485,340.53**

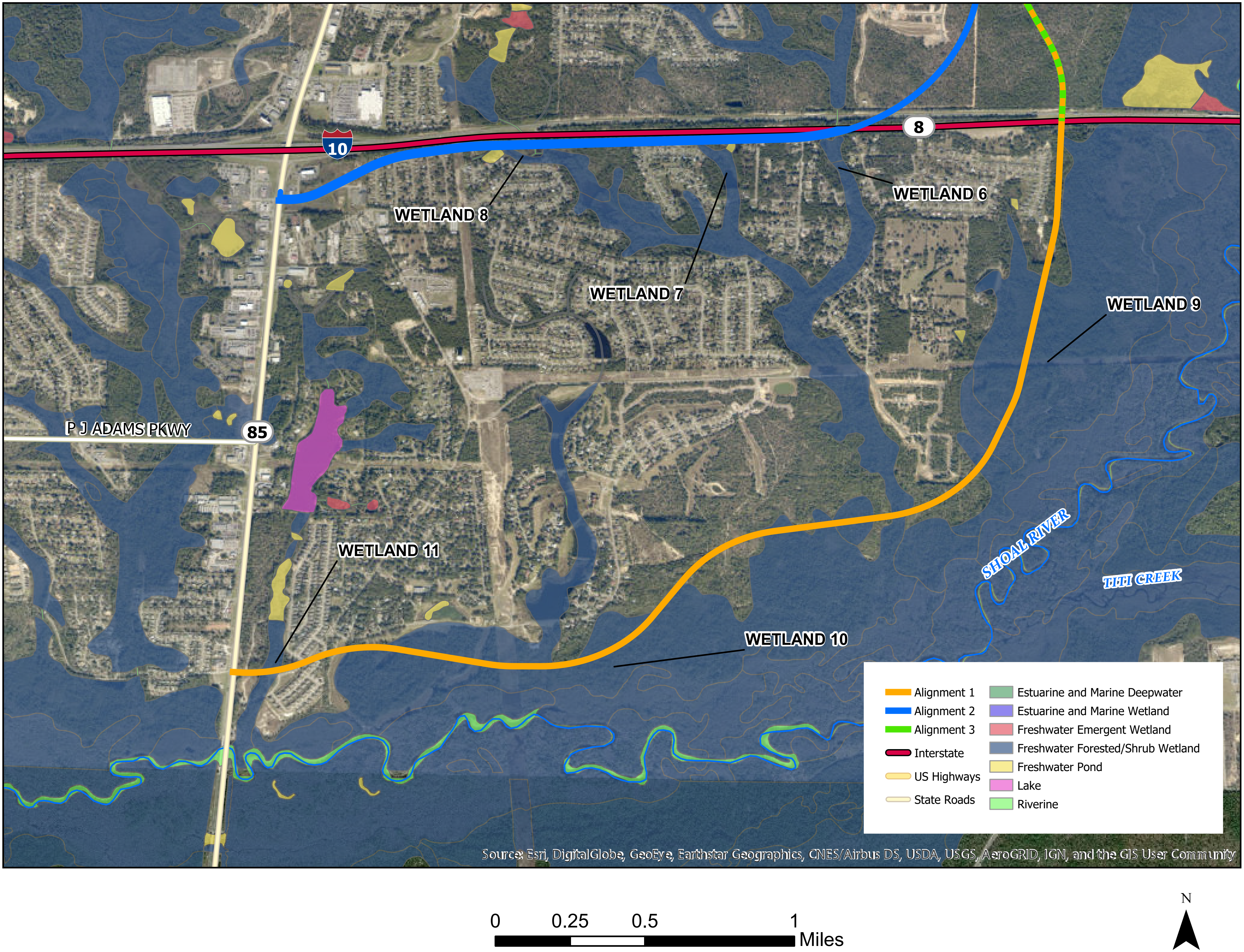
Sequence 5 NUR

Description: Ramp B - One lane off-ramp

Component:	Component Subtotals:
Earthwork	$662,625.01
Roadway	$191,518.85

	Shoulder		$47,287.02
	Drainage		$31,819.96
	Signing		$13,280.78
Sequence 5 Total			**$946,531.62**
Sequence 6 NUR			
Description:	Ramp B - Three lane portion of ramp at intersection of crossroad		
	Component:		**Component Subtotals:**
	Earthwork		$286,647.73
	Roadway		$132,919.86
	Shoulder		$33,599.30
	Drainage		$19,988.81
	Signing		$7,394.78
Sequence 6 Total			**$480,550.48**
Sequence 11 NDU			
Description:	Crossroad Reconstruction - Four Lane Divided 1000' Either Side Of Bridge		
	Component:		**Component Subtotals:**
	Earthwork		$2,153,186.72
	Roadway		$1,304,944.22
	Shoulder		$301,622.01
	Median		$134,145.11
	Drainage		$535,319.90
	Signing		$157,455.58
	Signalizations		$15,500.54
	Bridges		$2,820,848.87
Sequence 11 Total			**$7,423,022.95**
Sequence 12 RSU			
Description:	CR 188 resurfacing		
	Component:		**Component Subtotals:**
	Earthwork		$114,726.26
	Roadway		$509,819.22
	Shoulder		$139,603.40
	Drainage		$1,425.00
	Signing		$53,979.57
	Signalizations		$245,611.79
Sequence 12 Total			**$1,065,165.24**
Project Sequences Subtotal			**$47,718,729.44**
Maintenance of Traffic		10.00 %	$4,771,872.94
Mobilization		10.00 %	$5,249,060.24
Project Sequences Total			**$57,739,662.62**
Project Unknowns		0.00 %	$0.00
Design/Build		0.00 %	$0.00
Project Non-Bid Subtotal			$150,000.00
Version 3 Project Grand Total			**$57,889,662.62**

Appendix G: Wetland Figures



10
8
85
P J ADAMS PKWY
WETLAND 6
WETLAND 7
WETLAND 8
WETLAND 9
WETLAND 10
WETLAND 11
SHOAL RIVER
TITI CREEK
Alignment 1
Alignment 2
Alignment 3
Interstate
US Highways
State Roads
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Riverine
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
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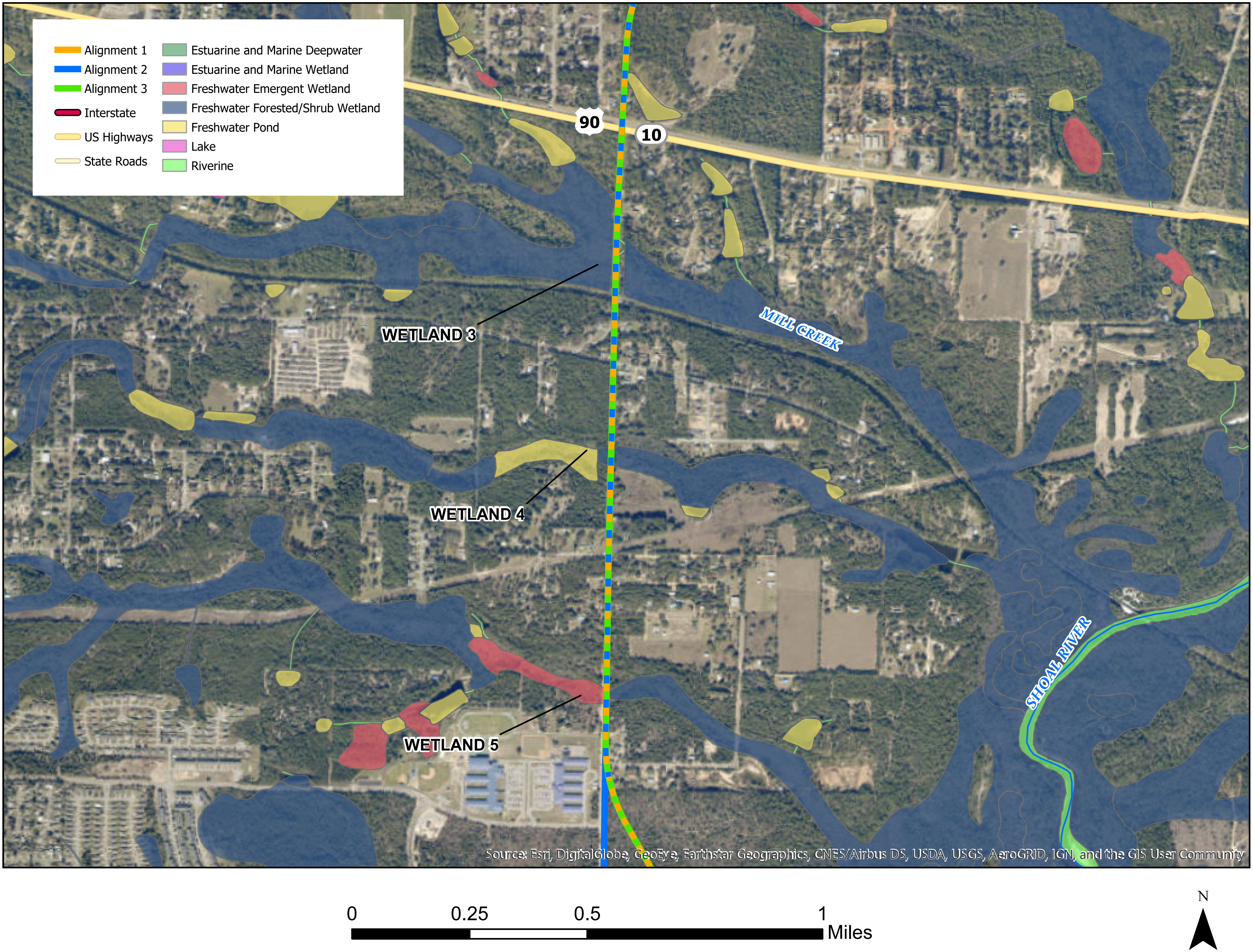

Alignment 1
Alignment 2
Alignment 3
Interstate
US Highways
State Roads
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Riverine
90
10
WETLAND 3
WETLAND 4
WETLAND 5
MILL CREEK
SHOAL RIVER
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
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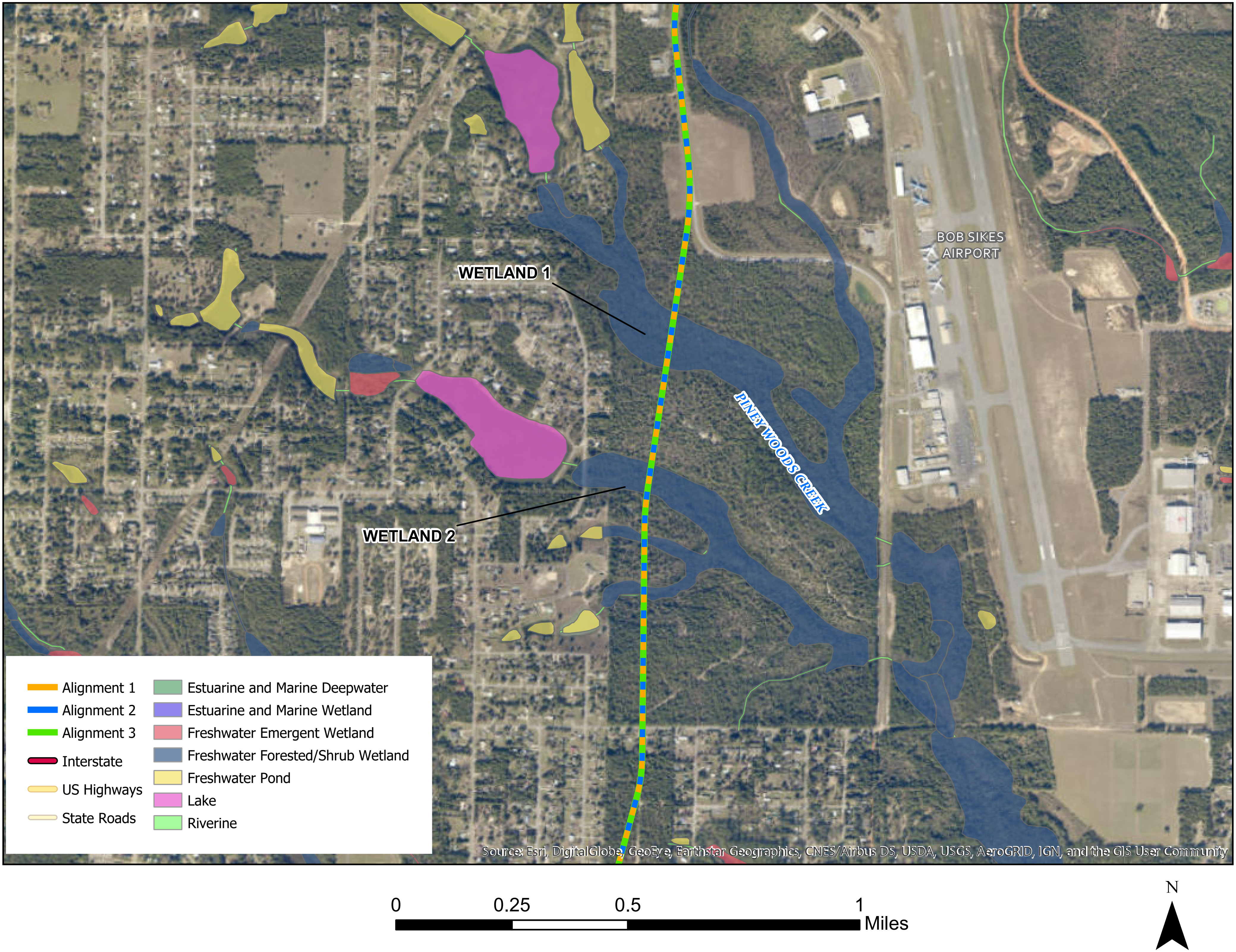

BOB SIKES
AIRPORT
WETLAND 1
WETLAND 2
PINEY WOODS CREEK
Alignment 1
Alignment 2
Alignment 3
Interstate
US Highways
State Roads
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Riverine
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
0 0.25 0.5 1 Miles
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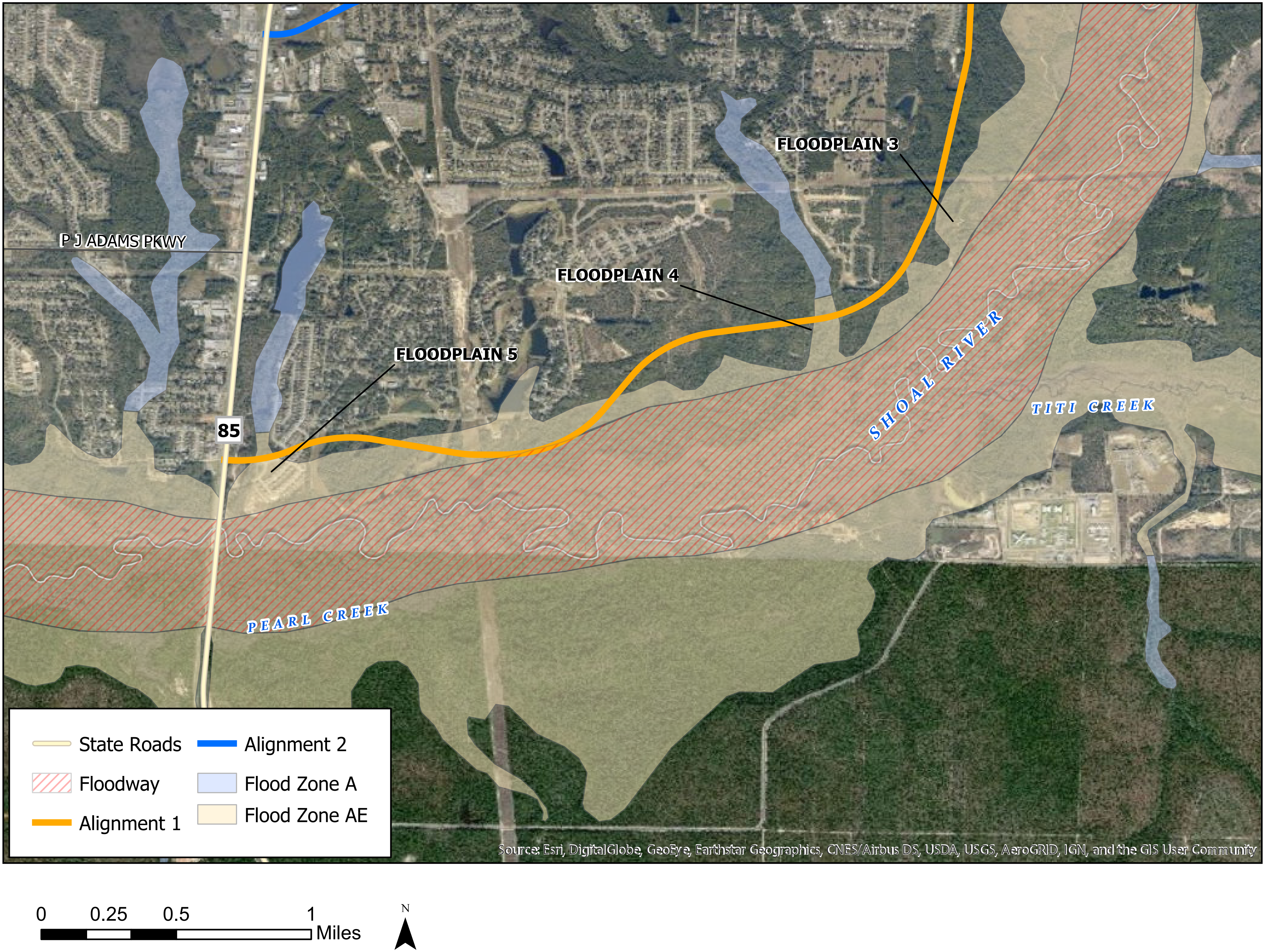
Appendix H: Floodplain Figures



FLOODPLAIN 3
FLOODPLAIN 4
FLOODPLAIN 5
P J ADAMS PKWY
85
SHOAL RIVER
TITI CREEK
PEARL CREEK
State Roads
Alignment 2
Floodway
Flood Zone A
Alignment 1
Flood Zone AE
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
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Miles
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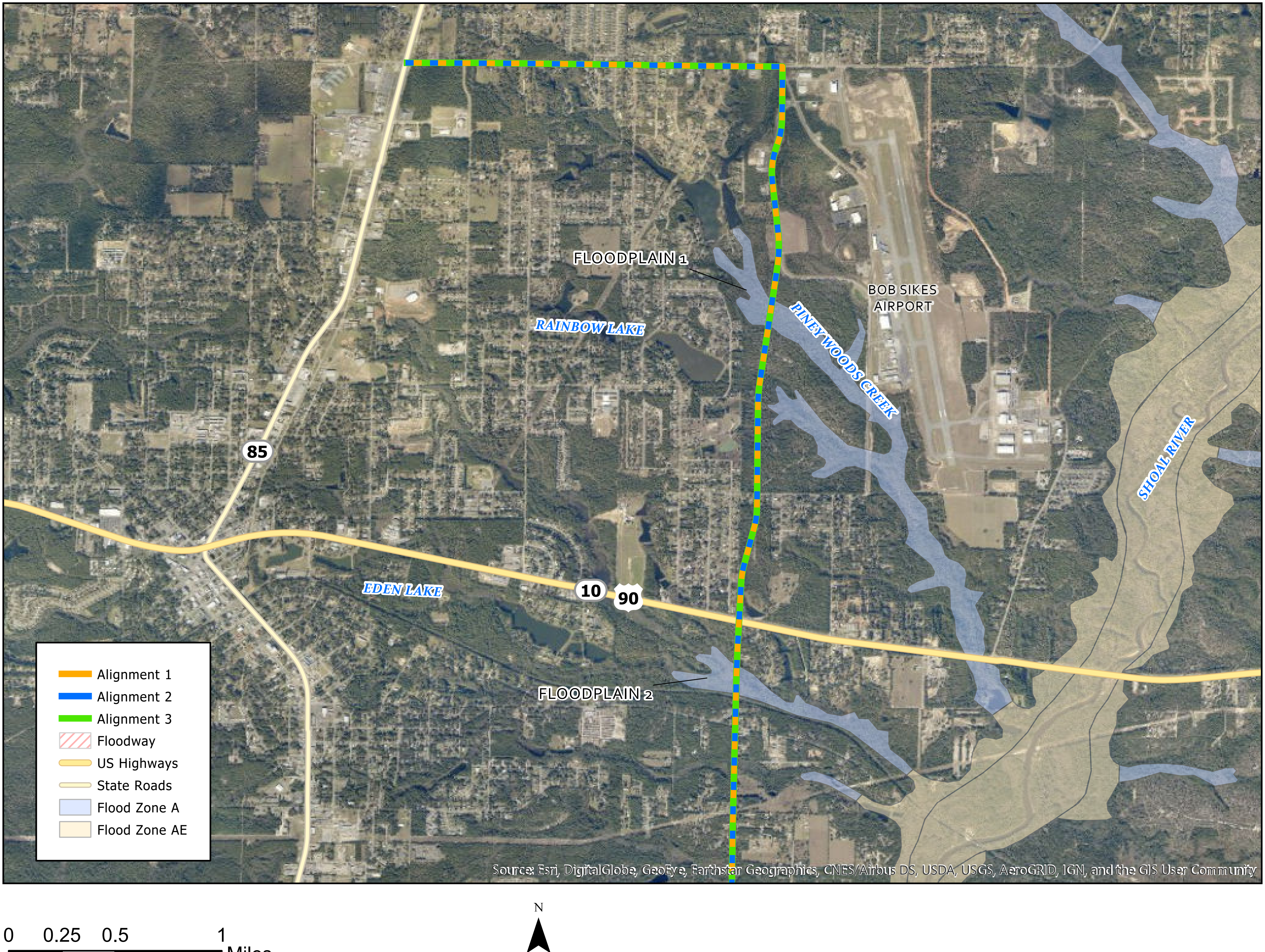
FLOODPLAIN 1
BOB SIKES AIRPORT
RAINBOW LAKE
PINEY WOODS CREEK
85
SHOAL RIVER
EDEN LAKE
10
90
FLOODPLAIN 2
Alignment 1
Alignment 2
Alignment 3
Floodway
US Highways
State Roads
Flood Zone A
Flood Zone AE
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
0 0.25 0.5 1
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