APPENDIX B

TRANSPORTATION

ACRONYMS, ABBREVIATIONS, AND SYMBOLS

AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
AFB	Air Force Base
DCA	Department of Community Affairs
FAC	Florida Administrative Code
FDOT	Florida Department of Transportation
FEIS	Final Environmental Impact Statement
FTI	Florida Traffic Information
FSUTMS	Florida Standard Urban Transportation Model Structure
Hwy	Florida Highway
IJTS	Initial Joint Training Site
ITE	Institute of Transportation Engineers
JSF	Joint Strike Fighter
LOS	Level of Service
LUC	Land Use Control
NEPA	National Environmental Policy Act
O-D	Origin-Destination
PDF	Portable Document Format File
Q/LOS	Quality/Level of Service
SEIS	Supplemental Environmental Impact Statement
SIS	Strategic Intermodal System
TAZ	Traffic Analysis Zone
TIP	Transportation Improvement Program
TPO	Transportation Planning Organization

TRANSPORTATION

B.1 ANALYSIS METHODOLOGY

Analysis of the regional roadway segments within the region of influence identifies current and future (projected) deficient segments within the roadway network, as well as the potential impacts of the Proposed Action and alternatives. Generally, data and analysis methods used for this analysis are consistent with the Final Environmental Impact Statement (FEIS) and include an origin-destination (O-D) survey, Florida Standard Urban Transportation Model Structure (FSUTMS), annual average daily traffic (AADT), peak-hour, peak-direction traffic, roadway level of service (LOS), volume to capacity ratio, and significance and adversity. Additionally, the evaluation identifies roadways designated as part of Florida's Strategic Intermodal System (SIS), as more stringent standards apply to these roadways.

A brief summary of the key methodologies used for analysis in this Supplemental Environmental Impact Statement (SEIS) is provided below.

For purposes of this SEIS, the existing conditions were analyzed for all roadways that may be impacted by the Proposed Action alternatives. Some alternatives may have greater impact on certain facilities than others, depending on location and access.

The existing conditions analysis set the baseline for determining impacts to all of the study area roadways and identifying impacts of each alternative on the regional and local roadway system. A roadway was determined to be deficient if the peak-hour conditions, represented by the LOS, were worse than the LOS standards adopted for that roadway.

Existing conditions were quantified based on the amount of traffic along a particular study roadway segment. The previous FEIS included traffic counts conducted at over 50 locations within the study area. For this SEIS, analysis adjusted traffic counts to existing (2008) conditions based on actual growth rates, where available, or on the minimum growth rates developed for the previous FEIS. These traffic counts, together with counts conducted and published by the Florida Department of Transportation (FDOT), determined the current LOS of the study area roadways for both the daily and peak-hour, peak-direction periods.

Adjusted daily traffic volumes that account for seasonal variations in traffic determine AADT. Application of additional adjustment factors to the AADT results in identification of the peak-hour, peak-direction traffic volumes. A "K" factor, or planning analysis hour factor, determines the total peak-hour volume of traffic, which usually represents the PM peak period. Application of a "D" factor, or directional

factor, to the peak-hour volume results in identification of the peak-hour, peak-direction traffic volume.

The FDOT 2008 Florida Traffic Information (FTI) DVD released in late summer 2009 was used, where necessary, to supplement or update the data collected in the study area. The FDOT FTI DVD also identifies the "K" and "D" factors for calculating the peak-hour, peak-direction traffic. The peak-hour, peak-direction volumes in the tables of this report were rounded according to AASHTO (American Association of State Highway and Transportation Officials) standards. Section B.3 of this appendix includes copies of the traffic counts conducted for this study, the trend growth rates, the relevant FDOT 2008 counts, and the AASHTO rounding standards.

The analysis of the existing LOS of the roadway segments within the study area was based on the collected count data, the adopted LOS standard, and the capacity at that standard. LOS is a quantitative measure of operational conditions of a transportation facility in terms of travel time, speed, delay, and freedom to maneuver within the traffic stream, as perceived by motorists. LOS is given a letter designation ranging from A to F, with LOS A representing optimal free-flow conditions and LOS F representing forced-flow or breakdown conditions generally associated with the term "gridlock."

Area roadway capacities were determined according to the FDOT 2009 Quality/Level of Service (Q/LOS) Handbook generalized tables. FDOT developed the Q/LOS Handbook to be "used by engineers, planners, and decision makers in the development and review of roadway users' Q/LOS at planning and preliminary engineering levels." The handbook includes tools to assist in both generalized planning and conceptual planning.

Analysis of future-year alternatives and initial problem identification are generalized planning applications. These analyses were conducted primarily using the generalized tables in the Q/LOS Handbook. Capacities are provided in the Q/LOS Handbook for each LOS standard (A through F) based on the functional classification, number of lanes, number of signals per mile, and area type. Section B.3 of this appendix includes copies of the Q/LOS generalized tables and the roadway characteristics used to determine capacities for each of the study area roadways.

The analysis used transportation demand modeling software that was developed in conjunction with the Transportation Planning Organization's (TPO's) Long Range Transportation Plan, to develop reasonable traffic forecasts for roadways in and around Eglin Air Force Base (AFB) for 2016. The analysis also employed the existing FSUTMS for the Okaloosa-Walton TPO. The model was modified to include roadways within Eglin Main Base, and the results were checked against the existing conditions. In addition, home Zip Code data for current base employees (civilian and military) were obtained to determine the general distribution of home-based trips for those working at

Eglin AFB. The model was also checked and adjusted to ensure that trips entering and leaving Eglin AFB generally traveled to and from these Zip Code areas.

The base year (2006) model was validated as able to reasonably reproduce the observed existing conditions. The model was updated to include the committed roadway projects identified in Chapter 5 of the SEIS, and a future year model was developed for 2016 and 2021.

Consistent with the FEIS analysis, the historical trend growth rates were compared to model growth rates, and adjustment factors were developed where model growth rates were either negative or were higher than acceptable based on professional judgment as compared to the trend analysis. A minimum growth rate of 1 percent per year was assumed for area roadways off-base, except where the construction of a new roadway, or a roadway widening project, such as the Mid-Bay Bridge Connector, caused a change in traffic patterns resulting in no growth, or volume reductions. On Eglin Main Base, a minimum growth rate of 0.2 percent per year was assumed to account for additional trips due to changes in trip interaction patterns or shifts in trips from off base (e.g., trips to the exchange, commissary, or hospital).

The socioeconomic data were adjusted for 2016 and 2021 models to include background growth not associated with this action by interpolating the data from the TPO's 2006 (base) and 2030 (future year) models. The socioeconomic data for the No Action Alternative was adjusted to include the addition of the 7th Special Forces Group (Airborne) west of Duke Field, the addition of that portion of the Joint Strike Fighter Initial Joint Training Site (JSF IJTS) approved as part of the previous FEIS, and other no-action adjustments identified in the previous FEIS. New traffic analysis zones (TAZs) were created for each of the alternatives. These new TAZs include the future employment and population growth at Eglin AFB as detailed in Chapter 2 of this SEIS.

The distribution of employees' homes for the JSF IJTS Eglin Main Base alternatives was generally assumed to be similar to the existing conditions, consistent with the previous FEIS. The distribution of employees' homes for the JSF IJTS Duke Field alternatives was generally assumed to be similar to the distribution used for the analysis of the 7SFG(A), consistent with the previous FEIS. After each build alternative TAZ was populated within the 2016 and 2021 models, the model was run to determine the future traffic on each of the study area roadways. Section B.3 of this appendix details the model and model refinements.

To determine the level of significance of project trips relative to the roadway capacity, it was necessary to estimate the number of trips associated with each alternative on the regional roadway network. The transportation model was run with an additional model script to determine the trip generation and distribution of trips coming from or going to the TAZs utilized in each of the Proposed Action alternatives.

The Florida *Transportation Uniform Standard Code*, 9J-2.045, Florida Administrative Code (FAC), gives the Florida Department of Community Affairs (DCA) and other agencies guidance on how to evaluate transportation facility issues in the review of applications for local government development orders and Developments of Regional Impacts. According to 9J-2.045(6), a state and regionally significant roadway segment shall be determined to be "significantly impacted" by the proposed development if, at a minimum, traffic projected to be generated at the end of any stage or phase of the proposed development would utilize 5 percent or more of the adopted peak-hour, peak-direction LOS capacity of the roadway.

Furthermore, if a significantly impacted roadway is projected to operate below the adopted LOS standard at build-out of that stage or phase of the analyzed project, then the impact is considered to be "significant and adverse." Although no development or construction to the regional roadway network is expected to occur as a result of any Proposed Action alternative, increased traffic is anticipated under each alternative. Therefore, the traffic analysis in this SEIS has adopted the 5 percent threshold as a measure of significant impacts to roadways.

The analysis evaluated future traffic volumes to determine potential impacts to existing roadways, as well as potential impacts to the traveling public. Future traffic volumes were estimated by including current roadway traffic, Proposed Action-related traffic, and anticipated future traffic growth not associated with the Proposed Action alternatives. Generally, if a roadway's LOS is anticipated to be deficient in the future, and the traffic generated by Proposed Action is significant, then the traffic generated by the alternative could be considered as having an "adverse" or major impact to the resource, because the future condition of the roadway could worsen due to traffic growth associated with the Proposed Action. Conversely, if the anticipated traffic associated with the SEIS alternative would not be significant on the deficient roadway, then the SEIS alternative could be considered to not significantly impact the resource.

The analysis notes which roadway segments are projected to operate deficiently and whether they were deficient in 2008. For the regional roadway network, the analyses indicated if the trips associated with the SEIS alternatives would be significant and adverse, as defined in the previous paragraphs.

B.2 LAWS AND REGULATIONS

The Florida *Transportation Uniform Standard Code*, 9J-2.045, FAC, gives the Florida DCA guidance on how to evaluate transportation facility issues in the review of applications for local government developer orders and Developments of Regional Impacts. The *Transportation Uniform Standard Code* implements, in part, Chapter 380 of the Florida Statutes, Land and Water Management. Chapter 380 is one of the 23 state statutes that compose the Florida Coastal Management Program and is administered by the Florida

DCA. The purpose of Chapter 380 is to facilitate orderly and well-planned development, by authorizing the state land planning agency to establish land management policies to guide local decisions related to growth and development. As Eglin AFB will submit a federal consistency review under the Coastal Zone Management Act for the SEIS actions, potential impacts to the regional transportation network, as well as to the public, will be reviewed by the DCA.

Rule 9J-5.0055, Concurrency Management System, and 9J-5.019, Transportation Element, FAC, implement portions of Chapter 163 Florida Statutes, Intergovernmental Programs, specifically Chapters 163.3177, Required and Optional Elements of a Comprehensive Plan, and Chapter 163.3180, Concurrency. These regulations require local governments to adopt LOS standards for public facilities, including roadways, and to require that their adopted standards be maintained to provide adequate public facilities[1]. Rule 9J-5.0055 (2)(a) requires local governments to adopt and maintain LOS standards for roadways. Chapter 163.3180(10) states, "Except in transportation concurrency exception areas, with regard to roadway facilities on the Strategic Intermodal System designated in accordance with s. 339.63, local governments shall adopt the level-of-service standard established by the Department of Transportation by rule." The FDOT has adopted LOS standards in Rule 14-94.003, FAC. Based on these statutes and implementing rules, local governments in Florida are required to maintain the LOS standard established by the state on SIS facilities, and must adopt and maintain LOS standards for other roadways within their jurisdictions.

B.3 COMMITTED TRANSPORTATION PROJECTS

For purposes of existing-year transportation analysis, projects scheduled for construction within the first three years of any adopted Transportation Improvement Program (TIP) or FDOT work program are typically considered as complete. Several major projects are either scheduled within the next three years or are currently under construction. Locations of these projects include Florida Highway (Hwy) 85 (John Sims Parkway) from Hwy 397 (Government Avenue) to Hwy 85 (junction of Hwy 85 with Hwy 20), Hwy 85 at the Okaloosa Regional Airport entrance/Hwy 123 (South of General Bond Boulevard to north of Okaloosa Airport), and Hwy 20 from White Point Road to the Mid-Bay Bridge Connector, as well as the construction of Phases 1, 2, and 3

1. Rule 9J-5.0055, FAC "The purpose of the concurrency management system is to establish an ongoing mechanism which ensures that public facilities and services needed to support development are available concurrent with the impacts of such development.
(1) GENERAL REQUIREMENTS. Each local government shall adopt, as a component of the comprehensive plan, objectives, policies and standards for the establishment of a concurrency management system. The concurrency management system will ensure that issuance of a development order or development permit is conditioned upon the availability of public facilities and services necessary to serve new development, consistent with the provisions of Chapter 163, Part II, F.S., and this rule."

of the Mid-Bay Bridge Connector from Hwy 20 to Hwy 85. The projects currently under construction or scheduled to begin construction within three years are listed in Table B-1. These improvements have been included in the existing and future conditions analysis. One new roadway project, the Mid-Bay Bridge Connector Phase 1, is under construction; Phases 2 and 3 are also scheduled to begin construction within three years, based on the Mid-Bay Bridge Authority's adopted Capital Improvement Program. This project is not included in the existing-year analysis, but it is considered complete for purposes of the future conditions analysis.

Table B-1. Roadway Projects Under Construction or to Be Constructed Within 3 Years

Roadway Project	From	To	Project Description	Funding Year	Agency
Hwy 30 (US 98)	Fairpoint Drive	Andrew Jackson Trail	Modify intersection	2009	FDOT
Hwy 4[1]	Hwy 189 (Georgia Avenue)	Hwy 10 (US 90)	Widen/resurface existing lanes	2011	FDOT
Hwy 85 @ Hwy 123[1]	South of General Bond Blvd.	North of Okaloosa Regional Airport	Widen to 6 lanes including interchange modifications at Hwy 123 and the airport entrance/exit	2010	FDOT
Hwy 85 (John Sims Parkway)[2]	Hwy 397 (Government Ave.)	Hwy 85N	Add lanes and reconstruct	2009	FDOT
Mid-Bay Bridge Connector Phase 1	Mid-Bay Bridge	County Road, Range Road	Add 4-lane limited access highway	2009	MBBA
Hwy 20 Widening	White Point Road	New Mid-Bay Bridge Connector	Widen to 4 lanes	2009	MBBA
Mid-Bay Bridge Connector Phase 2	County Road, Range Road	State Road 285	Add 4-lane limited access toll road	2011	MBBA
Mid-Bay Bridge Connector Phase 3	State Road 285	State Road 85	Add 4-lane divided highway toll road	2011	MBBA

FDOT = Florida Department of Environmental Transportation; MBBA = Mid-Bay Bridge Authority; Hwy = state road

1. Moved forward to June 2009 letting due to ARRA (American Recovery and Reinvestment Act) funding.
2. Project has been completed.

Funding to construct an overpass at Duke Field and Hwy 85 has been provided, and the NEPA (National Environmental Policy Act) process was completed in 2010. This interchange will eliminate the need for the temporary signal currently at this intersection. Thus, this analysis assumed that no signal or stop control exists at this location on Hwy 85.