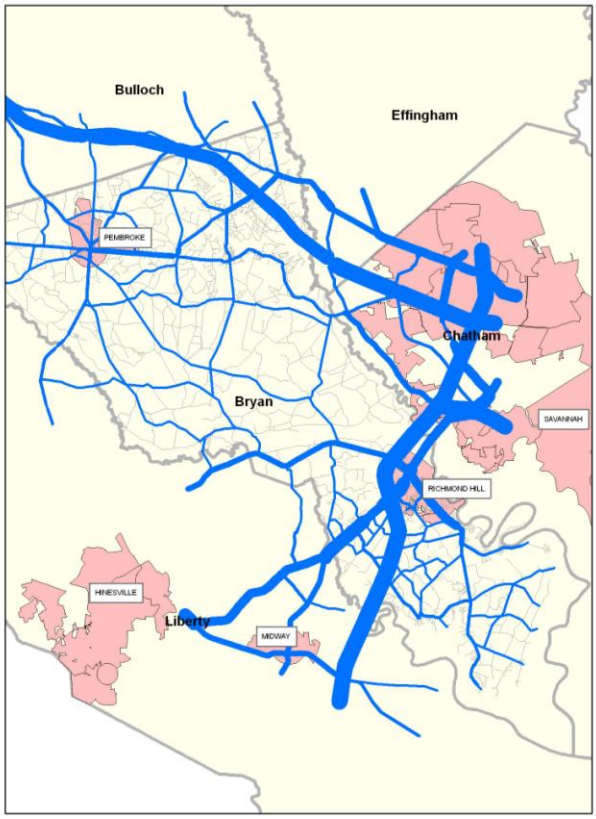
Bryan County Transportation Study Appendix

TABLE OF CONTENTS

Appendix B:

Bryan County Travel Demand Model Documentation and User Guide



Prepared for

Bryan County
Multi-Modal Transportation Plan

By PBS&J

January, 2009

TABLE OF CONTENTS

1.0 Introduction

The purpose of this document is to describe the travel demand forecast model that was built by the Georgia Department of Transportation (GDOT) to support them and their planning partners in developing a multi-modal transportation plan for Bryan County. Parts of four counties, in addition to Bryan County, were represented in the Bryan County Travel Model. These include Chatham, Effingham, Bulloch and Liberty counties. Major roads in the I-16 Corridor north of Bryan County and in the I-95 Corridor south of Bryan County were considered important in being able to forecast future year travel patterns on major roadways in Bryan County. A map highlighting Bryan County and surrounding areas included in the Bryan County model appears in Figure 1-1.

Two basic travel demand model scenarios were built in the process of developing the Bryan County Travel Model. A base year set of travel model model files were built, calibrated and validated that represent average annual daily traffic in 2006. The year 2006 was selected because it is the most recent year for which reasonably accurate demographic and traffic data is available to validate the relationship between the existing road system, land-uses inside the study area and traffic volumes. A future year of 2035 was selected to be the horizon year for the Bryan County Travel Model. In order to build the future year 2035 model, new demographic and external trip data files were formulated to represent assumed baseline conditions in 2035. Although the base year 2006 and future year 2035 baseline model scenarios constitute the basic Bryan County Travel Model, a number of other model scenarios could be derived by superimposing changes to the future year road network and/or land use files.

Figure 1-1 Model Study Area Map

Overall design of the Bryan County Travel Model is patterned after a typical urban area travel demand model used by the GDOT. GDOT uses urban area travel models in 13 areas throughout the state to facilitate the individual transportation planning processes within those subareas of Georgia. The only significant difference between the Bryan County Travel Model and the urban area models is the External Trip data files. External trips comprise a much larger share of total trip making in the Bryan County Travel Model in comparison with GDOT's urban area models.

The rest of this memorandum includes summaries of the key files that comprise the Bryan County Travel Model. Separate sections are provided in this document for the following model subject areas:

- Road Network;
- Traffic Analysis Zones;
- Socioeconomic Data;
- External Trips;
- Model Runstream;
- Base Year Validation; and
- Future Year 2035 Baseline Scenario.

2.0 Road Network

The link-node architecture and distances in the new Bryan County highway network were based on U.S. Census Bureau Tiger/Line street centerline files for Bryan, Chatham, Effingham, Bulloch and Liberty counties. The model's base year road network file represents more than 500 total street centerline miles of roadway. Most of the mileage, approximately 60%, lies inside Bryan County's border. The rest of the network lies within Chatham, Effingham, Bulloch and Liberty counties. Major Bryan County highway facilities represented in the network include I-95, I-16, US17/SR25, US280/SR30, US80/SR26, SR144, SR67 and SR119. A map illustrating the base year (2006) road network in the Bryan County Travel Model is shown in Figure 2-1, by functional classification. The classification of roadways in accordance with their primary function is an important step in developing a travel model and in conducting a transportation planning study.

The specific functional class system used in developing the Bryan County Travel Model is referred to as the National Functional Classification. It is used for planning purposes by the Federal Highway Administration (FHWA). This particular data field was not directly obtained in the Tiger/Line files. Instead, the National Functional Class code plus other link attributes like 'number of lanes' and '2006 AADT' were transferred from the Georgia Department of Transportation's Road Classification (RC) street centerline file through application of a relational GIS data management tool. A breakdown of street centerline route miles by generalized functional class category is displayed in Table 2-1. Freeway facilities include I-95 and I-16. Principal Arterial highways in the network include US280/SR30, SR196 (Liberty County) and US17/Coastal Highway. SR144, SR67 and SR119 fall into the Minor Arterial classification.

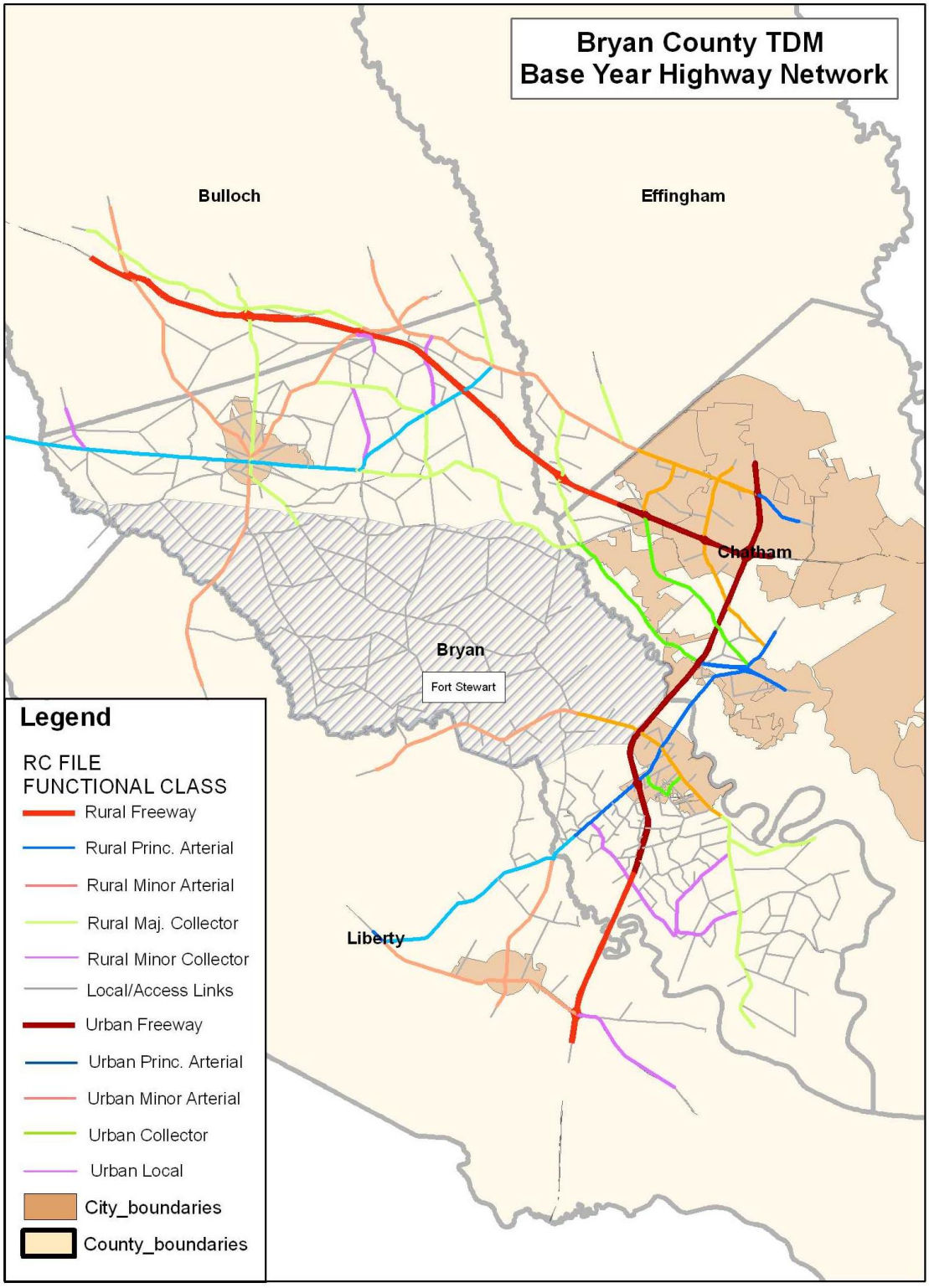
Table 2-1 Street Centerline Route Miles

FUNCTIONAL CLASS	COUNTIES		TOTAL
	Bryan	Other	
Freeway	21.4	44.5	65.9
Principal Arterial	31.1	25.9	57
Minor Arterial	36.6	68.5	105.1
Collector	70.2	51.9	122.1
Local	162.6	22.7	185.3
All Roadways	321.9	213.5	535.4

Bryan County Travel Model's Base Year Highway Network File (12/31/08)

Route mileage shares inside Bryan County and outside the county are also indicated in the table. The level of network detail inside Bryan County is much finer in comparison with the level of detail used to reflect the road network in areas outside Bryan County. Within Bryan County, 162.6 route miles of 'Local' roads are represented in the network. Outside of Bryan County, there are only 22.7 miles of roads classified as 'Local'.

Figure 2-1 Base Year 2006 Highway Network Map



A total of twenty (20) link attribute variables are associated with the highway network file. Table 2-2 lists each of them and provides a brief definition. Of particular importance in

Table 2-2 Highway Network Link Attributes

NO.	ATTRIBUTE NAME	BRIEF DESCRIPTION
1 .	A	Cube/Voyager link endpoint ID
2 .	B	Cube/Voyager link endpoint ID
3 .	DISTANCE	Link distance in thousandths of a mile
4 .	FACTYPE	A code indicating essentially the same as Functional Classification
5 .	ATYPE	Code that indicates the relative intensity of land-use in vicinity
6 .	LANES	Number of thru-lanes
7 .	NAME	Road name
8 .	SPEED	Average vehicle travel speed - from lookup table
9 .	CAPACITY	Estimate of maximum daily traffic volume from a look-up table
10 .	TIME_OP	Computed average travel time based on distance and speed
11 .	VOLUME	Estimate of 2006 AADT at traffic count station location
12 .	LINKCLASS	Distinguishes freeway from non-freeway links
13 .	REV0	Distinguishes one-way from two-way highway network links
14 .	FUNCLASS	Functional Classification assigned to link
15 .	DOD_FLAG	Attribute to identify roads inside Fort Stewart
16 .	TC_NUMBER	Georgia DOT traffic count station ID
17 .	AADT	Estimate of 2006 AADT from count stations, interpolation and extrapolation
18 .	SCREENLIN	Screenline number
19 .	VOLGRP	Code to group links according to their Volume or AADT
20 .	COUNTY	Code that indicates a link's geograpic location according to county

developing the ability to forecast credible travel patterns are the 'FACTYPE' and 'ATYPE' variables. FACTYPE is a short name for facility type. It is essentially the same as the National Functional Classification code. ATYPE is short for area type. Its purpose is to assign a measure of land-use intensity in the area surrounding each individual network link. The most intense or dense land-use code for ATYPE is 'Downtown Urban Area'. This area type is associated with frequent signalized intersections and relatively low average travel speeds. The most undeveloped or lowest intensity land-use for area type is a 'Rural' designation. This is consistent with few intersections and driveways, minimal traffic control and relatively high average travel speeds.

Two more link attributes are assigned to the network file during execution of the model runstream leading to an assignment of daily vehicle traffic to the highway network. These two variables are link capacity 'CAPACITY' and average (Free-Flow) speed 'SPEED'. Link capacities used in developing vehicle trip tables and traffic assignments in the Bryan County Travel Model runstream are presented in Table 2-3. They are assigned to network links by means of a look-up table during execution of the model runstream. Link capacities are based on Level-of-Service 'C' volume thresholds established by the Florida Department of Transportation for transportation planning and modeling. Average travel speeds are based on computed average travel speeds observed from travel time and speed studies. Both modeled capacities and modeled speeds are refined during the calibration and validation process.

Table 2-3 Speed and Capacity Lookup Table

FACTYPE	DESCRIPTION	AVERAGE FREE-FLOW SPEEDS By Area Type				AVERAGE DAILY CAPACITIES By Area Type			
		1[1]	2[2]	3[3]	4[4]	1[1]	2[2]	3[3]	4[4]
1	Freeway	60	65	70	75	13,000	13,500	14,000	14,500
2	HOV	60	65	70	75	13,000	13,500	14,000	14,500
3	Expressway	55	58	60	65	11,000	11,500	12,000	12,500
4	Fwy. to Fwy. Ramp	35	40	45	45	11,000	11,500	12,000	12,500
7	Fwy. Ent. Ramp	40	40	45	45	8,000	8,500	9,000	9,500
8	Fwy. Exit Ramp	30	35	35	40	5,500	6,000	6,500	7,000
11	Principal Arterial	32	37	45	55	7,000	7,500	8,000	8,500
12	Minor Arterial	30	35	42	52	6,500	7,000	7,500	8,000
13	1-Way Arterial	34	39	47	57	7,500	8,000	8,500	9,000
15	Major Collector	28	33	40	45	5,000	5,500	6,000	6,500
16	Minor Collector	26	32	37	43	4,500	5,000	5,500	6,000
17	1-Way Collector	29	35	42	47	5,500	6,000	6,500	7,000
19	Local	25	25	30	35	3,500	4,000	4,500	5,000
32	Access Links	12	15	20	25	0	0	0	0

(1) Downtown Urban Area
(2) Small Urban Area
(3) Suburban
(4) Rural

3.0 Traffic Analysis Zones

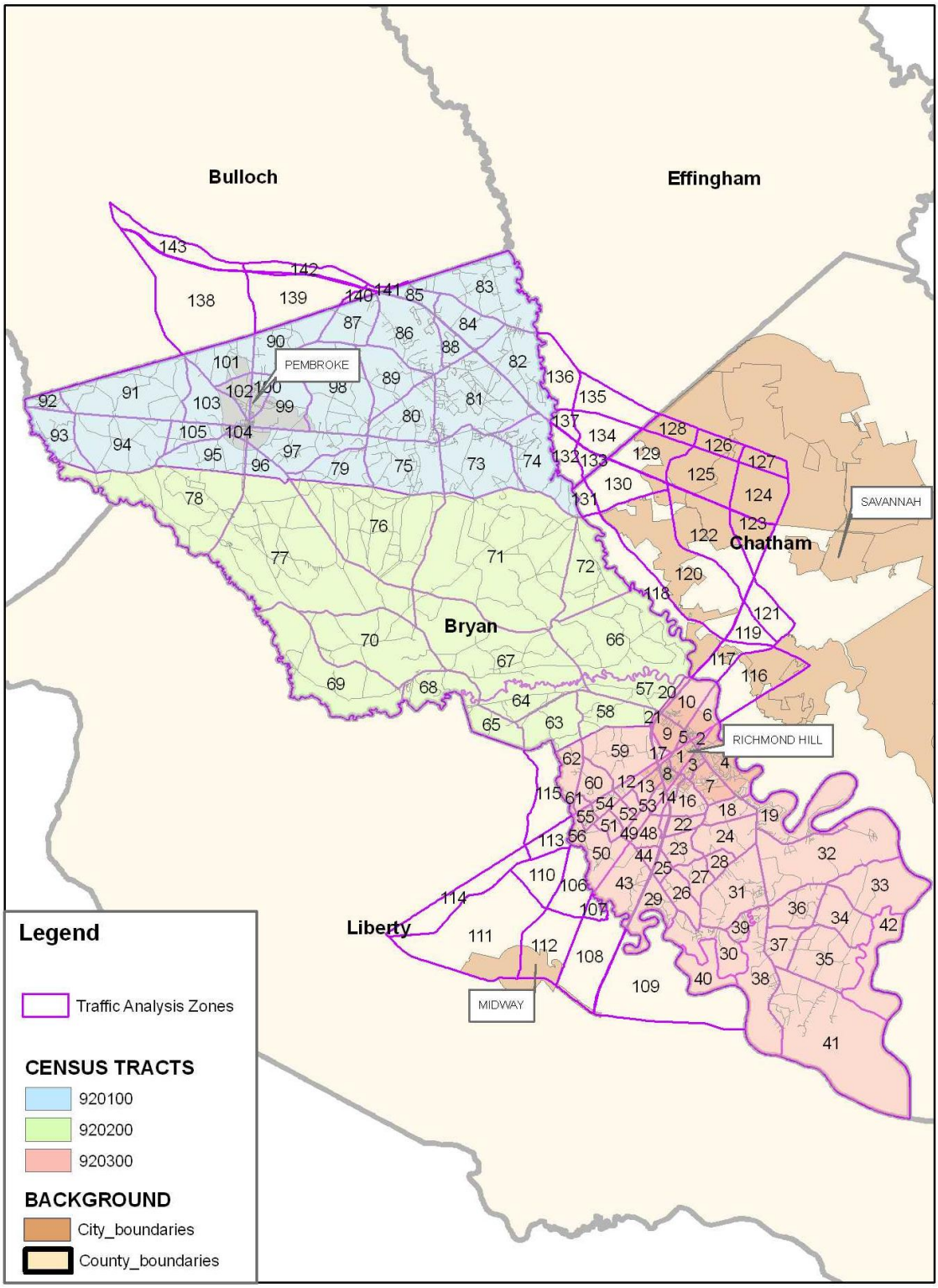
Traffic Analysis Zones, referred to as TAZ's, are relatively small units of geography that travel demand modelers use to relate different land-use patterns with trip purposes and trip end frequency. A map of TAZ's that were created for the Bryan County Travel Model are illustrated in Figure 3-1. Although not always evident, the model's TAZ boundaries were methodically drawn to reflect road alignments, census geography, jurisdictional and topographic boundaries or barriers that are central parameters in operating and applying the model. County, census tract, Fort Stewart and Canoochee Creek are examples of boundaries or barriers that were employed in creating TAZ's for the Bryan County model.

The map shows a total of 143 TAZ's inside the model's study area. Of these, 105 or 73% of them are located in Bryan County. A breakdown of the number of TAZ's by county is depicted in Table 3-1. The primary geographic framework of the model reflects more detail in the Bryan County portion of the study area than in portions of neighboring counties also represented in the study area. Moreover, the grain of density in the road network around Richmond Hill and Pembroke is more refined than in other subareas of Bryan County which are currently less developed.

Table 3-1 TAZ's By County

COUNTY	LO NUMBER		HI NUMBER
Bryan	1	-	105
Liberty	106	-	115
Chatham	116	-	131
Effingham	132	-	137
Bulloch	138	-	143

Figure 3-1 Traffic Analysis Zone Boundaries Map



4.0 Socioeconomic Data

Trip making intensity is modeled using census tract, census block groups and census block estimates of socioeconomic data that are ultimately allocated into the model's traffic analysis zone (TAZ) geography. The primary source for socioeconomic data allocated to Bryan County TAZ's is information taken from the U.S. Census Bureau's decennial 2000 census. In order to convert the 2000-level census data to the model's 2006 base year, the model development team used 2006-level estimates of population and employment at the county level of geography. The county-level estimates of 2006 population and employment are published by the Georgia Department of Labor.

For TAZ's outside Bryan County, zonal socioeconomic data from four other travel demand models was used. The Georgia Department of Transportation (GDOT), in cooperation with local governments, has built travel demand models for Chatham County, Hinesville Area, Effingham County and Bulloch County. Base year 2006 and future year 2035 zonal socioeconomic data for the Bryan County Travel Model was computed from the same zonal data sets that are associated with these other travel models.

Average daily trip ends are the standard unit used my travel modelers to measure trip intensity associated with particular land uses. There are 'production' and 'attraction' trip ends. Productions are typically associated with the number of households and average household income in a zone. Attraction trip ends are usually calculated from employment and student enrollment estimates.

A list of socioeconomic variables used in the Bryan County Travel Model are shown below.

1. TAZ
2. Number of Households
3. School Enrollment
4. Population
5. Average Zonal Household Income
6. Retail Employment
7. Service Employment
8. Manufacturing Employment
9. Wholesale Employment
10. Total Employment

A summary of the 2006-level socioeconomic data used in the model is presented in Table 4-1 by county or part of a county. Subtotals of the demographic data for all of Bryan County are the largest for each socioeconomic variable, except for Retail Employment and Manufacturing Employment. The population estimate is 32,178 persons. Average household income for all zones in the county was $45,627 in 2000. School enrollment in the county was estimated to be 6,229 students in 2006. Bryan County's total employment was estimated to be 5,542 in 2006. It is important to note in reading Table 4-1 that demographic subtotals for Chatham, Effingham, Bulloch and Liberty counties only represent relatively small portions of those jurisdictions.

Table 4-1 Socioeconomic Data Summary By County

VARIABLE	Bryan	Liberty(Part)	Chatham (Part)	Effingham (Part	Bulloch (Part)	Model Study Area Total
Households	11,114	2,268	7,206	1,246	255	22,089
Enrollment	6,229	1,576	3,596	0	0	11,401
Population	32,178	6,133	18,411	2,993	804	60,519
HH Income	$ 45,627	$ 33,667	$ 43,112	$ 40,885	$ 39,880	$ 40,634
Retail Employment	805	360	2,050	48	20	3,283
Services Employment	4,119	1,175	3,286	830	65	9,475
Manufacturing Employment	343	0	0	494	0	837
Wholesale Employment	275	0	142	2	0	419
Total Employment	5,542	1,789	5,475	1,374	85	14,265

Sources: U.S. Census 2000
Georgia Department of Labor County Profiles for 2006
Bryan County School Board

To facilitate the formulation of credible travel patterns in the Bryan County Travel Model, there are fundamental relationships that need to be reflected by the zonal socioeconomic data file. Concentrations of human activity, be they household-related or employment-related, generate elevated levels of vehicle traffic. In places where there is not a lot of human activity, there are not a lot of vehicle trips either produced or attracted there. Color-coded maps depicting varying levels of population and total employment throughout the travel model study area are shown in Figure 4-1 and Figure 4-2 by TAZ geography. For population in Figure 4-1, the highest concentrations of population are found in two Richmond Hill zones and in five Chatham County TAZ's. For total employment, shown in Figure 4-2, the highest level occurs in a Chatham County TAZ situated north of the CSX railroad tracks and directly east of Richmond Hill. Bryan County has one TAZ where total employment reaches the 501 to 1,000 persons range. This is also in Richmond Hill, south of US17/Coastal Highway and west of SR144/Ford Avenue.

Figure 4-1 2006-Level Population By TAZ

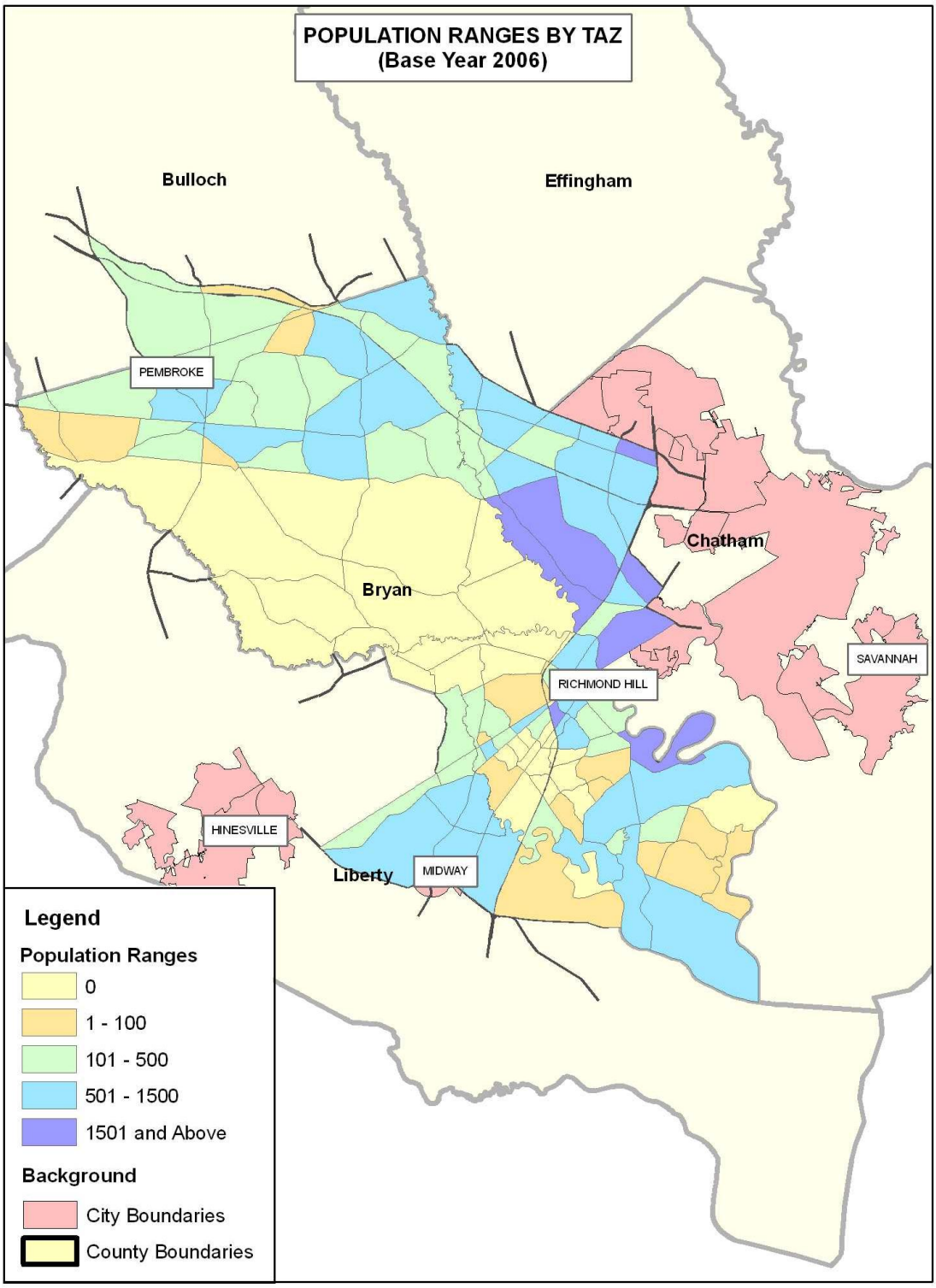
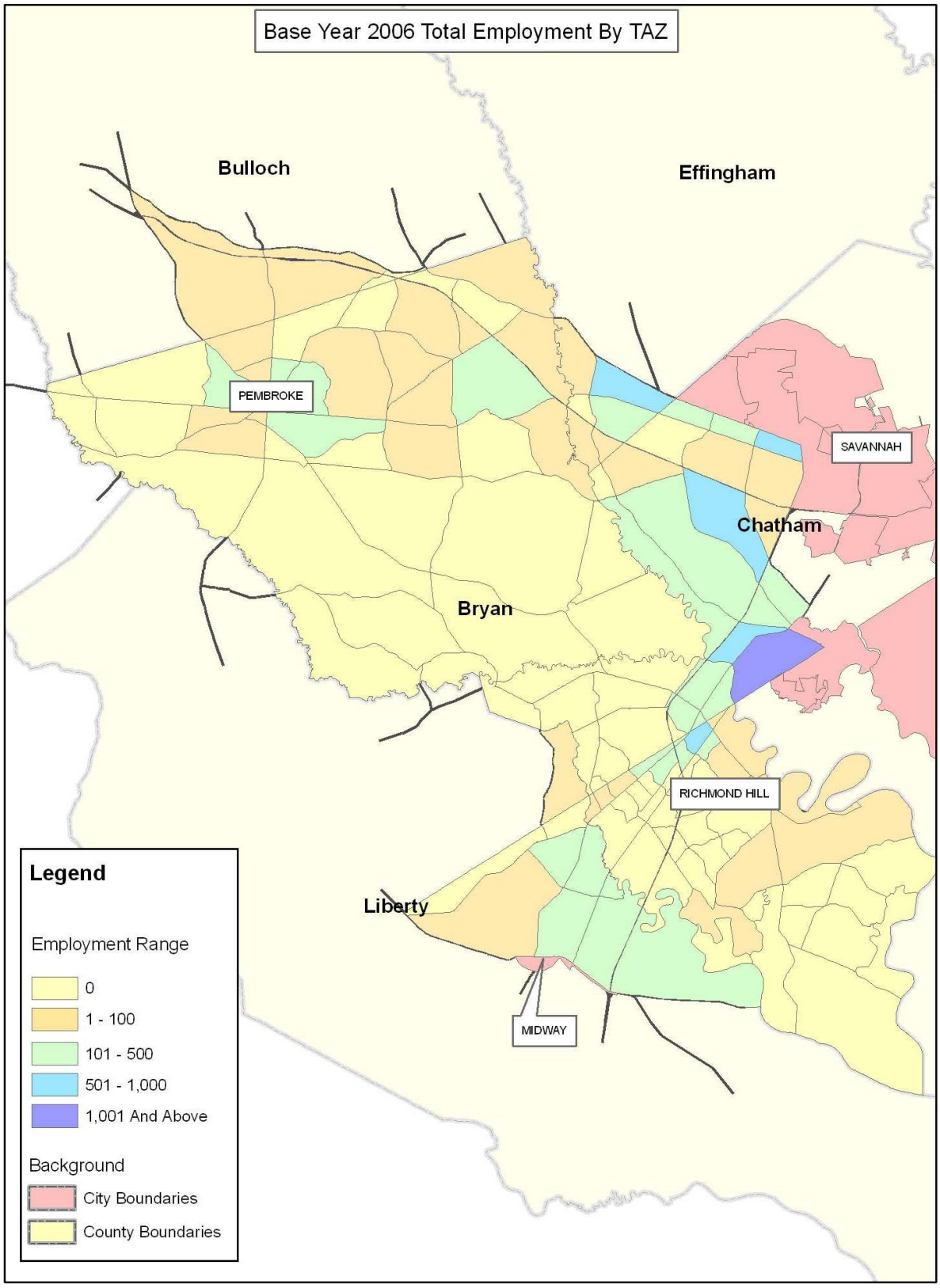


Figure 4-2 2006-Level Total Employment By TAZ



5.0 External Trips

External trips have at least one of their trip ends outside of the model study area. In the Bryan County Travel Model, external trips are especially important because they comprise a high proportion of total trip making. This is due to the preponderance of employment, shopping, medical and recreational opportunities in Savannah, as well as in the Hinesville/Fort Stewart area. The majority of large trip generators in Savannah and other Chatham County jurisdictions plus all of the densely settled areas of Hinesville and Fort Stewart reside beyond the Bryan County Travel Model's study area boundary. Due to the proximity of Savannah, Hinesville and Fort Stewart to Bryan County, many trip ends produced or attracted in Bryan County TAZ's have an origin or destination outside of the model's boundary.

If a modeled trip is not external, then it is an internal trip. Internal trips have both trip ends inside the study area. For example, a trip from Pembroke to Blitchton in North Bryan would be an internal trip. Internal trips are subdivided by trip purpose so they match an empirical trip length distribution unique to that kind of trip. The five internal trip purposes used in the Bryan County Travel Model are: Home Based Work (HBW); Home Based Other (HBO); Home Based Shopping (HBSh); Non Home Based (NHB); and Commercial.

External trips are subdivided during model development into four different groups, but they are not split by trip purpose like internal trips. They are initially subdivided into Internal-External (I-E) and External-External (E-E) trips. Each of these categories is split one more time into Passenger Cars and Trucks leading to the four different types of external trips.

External trips have properties that make them valuable in the process of developing credible travel patterns and traffic assignment loadings. Due in large part to their definition, external trips nearly always have the longest average trip lengths of all trip purposes because they need to travel to at least one border of the study area. They add to the model's credibility because the amount of base year traffic coming into and out of the study area on major state highways is usually available from the Georgia Department of Transportation's annual traffic counting program. Travel modelers can easily control the daily volumes of traffic entering and exiting the study area at these locations, which are referred to as external stations. A map displaying the 24 external stations is presented in Figure 5-1. External station number 144 represents the place in the model highway network that vehicle traffic enters and leaves the study area using I-95 in Liberty County. Station number 145 corresponds to the spot where traffic enters and leaves the study area on Coastal Hwy./US17 in Liberty County. There are no external stations physically positioned in Bryan County. All of them are located in counties surrounding Bryan.

Basic parameters defining the base year 2006 External Trip database for the Bryan County Travel Model are presented in Table 5-1. The highest volume external station is number 161 which represents I-95 in Chatham County by Savannah International Airport. The average annual daily traffic volume is 67,700 vehicles per day and the average daily share of large trucks, vehicles with 3 or more axles, is 17.5%.

Figure 5-1 Modeled External Stations

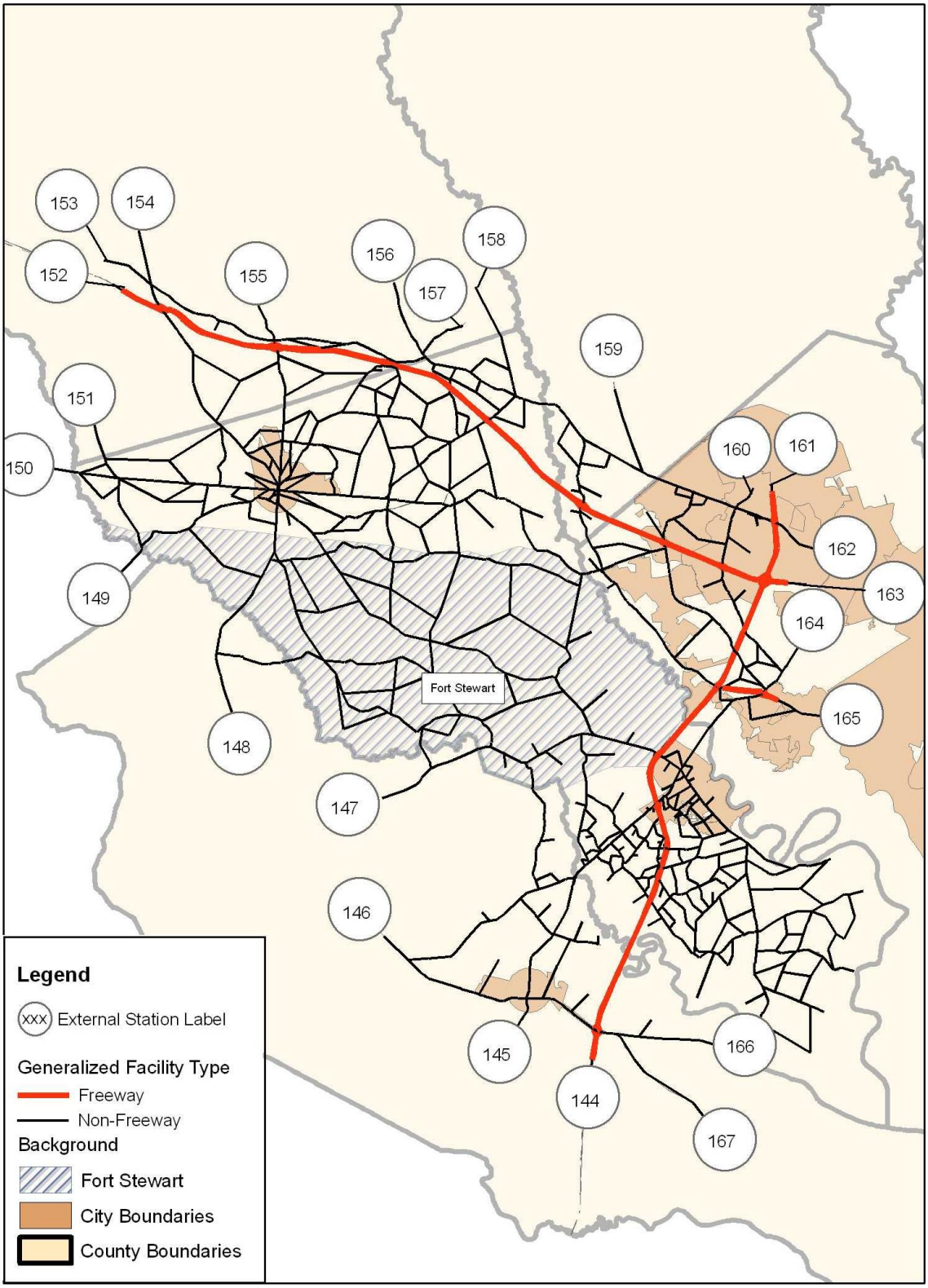


Table 5-1 External Trip Station Parameters

Station Number	Roadname	Facility Type	County	Count Station ID	Est. 2006 AADT	Pass. Car Total Vol.	Large Truck %	Large Truck Total Vol.
144	I-95 So.	Freeway	179	0134	45,000	37,125	17.5%	7,875
145	US17/SR25 So.	Major Arterial	179	0007	4,200	3,990	5.0%	210
146	US84/SR38	Major Arterial	179	0063	25,000	23,125	7.5%	1,875
147	SR144	Minor Arterial	179	0114	6,500	6,337	2.5%	163
148	SR119 So.	Minor Arterial	179	0107	2,380	2,261	5.0%	119
149	Moody Bridge	Collector	109	none	200	200	0.0%	0
	(Ft. Stewart)							
150	US280/SR30	Major Arterial	109	0125	3,200	3,040	5.0%	160
151	Groveland Nevils	Collector	31	0149	800	800	0.0%	0
152	I-16 No.	Freeway	31	0367	17,610	14,528	17.5%	3,082
153	SR46	Minor Arterial	31	0234	2,200	2,145	2.5%	55
154	SR67	Minor Arterial	31	0105	7,700	7,507	2.5%	193
155	Arcola	Collector	31	0354	1,200	1,200	0.0%	0
	(Between these two locations)			0356				
156	US80/SR26 No.	Major Arterial	31	0316	3,200	2,960	7.5%	240
157	SR119 No.	Minor Arterial	31	0349	1,100	1,089	1.0%	11
158	Eldora	Collector	31	0372	2,400	2,400	0.0%	0
159	SR17	Minor Arterial	103	0149	7,500	7,350	2.0%	150
160	Pooler Pkwy.	Minor Arterial	51	0259	17,000	15,725	7.5%	1,275
	(Don't think it existed in 2006)							
161	I-95 No.	Freeway	51	0385	67,700	55,852	17.5%	11,848
162	US80/SR26 So.	Major Arterial	51	0264	24,000	21,600	10.0%	2,400
	(Reflects Pooler Pkwy.)							
163	I-16 So.	Freeway	51	0367	48,900	41,565	15.0%	7,335
164	US17/SR25 No.	Major Arterial	51	0198	18,000	16,200	10.0%	1,800
165	SR204/Abercorn Ext.	Minor Arterial	51	0323	49,300	47,328	4.0%	1,972
166	Sunbury	Collector	179	none	400	400	0.0%	0
167	Colonels Island	Collector	179	0078	1,370	1,370	0.0%	0

6.0 Model Process

The overall framework and logic of the Bryan County Travel Demand Model was adapted from the Georgia Department of Transportation's (GDOT's) standard urban area travel demand models. The same travel demand modeling software used by GDOT, Version 5.1 of Citilab Corporation's TP+ scripting language, was employed by the Bryan County Travel Model development team. It computes daily traffic volumes using passenger car and truck trip tables. Computational processes and logic associated with developing trip tables and performing traffic assignments are illustrated in figures that are displayed in the Appendix to this document.

Essentially, the modeling process consists of three steps: (1) Trip Generation; (2) Trip Distribution; and, (3) Daily Traffic Assignment.

The trip generation phase of developing trip tables is done in a separate application, prior to executing the main TP+ model runstream.

6.1 Trip Generation

The Bryan County Travel Model uses seven (7) trip purposes to generate person trip ends. These are listed below.

No.	Purpose Name	No.	Purpose Name
1.	Home Based Work (HBW)	5.	Commercial Vehicles
2.	Home Based Other (HBO)	6.	Internal-External Pass.
3.	Home Based Shopping (HBSh)	7.	Internal-External Trucks
4.	Non-Home Based (NHB)		

Vehicle trips traveling from outside the model study area to outside the model study area, like from Hinesville to downtown Savannah, are referred to as External-External (E-E) trips. E-E trips were estimated for both passenger cars and trucks in separate data files.

Trip generation was slightly differently in the Bryan County model in comparison with a typical GDOT urban area travel demand model. A different logic was applied because there are a disproportionately high number of I-E and E-E trips in comparison with a typical urban area model. In a typical travel demand model, for any of Georgia's urban areas, the region's central business district(s) and major concentrations of human activity are located inside the model's geographic boundaries. In relation to the Bryan County model, however, the region's largest concentrations of human activity reside in Savannah which is essentially north and east of the model study area. To offset effects of this, internal to internal (I-I) trip rates for HBW, HBO, HBSh, NHB and Commercial Vehicles were discounted and trip rates for Internal-External (I-E) attractions were increased.

6.2 Trip Distribution

Trip distribution is performed on all seven (7) trip purposes defined in the trip generation process using the standard gravity model process with convergence for all purposes on productions. Trip tables computed by the gravity model are in person trips, not vehicle trips except for the two Internal-External (I-E) trip types. Each trip purpose has a set of friction factor weights for the time range between 1 and 100 minutes. The friction factors were borrowed, originally, from one of GDOT's urban area models. However, some re-calibration of the friction factors was performed to improve the Bryan County model validation results as well as to get trip length frequencies by trip purpose that matched travel patterns expected from the inherent geography and land-use patterns input to the Bryan County model.

Free-flow time and the last iteration time skims were used to measure inter-zonal travel times in the gravity model process. Only the HBW trip purpose used last iteration, or congested times, for inter-zonal time impedances. All others used the free-flow time skim.

Out of all seven model purposes, the longest trips generated by the gravity model were for the Home Based Shopping (HBSh) trip purpose. Average travel times (in minutes) and average trip lengths (in miles) by trip purpose are displayed in Table 6-1. The shortest average time and distance were calculated for the Internal-External Passenger Car (IEPC) trip purpose. Clearly, the base year model calibration and validation process revealed that short IEPC trips resulted in better matches between modeled daily traffic and observed daily traffic volumes. IEPC trips were the most numerous of all trip types in the model, as well. The model estimated 83,874 daily IEPC trips which was more than twice as many as the 33,307 Home Based Other (HBO) trips.

Table 6-1 Trip Distribution By Trip Purpose

TRIP PURPOSE	NUMBER OF TRIPS	AVG. TRIP TIME (Min.'s)	AVG. TRIP LENGTH (Miles)
HBW	12,247	6.9	4.2
HBO	33,307	7.9	4.9
HBSh	6,207	8.3	5.4
NHB	25,525	7.4	4.6
TRUCKS	9,715	5.6	3.5
IEPC	83,874	2.2	1.6
IETRK	8,323	5.4	4.5

Source: Bryan County Travel Model (12/31/08)

Although not technically part of the trip distribution step, person trip tables output from the gravity model were converted to vehicle trip tables prior to executing a daily traffic assignment. IEPC and IETRK trip tables are in units of vehicles from the beginning of the process, but the five I-I trip tables are initially estimated in person trips. Below is the list of average vehicle occupancy factors used to convert I-I person trip tables to I-I vehicle trip tables.

- Home Based Work (HBW) – 1.15
- Home Based Other (HBO) – 1.90
- Home Based Shopping (HBSH) – 1.88
- Non Home Based (NHB) – 1.50
- Commercial (Commercial) - 1.15

6.3 Daily Traffic Assignment

The traffic assignment step of the modeling process produces minimum path routings, link volumes and link speeds that will be used to evaluate alternate roadway improvement strategies in Bryan County. There are two traffic assignments altogether in the model runscript. One is a daily equilibrium assignment to generate a congested (last iteration) time skim matrix for distributing Home Based Work (HBW) trips. The other is a daily equilibrium assignment to produce routings, link volumes and link speeds to evaluate different land use and road improvement scenarios.

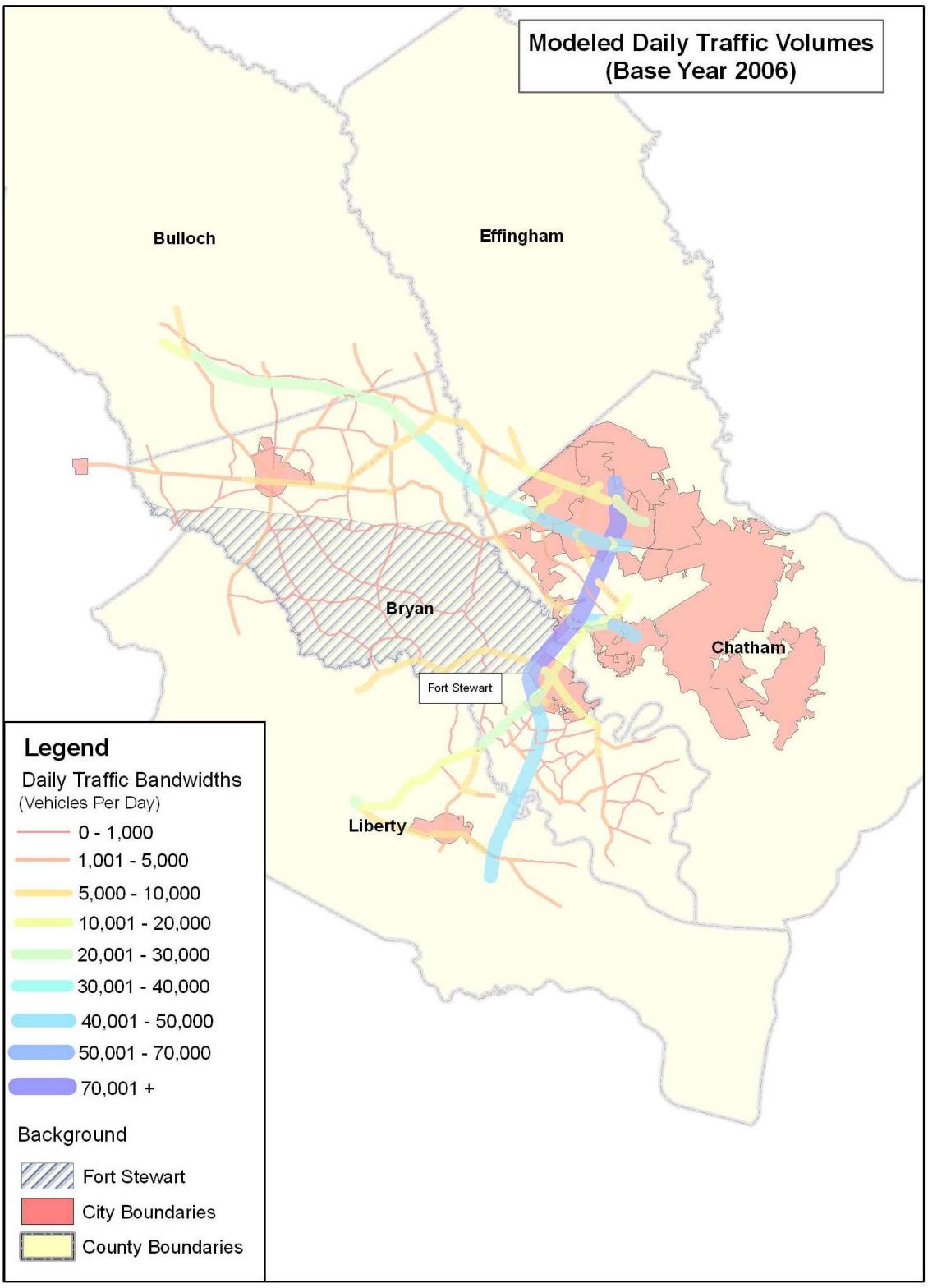
Traffic assignment parameters for each daily traffic assignment in the model runstream are listed in Table 6-1. Both assignments are set up to assign trucks and passenger cars. However, the final daily assignment, No. 2 in the table, explicitly pre-loads trucks prior to making a passenger car assignment. Although both are designed to reach closure after a Gap less than .0001 is achieved, daily assignment No. 1 has a 20 iteration limit while the second has a 99 iteration limit. The first assignment uses the TP+ default volume-delay function, where Volume (V) is equal to the sum of truck loadings and passenger car loadings and capacity (C) is set equal to a nominal daily LOS C service volume threshold. In the second assignment, the TP+ default volume-delay function is only used for non-freeway highway network links. For freeway links, a larger Beta exponent of 6.0 is used to adjust link travel times.

Table 6-1 Traffic Assignment Parameters

Assignment Parameter	**Daily Assignment No. 1** (Congested Time Impedance)	**Daily Assignment No. 2** (Daily Link Speeds and Loadings)
Algorithm	Equilibrium	Equilibrium
Max. Iterations	20	99
Gap	0.0001	0.0001
AAD	Default	0
RAAD	Default	0
Vehicle Types	Trucks &	Trucks &
	Passenger Cars	Passenger Cars
Volume-Delay	Default	freeway links: alpha = 0.15
		beta = 6.0
		non-freeway links: alpha = 0.15
		beta = 4.0

The Bryan County Travel Model was built and calibrated using 2006-level data. As such, it was designed to produce estimates of Average Annual Daily Traffic (AADT) volumes for the year 2006. AADT represents the two-way volume of 24-hour traffic on a section of road for an average annual day of the year. Base year 2006 AADT estimates produced by the travel demand model are displayed in bandwidth volume format in Figure 6-1.

Figure 6-1 Base Year 2006 Traffic Assignment Map



Average annual daily traffic (AADT) volumes generated by the travel model fluctuate in accordance with different road facility characteristics and the network path routings available to serve motorists' travel patterns. The wide range of daily volumes is denoted in the figure by color and bandwidth. The least used roadway facilities are denoted by a thin, coral-red line. Roadway segments carrying the highest volumes in the model study area are shown with a thick, purple-colored line. The highest two-way AADT volume produced by the model occurs on the section of I-95 between I-16 and the Abercorn Extension in Chatham County. A total of 90,000 vehicles per day were estimated by the Base Year 2006 model to use this section of the road network.

The highest traffic volumes in Bryan County are currently in the southern portion of the county, referred to as South Bryan in this memorandum. There is not a large drop in present modeled 2006 daily traffic for the section of I-95 connecting South Bryan and Richmond Hill to Chatham County. Where I-95 crosses the Ogeechee River, the modeled two-way, AADT is 82,000 vehicles per day. Another 18,000 vehicles per day were projected to use the US17/Coastal Highway connecting Richmond Hill to Chatham County approximately 1.5 miles east of I-95. I-95 traffic volumes drop through Bryan County, moving south toward Liberty County. South of the US17/Coastal Highway Interchange, the modeled daily volume for I-95 was 48,000 vehicles per day. This substantial change in volume on sections of I-95 in South Bryan underscores the relatively high volumes getting on and off I-95 at SR144/Ford Avenue and US17/Coastal Highway in Richmond Hill.

US280/SR30 in the north part of Bryan County, referred to as North Bryan in this memorandum, is the main artery serving local travel in the vicinity of Pembroke. I-16 slices through the northeast corner of North Bryan providing freeway access to Savannah in the southeast and Macon to the northwest. The only I-16 interchange in Bryan County is with US280/SR30. Modeled daily traffic volumes on US280/SR30 vary between 5,000 vehicles per day around Pembroke and 9,000 closer to the interchange with I-16 in the vicinity of Blicthton. Estimates of daily traffic on I-16 vary from 25,000 vehicles per day north of the US280/SR30 interchange to 32,000 vehicles per day south of the interchange. The markedly larger volume on I-16 south of the interchange indicates a relatively high daily travel movement from North Bryan in the direction of Chatham County to the southeast.

7.0 Base Year Model Validation

In order to get the base year 2006 model components working together effectively, a number of model runs were performed as part of the calibration process to achieve better matches between modeled daily traffic volumes and observed 2006 traffic counts . Refinements were made to the following model parts: highway network; trip generation rates; trip length distributions, external station trip database and to the traffic assignment parameters. A total of 18 separate test runs of the Bryan Travel Model were made during the calibration and validation process. A set of tables charting both intermediate and final model outputs after each calibration-validation run provided the modeling team with model performance statistics that revealed which types of changes were most effective toward improving overall performance.

With limited resources and deadlines dictated by Bryan County Multi-Modal Transportation Plan study schedule, new models like this one are built and tested over a relatively short period of time. Numerous tests were used to determine the accuracy and predictive quality of the Bryan County Travel Demand Model. There are a couple very different criteria employed to validate a travel model. One of these is monitoring intermediate model output from trip generation and trip distribution. Earlier in the memorandum, in the section describing *Trip Distribution*, a table illustrating fundamental model behavior in terms of the number of modeled trips by model purpose and their respective average trip lengths was shown. Factors used to convert person trips into vehicle trips are also listed in the trip distribution section. Volumes of daily vehicle traffic coming into and out of the study area at the model's external stations are reported in the *External Trips* section. This kind of information, in combination with tables showing the amount of deviation between modeled and observed traffic volumes, describe the validation process and provide others with a sense for the model's predictive quality.

Several comparative tables or charts were used to describe the level of deviation between modeled and observed traffic for the base year 2006. These tests are listed along with brief descriptions below.

Root Mean Square Error (RMSE) - The most important model validation test considered in this calibration process was the RMSE test. This test computes a statistic that measures the overall relative difference between estimated AADT volumes assigned to road network links by the model and their corresponding observed, 24-hour, weekday traffic counts for a particular class of model links. The sample size of two-way link locations in the RMSE was 130.

Screenline Line Deviations – It's primary use in most model applications is to gage the deviation between modeled and observed daily traffic for specific travel corridors or border lines that demarcate topographic or jurisdictional features. It also provided an easy-to-use reference guide that was used to aid in focusing on the worst link deviations in the process of lowering RMSE statistics for particular Volume Groups. There were 63 unique two-way

network link locations in the screenline deviation sample. The final screenline deviations, from the last model run, are reported in the Appendix.

Systemwide DVMT - Vehicle Miles of Travel (VMT) is the standard measurement for the overall amount of vehicle travel demand inside a model study area. In this model development effort, Daily Vehicle Miles of Travel (DVMT) by generalized facility type or functional class was used. All roadway links in the highway network were used to compute the modeled and observed estimates of DVMT.

Loadings to Counts Ratio – This is similar to the systemwide DVMT statistics, but link distances are not considered and the sample was confined to only those 130 network links where traffic count stations exist (i.e., the same sample used to compute RMSE statistics).

Scatter Diagram Illustration - A scatter diagram is a picture that illustrates how well modeled daily traffic volumes matched observed daily volumes. It is an easy-to-interpret graphic that provides a visual restatement of the same information shown by the RMSE and screenline evaluation tables.

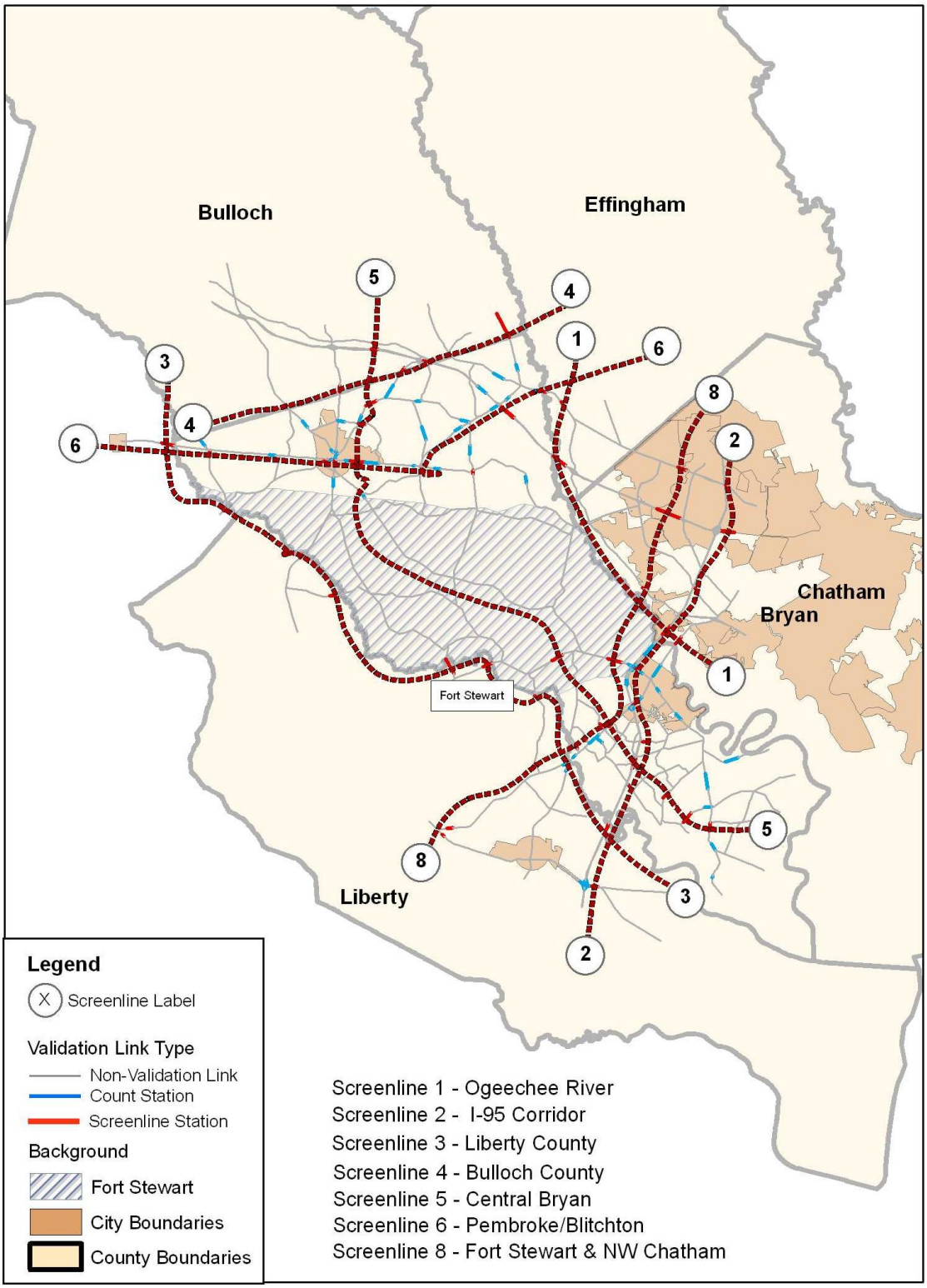
There were 130 locations inside the Bryan County Travel Model study area where traffic counts were taken by the Georgia Department of Transportation or for other studies recently done. These are the locations where observed traffic volumes were used to guide the calibration and validation process. These locations and the calibration/validation screenlines are displayed in Figure 7-1. Links with observed traffic counts are shown in a blue color while the study area screenlines are drawn in red.

RMSE

In this calibration/validation, the "Volume Group" link attribute was used to classify model links for the RMSE test. A computed RMSE statistic of 0.00 would indicate that modeled traffic volumes for each validation link are the exact same as their observed counterparts. An RMSE of 100 would indicate that the average deviation of modeled ADT's from their observed counterparts was generally equivalent to the size of observed daily traffic. The later situation is not uncommon for low-volume model network links. Observed traffic counts were obtained on a total of 130 unique, network links in the study area. The locations of these counts are denoted by red and blue colored highlights in Figure 7-1.

The final base year 2006 RMSE statistics are shown in Table 7-1 by volume group. For the RMSE link analysis to be an effective diagnostic tool, the RMSE statistic is computed by link volume group. Seven volume groups were identified for use in this study. The smallest volume group included all links whose observed volumes were below 2,500 vehicles per day. The highest volume group captured all calibration/validation links whose daily traffic exceeded 25,000 vehicles per day. Links on five different highway facilities fell into the highest volume

Figure 7-1 Validation and Calibration Locations



group category. These facilities included I-95, I-16, US80, US17/Coastal Highway and the Abercorn Extension.

Network links on I-95, US17/Coastal Highway and SR144/Ford Avenue in South Bryan and US280/SR30 and I-16 in North Bryan were the foremost concern in calibrating and validating the model. Mostly, those links fell into the RMSE categories "Volume Group" 6 and "Volume Group" 7. RMSE values of 8 and 22 were calculated for Volume Group 7 and Volume Group 6, respectively. This means that the model was generally estimating ADT's to within + or - 8% accuracy in "Volume Group" 7 and within 22% for links in the "Volume Group" 6 category. The lowest accuracy was computed for links in the "Volume Group" 1 category (ADT's less than 2,500 vehicles per day) where the computed RMSE statistic was 95%. These traffic assignment accuracy measurements are consistent with the level of accuracy achieved by urban area travel demand models around the United States.

Table 7-1 Final Calibration Run RMSE Results

Volume Group	Volume Range (VPD)	RMSE
1	0 - 2,500	95.0
2	2,500 - 5,000	29.0
3	5,000 - 10,000	62.0
4	10,000 - 15,000	32.0
5	15,000 - 20,000	19.0
6	20,000 - 25,000	22.0
7	> 25,000	8.0
All Links		25.0

What does an RMSE statistic of 8% or 22% mean? According to Federal Highway Administration (FHWA) guidelines, modelers should try to achieve an RMSE of 7% for freeway facilities and 25% for collector roads - as targets. These accuracy objectives apply to a typical urbanized area travel demand model. In a model validation and reasonability checking manual prepared for the FHWA's Travel Model Improvement Program in 1997, final validation RMSE's for the Reno, NV urbanized area travel demand model were reported by facility type. These RMSE validation statistics for the Reno model ranged from 77.5% for low volume collector facilities to 18.3% for high volume freeway facilities. In comparison, traffic assignments from the Bryan County Travel Model are more accurate than the Reno, NV urban area model assignments.

System wide daily vehicle miles of travel (DVMT) are shown in Table 7-2 by generalized functional classification. Freeway and expressway facilities DVMT accounted for the highest share of vehicle travel. Overall, the model assigns 5% more DVMT to these kinds of facilities than the corresponding DVMT computed from observed traffic counts. Arterial links are representative of facilities like: US17/Coastal Highway, US80, US280 and SR144/Ford Avenue. The model produces nearly 1.3 million daily vehicle miles of travel for arterials which is 1% less than observed DVMT.

Table 7-2 Modeled Versus Observed DVMT

General Factypes	Observed VMT	Modeled VMT	Relative Difference
Freeways/ Expressways	2,885,541	3,039,869	5%
Arterials	1,316,385	1,297,026	-1%
Collectors	316,355	257,193	-19%
Total	4,518,281	4,594,088	2%

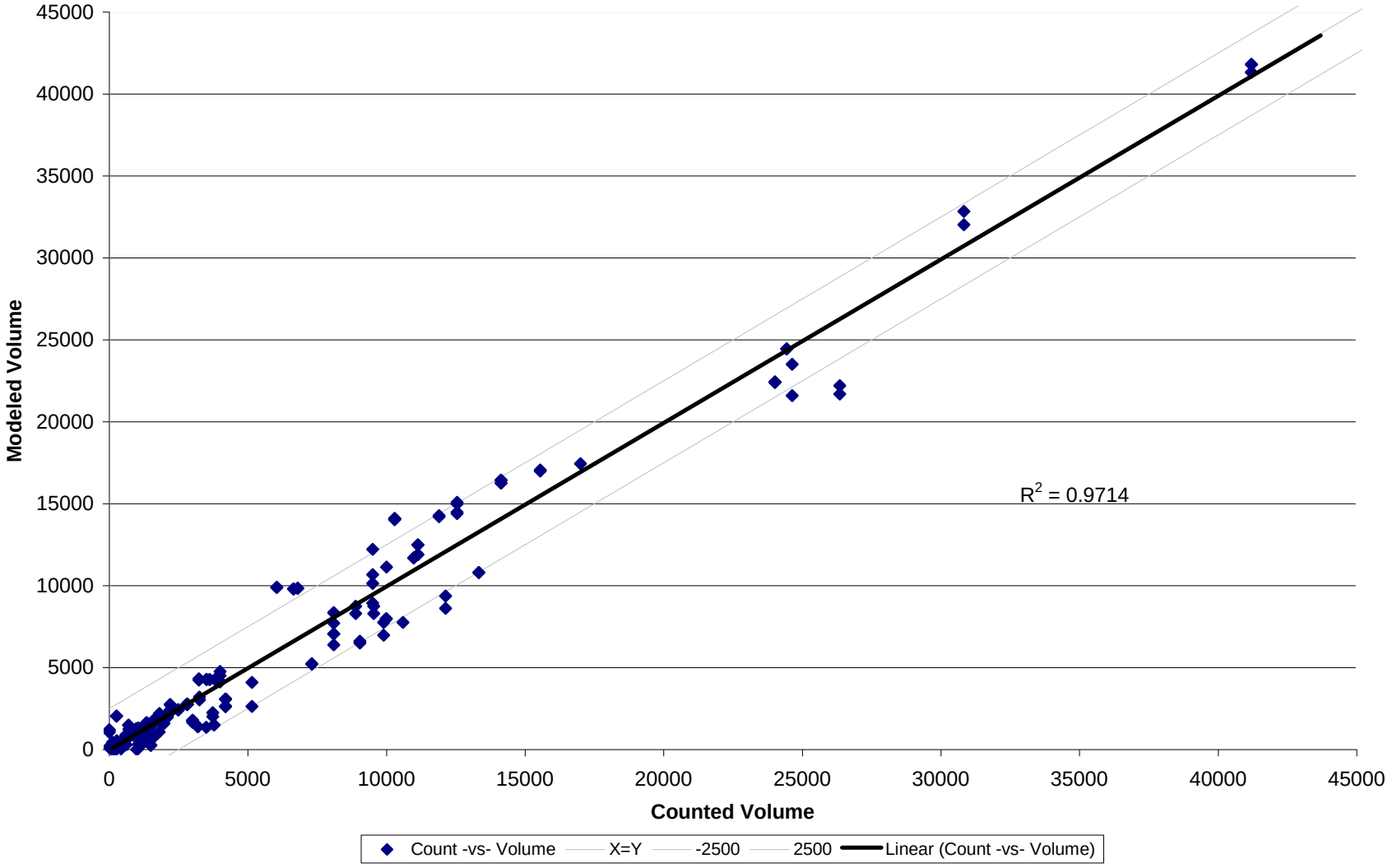
A "Model" to "Counts" ratio was computed by Volume Group for the same sample of links that was used in the RMSE sample. These statistics are presented in Table 7-3. This test shows that the ratio between the sum of modeled link volumes and the sum of observed traffic counts is 0.99. This means that overall, the modeled volumes were slightly less than their observed traffic count throughout the study area. Link Group 6, the category where observed counts falls in the 20,000-25,000 AADT range, showed a Model to Count ratio of 1.10. The model appeared to over-assign traffic on these links by 10%. The most under-assigned category was Link Group 2, where the Model to Count ratio was 0.88.

Table 7-3 Modeled to Counts Ratio

Volume Group	Volume Range (VPD)	Ratio
1	0 - 2,500	1.07
2	2,500 - 5,000	0.88
3	5,000 - 10,000	0.93
4	10,000 - 15,000	1.06
5	15,000 - 20,000	0.95
6	20,000 - 25,000	1.10
7	> 25,000	0.97
All Links		0.99

A scatter diagram that illustrates how well modeled daily traffic volumes matched observed daily is presented in Figure 7-2 for the same sample of study area network links that was used in the "RMSE" and "Modeled to Counts Ratio" tests. This is another way of showing the relative accuracy of AADT's produced by the model. If the modeled volumes were perfect (i.e., no deviation from the traffic counts), then all of the points would lie in the line representing the simple x=y equation. A total of 130 points are shown in the diagram, most of them a little under or over the line formed by the x=y equation. There is a strong correlation between the modeled and observed data points. The R^2 value, which explains the proportion of variability explained by the model, was a little over 0.97.

Figure 7-2 Scatter Diagram (Observed AADT's – Modeled Daily Volumes



8.0 Future Year 2035 Model (Baseline Scenario)

A summary of the Bryan County Travel Demand Model's baseline scenario for 2035 is presented in this section. The summary includes a description of data used to generate and formulate future year vehicle travel as well as a cross-section of data produced by the model.

8.1 Zonal Socioeconomic Data

Future year growth for Bryan County was established in a study performed by the Georgia Institute of Technology's Center for Quality Growth and Regional Development in 2006 for counties and municipalities inside the Coastal Georgia Regional Development Center (RDC) planning area. The RDC makes future growth estimates by jurisdiction available to its county and municipal governments for use in conducting comprehensive planning activities. Forecasts of population and total employment for a future year 2030 planning horizon were furnished by the RDC to Bryan County. The key socioeconomic data estimates for future year 2030 were:

- Population – 45,986 persons; and
- Total Employment – 13,430 employees.

While 2030 population estimates were developed especially for the Coastal Georgia RDC and its jurisdictions, county-level total employment projections for 2030 were made by the model development team using proprietary demographic forecasts published by a private data collection firm specializing in demographics and land use - Woods and Poole, Incorporated.

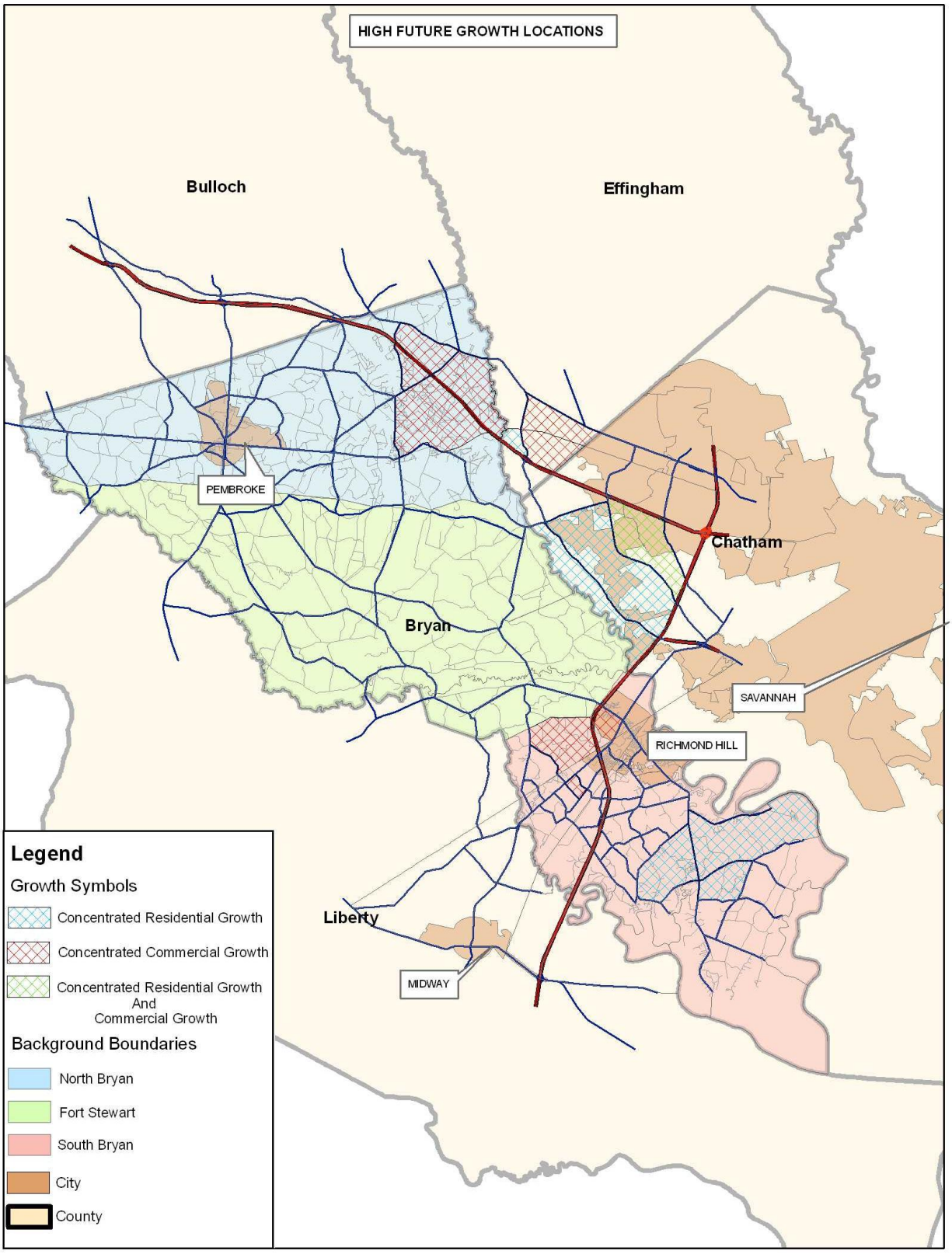
The study team allocated countywide forecasts of 2030-level zonal socioeconomic data into North and South Bryan County as well as into the 105 Traffic Analysis Zones. The allocation of countywide population and employment forecasts into small traffic analysis zones (TAZ's) was done using several different t sources of information to guide the process.

Population and Employment Allocation Reference List

- Future Land Use Map;
- Potential Development Areas Map (Bryan County Interchange Justification Report);
- Bryan County Board of Education plans for locating new schools;
- Development and Marketing Information (obtained from study stakeholders); and,
- Base Year 2006 Zonal Socioeconomic Data.

A map of the model's study area highlighting those zones exhibiting the highest amount of change in human activity between 2006 and 2030 is presented in Figure 8-1. While the overall

Figure 8-1 High Growth Traffic Analysis Zones (TAZ's)



zonal allocation or spatial pattern of future growth in this study is similar to patterns used in Bryan County's most recent transportation studies, there is one major difference.

Previous transportation planning studies that identified transportation deficiencies in Bryan County assumed that properties centered around the I-95 and Belfast Siding Road junction in South Bryan County would be intensively developed as a regional commercial node by 2030. The land use and growth analysis underlying modeled travel demand in the future year baseline scenario in this study does not assume that these properties will be developed at the level of intensity that was assumed in previous studies. In the Bryan County Interchange Justification Report, this generalized development area is labeled as the Terrapointe Property. Large-scale allocations of Bryan County's future growth occur in other parts of the county in this study. Specifically, a high concentration of commercial development is anticipated to occur in North Bryan zones that include the Interstate Center Industrial Park and in South Bryan zones that include parts of the potential Daniel Siding Development. Both properties are currently under-developed and near to existing interchanges that already provide access to the Interstate System. In addition to freeway access, the Daniel Siding Development straddles a Class I rail freight line. Residential development that was assumed to occur at the Terrapointe Property in other studies, was allocated to South Bryan zones along SR144 near its intersection with Belfast Kellar Road and Oak Level Road in this study.

In addition to forecasting population and total employment model variables, future year 2030 zonal allocations were also done for the other variables: number of households; retail employment, services employment, manufacturing employment and school enrollment. Moreover, 2030-level zonal socioeconomic data for the Bryan County Travel Model was obtained from other travel models built that were built for Liberty, Chatham, Effingham and Bulloch counties.

Future year 2035 data was estimated by the model development team for the travel demand model's baseline scenario by extrapolating 2006 and 2030 zonal socioeconomic data to 2035-level. A summary of the countywide population and total employment for future year 2035 are presented in Table 8-1 and Table 8-2, respectively, by subarea of the travel demand model. Population in the model study area was forecast to grow by 54% between 2006 and 2035, increasing from 62,889 to 96,884 persons. This study anticipates approximately three times as much residential growth in South Bryan as North Bryan. South Bryan's population was projected to grow from 19,937 to 32,665 persons between 2006 and 2035. North Bryan's population was estimated to be 12,241 persons in 2006

Table 8-1 Population Growth (2006 to 2035)

	POPULATION		
SUBAREA	2006	2035	% Change
South Bryan	19,937	32,665	64%
North Bryan	12,241	14,878	22%
Outside Bryan	30,711	49,341	61%
Total Area	62,889	96,884	54%

Sources: 2006 data from US Census and Ga. Dept. of Labor.
2035 data from US Census, Ga. Dept. of Labor, Bryan County Comprehensive Plan, Hinesville MPO, Chatham County MPO, Georgia DOT and Study Team.

and 14,878 in 2035.

Total employment throughout the entire model study area was forecast to grow by 119% from 2006 to 2035, twice the rate of residential growth. In addition to high employment growth allocated to zones containing the Interstate Center and Daniel Siding developments in Bryan County, there is a lot of employment growth forecast to take place in zones located in Northwest Chatham and South Effingham counties. Employment is expected to grow at a faster rate in North Bryan as compared to South Bryan. North Bryan is estimated to have 1,698 employees in 2006 and increase by 222% to a 2035 estimate of 5,464. Commercial development in South Bryan was projected to grow by 135%, increasing from 3,844 to 9,052 employees between 2006 and 2035. These socioeconomic projections measuring the relative intensity of human activity inside Bryan County, by zone, provided the framework for quantifying future year 2035 travel demand by the Bryan County Travel Demand Model. Zonal socioeconomic data from which internal travel demand was computed by the model for base year 2006 and the 2035 baseline is presented Table A-2 and Table A-3 in the Appendix.

Table 8-2 Total Employment Growth (2006 to 2035)

SUBAREA	TOTAL EMPLOYMENT 2006	2035	% Change
South Bryan	3,844	9,052	135%
North Bryan	1,698	5,464	222%
Outside Bryan	8,677	16,628	92%
Total Area	14,219	31,144	119%

Sources: 2006 data from US Census and Ga. Dept. of Labor.
2035 data from US Census, Ga. Dept. of Labor, Bryan County Comprehensive Plan, Hinesville MPO, Chatham County MPO, Georgia DOT and Study Team.

8.2 Trips By Purpose

Demographic growth anticipated to occur inside the study area from 2006 to 2035 translates into additional vehicle trips in accordance with the trip generation, trip distribution and auto occupancy methodologies described earlier. Trips reported in this section refer to internal travel. These are trips having both an origin and destination inside the model study area. A description of forecasted external trip travel is reported in the next section.

Internal trip making increases almost 100% from 2006 to 2035 in response to study area changes in projected population and employment. The number of vehicle trips by model trip purpose is presented in Table 8-3 for 2006 and 2035. The total number of internal vehicle trips is forecast to grow from 101,910 in 2006 to 202,660 in 2035. The largest share of vehicle trips falls into the Home Based Other (HBO) category where 76,270 were forecast. These include school, medical-related and recreational trips among other types. One of the two trip ends is required to originate or be attracted to the trip makers home. Non Home

Table 8-3 Trips By Purpose (2006 to 2035)

MODEL TRIP PURPOSE	DAILY VEHICLE TRIPS 2006	2035	% Change
HBW	15,580	31,840	104%
HBO	41,010	76,270	86%
HBSh	7,350	14,070	91%
NHB	26,470	52,820	100%
TRUCKS	11,500	27,660	141%
Totals	101,910	202,660	99%

Based (NHB) trips constitute the second highest overall trip volume. These trips can be for any purpose, but neither trip end can occur at home. A total of 52,820 future year 2035 trips were forecast for this purpose. The purpose having the highest growth rate was the Truck purpose/vehicle type. These trips represent internal-internal truck trips plus commercial and institutional travel. This trip type is inclusive of the following types of travel: truck deliveries; municipal trip making related to the provision of government services to residents; and, vehicle travel related to construction and other contractor businesses.

8.3 External Trips

External travel includes all vehicle trips into, out of and passing through the model study area. The amount of external trip making is controlled by daily volumes assigned to the modeled external stations. Estimated Base Year 2006 and Future Year 2035 external station volumes are displayed in Table 8-3 along with the cumulative and average annual percent change. From 2006 to 2035 external vehicle trip making is projected to grow by a total of 54%, from 267,550 to 413,000 trips. Future year 2035 forecasts were primarily based on existing daily traffic trends at or near the external station locations. The forecast analysis also included consideration for how much residential and commercial growth is anticipated to occur near the external stations plus consideration for how many additional trips equate to percentage change.

Table 8-4 External Station Daily Traffic Growth (2006 – 2035)

Station Number	Roadname	Facility Type	County	Est. 2006 AADT	Est. 2035 AADT	Total % Change	Avg. Annual % Change
144	I-95 So.	Freeway	Liberty	45,000	70,000	56%	1.5%
145	US17/SR25 So.	Major Arterial	Liberty	4,200	8,400	100%	2.4%
146	US84/SR38	Major Arterial	Liberty	25,000	35,500	42%	1.2%
147	SR144	Minor Arterial	Liberty	5,610	7,000	25%	0.8%
148	SR119 So.	Minor Arterial	Liberty	2,380	2,800	18%	0.6%
149	Moody Bridge	Collector	Evans	100	100	0%	0.0%
	(Ft. Stewart)						
150	US280/SR30	Major Arterial	Evans	3,200	5,600	75%	1.9%
151	Groveland Nevils	Collector	Bulloch	800	900	13%	0.4%
152	I-16 No.	Freeway	Bulloch	17,610	35,200	100%	2.4%
153	SR46	Minor Arterial	Bulloch	2,200	3,900	77%	2.0%
154	SR67	Minor Arterial	Bulloch	7,700	10,300	34%	1.0%
155	Arcola	Collector	Bulloch	1,200	1,800	50%	1.4%
156	US80/SR26 No.	Major Arterial	Bulloch	3,200	5,100	59%	1.6%
157	SR119 No.	Minor Arterial	Bulloch	1,100	1,400	27%	0.8%
158	Eldora	Collector	Bulloch	2,400	3,000	25%	0.8%
159	SR17	Minor Arterial	Effingham	7,500	15,500	107%	2.5%
160	Pooler Pkwy.	Minor Arterial	Chatham	11,000	14,700	34%	1.0%
161	I-95 No.	Freeway	Chatham	67,700	99,000	46%	1.3%
162	US80/SR26 So.	Major Arterial	Chatham	24,000	36,000	50%	1.4%
163	I-16 So.	Freeway	Chatham	48,900	88,000	80%	2.0%
164	US17/SR25 No.	Major Arterial	Chatham	18,000	28,800	60%	1.6%
165	SR204/Abercorn Ext.	Minor Arterial	Chatham	49,300	61,600	25%	0.8%
166	Sunbury	Collector	Liberty	400	500	25%	0.8%
167	Colonels Island	Collector	Liberty	1,370	1,700	24%	0.7%
	MODEL STUDY AREA			267,580	413,000	54%	1.5%

Source: Georgia Department of Transportation traffic counts and trends (2002-2007)
Zonal socioeconomic data estimated for the Bryan County Travel Demand Model

The highest volume external station in the base year, Station Number 161/I-95 North, is also anticipated to have the most daily traffic in future year 2035. Daily traffic is forecast to grow 46% during the 2006 to 2035 time frame before reaching 99,000 vehicle trips per day in 2035. The next highest volume external station in 2035 is expected to be Station Number 163/I-16 South, where daily traffic is expected to increase by a total 80% margin to 88,000 vehicles per day. Both of these external stations are located in Chatham County. External stations where future year 2035 daily traffic was forecast to grow the most were: (1) Station Number 145/US17/SR25 South in Liberty County at 100%; (2) Station Number 152/I-16 North in Bulloch County at 100%; and, (3) Station Number 159/SR17 in Effingham County at 107%.

8.4 Baseline Travel Demand and Traffic Assignment

Modeled travel demand in Bryan County, measured in Daily Vehicle Miles of Travel (DVMT), increases by 65% from 2006 to 2035. This is the net result of a comparison between modeled base year 2006 data and data generated by the future year 2035 baseline scenario. The 2035 Baseline Scenario was defined as follows:

- Assumed future year land uses and development as defined by the zonal 2035-level socioeconomic file described earlier;
- No changes to the base year highway network except for a 2.0 mile widening of US17 between the Bryan County border and the Abercorn Extension/SR204 in Chatham County which enlarges the capacity on those arterial links from 2-lanes to 4-lanes; and,
- The same traffic assignment methodology that was used for the base year model scenario.

Modeled DVMT for 2006 and the baseline 2035 scenario are displayed in Table 8-5 for South Bryan, North Bryan and by functional class system. DVMT figures do not represent travel demand on modeled network links in Bulloch County, Liberty County, Effingham County or Chatham County.

Table 8-5 Bryan County DVMT (2006 to 2035)

SUBAREA	FUNCTIONAL CLASSIFICATION	DVMT[1] 2006	DVMT[1] 2035	DVMT[1] % Change
SOUTH BRYAN	Freeways	664,149	1,024,041	54%
	Arterials	233,903	354,732	52%
	Collectors	91,650	193,812	111%
	Subtotal	989,702	1,572,585	59%
NORTH BRYAN	Freeways	175,488	397,330	126%
	Arterials	122,684	184,688	51%
	Collectors	56,625	69,038	22%
	Subtotal	354,797	651,056	84%
ALL BRYAN COUNTY		1,344,499	2,223,641	65%

Source: Bryan County Travel Demand Model

(1) Represents travel demand on roads inside Bryan County

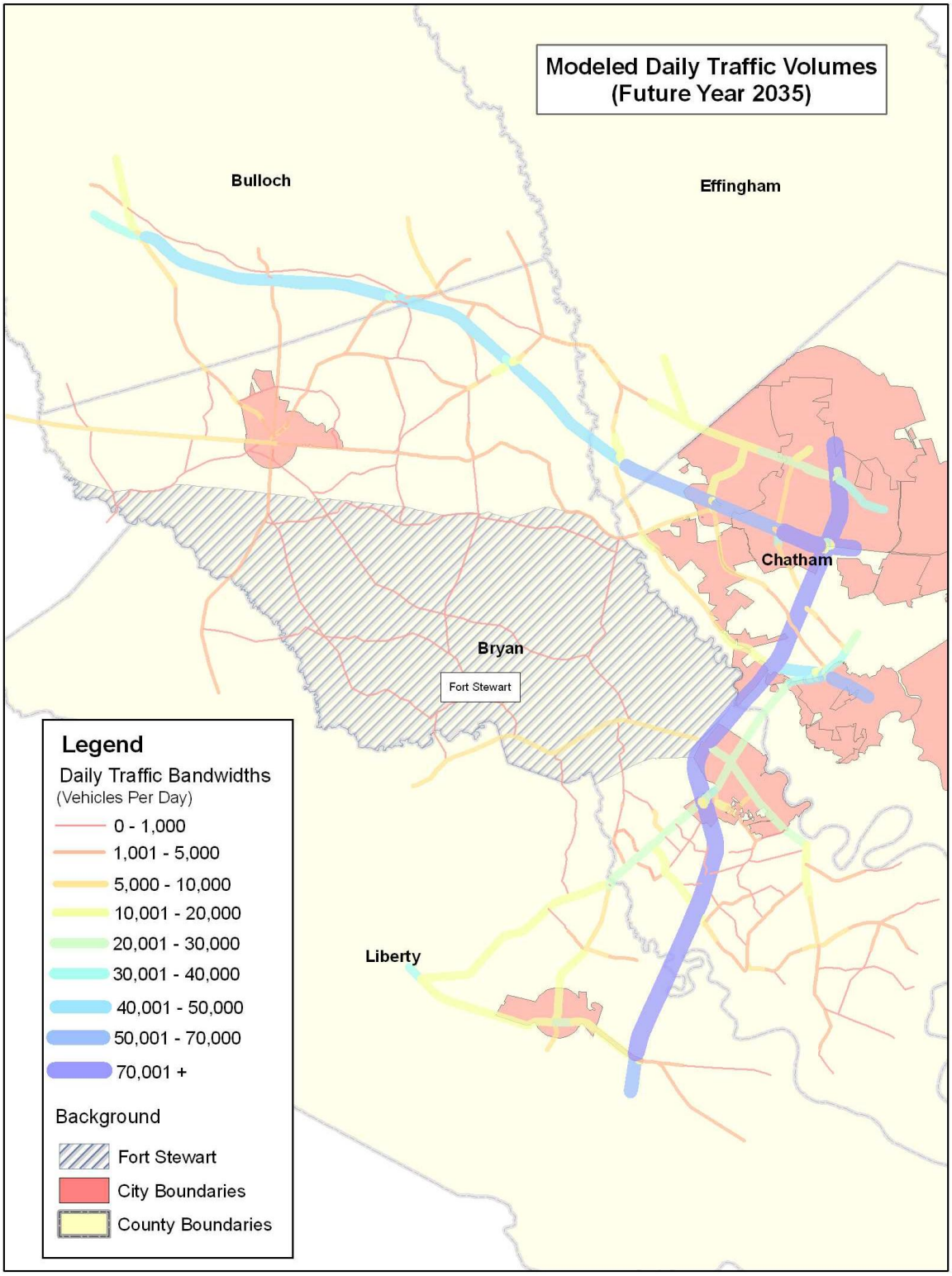
Systemwide travel, not including Bryan County roads classified as "Local" streets, grows from 1.3 million vehicle miles in 2006 to 2.2 million vehicle miles in 2035. Approximately 1.6 million vehicle miles were assigned to roadway links in South Bryan and slightly less than 0.7 million vehicle miles to North Bryan roads. A large majority of travel demand in both South and North Bryan took place on the Interstate System. In South Bryan, 1.0 million of the 1.6 million total vehicle miles of travel was assigned to I-95 freeway links in 2035. In North Bryan, 0.4 million vehicle miles were assigned by the model to I-16 freeway links out of the 0.7 million total vehicle miles in the 2035 baseline scenario. The overall amount of additional travel demand between 2006 and 2035 was higher in South Bryan than North Bryan, although the relative DVMT growth rate in South Bryan was smaller than in North Bryan. South Bryan DVMT grew by 0.6 million vehicle miles from 2006 to 2035 while the amount of DVMT growth on North Bryan network links amounted to 0.3 million vehicle miles. In relative terms, the DVMT change of 84% in North Bryan between 2006 and 2035 exceeded the 59% rate of growth in South Bryan.

The amount of future year 2035 daily traffic assigned to study area network links under the baseline scenario is displayed using color codes and bandwidths in Figure 8-2. The most notable difference between the plot of 2006 and 2035 daily traffic is the extent to which sections of I-95 are highlighted by the highest volume legend symbol, denoting daily traffic volumes that exceed 70,000 vehicles per day. In the 2006 traffic assignment, the highest volume classification was limited to sections of I-95 between US80 in Chatham County and SR144/Ford Avenue in Bryan County. The baseline 2035 traffic assignment expands the number of I-95 sections exceeding 70,000 vehicles per day to all sections from US80 in Chatham County to US84/SR38 in Liberty County. Moreover, several sections of I-16 around I-95 in Chatham County also reach the highest volume group classification.

Other facilities in Bryan County underwent significant volume group changes between 2006 and 2035, although these shifts are not as apparent in the color-coded daily volume maps as those on I-95. All of SR144/Ford Avenue through Richmond Hill moved from the 10,000-20,000 vehicles per day classification to the 20,000-30,000 volume group in 2035. Sections of US17/Coastal Highway located west of I-95 remained in the 20,000-30,000 vehicles per day range from 2006 to 2035. East of I-95, however, daily traffic on sections of US17 jumped from the 10,000-20,000 vehicles per day range in 2006 to the 20,000-30,000 category. Daily traffic increases on US17 east of I-95 were aided by including the US17 widening project in the 2035 baseline highway network. From US17/Coastal Highway to I-95, daily traffic on Belfast Siding Road was forecast to grow from the 1,000-5,000 vehicles per day range in 2006 to the 10,000-20,000 vehicles per day range in 2035.

Traffic volumes on roadways in North Bryan did not change as much as roads in South Bryan, but there were some shifts. Around the interchange with I-16, daily traffic volumes on US280/SR30 were projected to jump from the 5,000-10,000 vehicles per day range in 2006 to the 10,000-20,000 volume grouping in 2035. That particular traffic impact appears to be confined to sections of US280/SR30 around I-16 and the Interstate Center Industrial Park area. The 2035 baseline scenario traffic assignment indicates that some vehicle trips travelling from

Figure 8-2 Modeled Daily Traffic Volumes (2035 Baseline Scenario)



the Pembroke area toward Savannah on I-16 will change their routing in response to future congestion around the I-16/US280/SR30 interchange. The model assigned some of these trips to SR119/Treutlen Highway between Pembroke and I-16.

System-wide performance measures computed from the base year 2006 and 2035 baseline model scenarios indicate how changes in land use, travel patterns and the highway network affect mobility on the road system. Average daily roadway travel speed, shown in Table 8-6, was computed from the 2006 and 2035 model scenarios for all roads in the South and North Bryan subareas of Bryan County. In South Bryan, modeled average daily travel speed drops by 16% from 2006 to 2035 falling from 45.2 miles per hour to 37.8 miles per hour on all roads. The average travel speed change isn't so large in North Bryan. North Bryan's average speed falls by 5% between 2006 and 2035, going from 46 miles per hour to 43.9 miles per hour for all roads. This is only a model statistic used to benchmark one aspect of mobility. It is reported herein only to illustrate how Bryan County Travel Demand Model information can be used and to benchmark system-level performance changes that would be expected from a model scenario that assumes no major transportation improvements during the 2006 to 2035 planning window.

Table 8-6 Systemwide Travel Speeds (2006 to 2035)

PERFORMANCE STATISTIC	SOUTH BRYAN			NORTH BRYAN		
	2006	2035	% Change	2006	2035	% Change
DVMT[1]	989,702	1,572,585	59%	354,797	651,056	84%
DVHT[2]	21,905	41,553	90%	7,719	14,828	92%
AVG SPEED[3]	45.2	37.8	-16%	46.0	43.9	-5%

Notes,

(1) DVMT - denotes daily vehicle miles of travel

(2) DVHT - denotes daily vehicle hours of travel

(3) Average speed is the computed average daily link speed in miles per hour for the entire road network in specified subarea. Computed dividing DVMT by DVHT.

9.0 Appendix

Figure A-1 Trip Generation Process Diagram

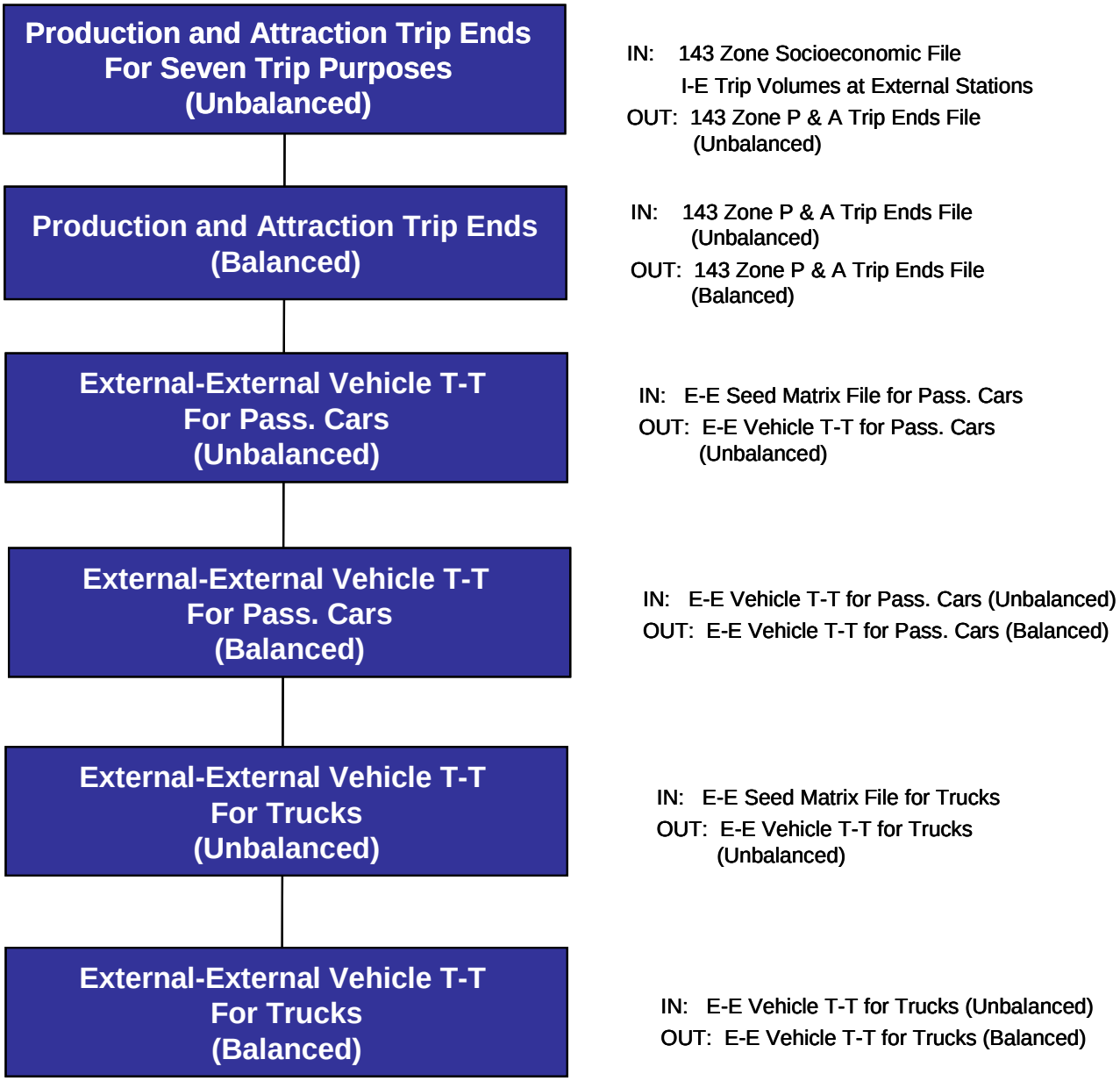


Figure A-2 Main Travel Demand Model Runstream

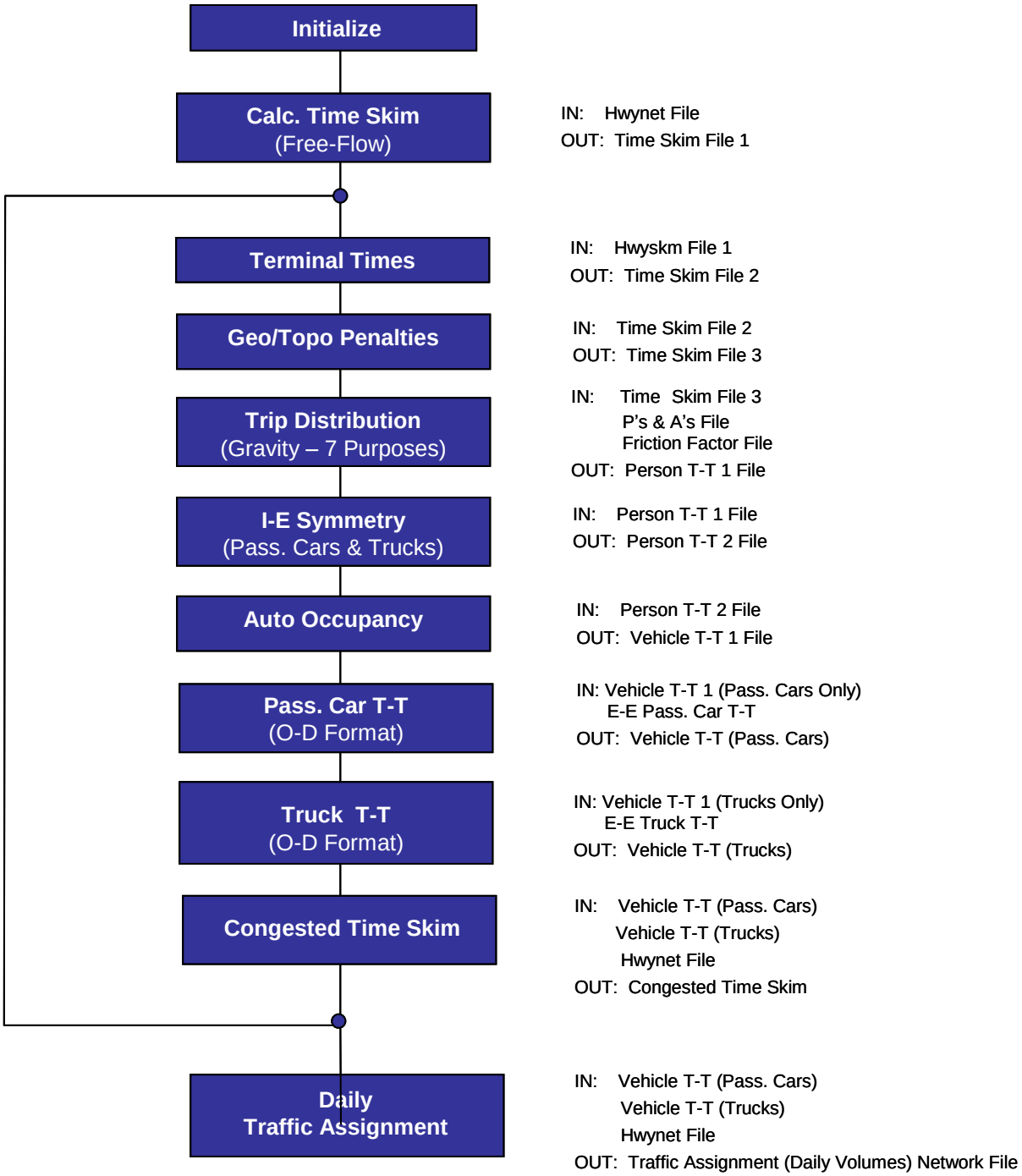


Table A-1 Screenline Comparisons and Link Deviations

SCREENLINES - Calibration/Validation Run No. 18.

Station Number	Roadname	Anode	Bnode	Facility Type	Observed AADT	Modeled AADT	Modeled Difference	Modeled Ratio
Screenline No. 1 - Ogeechee River								
1	Ogeechee	2553	2594	11	9,545	8,750	-795	8.3%
1	Ogeechee	2594	2553	11	9,545	8,290	-1,255	13.1%
2	I-95	2490	2528	1	41,200	41,320	120	0.3%
2	I-95	2526	2481	1	41,200	41,800	600	1.5%
3	Fort Argyle	1879	1924	15	2,105	1,980	-125	5.9%
3	Fort Argyle	1924	1879	15	2,105	2,190	85	4.0%
4	I-16	1656	1704	1	14,130	16,260	2,130	15.1%
4	I-16	1703	1630	1	14,130	16,440	2,310	16.3%
5	US80	1580	1598	12	4,200	3,080	-1,120	26.7%
5	US80	1598	1580	12	4,200	2,630	-1,570	37.4%
	Subtotals				142,360	142,740	380	0.3%
Screenline No. 2 - I-95								
1	Colonels Island	1948	1980	16	1,350	1,620	270	20.0%
1	Colonels Island	1980	1948	16	1,350	1,620	270	20.0%
2	Belfast Siding	2138	2173	16	1,290	870	-420	32.6%
2	Belfast Siding	2173	2138	16	1,290	880	-410	31.8%
3	Tranquilla Hill	2361	3139	19	120	0	-120	100.0%
3	Tranquilla Hill	3139	2361	19	120	0	-120	100.0%
4	US17	2179	2213	11	12,130	8,620	-3,510	28.9%
4	US17	2213	2179	11	12,130	9,370	-2,760	22.8%
5	SR144	2203	2228	12	8,100	8,340	240	3.0%
5	SR144	2228	2203	12	8,100	7,060	-1,040	12.8%
6	Abercorn Extention	2410	2430	1	24,640	21,600	-3,040	12.3%
6	Abercorn Extention	2411	2410	1	24,640	23,500	-1,140	4.6%
7	Little Neck	3074	3075	15	1,500	260	-1,240	82.7%
7	Little Neck	3075	3074	15	1,500	250	-1,250	83.3%
8	Quacco	2734	2737	12	5,145	4,100	-1,045	20.3%
8	Quacco	2737	2734	12	5,145	2,620	-2,525	49.1%
9	I-16	2897	2917	1	24,435	24,450	15	0.1%
9	I-16	2962	2884	1	24,435	24,450	15	0.1%
10	US80	2934	2945	11	13,330	10,800	-2,530	19.0%
10	US80	2945	2934	11	13,330	10,800	-2,530	19.0%
	Subtotals				184,080	161,210	-22,870	12.4%
Screenline No. 3 - Liberty County								
1	I-95	2016	2053	1	24,010	22,400	-1,610	6.7%
1	I-95	2047	2013	1	24,010	22,420	-1,590	6.6%
2	Coastal	1733	1740	11	10,300	14,100	3,800	36.9%
2	US17	1737	1728	11	10,300	14,030	3,730	36.2%
3		1535	1549	19	250	10	-240	96.0%
3		1549	1535	19	250	10	-240	96.0%
4	SR144	1342	1356	12	2,805	2,770	-35	1.2%
4	SR144	1356	1342	12	2,805	2,770	-35	1.2%
5		1126	1173	19	120	40	-80	66.7%
5		1173	1126	19	120	40	-80	66.7%

Table A-1 Screenline Comparisons and Link Deviations (Continued)

SCREENLINES - Calibration/Validation Run No. 18.

Station Number	Roadname	Anode	Bnode	Facility Type	Observed AADT	Modeled AADT	Modeled Difference	Modeled Ratio
6		692	775	19	120	0	-120	100.0%
6		775	692	19	120	0	-120	100.0%
7	SR119	590	595	12	0	1,190	1,190	#DIV/0!
7	SR119	595	590	12	0	1,190	1,190	#DIV/0!
8		407	411	19	120	70	-50	41.7%
8		411	407	19	120	70	-50	41.7%
9	US280	348	349	11	1,975	1,600	-375	19.0%
9	US280	349	348	11	1,975	1,600	-375	19.0%
	Subtotals				79,400	84,310	4,910	6.2%
				Screenline No. 4 - Bulloch County				
1	Groveland Nevils	356	368	16	315	400	85	27.0%
1	Groveland Nevils	368	356	16	315	400	85	27.0%
2	SR67	528	540	12	1,175	710	-465	39.6%
2	SR67	540	528	12	1,175	710	-465	39.6%
3	Ash Branch Church	801	802	15	80	250	170	212.5%
3	Ash Branch Church	802	801	15	80	250	170	212.5%
4	SR119	954	959	12	575	580	5	0.9%
4	SR119	959	954	12	575	580	5	0.9%
5	Bill Futch	1048	1795	16	0	120	120	#DIV/0!
5	Bill Futch	1795	1048	16	0	130	130	#DIV/0!
6	I-16	1027	1066	1	11,130	11,890	760	6.8%
6	I-16	1068	1033	1	11,130	12,490	1,360	12.2%
7	US80	1150	1153	12	1,540	1,580	40	2.6%
7	US80	1153	1150	12	1,540	980	-560	36.4%
8	Eldora	1409	3140	15	1,335	1,020	-315	23.6%
8	Eldora	3140	1409	15	1,335	1,020	-315	23.6%
	Subtotals				32,300	33,110	810	2.5%
				Screenline No. 5 - Central Bryan				
1	Bryan Neck	2767	2776	15	980	1,270	290	29.6%
1	Bryan Neck	2776	2767	15	980	1,260	280	28.6%
2	Belfast Keller	2604	2662	16	1,055	320	-735	69.7%
2	Belfast Keller	2662	2604	16	1,055	320	-735	69.7%
3	Belfast Keller	1757	2512	16	400	250	-150	37.5%
3	Belfast Keller	2512	1757	16	400	250	-150	37.5%
4	I-95	2165	2204	1	24,010	22,400	-1,610	6.7%
4	I-95	2199	2172	1	24,010	22,420	-1,590	6.6%
5	US17	2048	2070	11	12,550	15,080	2,530	20.2%
5	US17	2070	2048	11	12,550	14,990	2,440	19.4%
6	SR144	1619	1681	12	2,805	2,750	-55	2.0%
6	SR144	1681	1619	12	2,805	2,750	-55	2.0%
7	SR67	860	867	15	90	190	100	111.1%
7	SR67	867	860	15	90	190	100	111.1%
8	Bacon	840	871	11	3,825	4,270	445	11.6%
8	Bacon	871	840	11	3,825	4,260	435	11.4%
9	George Edwards	858	1916	19	120	110	-10	8.3%
9	George Edwards	1916	858	19	120	110	-10	8.3%

Table A-1 Screenline Comparisons and Link Deviations (Continued)

SCREENLINES - Calibration/Validation Run No. 18.								
Station Number	Roadname	Anode	Bnode	Facility Type	Observed AADT	Modeled AADT	Modeled Difference	Modeled Ratio
10	SR119	872	899	12	865	1,010	145	16.8%
10	SR119	899	872	12	865	1,010	145	16.8%
11	I-16	889	901	1	10,980	11,680	700	6.4%
11	I-16	904	890	1	10,980	11,680	700	6.4%
12	SR46	892	894	15	425	40	-385	90.6%
12	SR46	894	892	15	425	40	-385	90.6%
	Subtotals				116,210	118,650	2,440	2.1%
	Screenline No. 6 - Pembroke-Blitchton							
1	Moody Bridge	385	387	19	120	10	-110	91.7%
1	Moody Bridge	387	385	19	120	10	-110	91.7%
2	Harn	657	675	19	120	0	-120	100.0%
2	Harn	675	657	19	120	0	-120	100.0%
3	Main	730	736	12	0	1,070	1,070	#DIV/0!
3	Main	736	730	12	0	1,070	1,070	#DIV/0!
4	College	750	753	15	800	870	70	8.8%
4	College	753	750	15	800	870	70	8.8%
5	Little Creek	1012	1014	19	120	430	310	258.3%
5	Little Creek	1014	1012	19	120	430	310	258.3%
6	Porterfield	1296	1298	19	120	10	-110	91.7%
6	Porterfield	1298	1296	19	120	10	-110	91.7%
7	I-16	1388	1433	1	14,130	16,260	2,130	15.1%
7	I-16	1435	1389	1	14,130	16,440	2,310	16.3%
8	US80	1674	1688	12	4,200	3,080	-1,120	26.7%
8	US80	1688	1674	12	4,200	2,630	-1,570	37.4%
	Subtotals				39,220	43,190	3,970	10.1%
	Screenline No. 8 - Ft. Stewart & NW Chatham							
1	US84	1112	1118	12	3,785	1,500	-2,285	60.4%
1	US84	1118	1112	12	3,785	1,500	-2,285	60.4%
2	SR196	1133	1162	11	6,645	9,790	3,145	47.3%
2	SR196	1162	1133	11	6,645	9,790	3,145	47.3%
3	Fleming Loop	1539	1546	19	600	280	-320	53.3%
3	Fleming Loop	1546	1539	19	600	280	-320	53.3%
4	Cartertown	1825	1855	19	120	80	-40	33.3%
4	Cartertown	1855	1825	19	120	270	150	125.0%
5	Clarktown	1915	1923	19	120	200	80	66.7%
5	Clarktown	1923	1915	19	120	0	-120	100.0%
6	Daniel Siding	1996	2011	19	120	200	80	66.7%
6	Daniel Siding	2011	1996	19	120	200	80	66.7%
7	SR144	2045	2104	12	2,805	2,740	-65	2.3%
7	SR144	2104	2045	12	2,805	2,750	-55	2.0%
8	Fort Argyle	2306	2311	15	3,730	2,250	-1,480	39.7%
8	Fort Argyle	2311	2306	15	3,730	2,000	-1,730	46.4%
9	Little Neck	2388	2403	15	1,500	1,050	-450	30.0%
9	Little Neck	2403	2388	15	1,500	780	-720	48.0%
10	I-16	2419	2495	1	26,350	21,690	-4,660	17.7%
10	I-16	3093	2425	1	26,350	22,200	-4,150	15.7%
11	US80	2567	2621	12	9,045	6,610	-2,435	26.9%
11	US80	2621	2567	12	9,045	6,500	-2,545	28.1%
	Subtotals				109,640	92,660	-16,980	15.5%
	ALL SCREENLINES				**703,210**	**675,870**	**-27,340**	**3.9%**

Table A-2 Zonal Socioeconomic Data for Base Year 2006

N	Z	HH	SCHOOL	RETAIL	SERVICE	MANUF	WHOLE	TOTEMP	POP	ACRES	INCOME	SECTOR
1	1	426	4402	22	826	0	0	848	1025	547	45809	1
2	2	221	0	0	55	0	0	55	658	163	45809	1
3	3	393	0	34	69	0	0	103	1141	369	45809	1
4	4	107	0	0	82	0	0	82	337	2252	45809	1
5	5	0	0	45	388	31	21	485	0	139	45809	1
6	6	238	0	95	220	0	0	315	779	1006	45809	1
7	7	250	0	0	21	0	0	21	499	1147	45809	1
8	8	1182	0	13	289	0	0	302	3376	368	45809	1
9	9	124	0	13	110	16	33	172	416	840	45809	1
10	10	183	0	123	103	13	0	239	563	1470	45809	1
11	11	0	0	59	199	0	0	258	0	68	45809	1
12	12	180	0	0	186	0	0	186	513	481	45809	1
13	13	122	0	59	192	0	21	272	392	600	45809	1
14	14	0	0	0	0	0	0	0	0	299	45809	1
15	15	172	0	0	0	0	0	0	524	236	71875	1
16	16	181	0	0	0	0	0	0	579	1096	71875	1
17	17	4	0	0	0	0	0	0	5	236	45809	1
18	18	59	0	0	14	0	0	14	194	1067	45809	1
19	19	770	0	0	24	0	0	24	2397	3731	71875	1
20	20	0	0	0	110	26	62	198	0	193	45809	1
21	21	3	0	21	109	0	0	130	8	60	45809	1
22	22	0	0	0	0	0	0	0	0	635	71875	1
23	23	0	0	0	0	0	0	0	0	1109	71875	1
24	24	3	0	0	0	0	0	0	7	2181	71875	1
25	25	0	0	0	0	0	0	0	0	393	71875	1
26	26	1	0	0	0	0	0	0	7	1269	71875	1
27	27	0	0	0	0	0	0	0	0	998	71875	1
28	28	1	0	0	0	0	0	0	4	592	71875	1
29	29	109	0	0	0	0	0	0	315	1810	71875	1
30	30	210	0	20	15	0	0	35	669	2702	71875	1
31	31	316	0	20	15	0	0	35	1059	3815	71875	1
32	32	236	0	0	45	0	0	45	710	7947	71875	1
33	33	0	0	0	0	0	0	0	0	4078	71875	1
34	34	8	0	0	0	0	0	0	33	2303	71875	1
35	35	10	0	0	0	0	0	0	18	3843	71875	1
36	36	33	0	0	0	0	0	0	104	2024	71875	1
37	37	15	0	0	0	0	0	0	43	1316	71875	1
38	38	207	0	0	0	0	0	0	574	4342	71875	1
39	39	151	0	0	0	0	0	0	459	557	71875	1
40	40	0	0	0	0	0	0	0	0	1797	71875	1
41	41	234	0	0	0	0	0	0	691	12661	71875	1
42	42	1	0	0	0	0	0	0	5	3013	71875	1
43	43	0	0	0	0	0	0	0	0	2666	71875	1
44	44	0	0	0	0	0	0	0	0	354	71875	1
45	45	0	0	0	0	0	0	0	0	139	71875	1
46	46	0	0	0	0	0	0	0	0	80	71875	1
47	47	0	0	0	0	0	0	0	0	195	71875	1
48	48	0	0	0	0	0	0	0	0	783	71875	1

Table A-2 Zonal Socioeconomic Data for Base Year 2006 (Continued)

N	Z	HH	SCHOOL	RETAIL	SERVICE	MANUF	WHOLE	TOTEMP	POP	ACRES	INCOME	SECTOR
49	49	0	0	0	0	0	0	0	0	434	45809	1
50	50	4	0	0	0	0	0	0	11	1944	71875	1
51	51	0	0	0	0	0	0	0	0	550	71875	1
52	52	0	0	0	0	0	0	0	0	457	45809	1
53	53	0	0	0	0	0	0	0	0	335	45809	1
54	54	169	0	0	15	0	0	15	458	471	71875	1
55	55	194	0	0	5	0	0	5	594	340	71875	1
56	56	132	0	0	5	0	0	5	344	282	71875	1
57	57	0	0	0	0	0	0	0	0	2544	0	3
58	58	0	0	0	0	0	0	0	0	2502	0	3
59	59	15	0	0	0	0	0	0	43	3474	71875	1
60	60	48	0	0	0	0	0	0	140	1178	71875	1
61	61	8	0	0	0	0	0	0	19	202	71875	1
62	62	70	0	0	0	0	0	0	224	1362	71875	1
63	63	0	0	0	0	0	0	0	0	2767	0	3
64	64	0	0	0	0	0	0	0	0	2452	0	3
65	65	0	0	0	0	0	0	0	0	1703	0	3
66	66	0	0	0	0	0	0	0	0	9498	0	3
67	67	0	0	0	0	0	0	0	0	10506	0	3
68	68	0	0	0	0	0	0	0	0	2132	0	3
69	69	0	0	0	0	0	0	0	0	7698	0	3
70	70	0	0	0	0	0	0	0	0	7351	0	3
71	71	0	0	0	0	0	0	0	0	19165	0	3
72	72	0	0	0	0	0	0	0	0	4167	0	3
73	73	118	0	0	0	0	0	0	361	4855	31194	2
74	74	70	0	8	7	0	0	15	175	4191	31194	2
75	75	239	0	0	3	0	0	3	710	4324	31194	2
76	76	0	0	0	0	0	0	0	0	10681	0	3
77	77	0	0	0	0	0	0	0	0	17010	0	3
78	78	0	0	0	0	0	0	0	0	9001	0	3
79	79	96	0	0	0	0	0	0	294	2166	31194	2
80	80	485	533	8	60	0	0	68	1300	3155	34719	2
81	81	368	0	20	50	161	0	231	1080	6385	31194	2
82	82	148	0	8	28	0	62	98	333	3921	31194	2
83	83	224	0	22	0	0	0	22	570	5570	34719	2
84	84	55	0	0	0	0	0	0	146	2162	34719	2
85	85	54	0	0	0	0	0	0	137	762	34719	2
86	86	333	0	8	68	0	0	76	991	4392	34719	2
87	87	36	0	0	0	0	0	0	92	2232	34719	2
88	88	199	0	8	6	0	62	76	594	972	34719	2
89	89	102	0	8	72	0	0	80	258	3008	34719	2
90	90	166	0	0	0	0	0	0	491	3000	36713	2
91	91	87	0	0	0	0	0	0	265	6317	36713	2
92	92	37	0	0	0	0	0	0	118	674	36713	2
93	93	1	0	0	0	0	0	0	4	2310	36713	2
94	94	33	0	0	0	0	0	0	99	5176	36713	2
95	95	30	0	0	2	0	0	2	102	2681	31194	2
96	96	4	0	0	0	0	0	0	12	964	31194	2
97	97	176	0	24	127	28	0	179	558	3608	31194	2

Table A-2 Zonal Socioeconomic Data for Base Year 2006 (Continued)

N	Z	HH	SCHOOL	RETAIL	SERVICE	MANUF	WHOLE	TOTEMP	POP	ACRES	INCOME	SECTOR
98	98	81	0	6	0	0	0	6	240	6735	34719	2
99	99	131	916	40	203	29	14	286	372	2552	36713	2
100	100	271	378	0	187	0	0	187	798	842	36713	2
101	101	41	0	0	5	0	0	5	111	2378	36713	2
102	102	228	0	0	63	9	0	72	649	888	36713	2
103	103	207	0	81	67	30	0	178	506	2577	36713	2
104	104	223	0	40	52	0	0	92	628	223	28611	2
105	105	81	0	0	22	0	0	22	247	1329	36713	2
106	106	453	0	5	9	0	0	14	1144	2151	35442	4
107	107	453	0	5	9	0	0	14	1144	428	35442	4
108	108	378	0	9	17	0	0	26	953	4312	35442	4
109	109	16	0	0	20	0	0	20	29	10002	26111	4
110	110	150	0	0	121	0	0	121	399	2064	35286	4
111	111	293	1576	6	111	0	0	117	1051	9320	35286	4
112	112	226	0	22	41	0	0	63	572	3484	35442	4
113	113	66	0	0	0	0	0	0	169	1120	31467	4
114	114	71	0	0	0	0	0	0	232	2934	35286	4
115	115	38	0	5	12	0	0	17	110	2942	31467	4
116	116	1520	0	544	717	0	94	1355	3717	3882	31005	4
117	117	87	1659	600	664	0	0	1263	238	1426	43069	4
118	118	677	0	153	183	0	0	336	1652	4614	30092	4
119	119	530	125	88	354	0	0	442	1150	1170	45265	4
120	120	801	196	149	286	0	0	435	1971	9496	30684	4
121	121	662	0	44	171	0	12	227	1685	1638	31342	4
122	122	298	0	250	641	0	0	891	768	4856	50190	4
123	123	271	0	0	62	0	0	62	761	1607	48515	4
124	124	468	0	0	5	0	0	5	1350	2872	60875	4
125	125	239	0	0	41	0	0	41	574	3192	54958	4
126	126	491	143	44	328	0	0	372	1235	968	40265	4
127	127	1080	1473	263	600	0	24	887	3095	920	44526	4
128	128	753	0	100	353	0	12	464	1876	1020	53749	4
129	129	126	0	0	0	0	0	0	264	2498	40916	4
130	130	209	0	15	31	0	0	46	542	2625	37288	4
131	131	94	0	0	0	0	0	0	233	648	47045	4
132	132	243	0	0	8	0	0	8	406	1362	26125	4
133	133	40	0	0	30	0	0	30	143	597	46475	4
134	134	156	0	9	300	0	0	309	558	2177	46475	4
135	135	305	0	9	450	492	0	951	1092	2442	46475	4
136	136	377	0	30	42	2	2	76	596	2305	39880	4
137	137	125	0	0	0	0	0	0	198	586	39880	4
138	138	85	0	0	20	0	0	20	260	9026	39880	4
139	139	75	0	0	15	0	0	15	240	4693	39880	4
140	140	5	0	0	0	0	0	0	17	260	39880	4
141	141	5	0	0	0	0	0	0	17	145	39880	4
142	142	25	0	0	5	0	0	5	80	1295	39880	4
143	143	60	0	20	25	0	0	45	190	2096	39880	4

Table A-3 Zonal Socioeconomic Data for Future Year 2035 Baseline

N	Z	HH	SCHOOL	RETAIL	SERVICE	MANUF	WHOLE	TOTEMP	POP	ACRES	INCOME	SECTOR
1	1	437	5012	22	826	0	0	848	1051	547	45809	1
2	2	227	0	0	55	0	0	55	674	163	45809	1
3	3	403	0	61	189	0	0	250	1170	369	45809	1
4	4	126	0	0	203	0	0	203	383	2252	45809	1
5	5	0	0	45	388	31	21	485	0	139	0	1
6	6	244	0	95	220	0	0	315	798	1006	45809	1
7	7	308	0	0	136	0	0	136	629	1147	45809	1
8	8	1212	0	13	289	0	0	302	3409	368	45809	1
9	9	153	0	213	447	16	33	709	476	840	45809	1
10	10	226	0	159	226	13	0	398	646	1470	45809	1
11	11	0	0	59	199	0	0	258	0	68	0	1
12	12	221	0	50	417	0	0	467	596	481	45809	1
13	13	125	0	91	392	0	21	504	402	600	45809	1
14	14	0	0	0	0	0	0	0	0	299	0	1
15	15	258	0	0	0	0	0	0	763	236	71875	1
16	16	222	0	0	0	0	0	0	690	1096	71875	1
17	17	55	0	0	100	0	0	100	108	236	45809	1
18	18	214	0	0	14	0	0	14	537	1067	45809	1
19	19	789	0	0	24	0	0	24	2410	3731	71875	1
20	20	0	0	0	260	26	62	348	0	193	0	1
21	21	3	0	47	383	0	0	430	8	60	45809	1
22	22	84	0	0	0	0	0	0	219	635	71875	1
23	23	0	0	0	0	0	0	0	0	1109	0	1
24	24	218	0	0	0	0	0	0	524	2181	71875	1
25	25	338	0	33	83	0	0	116	607	393	71875	1
26	26	249	2408	49	367	0	16	432	484	1269	71875	1
27	27	0	0	0	0	0	0	0	0	998	0	1
28	28	206	0	0	0	0	0	0	517	592	71875	1
29	29	238	0	49	206	0	20	275	571	1810	71875	1
30	30	215	0	20	15	0	0	35	686	2702	71875	1
31	31	789	0	20	15	0	0	35	2036	3815	71875	1
32	32	1716	0	0	45	0	0	45	3554	7947	71875	1
33	33	103	0	0	0	0	0	0	205	4078	71875	1
34	34	297	0	0	0	0	0	0	584	2303	71875	1
35	35	10	0	0	0	0	0	0	18	3843	71875	1
36	36	1361	0	0	0	0	0	0	2636	2024	71875	1
37	37	15	0	0	0	0	0	0	44	1316	71875	1
38	38	212	0	0	0	0	0	0	588	4342	71875	1
39	39	230	0	0	0	0	0	0	620	557	71875	1
40	40	0	0	0	0	0	0	0	0	1797	0	1
41	41	240	0	0	0	0	0	0	708	12661	71875	1
42	42	1	0	0	0	0	0	0	5	3013	71875	1
43	43	100	0	0	0	0	0	0	180	2666	45809	1
44	44	100	0	0	0	0	0	0	180	354	45809	1
45	45	0	0	0	0	0	0	0	0	139	0	1
46	46	0	0	0	0	0	0	0	0	80	0	1
47	47	0	0	0	0	0	0	0	0	195	0	1
48	48	0	0	0	0	0	0	0	0	783	0	1

Table A-3 Zonal Socioeconomic Data for Future Year 2035 Baseline (Continued)

N	Z	HH	SCHOOL	RETAIL	SERVICE	MANUF	WHOLE	TOTEMP	POP	ACRES	INCOME	SECTOR
49	49	0	0	0	0	0	0	0	0	434	0	1
50	50	45	0	24	50	0	0	74	97	1944	71875	1
51	51	62	0	24	113	0	0	137	141	550	71875	1
52	52	0	0	49	206	0	20	275	0	457	0	1
53	53	0	0	49	376	0	20	445	0	335	0	1
54	54	173	0	0	129	0	0	129	469	471	71875	1
55	55	199	0	0	118	0	0	118	609	340	71875	1
56	56	135	0	0	5	0	0	5	353	282	71875	1
57	57	0	0	0	0	0	0	0	0	2544	0	3
58	58	0	0	0	0	0	0	0	0	2502	0	3
59	59	177	0	173	529	0	0	702	449	3474	71875	1
60	60	100	0	48	295	0	0	343	272	1178	71875	1
61	61	59	0	0	0	0	0	0	137	202	71875	1
62	62	149	0	0	40	0	0	40	422	1362	71875	1
63	63	0	0	0	0	0	0	0	0	2767	0	3
64	64	0	0	0	0	0	0	0	0	2452	0	3
65	65	0	0	0	0	0	0	0	0	1703	0	3
66	66	0	0	0	0	0	0	0	0	9498	0	3
67	67	0	0	0	0	0	0	0	0	10506	0	3
68	68	0	0	0	0	0	0	0	0	2132	0	3
69	69	0	0	0	0	0	0	0	0	7698	0	3
70	70	0	0	0	0	0	0	0	0	7351	0	3
71	71	0	0	0	0	0	0	0	0	19165	0	3
72	72	0	0	0	0	0	0	0	0	4167	0	3
73	73	172	0	0	0	0	0	0	514	4855	31194	2
74	74	72	0	8	7	0	0	15	179	4191	31194	2
75	75	296	0	0	3	0	0	3	861	4324	31194	2
76	76	0	0	0	0	0	0	0	0	10681	0	3
77	77	0	0	0	0	0	0	0	0	17010	0	3
78	78	0	0	0	0	0	0	0	0	9001	0	3
79	79	98	0	0	0	0	0	0	301	2166	31194	2
80	80	612	746	52	286	0	0	338	1666	3155	34719	2
81	81	541	0	96	424	87	193	800	1501	6385	31194	2
82	82	152	0	61	375	45	343	824	341	3921	31194	2
83	83	332	0	22	0	0	0	22	866	5570	34719	2
84	84	56	0	52	369	29	275	725	150	2162	34719	2
85	85	55	0	0	0	0	0	0	140	762	34719	2
86	86	393	0	8	68	0	0	76	1162	4392	34719	2
87	87	37	0	0	0	0	0	0	94	2232	34719	2
88	88	255	0	105	475	40	211	831	752	972	34719	2
89	89	156	0	29	244	0	0	273	406	3008	34719	2
90	90	191	0	0	0	0	0	0	550	3000	36713	2
91	91	89	0	0	0	0	0	0	272	6317	36713	2
92	92	38	0	0	0	0	0	0	121	674	36713	2
93	93	1	0	0	0	0	0	0	4	2310	36713	2
94	94	34	0	0	0	0	0	0	101	5176	36713	2
95	95	62	0	0	28	0	0	28	175	2681	31194	2
96	96	30	0	5	26	0	0	31	72	964	36713	2
97	97	216	0	38	200	28	0	266	655	3608	31194	2

Table A-3 Zonal Socioeconomic Data for Future Year 2035 Baseline (Continued)

N	Z	HH	SCHOOL	RETAIL	SERVICE	MANUF	WHOLE	TOTEMP	POP	ACRES	INCOME	SECTOR
98	98	83	0	6	0	0	0	6	246	6735	34719	2
99	99	175	1939	61	303	141	14	519	476	2552	36713	2
100	100	298	656	0	232	0	0	232	865	842	36713	2
101	101	88	0	0	5	0	0	5	220	2378	36713	2
102	102	280	0	0	95	9	0	104	772	888	36713	2
103	103	212	0	94	100	30	0	224	519	2577	36713	2
104	104	229	0	40	52	0	0	92	644	223	28611	2
105	105	83	0	0	50	0	0	50	253	1329	36713	2
106	106	453	0	105	240	0	0	345	1144	2151	35442	4
107	107	453	0	105	240	0	0	345	1144	428	35442	4
108	108	378	0	77	163	0	0	240	953	4312	35442	4
109	109	16	0	0	51	330	0	381	29	10002	26111	4
110	110	274	0	0	231	0	0	231	729	2064	35286	4
111	111	293	1615	14	135	0	0	149	1051	9320	35286	4
112	112	226	0	35	81	0	0	116	572	3484	35442	4
113	113	66	0	0	0	0	0	0	169	1120	31467	4
114	114	71	0	0	0	0	0	0	232	2934	35286	4
115	115	38	0	24	39	0	0	63	110	2942	31467	4
116	116	1689	0	630	673	0	186	1489	3873	3882	31005	4
117	117	216	1905	690	426	0	148	1264	551	1426	43069	4
118	118	1769	0	312	463	0	0	775	4053	4614	30092	4
119	119	530	513	152	334	0	0	486	1149	1170	45265	4
120	120	2361	274	301	571	0	0	872	5619	9496	30684	4
121	121	1012	0	51	183	0	17	251	2485	1638	31342	4
122	122	987	0	1000	2143	0	0	3143	2490	4856	50190	4
123	123	504	0	0	66	0	0	66	1433	1607	48515	4
124	124	750	0	0	6	0	0	6	1974	2872	60875	4
125	125	585	0	0	44	0	0	44	1352	3192	54958	4
126	126	847	586	51	351	0	0	402	2039	968	40265	4
127	127	1376	1692	302	643	0	34	979	3781	920	44526	4
128	128	752	0	199	269	0	68	536	1875	1020	53749	4
129	129	303	0	0	0	0	0	0	592	2498	40916	4
130	130	598	0	17	33	0	0	50	1518	2625	37288	4
131	131	314	0	0	0	0	0	0	761	648	47045	4
132	132	272	0	0	14	0	0	14	767	1362	26125	4
133	133	139	0	0	110	0	0	110	395	597	46475	4
134	134	156	0	22	880	275	165	1342	558	2177	46475	4
135	135	317	0	20	1375	1100	165	2660	792	2442	46475	4
136	136	623	0	57	85	2	1	145	1558	2305	39880	4
137	137	914	0	0	0	0	0	0	2501	586	46475	4
138	138	109	0	0	29	0	0	29	333	9026	39880	4
139	139	96	0	0	22	0	0	22	308	4693	39880	4
140	140	15	0	0	0	0	0	0	52	260	39880	4
141	141	15	0	0	0	0	0	0	52	145	39880	4
142	142	32	0	0	8	0	0	8	103	1295	39880	4
143	143	77	0	29	36	0	0	65	244	2096	39880	4

Appendix C: Cost Estimation

Bryan County
TRANSPORTATION STUDY

Bryan County Transportation Study

TEXT FILE ATTACHMENT – for CES project BRYAN_I-95_WIDE

PI # BRYAN_I95_WIDE TPRO Description: ***I-95 INSIDE WIDENING FROM I-16 TO SR 196 (4 TO 6 LANES WITH BARRIER WALL)***
Date estimate done: 6/16/2009
Estimate done by: *Jenny Lee* Agency: *JJG*
Let With: PI # 511035
Length: 9.4 miles Width assumed: 44 feet Concept: 8 Travel Lanes + outside and inside shoulders

Total Cost of Capacity Project (including all bridges, signals, intersections, turn lanes, etc.) = $8,441,000

Area Type Assumptions:
Area type (Urban or Rural) Rural
Primary County for Costing: BRYAN

Widening Width Assumptions:
For Interstates with 6 or more existing lanes, the widening template should be used for the construction of the extra lanes and shoulders. New construction include 2 lanes at 12' + 2 inside shoulders at 10'
Total – 44'

Resurfacing Existing Lanes:
Resurfacing width include 6 lanes at 12' + 2 outside shoulders at 12'
Total – 96'

Bryan County Transportation Study

TEXT FILE ATTACHMENT – for CES project BRYAN_US17_WD

PI # BRYAN_US17_WD TPRO Description: ***US17/SR25 WIDENING FROM SR 196 to I-95 (4 TO 6 LANES WITH 20-FT RAISED MEDIAN)***
Date estimate done: 6/16/2009
Estimate done by: *Jenny Lee* Agency: *JJG*
Let With: PI # _____ (if applicable)
Length: 4.8 miles Width assumed: 89 feet Concept: 6 Travel Lanes + outside and inside shoulders

Total Cost of Capacity Project (including all bridges, signals, intersections, turn lanes, etc.) = $32,298,000

Area Type Assumptions:
Area type (Urban or Rural) Rural
Primary County for Costing: BRYAN

Widening Width Assumptions:
New Travel Lanes includes inside and outside shoulders + curb & gutter are assumed
Total – 89'

Earthwork Percent Assumptions:
Changed statewide default value of 75% to 25% to reflect relatively minimal earth work required for generally flat coastal Georgia region.

Bridge #1

PI # BRYAN_US17_BRG2 Description: Bridge over water
Bridge Length: .04 miles Bridge Width assumed: 118 feet Concept: Bridge Widening
Bridge crosses over (Roadway, Rail or Water): Water
CES Cost Estimate = $948,879.36 (bridge widening only)

Bridge Width Assumptions:
- 72' Travel Lanes
- 46' Outside shoulders, inside shoulders and parapet

Total – 32' (minus the 86 feet of current existing bridge)
32 new bridge width needed

Intersection Improvements (Turn lanes)
All turn lanes are assumed to have the same unit costs per ton for Asphalt and Base/Aggregate as the main widening project to produce a more accurate planning level cost estimate. These units costs are:
Asphalt: $54.06001 per ton
Base/Aggregate: $12.80506

Intersection #1
Description: Intersection improvement at US 17 at Daniel Siding Loop Road
Includes Left and/or Right turn lanes on all approaches
Intersection of State Route with: Non-SR Speed (Low/High): High Median (Narrow/Wide): Narrow
Left turn lanes: 510' / 14' Quantity 2
Right turn lanes: 275' / 12' Quantity 2

Intersection #2
Description: Intersection improvement at US 17 at Belfast Siding Road

Includes Left and/or Right turn lanes on all approaches
Intersection of State Route with: Non-SR Speed (Low/High): High Median (Narrow/Wide): Narrow
Left turn lanes: 510' / 14' Quantity 2
Right turn lanes: 450' / 12' Quantity 2

Intersection #3
Description: Intersection improvement at US 17 at SR 196
Includes Left and/or Right turn lanes on all approaches
Intersection of State Route with: State Route Speed (Low/High): High Median (Narrow/Wide): Wide
Left turn lanes: 510' / 14' Quantity 3
Right turn lanes: 450' / 12' Quantity 3

Total number of turn lanes by Type:
Type B: 510’ by 14’ Quantity 7 Total length: 0.6761 miles Total CES Cost Estimate: $822,112.83
Type F: 450’ by 12’ Quantity 7 Total length: 0.5966 miles Total CES Cost Estimate: $621,808.88

Traffic Signals

Signal #1
Description: **New Signal / Signal Replacement at US 17 at Daniel Siding Loop Road**
CES Cost Estimate = $125,000

Signal #2
Description: **New Signal / Signal Replacement at US 17 at Belfast Siding Road**
CES Cost Estimate = $125,000

Signal #3
Description: **New Signal / Signal Replacement at US 17 at SR 196**
CES Cost Estimate = $125,000

Bryan County Transportation Study

TEXT FILE ATTACHMENT – for CES project BRYAN_SR144_WD1

PI # BRYAN_SR144_WD1 TPRO Description: ***SR144 WIDENING FROM TIMBER TRAIL TO BELFAST KELLER ROAD (2 TO 4 LANES WITH 44-FT GRASS MEDIAN)***
Date estimate done: 6/16/2009
Estimate done by: *Jenny Lee* Agency: *JJG*
Let With: PI # 532370
Length: 4.5 miles Width assumed: 65 feet Concept: 4 Travel Lanes + outside and inside shoulders

Total Cost of Capacity Project (including all bridges, signals, intersections, turn lanes, etc.) = $21,157,000

Area Type Assumptions:
Area type (Urban or Rural) Rural
Primary County for Costing: BRYAN

Widening Width Assumptions:
New Travel Lanes includes inside and outside shoulders + curb & gutter are assumed
Total – 65'

Earthwork Percent Assumptions:
Changed statewide default value of 75% to 25% to reflect relatively minimal earth work required for generally flat coastal Georgia region.

Bridge #1

PI # BRYAN_SR144_BRG Description: Bridge over Sterling Creek
Bridge Length: .02 miles Bridge Width assumed: 71 feet Concept: Bridge Widening
Bridge crosses over (Roadway, Rail or Water): Water
CES Cost Estimate = $355,829.76 (bridge widening only)

Bridge Width Assumptions:
- 48' Travel Lanes
- 23' Outside shoulders, inside shoulders and parapet

Total – 24' (minus the 47 feet of current existing bridge)
24 new bridge width needed

Intersection Improvements (Turn lanes)
All turn lanes are assumed to have the same unit costs per ton for Asphalt and Base/Aggregate as the main widening project to produce a more accurate planning level cost estimate. These units costs are:
Asphalt: $55.46025 per ton
Base/Aggregate: $14.70122

Intersection #1
Description: Intersection Improvements at SR 144 at Timber Trail
Includes Left and/or Right turn lanes on all approaches
Intersection of State Route with: Non-SR Speed (Low/High): High Median (Narrow/Wide): Wide
Left turn lanes: 510' / 14' Quantity 2
Right turn lanes: 450' / 12' Quantity 2

Intersection #2

Bryan County Transportation Study

Description: Intersection improvement at SR 144 at Belfast Keller Road
Includes Left and/or Right turn lanes on all approaches
Intersection of State Route with: Non-SR Speed (Low/High): High Median (Narrow/Wide): Narrow
Left turn lanes: 510' / 14' Quantity 2
Right turn lanes: 275' / 12' Quantity 2

Total number of turn lanes by Type:
Type B: 510’ by 14’ Quantity 4 Total length: 0.3864 miles Total CES Cost Estimate: $441.774.06
Type F: 450’ by 12’ Quantity 4 Total length: 0.3408 miles Total CES Cost Estimate: $333,976.62

Traffic Signals

Signal #1
Description: **New Signal / Signal Replacement at SR 144 at Timber Trail**
CES Cost Estimate = $125,000

Signal #2
Description: **New Signal / Signal Replacement at SR 144 at Belfast Keller Road**
CES Cost Estimate = $125,000

Bryan County Transportation Study

TEXT FILE ATTACHMENT – for CES project BRYAN_US 280_WD

PI # BRYAN_US280_WD2 TPRO Description: ***US280/SR30 WIDENING INTERSTATE CENTRE (2 TO 4 LANES WITH 20-FT RAISED MEDIAN)*** Date estimate done: 6/16/2009
Estimate done by: *Jenny Lee* Agency: *JJG*
Let With: PI # 0004799
Length: 1.0 miles Width assumed: 65 feet Concept: 4 Travel Lanes + outside and inside shoulders

Total Cost of Capacity Project (including all bridges, signals, intersections, turn lanes, etc.) = $6,741,000

Area Type Assumptions:
Area type (Urban or Rural) Rural
Primary County for Costing: BRYAN

Widening Width Assumptions:
New Travel Lanes includes inside and outside shoulders + curb & gutter are assumed
Total – 65'

Earthwork Percent Assumptions:
Changed statewide default value of 75% to 25% to reflect relatively minimal earth work required for generally flat coastal Georgia region.

Intersection Improvements (Turn lanes)
All turn lanes are assumed to have the same unit costs per ton for Asphalt and Base/Aggregate as the main widening project to produce a more accurate planning level cost estimate. These units costs are:
Asphalt: $61.38752 per ton
Base/Aggregate: $25.43824

Intersection #1
Description: Intersection improvement at US 280 at Interstate Centre Entrance West of I-16 Interchange Includes Left and/or Right turn lanes on all approaches
Intersection of State Route with: Non-SR Speed (Low/High): High Median (Narrow/Wide): Narrow
Left turn lanes: 510' / 14' Quantity 2
Right turn lanes: 450' / 12' Quantity 2

Intersection #2
Description: Intersection improvement at US 280 at Interstate Centre Entrance East of I-16 Interchange Includes Left and/or Right turn lanes on all approaches
Intersection of State Route with: Non-SR Speed (Low/High): High Median (Narrow/Wide): Wide
Left turn lanes: 510' / 14' Quantity 2
Right turn lanes: 450' / 12' Quantity 2

Total number of turn lanes by Type:
Type B: 510' by 14' Quantity 4 Total length: 0.3864 miles Total CES Cost Estimate: $627,448.66
Type F: 450' by 12' Quantity 4 Total length: 0.3408 miles Total CES Cost Estimate: $486,796.21

Bryan County Transportation Study

TEXT FILE ATTACHMENT – for CES project BRYAN_CR131_WD2

PI # BRYAN_CR131_WD2 TPRO Description: ***CR 131 (HARRIS TRAILROAD) WIDENING FROM PORT ROYAL ROAD TO BELFAST KELLER ROAD (2 TO 4 LANES WITH 20-FT RAISED MEDIAN)***
Date estimate done: 6/16/2009
Estimate done by: *Jenny Lee* Agency: *JJG*
Let With: PI # _____ (if applicable)
Length: 2.9 miles Width assumed: 65 feet Concept: 4 Travel Lanes + outside and inside shoulders

Total Cost of Capacity Project (including all bridges, signals, intersections, turn lanes, etc.) = $14,685,000

Area Type Assumptions:
Area type (Urban or Rural) Rural
Primary County for Costing: BRYAN

Widening Width Assumptions:
New Travel Lanes includes inside and outside shoulders + curb & gutter are assumed
Total – 65'

Earthwork Percent Assumptions:
Changed statewide default value of 75% to 25% to reflect relatively minimal earth work required for generally flat coastal Georgia region.

Intersection Improvements (Turn lanes)
All turn lanes are assumed to have the same unit costs per ton for Asphalt and Base/Aggregate as the main widening project to produce a more accurate planning level cost estimate. These units costs are:
Asphalt: $57.12993 per ton
Base/Aggregate: $17.25505

Intersection #1
Description: Intersection improvement at Harris Trail Road at Port Royal
Includes Left and/or Right turn lanes on all approaches
Intersection of Non-SR with: Non-SR Speed (Low/High): High Median (Narrow/Wide): Narrow
Left turn lanes: 510' / 14' Quantity 2
Right turn lanes: 275' / 12' Quantity 2

Intersection #2
Description: Intersection improvement at Harris Trail Road at Belfast Keller Road
Includes Left and/or Right turn lanes on all approaches
Intersection of Non-SR with: Non-SR Speed (Low/High): High Median (Narrow/Wide): Narrow
Left turn lanes: 510' / 14' Quantity 2
Right turn lanes: 275' / 12' Quantity 2

Total number of turn lanes by Type:
Type B: 510' by 14' Quantity 4 Total length: 0.3864 miles Total CES Cost Estimate: $469,848.19
Type F: 450' by 12' Quantity 4 Total length: 0.3408 miles Total CES Cost Estimate: $355,200.37

Traffic Signals

Bryan County Transportation Study
Signal #1 Description: **New Signal / Signal Replacement at Harris Trail Road at Port Royal Road** CES Cost Estimate = $125,000 Signal #2 Description: **New Signal / Signal Replacement at Harris Trail Road at Belfast Keller Road** CES Cost Estimate = $125,000

Bryan County Transportation Study

TEXT FILE ATTACHMENT – for CES project BRYAN_CR90_WD

PI # BRYAN_CR90_WD TPRO Description: ***CR 90 (BELFAST SIDING ROAD) WIDENING FROM US 17 TO PARK HILL 20 ROAD (2 TO 4 LANES WITH 20-FT RAISED MEDIAN)***
Date estimate done: 6/16/2009
Estimate done by: *Jenny Lee* Agency: *JJG*
Let With: PI # _____ (if applicable)
Length: 5.7 miles Width assumed: 65 feet Concept: 4 Travel Lanes + outside and inside shoulders

Total Cost of Capacity Project (including all bridges, signals, intersections, turn lanes, etc.) = $33,832,000

Area Type Assumptions:
Area type (Urban or Rural) Rural
Primary County for Costing: BRYAN

Widening Width Assumptions:
New Travel Lanes includes inside and outside shoulders + curb & gutter are assumed
Total – 65'

Earthwork Percent Assumptions:
Changed statewide default value of 75% to 25% to reflect relatively minimal earth work required for generally flat coastal Georgia region.

Intersection Improvements (Turn lanes)
All turn lanes are assumed to have the same unit costs per ton for Asphalt and Base/Aggregate as the main widening project to produce a more accurate planning level cost estimate. These units costs are:
Asphalt: $54.58221 per ton
Base/Aggregate: $13.48736

Intersection #1
Description: Intersection Improvements at Belfast Siding Road at US 17
Includes Left and/or Right turn lanes on all approaches
Intersection of Non-SR with: State Route Speed (Low/High): High Median (Narrow/Wide): Narrow
Left turn lanes: 510' / 14' Quantity 2
Right turn lanes: 450' / 12' Quantity 2

Total number of turn lanes by Type:
Type B: 510' by 14' Quantity 2 Total length: 0.1932 miles Total CES Cost Estimate: $283,590.70
Type F: 450' by 12' Quantity 2 Total length: 0.1704 miles Total CES Cost Estimate: $226,843.15

Traffic Signals

Signal #1
Description: **New Signal / Signal Replacement at Belfast Siding Road at US 17**
CES Cost Estimate = $125,000

Bryan County Transportation Study

TEXT FILE ATTACHMENT – for CES project BRYAN_I95/SR144

PI # BRYAN_I95/SR144 TPRO Description: ***I-95 AT SR 144 INTERCHANGE UPGRADE)***
Date estimate done: 6/16/2009
Estimate done by: *Jenny Lee* Agency: *JJG*
Let With: PI # _____ (if applicable)
Length: N/A Width assumed: N/A Concept: Provide additional storage at all approaches at eastbound and westbound ramp intersections

Total Cost of Capacity Project (including all bridges, signals, intersections, turn lanes, etc.) = $2,470,000

Area Type Assumptions:
Area type (Urban or Rural) Rural
Primary County for Costing: BRYAN

Widening Width Assumptions:
Addition of one eastbound 12' lane + 6.5'outside shoulder
Total – 18.5'
Unit costs per ton for Asphalt and Base/Aggregate were calculated based on LT lane costs because they were lower than the cost of widening.
Asphalt: $71.52064 per ton
Base/Aggregate: $58.04815

Intersection Improvements (Turn lanes)
Unit costs per ton for Asphalt and Base/Aggregate were calculated based on LT lane costs for consistency:
Asphalt: $71.52064 per ton
Base/Aggregate: $58.04815

Intersection #1
Description: Intersection Improvements at US 17 at I-95 Westbound Ramp
Includes Left and/or Right turn lanes on all approaches
Intersection of State Route with: Non-SR Speed (Low/High): High Median (Narrow/Wide): Narrow
Left turn lanes: 510' / 14' Quantity 3
Right turn lanes: 450' / 12' Quantity 2

Intersection #2
Description: Intersection Improvements at US 17 at I-95 Eastbound Ramp
Includes Left and/or Right turn lanes on all approaches
Intersection of State Route with: Non-SR Speed (Low/High): High Median (Narrow/Wide): Narrow
Left turn lanes: 510' / 14' Quantity 2
Right turn lanes: 450' / 12' Quantity 2

Total number of turn lanes by Type:
Type B: 510' by 14' Quantity 5 Total length: 0.4830 miles Total CES Cost Estimate: $1,054,061.16
Type F: 450' by 12' Quantity 4 Total length: 0.3408 miles Total CES Cost Estimate: $637,487.31

Traffic Signals

Signal #1
Description: **New Signal at SR 144 at I-95 Eastbound Ramp**
CES Cost Estimate = $125,000

Bryan County Transportation Study

TEXT FILE ATTACHMENT – for CES project BRYAN_I95/US17

PI # BRYAN_I95/US17 TPRO Description: ***I-95 AT US17 INTERCHANGE UPGRADE)***
Date estimate done: 6/16/2009
Estimate done by: *Jenny Lee* Agency: *JJG*
Let With: PI # _____ (if applicable)
Length: N/A Width assumed: N/A Concept: Provide additional storage at all approaches at northbound and southbound ramp intersections

Total Cost of Capacity Project (including all bridges, signals, intersections, turn lanes, etc.) = $3.323,000

Area Type Assumptions:
Area type (Urban or Rural) Rural
Primary County for Costing: BRYAN

Widening Width Assumptions:
Addition of one eastbound 12' lane + 6.5'outside shoulder
Total – 18.5'
Unit costs per ton for Asphalt and Base/Aggregate were calculated based on LT lane costs because they were lower than the cost of widening.
Asphalt: $71.52064 per ton
Base/Aggregate: $58.04815

Intersection Improvements (Turn lanes)
Unit costs per ton for Asphalt and Base/Aggregate were calculated based on LT lane costs for consistency:
Asphalt: $69.28692 per ton
Base/Aggregate: $48.90743

Intersection #1
Description: Intersection Improvements at US 17 at I-95 Westbound Ramp
Includes Left and/or Right turn lanes on all approaches
Intersection of State Route with: Non-SR Speed (Low/High): High Median (Narrow/Wide): Narrow
Left turn lanes: 510' / 14' Quantity 0
Right turn lanes: 450' / 12' Quantity 0

Intersection #2
Description: Intersection Improvements at US 17 at I-95 Eastbound Ramp
Includes Left and/or Right turn lanes on all approaches
Intersection of State Route with: Non-SR Speed (Low/High): High Median (Narrow/Wide): Narrow
Left turn lanes: 510' / 14' Quantity 0
Right turn lanes: 450' / 12' Quantity 0

Total number of turn lanes by Type:
Type B: 510' by 14' Quantity 8 Total length: 0.7728 miles Total CES Cost Estimate: $1,686,497.86
Type F: 450' by 12' Quantity 4 Total length: 0.3408 miles Total CES Cost Estimate: $578,811.24

Traffic Signals

Signal #1

Bryan County Transportation Study
Description: **New Signal at US 17 at I-95 Northbound Ramp** CES Cost Estimate = $125,000 Signal #1 Description: **New Signal at US 17 at I-95 Southbound Ramp** CES Cost Estimate = $125,000

Bryan County Transportation Study

TEXT FILE ATTACHMENT – for CES project BRYAN_I16/US280

PI # BRYAN_I95/US17 TPRO Description: ***I-95 AT US17 INTERCHANGE UPGRADE)***
Date estimate done: 6/16/2009
Estimate done by: *Jenny Lee* Agency: *JJG*
Let With: PI # _____ (if applicable)
Length: N/A Width assumed: N/A Concept: Provide additional storage at all approaches at northbound and southbound ramp intersections

Total Cost of Capacity Project (including all bridges, signals, intersections, turn lanes, etc.) = $767,000

Area Type Assumptions:
Area type (Urban or Rural) Rural
Primary County for Costing: BRYAN

Intersection Improvements (Turn lanes)
Unit costs per ton for Asphalt and Base/Aggregate were calculated based on LT lane costs for consistency:
Asphalt: $72.60621 per ton
Base/Aggregate: $62.96768

Intersection #1
Description: Intersection Improvements at US 280 at I-16 Northbound Ramp
Includes Left and/or Right turn lanes on all approaches
Intersection of State Route with: Non-SR Speed (Low/High): High Median (Narrow/Wide): Narrow
Left turn lanes: 510' / 14' Quantity 0
Right turn lanes: 450' / 12' Quantity 2

Intersection #2
Description: Intersection Improvements at US 280 at I-16 Southbound Ramp
Includes Left and/or Right turn lanes on all approaches
Intersection of State Route with: Non-SR Speed (Low/High): High Median (Narrow/Wide): Narrow
Left turn lanes: 510' / 14' Quantity 0
Right turn lanes: 450' / 12' Quantity 2

Total number of turn lanes by Type:
Type F: 450’ by 12’ Quantity 4 Total length: 0.1704 miles Total CES Cost Estimate: $416,554.08

Traffic Signals

Signal #1
Description: **New Signal at US 17 at I-95 Northbound Ramp**
CES Cost Estimate = $125,000

Signal #1
Description: **New Signal at US 17 at I-95 Southbound Ramp**
CES Cost Estimate = $125,000

Bryan County Transportation Study

TEXT FILE ATTACHMENT – for CES project BRYAN_US80_BRG

PI # BRYAN_US80_BRG TPRO Description: ***BRIDGE REPLACEMENT ON US 80 OVER OGEECHEE RIVER***
Date estimate done: 6/16/2009
Estimate done by: *Jenny Lee* Agency: *JJG*
Bridge Length: 0.26 miles (1350 feet) Bridge Width assumed: 47 feet Concept: Bridge Replacement
Bridge crosses over WATER
CES Cost Estimate = $ 3,344,939.63 (bridge widening only)

Total Cost of Capacity Project (including all bridges, signals, intersections, turn lanes, etc.) = $4,756,000

Area Type Assumptions:
Area type (Urban or Rural) Rural
Primary County for Costing: BRYAN

Bridge Width Assumptions:
- 24' Travel Lanes
- 23' for outside shoulders/guardrails, parapets. right and left

Total – 47'
47 feet new bridge width needed

Approaches should be improved for a distance of 1,250 feet on each approach:
Length: 0.47 miles Width assumed: 47 feet

Bryan County Transportation Study

TEXT FILE ATTACHMENT – for CES project BRYAN_OB_BRG

PI # BRYAN_OB_BRG TPRO Description: ***BRIDGE REPLACEMENT ON OLIVE BRANCH ROAD OVER I-16***
Date estimate done: 6/16/2009
Estimate done by: *Jenny Lee* Agency: *JJG*
Bridge Length: 0.046 miles (300 feet) Bridge Width assumed: 47 feet Concept: Bridge Replacement
Bridge crosses over ROAD
CES Cost Estimate = $ 3,344,939.63 (bridge widening only)

Total Cost of Capacity Project (including all bridges, signals, intersections, turn lanes, etc.) = $4,756,000

Area Type Assumptions:
Area type (Urban or Rural) Rural
Primary County for Costing: BRYAN

Bridge Width Assumptions:
- 24' Travel Lanes
- 23' for outside shoulders/guardrails, parapets. right and left

Total – 47'
47 feet new bridge width needed

Approaches should be improved for a distance of 1,250 feet on each approach:
Length: 0.47 miles Width assumed: 47 feet

Bryan County Transportation Study

TEXT FILE ATTACHMENT – for CES project BRYAN_BS_BRG

PI # BRYAN_BS_BRG TPRO Description: ***BRIDGE REPLACEMENT ON BELFAST SIDING ROAD OVER I-95***
Date estimate done: 6/16/2009
Estimate done by: *Jenny Lee* Agency: *JJG*
Bridge Length: 0.09 miles (465 feet) Bridge Width assumed: 47 feet Concept: Bridge Replacement
Bridge crosses over ROAD
CES Cost Estimate = $ 3,338,992.80 (bridge widening only)

Total Cost of Capacity Project (including all bridges, signals, intersections, turn lanes, etc.) = $5,422,000

Area Type Assumptions:
Area type (Urban or Rural) Rural
Primary County for Costing: BRYAN

Bridge Width Assumptions:

- 24' Travel Lanes
- 23' for outside shoulders/guardrails, parapets. right and left

Total – 47'
47 feet new bridge width needed

Approaches should be improved for a distance of 1,250 feet on each approach:
Length: 0.47 miles Width assumed: 47 feet

Bryan County Transportation Study

TEXT FILE ATTACHMENT – for CES project BRYAN_I95_BRG

PI # BRYAN_OB_BRG TPRO Description: ***BRIDGE REPLACEMENT ON BELFAST SIDING ROAD OVER I-95***
Date estimate done: 6/16/2009
Estimate done by: *Jenny Lee* Agency: *JJG*
Bridge Length: 0.04 miles (225 feet) Bridge Width assumed: 140 feet Concept: Bridge Replacement
Bridge crosses over ROAD
CES Cost Estimate = $ 4,9663,104.73 (bridge widening only)

Bryan County Transportation Study

Total Cost of Capacity Project (including all bridges, signals, intersections, turn lanes, etc.) = $5,472,000

Area Type Assumptions:

Area type (Urban or Rural) Rural
Primary County for Costing: BRYAN

Bridge Width Assumptions:

- 72' Travel Lanes
- 68' for outside shoulders/guardrails, parapets. right and left

Total – 140'
140 feet new bridge width needed

Approaches should be improved for a distance of 1,250 feet on each approach (resurfacing on I-95):
Length: 0.47 miles Width assumed: 140 feet

Appendix D: Public Involvement

Public Involvement Plan

Issue Date September 2008

Table of Contents

1.0 Study Introduction

This Public Involvement Plan (PIP) is intended to provide a guideline for public involvement activities that are currently being undertaken by the Georgia Department of Transportation (GDOT) as part of the Bryan County Transportation Plan.

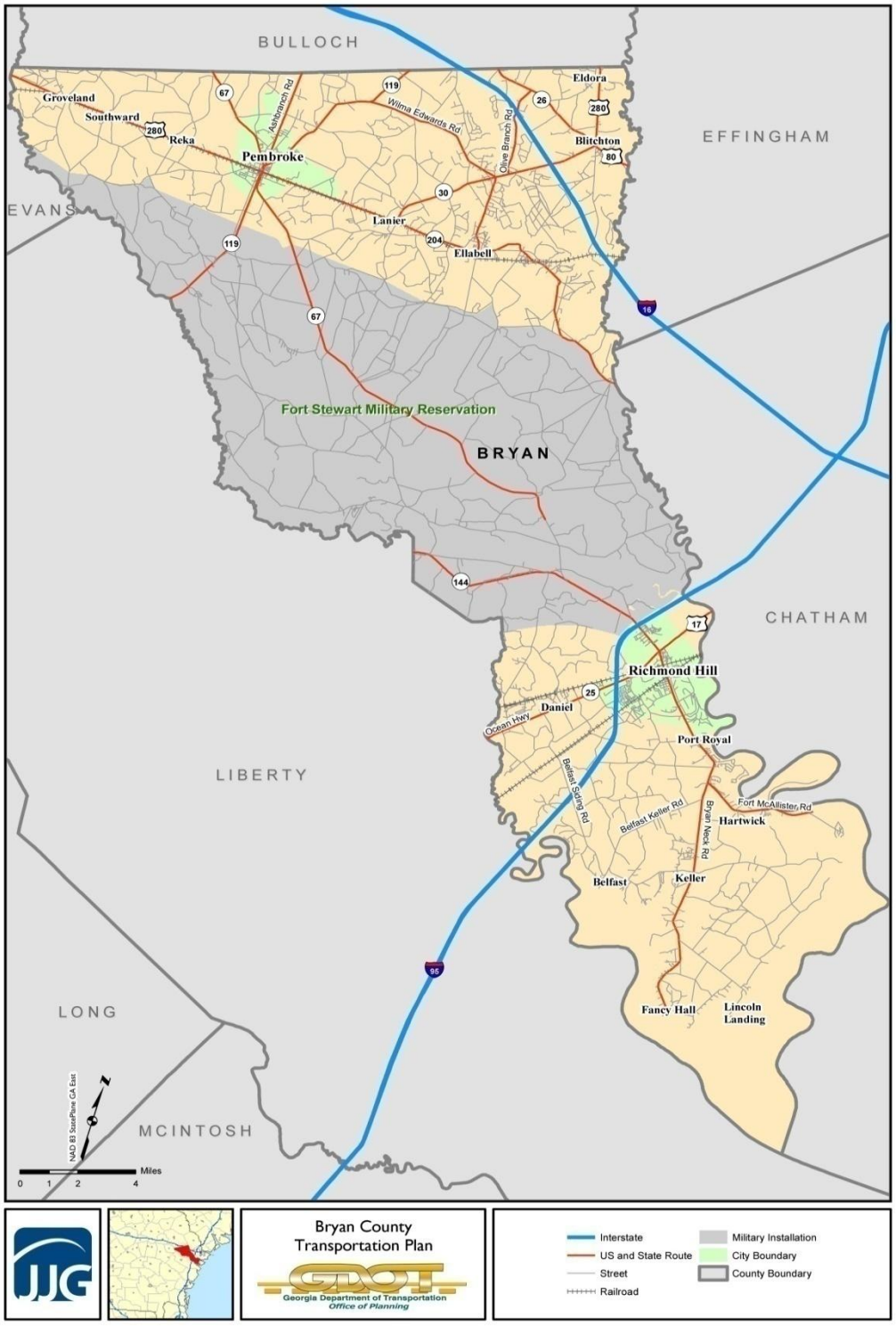
True public involvement requires providing strategies, which allow stakeholders to help shape the solutions, bringing them into the discussion early, before the assessment of the problems are completed and before solutions are on the table. It requires an atmosphere of trust where hopes and concerns can be openly articulated by everyone in the stakeholder group. Accomplishing this requires both political leadership, citizen education, and involvement. Creating vibrant, livable places is very much a process of thinking about and visualizing the future. It is about carrying on a dialogue with the community concerning its vision for evolving and growing. Experience in public involvement has shown that lasting solutions are best identified when all segments of a community – individuals, elected officials, educators, the business community, and civic organizations – are brought together in a spirit of cooperation.

The public involvement process will improve the quality of decisions, educate and provide greater public understanding of the goals and objectives, encourage community participation and collaboration, and provide tangible evidence that the community created its own vision of transportation solutions for Bryan County.

The Bryan County Transportation Study encompasses the entire county. Bryan County is located in southeast Georgia. The county is served by and located just east of the confluence of Interstates 95 and 16. The Study Area Map is shown on the following page.

.

Study Area Map



2.0 Public Involvement Plan Purpose

This PIP is designed to involve agencies and the public as participants and enable them to provide meaningful input to the study process and its outcomes. It strives to establish new forums for information exchange while also taking advantage of existing groups and organizations. Outreach efforts will educate, inform and involve the public as to the purpose and progress of the study by highlighting local issues, technical considerations, and potential impacts. Outreach techniques will be designed to encourage participation in the public process and to generate meaningful feedback. The PIP provides tools for both disseminating project-related information and gathering public input that reflects community concerns and interests.

The PIP will include most methods utilized to educate stakeholders of activities related to the planning process. Generating public awareness and creating partnerships with residents, elected officials, local and regional agencies, businesses, educational organizations, civic associations, and special interest groups is critical to the success of the Bryan County Transportation Study. The public involvement activities carried out under the Bryan County Transportation Plan are intended to provide learning opportunities as well as productive, two-way communication and listening opportunities for the community and project team. Overall project success often depends on the success of the public involvement effort. It is our goal to make sure the public is well aware of project goals, timelines, and information throughout the duration of the project.

This PIP is also designed to comply with regulatory requirements for public outreach set forth in state law. Thus, the PIP will ensure that as prescribed, GDOT conducts public involvement open houses and public hearing open houses under procedures described in “The Plan Development Process,” DOT’s Manual of Guidance, Section 4055-1 on Public Involvement, and the Official Code of Georgia Annotated Section 32-2-3. Additionally, GDOT has adopted a comprehensive agency-wide Public Involvement Plan and a Public Involvement Policy. These documents represent a conscious effort to create more proactive programs and initiatives that form additional partnerships and provide greater opportunities to involve citizens and stakeholders in transportation planning and project development.

In a project as significant as this is to a community, there is no doubt that unanticipated requests may arise. This PIP is built to ensure flexibility, and it may be revised throughout the project duration as needed to reflect the needs of the community and GDOT.

3.0 Target Audiences and Stakeholder Identification

One of the basic principles of public involvement for any project is to proactively outreach to “the public.” For the purposes of this Plan, “the public” is defined as citizens, property owners, community leaders, elected officials, and community stakeholders of Bryan County. In addition to citizens living and working in the area, there are other known stakeholders in the throughout the county. Through early identification of key stakeholders, GDOT and the project team will establish a positive working relationship with the community, discuss key issues as the project

moves forward, and refine concepts as necessary. Due to the diverse population within Bryan County, outreach activities must incorporate a range of techniques designed to reach and engage citizens and stakeholders within all demographic and economic groups.

The level of experience with and interest in transportation planning varies greatly among key stakeholders, such as government officials and staff, the business community, agency representatives, civic groups, the general public, and Environmental Justice populations. The techniques identified and outlined in the following section for the public involvement process address the needs of all stakeholders interested in the Bryan County Transportation Study, taking into account their varying interest and experience levels.

4.0 Participation Techniques

The PIP includes proven techniques that meet the expectations of citizens and stakeholder groups, and will be flexible enough to respond to requests for information and ongoing involvement. GDOT's Manual of Guidance, TOPPS Chapter 4055-1 will be adhered to in the implementation of this PIP, with specific attention placed on meeting advertisements and notification requirements, documentation needs, and response to public input.

All participation techniques and public meeting dates will be coordinated first with the Department's calendar, Coastal Georgia RDC's calendars of event and also with Bryan County. Meeting notices will be distributed to the Chatham and Hinesville MPOs and other stakeholder agencies. s. In addition, any project materials to be disseminated to the public will be submitted to GDOT ten (10) working days prior to the scheduled release date for review and approval.

Coordination of study efforts with the Department, local agencies, and elected officials is important to providing a successful plan. The following describes the activities needed to perform this coordination and to provide documentation of the transportation plan.

- **Stakeholder Interviews -** The project/study team will conduct one-on-one interviews with a minimum of 25 stakeholders in Bryan County and adjacent counties determined appropriate. The list of stakeholders will include elected leaders of the Bryan County and municipalities, legislative leaders, leaders in the development community, representatives of homeowners associations, advocacy groups, community-based and faith-based groups and others. A draft list of stakeholders to be interviewed will be approved by the GDOT Project Manager. The purpose of the interviews is to ensure that the stakeholders in Bryan County have a working knowledge of the transportation planning process, including its purpose and need, the expected outcomes, process and timetable. The interviews will also be used to surface major issues and expectations that might impact the Plan's success. A summary of each interview will be prepared and a summary report of all interviews will be compiled and provided to GDOT for consideration and use. The report will identify major issues, common themes and recommendations. A draft Stakeholder Interview listing is provided as **Exhibit A.**

- **Kick-off Meeting -** A kick-off meeting will take place and include the Cities of Pembroke and Richmond Hill,, Bryan County, the Department, RDC, and other key staff. This kick-off meeting will set the course of the study and provide feedback and guidance on goals and objectives, key issues, constraints, problem areas, needed projects and sensitive areas with the study area.

- **Speakers' Bureau -** The Speakers Bureau is a major element of the public education phase of the PIP. Members of the consultant team will accept invitations as well as seek opportunities to appear on the agendas of regularly scheduled meetings of organized groups in Bryan County to provide background and status information about the Transportation Plan and to receive feedback. These short appearances provide a cost-effective way to distribute printed information about the Plan, including information about scheduled public meetings and about the various ways citizens can obtain more detailed information and provide input. Opportunities to appear at meetings of organizations representing special populations will be given priority attention.

  It is anticipated that the Speakers' Bureau process will also seek out opportunities to reach student populations in Bryan County. Efforts to coordinate with the Bryan County Public School System to schedule speaking engagements to educate students about the planning process and seek their input will be carried out. In addition, this process will be used to disseminate study information via take home packages with students to inform parents of upcoming public involvement events and study progress.

- **Mailing List -** The consultant team, building on input from GDOT, will develop a study mailing list to include e-mail addresses. This list will be an efficient way to keep core constituencies current on the status of the study and to provide notice of upcoming events such as public meetings. The list will include all available contact information: phone number, fax number, mailing address, e-mail address, website address, etc.

- **Coordination with the Department and Local Agencies –** The Bryan County Transportation Plan will require a significant amount of local government coordination and public involvement to achieve a consensus on the future transportation recommendations. An Advisory Committee (AC) will be established, which will serve as the study's advisory group. The AC will, at a minimum, comprise the following groups: Bryan County staff, staff from each municipality within the county, the Department's Transportation Planner, the Department's District Planning and Programming Engineer, the Department's Intermodal Planner, RDC staff, and others as appropriate. The AC will meet three (3) times, throughout the transportation study process and act in an advisory role by reviewing the interim findings from each phase and provide comments. The AC will review and provide comments on all planning products (travel demand forecasting model assumptions, financial forecast assumptions, transportation needs, final report, and other items as appropriate). The meetings will be designed to foster consensus among GDOT, the consultant team, and the community. Tentative meeting dates are:

Local Kickoff Meeting	**October 2008**	
Meeting 1:	**January 2009**	**Data Gathering**
Meeting 2:	**April 2009**	**Evaluation Phase**
Meeting 3:	**July 2009**	**Study Recommendations**

  A series of meeting materials, maps, handouts, presentations will be developed for each meeting of the AC. A draft membership list for the AC is provided as **Exhibit B**. All meeting materials will be provided to the Department's Project Manager no less than 10 business days before each AC meeting in order to conduct a "dry-run" for the upcoming

meeting. At a minimum, the "dry run" will review meeting agenda, handouts, and all maps and graphics, as needed for the AC meeting. It is required that consultant staff arrive early for all meetings with the Department and/or the AC. Detailed meeting minutes at all meetings will be developed and provide to the Department for review within 5 business days of each meeting.

The AC meetings are anticipated to last approximately two hours and will be directed by trained facilitators and GDOT staff. The AC members will also be asked to attend scheduled public meetings. The public open house will be the last scheduled involvement of the AC members.

- **Advertised Public Meetings -** An advertised public meeting/open house is a special gathering to inform citizens and stakeholders about the progress of the project and solicit input on specific project issues. Open Houses will be held in accordance with GDOT's Manual of Guidance TOPPS 4055-1 as informal meetings to encourage dialogue between the project team and affected community.

  Two public meetings will be held during the study and will be designed to allow high-level interaction and participation in an open house format that engages participants in comfortable, two-way dialogue. The public meetings will be advertised at least two weeks in advance. The first advertisement will appear three weeks prior to the public meetings/open houses and the second one week prior to the meeting date. In addition, notices of all public meetings/open houses will be published on the Department's and Bryan County's websites, in flyers as well as any other project collateral materials distributed. Signs will be placed at key locations within the County notifying the public of meetings. A sample of the notification/advertisement format to be placed in newspapers and other media outlets will be submitted to the GDOT Project Manager for approval.

  Additionally, various other paid advertisements (which will consist of more information than a typical legal advertisement, in order to attract the public to the public meetings) will be employed, in at least one media outlet, for each public meeting. All meeting materials will be provided to the Department's Project Manager no less than ten (10) business days before each public meeting. All public meeting dates and times will be scheduled and based on the deliverables and future target dates of the study.

  At the first public meeting, community participants will be presented with: an overview of the study; preliminary goals and objectives for the transportation plan; summary of data collection activities; an inventory of the existing transportation system; a summary of the existing and future operating conditions; and an overview of existing and future deficiencies. The purpose of the meeting will be to solicit input and feedback as to what aspects presented need additional review and/or modification. The second public meeting will take place after the improvement alternatives are developed for existing and future deficiencies. The preliminary long-range transportation plan improvements will be presented at this public meeting for public review and comment.

  Each public meeting will include a short formal presentation supplemented with displays of information for public review. Sign-in sheets and comment cards will be provided to facilitate public input and continued involvement in the study process. Team members

wearing nametags will be available at all times to assist citizens with questions or concerns. The summaries of all meetings will be furnished for inclusion in the Appendix of the Transportation Plan.

The meetings will last two hours, based on the expected attendance, and will be scheduled between the hours of 6:00 P.M. (start) and 8:00 P.M. (end). It is anticipated that for each of the two (2) public meetings, separate meeting facilities will be employed at two (2) different locations (e.g., Pembroke and Richmond Hill) within Bryan County. Notification letters for public meeting/open house will be sent to board members, elected officials, utility companies, planning organizations, news media, known stakeholders, and GDOT personnel as appropriate.

- **Other Recommended Outreach Techniques -** The following are additional recommended outreach techniques that will be applied for additional public input.

  Website
  A project webpage will be established to serve as an open forum for the study throughout the project process. The webpage will be hosted by GDOT as part of the GDOT website and identify links to the Bryan County website, providing easy access for citizens. Regular updates to the website will provide community members with the most recent information regarding the Transportation Study. Maps, draft documents, and other materials from public meetings, and general guidance regarding the process would be available as deemed appropriate. In addition, viewers will be able to find contact information for the project team, ensuring that an open window for public feedback is available at all times.

  Questionnaire
  Surveys and questionnaires will be used to gather information from stakeholders and interested citizens. These surveys/questionnaires will contain both closed and open-ended questions to help target information to both extract information related to specific community concerns and to help identify those concerns.

  Fact Sheets
  Fact Sheets will be developed at key milestones in the Transportation Study to educate, answer questions, and update the reader on the progress of the study. The fact sheets will be an easy source of information that can be mailed, distributed at community/public meetings, put in public buildings, and sent to the media and placed on the project web page.

Media Relations **-** All media relations will be directly coordinated with the GDOT recommended Communication Officer or other representatives. Media relations encompass the process of informing stakeholders about the project through mass media such as newspapers, radio, and television. A draft media listing is provided as **Exhibit C**.

Documentation **-** Documentation of all aspects of the public involvement process will help GDOT maintain continuity in project decision-making. As the project proceeds, it is imperative that members of the project team provide documentation detailing the issues

and impacts to be considered, particularly with regard to any commitments made by the public. These documents include, but are not limited to: the Public Involvement Plan, Project Database/Mailing Lists, Advisory Committee Meeting Minutes, Public Information Open House Summaries, Public Hearing Open House Summaries, and Public Comments and Responses.

5.0 Plan Evaluation

Evaluation of the effectiveness of public involvement efforts is a key aspect of developing the PIP and is a critical component of any community and agency participation plan. Evaluating public involvement efforts helps determine which public involvement tools are effective for specific uses and under what circumstances. Evaluation measures are also important in documenting the level of citizen and stakeholder satisfaction with the public involvement activities. Based on the implementation of the public involvement program and the results of periodic surveys at public involvement meetings, existing communication and outreach techniques will be modified and new techniques added to ensure the success of the public involvement program.

The Table below outlines the major tasks and key performance measures for the Public Involvement Program for the Bryan County Transportation Study.

Public Involvement Program Evaluation Measures

Task	Performance Measures
PIP	• Successful implementation of strategies and techniques • Participant feedback
Advisory Committee	• Number of participants • Participant feedback • Results of satisfaction surveys
Public Meetings	• Number of attendees • Number of comments received • Number of comment responses • Results of satisfaction surveys

6.0 Public Involvement Program Schedule

The schedule of public involvement program activities for the Bryan County Transportation Study is shown below. This schedule presents the anticipated time frame required to meet project public involvement goals.

Public Involvement Program Schedule

ID	Task Name
1	**Study Initiation/Mobilization**
2	PIP Development
3	Mailing List Development
4	Web Page/Updates
5	Documentation
6	Speakers Bureau
7	**Agency/Local Coordination**
8	Fact Sheet #1
9	Agency Kickoff Meeting
10	Stakeholder Interviews (1)
11	**Study Initiation/Mobilization (P1)**
12	Fact Sheet #2
13	Advisory Committee Meeting #1
14	Stakeholder Interviews (2)
15	**Data Gathering and Evaluation (P2)**
16	Fact Sheet #3
17	Advertising #1
18	Advisory Committee Meeting #2
19	Public Meeting #1
20	Stakeholder Interviews (3)
21	**Preliminary Recommendations (P3-4)**
22	Fact Sheet #4
23	Advertising #2
24	Advisory Committee Meeting #3
25	Public Meeting #2
26	Final Policy Board Presentation

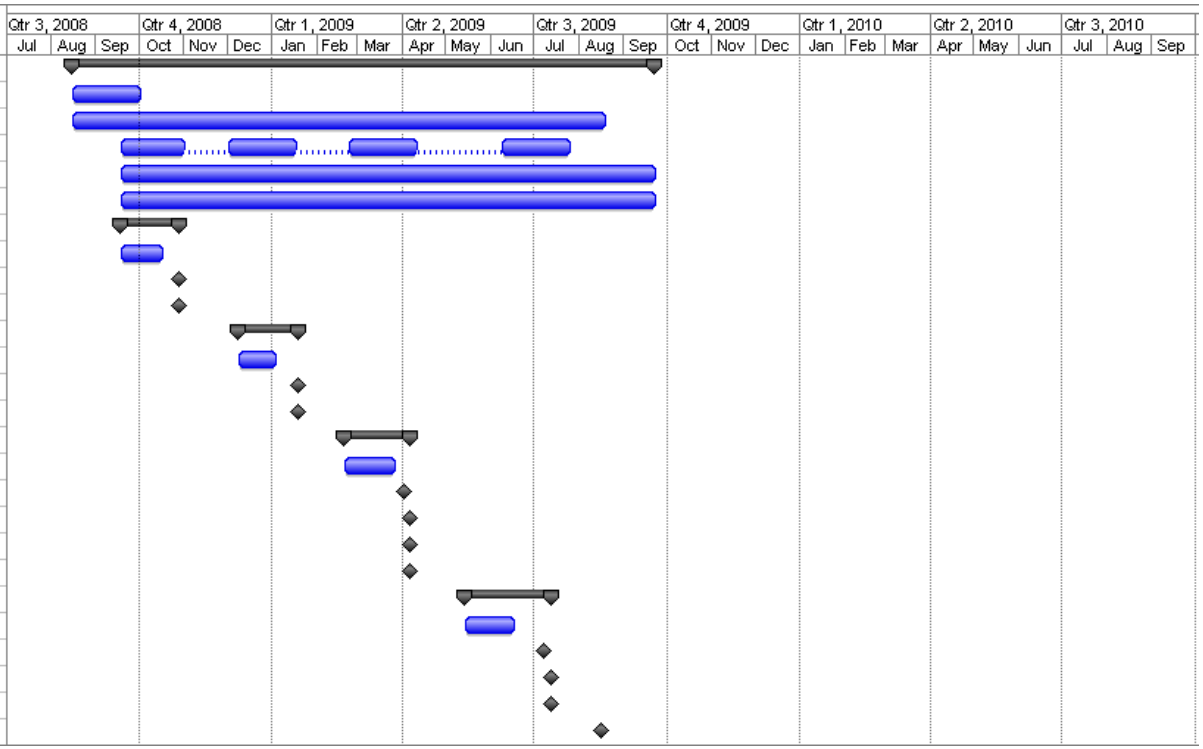


Exhibit A: Stakeholder Interview List

Bryan County Board of Commissioners
Jimmy Burnsed, Chairman*

Bryan County Administration
Phil Jones, Bryan County Administrator*
Jim Anderson, EMS Director Bryan County

Pembroke City Council
Judy Cook, Mayor*
Jonnie A. Miller, Sr., Mayor Pro-Tem

Richmond Hill City Council
Richard R. Davis, Mayor*

Richmond Hill Police Department
Chief Billy D. Reynolds

City of Pembroke
Betty Hills City Clerk, City of Pembroke

Coastal Georgia RDC
Vernon D. Martin, Executive Director*

Development Authority of Bryan County
Jean Bacon, Executive Director

Bryan County Chamber of Commerce
Kittie Franklin, Executive Director*

At Large
Rita Johanson, ITO Chief, Transportation, Ft. Stewart
Sallie Brewer, Superintendant
Lawanda Stafford, Hobart Corp
Mike Melton, City Manager
Neil Smiley, Director of Engineer.
Tom Thomson, CUTS
Sonny Timmerman, HAMPO
Derrell Newman, Public Works
Leon Davenport, Chatham Co.

Exhibit B: Advisory Committee Membership List

Bryan County
Phil Jones, County Administrator
Dale Dudley, Planning & Zoning
Terri Taylor, Transit/Senior Citizens
Jim Anderson, EMS Director
Derrell Newman, County Engineer
Neil Smiley, County Engineering
Kay Green, Recreation Director

City of Pembroke
Chief Bill Collins, Pembroke Police Department
Betty Hill, City Clerk
Rickey McCoy, City Engineer

Richmond Hill
Michael J. Melton, City Manager
Steve Scholar, Director, Planning and Zoning
Chief Billy D. Reynolds, Richmond Hill Police Department
Nancy Frye, Zoning Administrator
Randy Dykes, Building Inspections
Jan Bass, Community Development Specialist

Coastal Georgia RDC
Tricia Reynolds, Planning Director

GDOT District Office
Brad Saxon
Teresa Scott

At Large
Karen Gramzaio, President, Buckhead Commonwealth Club, Inc
Nevin Brown, President, Mainstreet Homeowners Association
Reverend Carlton Cooper, Bethel Baptist Church
Kittie Franklin, Bryan County Chamber of Commerce
Father Joe Smith, St Anne's Catholic Church

Exhibit C: Media Contact List

Print Media		Contact Person
Bryan County News (weekly)	(912) 756-2668	
Savannah Morning News (daily)	(912) 236-9511	Aldo Nahed

Television Media		Contact Person
WSAV (3) NBC	(912) 651-0300	Elaina Anderson
WVAN (9) PBS	(912) 653-4996	
WTOC (11) CBS	(912) 234-1111	Dal Cannady
WJCL (22) ABC	(912) 925-0022	Candice McGowan
WTGS (28) FOX	(912) 925-0022	Candice McGowan
WGSA	(912) 692-8000	

Radio Media

Clear Channel Communications .....(912) 964-7794
WTKS..... 1290 AM News Talk Radio

Cumulus Broadcasting ....(912) 961-9000
WBMQ..... 630 AM News Talk Radio

Georgia Public Broadcasting ....(912) 598-3300
WSVH.....91.1 FM Public Radio

How Can You Stay Involved ?

Experience in public involvement and transportation planning has shown that lasting solutions are best identified when all segments of the community (e.g., citizens, elected officials, businesses, and civic organizations) are engaged to provide input on shaping the vision for improving the Bryan County transportation system. Throughout the study, the public will be given opportunities to participate in the transportation planning process. As such, the Bryan County Transportation Study will utilize the following methods to give all segments of the community a chance to participate in the study process. These include:

– **Stakeholder Interviews** - the study team will conduct a series of interviews with key community leaders throughout Bryan County.

– **Study Advisory Committee** - will be made up of local officials and community group representatives. The advisory committee will provide policy guidance and strategic direction to the study team at key milestones. It is envisioned that the advisory committee will meet several times over the course of the study.

– **Public Open House Workshops** - will be held to solicit public input and feedback on the study findings. The first workshop is anticipated to be held mid to late April 2009.

– **Study Webpage** - information regarding the study will be available via the GDOT website. The Bryan County Transportation Study webpage will provide study documentation, study updates and current activities. The webpage will also post the study schedule, various maps, and other associated materials. The webpage address is **www.dot.ga.gov/bryanstudy**

– **Fact Sheets** - will be developed to highlight important study information. Fact Sheets will be available in electronic format as well as hard copy, and will be distributed at public locations (e.g., public libraries, government buildings, and electronically via GDOT website) throughout Bryan County.

Bryan County Transportation Study Schedule

13 Month Schedule	2008				2009							
	S	O	N	D	J	F	M	A	M	J	J	A	S
Public Meetings								★		★			
Advisory Committee Meetings					★			★		★			
Data Gathering & Evaluation													
Model Development													
Preliminary Reccommendations													
Final Document													

For More Information

Georgia Department of Transportation
Office of Planning

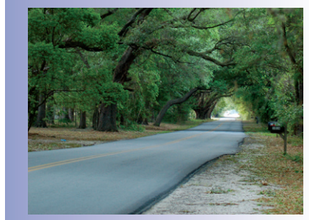
GDOT Contact:
Kyle Mote, Project Manager
One Georgia Center
600 W. Peachtree Street
5th Floor Office 566
Atlanta, Ga 30308
404-631-1987
kmote@dot.ga.gov

Team Contact:
Grady Smith
Jordan, Jones and Goulding
400 Colony Square
1201 Peachtree Street NE. Ste. 1905
Atlanta, GA 30061
770-455-8555
grady.smith@jjg.com

Bryan County
TRANSPORTATION STUDY

FACT SHEET
Bryan County Transportation Study

Fall 2008 — Volume 1



Overview of the Transportation Study Process

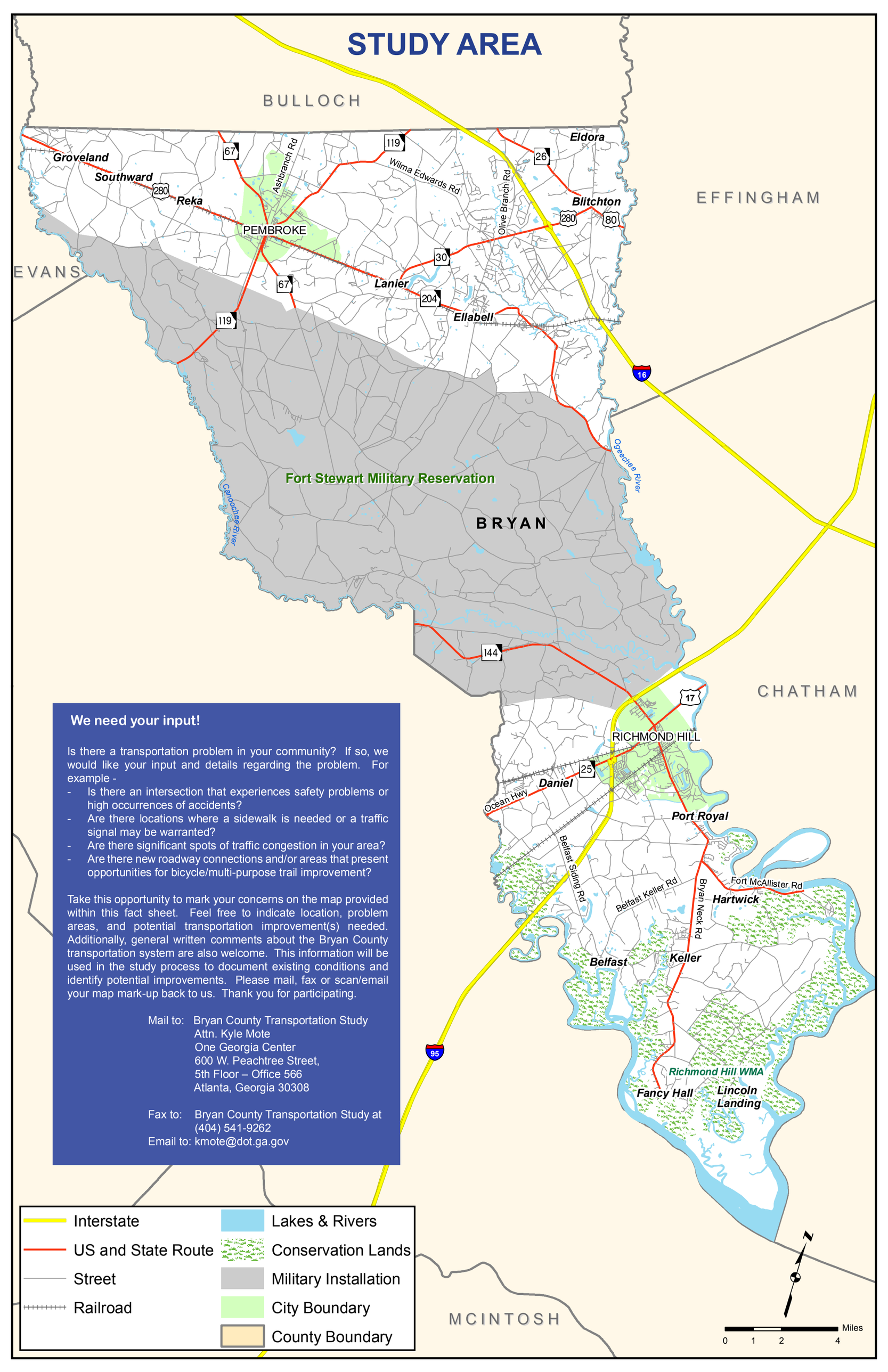
The Georgia Department of Transportation (GDOT) is preparing the Bryan County Transportation Study in cooperation with Bryan County, the City of Pembroke, the City of Richmond Hill, and various other planning partners. The objective of the study is to identify and recommend transportation improvements necessary to meet existing and future travel needs through the year 2035.

Bryan County is experiencing a significant increase in population. In fact, projections released by the Georgia Institute of Technology's Center for Quality Growth and Regional Development (2006) indicate that the County's population is projected to increase from 23,500 in 2000 to roughly 46,000 by 2030 – an anticipated increase of 96 percent. The Bryan County Transportation Study will identify mobility and travel impacts associated with this growth, and recommend potential transportation improvement strategies and projects to adequately serve Bryan County residents.

Work efforts for the Bryan County Transportation Study have already begun. The diagram on the right illustrates the work flow and major tasks to be completed over the course of the study. The first study task is the review of previous studies. This task will include review of both transportation and land use plans completed within the County. Additionally, an extensive data collection effort has been initiated to inventory traffic/ travel trends, land use/development patterns, environmentally sensitive areas, high accident locations, and other transportation network conditions. This information will form the basis for the review of existing conditions and future conditions analysis. Finally, the study process will culminate with development of goals and objectives, followed by screening analysis of potential projects, and identification of project recommendations.

The completed study will highlight a list of specific transportation improvement recommendations to effectively address Bryan County's mobility and accessibility needs. Study recommendations will also be multi-modal, and will potentially involve a myriad of project types including improved safety projects, roadway widening and connections, bicycle/pedestrian improvements, transportation system management projects (e.g., traffic signal and intersection improvements) as well as potential strategies for funding the slate of recommendations.

Georgia Department of Transportation
Office of Planning


STUDY AREA
BULLOCH
EFFINGHAM
EVANS
CHATHAM
MCINTOSH
BRYAN
PEMBROKE
RICHMOND HILL
Groveland
Southward
Reka
Eldora
Blitchton
Lanier
Ellabell
Daniel
Port Royal
Hartwick
Belfast
Keller
Fancy Hall
Lincoln Landing
Fort Stewart Military Reservation
Richmond Hill WMA
Ogeechee River
Canoochee River
Ashbranch Rd
Wilma Edwards Rd
Olive Branch Rd
Ocean Hwy
Belfast Siding Rd
Belfast Keller Rd
Bryan Neck Rd
Fort McAllister Rd
67
119
280
26
80
30
204
144
17
25
16
95
We need your input!
Is there a transportation problem in your community? If so, we would like your input and details regarding the problem. For example -
- Is there an intersection that experiences safety problems or high occurrences of accidents?
- Are there locations where a sidewalk is needed or a traffic signal may be warranted?
- Are there significant spots of traffic congestion in your area?
- Are there new roadway connections and/or areas that present opportunities for bicycle/multi-purpose trail improvement?
Take this opportunity to mark your concerns on the map provided within this fact sheet. Feel free to indicate location, problem areas, and potential transportation improvement(s) needed. Additionally, general written comments about the Bryan County transportation system are also welcome. This information will be used in the study process to document existing conditions and identify potential improvements. Please mail, fax or scan/email your map mark-up back to us. Thank you for participating.
Mail to: Bryan County Transportation Study
Attn. Kyle Mote
One Georgia Center
600 W. Peachtree Street,
5th Floor – Office 566
Atlanta, Georgia 30308
Fax to: Bryan County Transportation Study at
(404) 541-9262
Email to: kmote@dot.ga.gov
Interstate
US and State Route
Street
Railroad
Lakes & Rivers
Conservation Lands
Military Installation
City Boundary
County Boundary
N
Miles
0 1 2 4

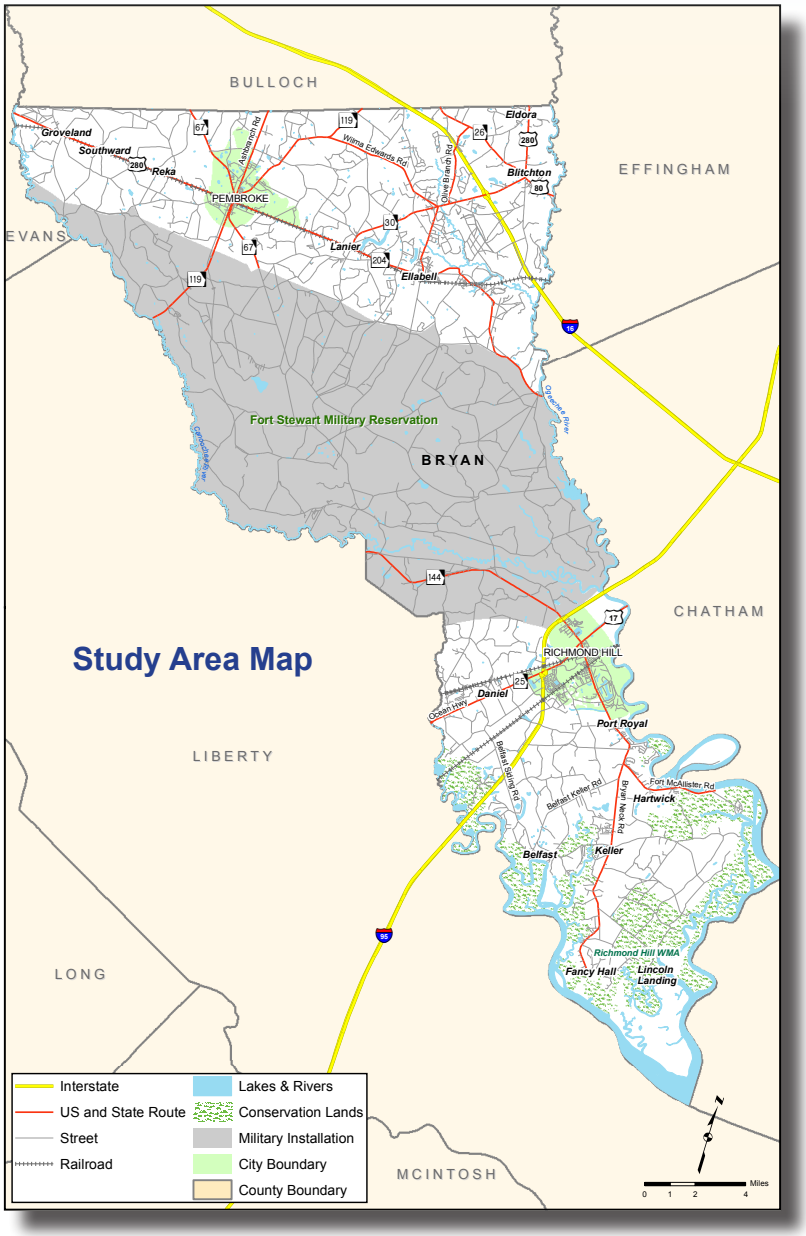
Bryan County
TRANSPORTATION STUDY

FACT SHEET

Bryan County Transportation Study

Spring 2009

Volume 2



Overview of the Bryan County Transportation Study Process

The Georgia Department of Transportation (GDOT) is preparing the Bryan County Transportation Study in cooperation with Bryan County, the City of Pembroke, the City of Richmond Hill, and various other planning partners. The objective of the study is to identify and recommend transportation improvements necessary to meet existing and future travel needs through the year 2035.

Bryan County is experiencing a significant increase in population. In fact, projections released by the Georgia Institute of Technology's Center for Quality Growth and Regional Development (2006) indicate that the County's population is projected to increase from 23,500 in 2000 to roughly 46,000 by 2030 – an anticipated increase of 96 percent. The Bryan County Transportation Study will identify mobility and travel impacts associated with this growth, and recommend potential transportation improvement strategies and projects to adequately serve Bryan County residents.

Work efforts for the Bryan County Transportation Study are well underway. So far, the study team has reviewed all the relevant transportation and land use plans completed within the County. Additionally, the extensive data collection effort needed for the existing and future conditions analyses is nearly complete. These data include the inventory of current traffic/travel trends, land use/development patterns, environmentally sensitive areas, high accident locations, and other transportation network conditions. The study team has also interviewed various stakeholders throughout the County to incorporate their input in the development of goals and objectives of the study. The final phase of the data collection will involve input collected from the general public. Next steps include finalization of the potential improvements, followed by screening analysis of potential projects, and identification of project recommendations. The study, anticipated to be complete in the fall of 2009, will highlight a list of potential transportation improvement suggestions to address Bryan County's anticipated mobility and accessibility needs.

Additional information regarding the study is available via the GDOT website:
www.dot.ga.gov/bryanstudy.

GDOT
Georgia Department of Transportation
Office of Planning

Bryan County Transportation Study
TWO PUBLIC MEETINGS
Tuesday, April 21st:

Purpose of Meetings:

The purpose of the meetings is to get the public's input regarding the transportation issues and challenges in the County and discuss some of the potential improvement suggestions available. These meetings are open to all, and will consist of informational displays and interactive discussion sessions. The community will be encouraged to share their ideas on the direction of transportation planning for Bryan County.

WE NEED YOUR INPUT!

Public Meeting Locations and Times

Tuesday, April 21st, 2009

County Commissioner's Meeting Room (2:00PM)

151 South College Street, Pembroke, GA 31321

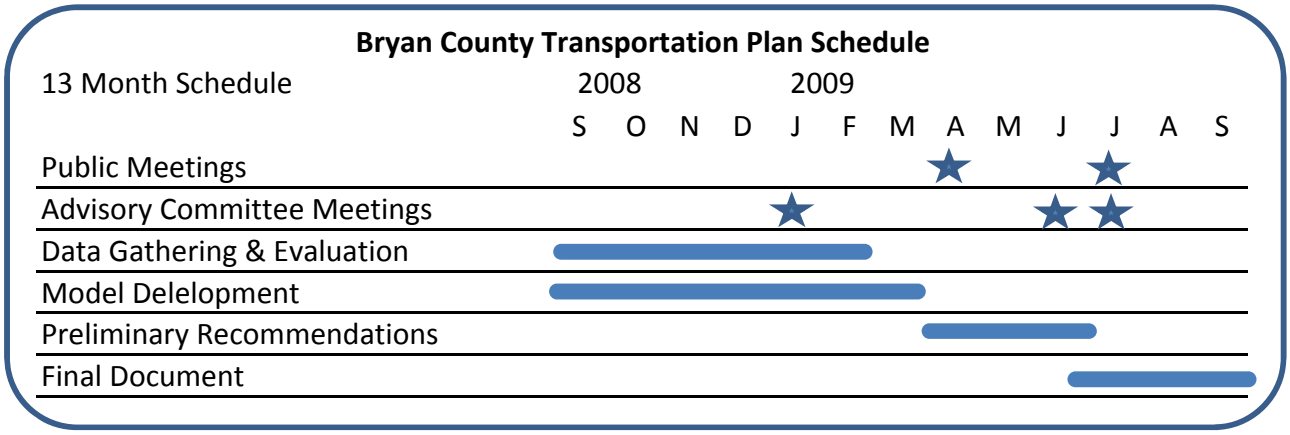
And

John W. Stevens Wetlands Education Center (6:00PM)

600 Cedar Street, Richmond Hill, GA, 31324

To find out more, please visit: www.dot.ga.gov/bryanstudy

Bryan County Transportation Study Schedule



GDOT Contact:

Kyle Mote, Project Manager

One Georgia Center

600 W Peachtree Street, 5th Floor,

Office 566

Atlanta, Georgia 30308

404-631-1987

kmote@dot.ga.gov

Georgia Department of Transportation
Office of Planning

Consulting Team Contact:

Grady Smith

Jordan, Jones and Goulding

400 Colony Square

1201 Peachtree Street NE. Ste. 1905

Atlanta, GA 30061

678-333-0450

grady.smith@jjg.com

FACT SHEET

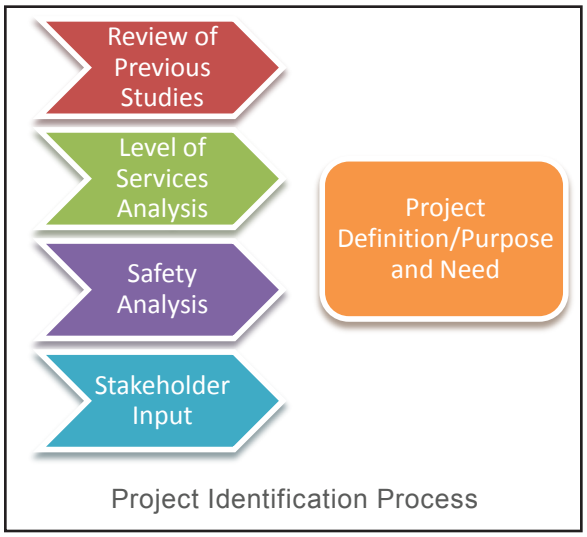
Bryan County Transportation Study

Summer 2009

Volume 3

Bryan County Transportation Study Team is set to present a Preliminary List of Potential Transportation Projects for Public Review and Comment.

After more than ten months of intensive research, analysis and public outreach, The Georgia Department of Transportation (GDOT) has presented a list of potential transportation improvements for review and comment by public officials and other stakeholders in Bryan County. Through the work completed to date, which includes baseline conditions assessment, formulation of study goals, and travel demand model development, the study team has determined mobility and travel impacts associated with the anticipated growth in the County. The draft transportation improvements are designed to respond to an aggressive population projection, and also considered future land use strategies outlined in the County's Joint Comprehensive Plan. The project categories include Traffic Operations/ System Management Projects, Bicycle/Pedestrian Projects and New Capacity Projects.



Project Identification Process

Traffic Operation/System Management Projects: These projects could maximize the effectiveness of the existing system, and can be potentially implemented quickly. Total of 22 project concepts have been identified to include improvements such as new traffic signals, adding turn lanes, and bridge replacements.

Bicycle and Pedestrian Projects: The multimodal recommendations are designed to potentially improve the general quality of life as well as improve safety for all users of the transportation network. Total of 22 potential sidewalks and shared-use paths have been identified throughout the County.

New Capacity Projects: The new capacity recommendations can be significant investments. Thus, these potential projects are evaluated based on performance and benefit-cost.

Georgia Department of Transportation
Office of Planning

Bryan County Transportation Study
Final Public Meetings

The purpose of the last series of public meetings is to solicit input from stakeholders and residents in the county to prioritize and reach consensus on the list of potential transportation improvements. These meetings are open to all, and will consist of informational displays as well as interactive discussion sessions. The community will be encouraged to share their ideas on the direction of transportation planning for Bryan County.

WE NEED YOUR INPUT!

Thursday, August 6th, 2009

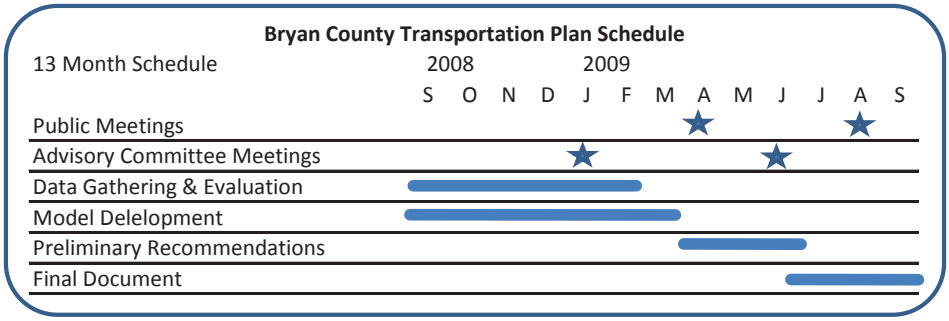
2:00 PM
Bethel Baptist Church Fellowship Hall
40 White Oak Lane, Richmond Hill, GA

6:00 PM
J Dixie Harn Community Hall
91 Lanier St, Pembroke, GA

Next Steps

The Bryan County Transportation Study will address public comments, then submit a long-term transportation plan for the county's consideration. Given funding constraints facing the state, it is unlikely that all of the projects identified by the study can be funded over the next 25 years. Therefore, the principal task remaining in the Bryan County Transportation Study is to identify potential funding programs for the recommended projects. Based on the input from the last series of public meetings (scheduled for August 6th), GDOT will then finalize study recommendations and submit the final documentation in the fall of 2009.

Bryan County Transportation Study Schedule



Additional information regarding the study is available via the GDOT website: www.dot.ga.gov/bryanstudy. For general comments or inquiries, please contact:

GDOT Contact:
Kyle Mote, Project Manager
One Georgia Center
600 W Peachtree Street, 5th Floor,
Office 566
Atlanta, Georgia 30308
404-631-1987
kmote@dot.ga.gov

Georgia Department of Transportation
Office of Planning

Consulting Team Contact:
Grady Smith
Jordan, Jones and Goulding
400 Colony Square
1201 Peachtree Street NE. Ste. 1905
Atlanta, GA 30061
678-333-0414
grady.smith@jjg.com

Bryan County Transportation Study
Interview Summary Sheet

Provided below is a bulleted stakeholder interview summary for interviews held on November 18, 2008 as part of the first round of information gathering in the Bryan County Transportation Study. The stakeholder interview was completed by: Kyle Mote - GDOT Office of Planning, and Gordon Burkette - Jordan, Jones, and Goulding.

Interviewee Name: Billy Albritton is Chairman of the Planning Commission and former City Council from Richmond Hill

- Mr. Albritton began by suggesting that the Belfast Interchange would eliminate some of the traffic on SR 144.
- I-95 at 17 interchange is a problem. Traffic backs up 3 miles from Liberty going towards Savannah in the morning.
- The 2005 Defense Base Closure and Realignment Commission's (BRAC) recommendations will increase the forces based at Fort Stewart by 4,000 soldiers. The area will need to prepare for these soldiers and their families who will live and work in the area.
- Mr. Albritton would like to see widening of SR 144 between Belfast Keller and Kilkenny Road.
- Mr. Albritton was concerned about the large number of school facilities without sidewalks. Also, a multi use trail on US 17 and Francis Meeks to SR 144 is needed. Mr. Albritton said that City of Richmond Hill is currently working with the school district to make this happen.
- The SR 144 and I-95 interchange was not designed to handle the amount of traffic it carries today. Because of the design, it backs up from SR 144. This is because the road chokes to 1 lane in each direction. The interchange at I-95 and US 17 was also designed for less traffic than it currently carries.The study should look at upgrading these interchanges.
- Road conditions are the biggest short term transportation concern. Widenings of US 17 and SR 144 are the most important. Capacity is the biggest issue. Commuters need relief. In the long term, the entire roadway network capacity will need to be expanded to prepare for the city's (Richmond Hill) population growth.
- A new interchange at Belfast Siding and I-95 is also an important project.
- Harris Trail should be expanded to serve as a future reliever to SR 144. This road would serve as a second north-south (SR 144 is first) connection through town. The City of Richmond Hill and county should work with Rayonier (major land owner) to extend Harris Trail south from Timber Trail to Belfast Keller Road.
- Owen Thayer would be a good person to include as a stakeholder interview. He was on the development authority and has good ideas.
- Steve Lane, Pastor of New Beginnings Community Church in Richmond Hill would be someone to include as a representative of traditionally underserved communities. Reverend Lane has been a community advocate for affordable housing.

Bryan County Transportation Study
Interview Summary Sheet

Provided below is a bulleted stakeholder interview summary for interviews held on November 18, 2008 as part of the first round of information gathering in the Bryan County Transportation Study. The stakeholder interview was completed by: Radney Simpson - GDOT Office of Planning, and Grady Smith - Jordon, Jones, and Goulding.

Interviewee Name: Jean Bacon, Executive Director - Development Authority of Bryan County

- As the Executive Director Jean Bacon is responsible for promoting economically and environmentally sound development through coordination of available public and private economic development resources in Bryan County.
- The Development Authority's nine member Board is appointed by County Commissioners, and includes Phil Jones, Bryan County Administrator as an ex-officio member. In this role, Mr. Jones provides guidance on transportation related issues.
- The Authority's current focus is on the development of the Interstate Centre Industrial/Business Park – an industrial/business park located at I-16 and US 280 - Exit 143.
- She noted that the industrial park already has major tenants including Oracal with approximately 160 employees and Kawasaki among others.
- Ms Bacon stated that the development of Interstate Centre Industrial Park is envisioned to be similar to growth that occurred in the Pooler area. Thus, the objective is to target manufacturing and logistical related industry.
- It was noted that a significant amount of developable land is available in the Interstate Centre Industrial Park area. This would include more than 1000 acres.
- Ms. Bacon also mentioned that other large tracts are being marketed in proximity to I-16, and much of this land is owned by the Morgan Family.
- To improve access to the Interstate Centre Industrial Park, Ms. Bacon suggested that the study consider 4-lane improvement to both US 280 and US 80. She pointed out that the US 80 corridor provides a direct connection to the Georgia Port.
- She also asked that the study consider a new I-16 interchange east of the existing US 280 interchange (Tar City Road) to provide additional access to the park.
- It was noted that more than 40 trucks an hour (during peak periods) utilize I-16/US 280 facilities, and that there have been a number of accidents.
- To improve conditions, and address expansion of the park to the west Ms. Bacon asked that the study consider a traffic signal at Interstate Centre Parkway at the park main entrance.
- Ms. Bacon noted that in the mid to long term the next major area of development in the county would more likely be in the Richmond Hill area near Belfast Siding.
- Finally, Ms. Bacon stressed the importance of addressing the diversity of economic conditions in Bryan County. For example, she pointed out the difference in economic development incentives for industry locating in Bryan County. North Bryan County is considered "Tier1" which means businesses who locate in the northern area qualify for up to a $3,500 job tax credit. In contrast, South Bryan is considered "Tier 4" which allow up to a $750 job tax credit.

Bryan County Transportation Study
Interview Summary Sheet

Provided below is a bulleted stakeholder interview summary for interviews held on November 18, 2008 as part of the first round of information gathering in the Bryan County Transportation Study. The stakeholder interview was completed by: Kyle Mote - GDOT Office of Planning, and Gordon Burkette- Jordan, Jones, and Goulding.

Interviewee Name: The Honorable Richard Davis, Mike Melton and Steve Scholar from the City of Richmond Hill. These stakeholders represent the mayor, city manager, and director of planning for the City of Richmond Hill.

- The conversation began by discussing congestion on SR 144. The group provided two ideas to relieve traffic on this roadway which included widening the existing road and/or creating a parallel reliever (Harris Trail to Belfast Keller).
- Mike Melton suggested that the interchange at US 17 and I-95 needed to be upgraded to reflect a larger amount of traffic (especially truck) than the interchange was originally designed to accommodate.
- Mayor Davis was concerned about traffic that will be generated by a future middle school to be located on Belfast Keller Road (see Bryan County Transportation Plan 2007).
- Mayor Davis was also concerned about an alternative way for people in the eastern part of the county to get out (Belfast Siding Interchange) of the county during evacuations.
- When asked, the group prioritized their most important transportation projects as:
    1. Widening of SR 144 (within the next five years);
    2. Harris Trail Widening (within the next five to ten years);
    3. Interchange at Belfast Siding and I-95 (long term project).
- A large number of trains cross through the study area. Mayor Davis and Mike Melton were concerned about the at Grade crossing of CSX and SR 144. Mr. Melton estimated that the tracks average between 35 and 40 trains per day with posted speed of 70 mph.
- The group advocated for sidewalks on both sides of SR 144 (currently on one side), US 17 (currently on one side) and Harris Trail (no sidewalks).
- Trucks using the Love (I-95 at Ocean Highway) and TA (I-95 at SR 17) truck stops often make U turns on city streets and sometimes get stuck on the road. Need to address this issue by providing an alternative place for trucks to turn around.
- Timber Trail needs major upgrade. Area around this road was recently annexed by Richmond Hill. This road needs maintenance and widening to accommodate growing traffic.
- A new traffic signal will be needed at TA truck stop and Highway 17. This is a high accident area where lots of cars and trucks are entering the roadway.
- New Kroger has exit that needs to be right out only.
- Mulbury Drive and US 17 needs a traffic signal.

- Daniel Siding road should be improved. This area west of town will be experiencing a large amount of growth.
- In the long term, the a new frontage road should be proposed along I-95 between SR 144 and US 17.
- Camellia Street may need to be widened.
- International Paper has a paper completed by Bill Christian in 1972 shows a new road off of US 17 to SR 144 continuing on to Fort McCallister. Copy of paper will be provided by Steve Scholar.

Bryan County Transportation Study
Interview Summary Sheet

Provided below is a bulleted stakeholder interview summary for interviews held on November 18, 2008 as part of the first round of information gathering in the Bryan County Transportation Study. The stakeholder interview was completed by: Radney Simpson - GDOT Office of Planning, and Grady Smith - Jordon, Jones, and Goulding.

Interviewee Name: Jo Hickson, Coastal Georgia Greenway Volunteer

- The Coastal Georgia Greenway lobbies for trail development at the grass roots level. It has partnered with the Coastal Georgia Regional Development Center, city and county governments and related organizations. The organization's mission is to protect and acquire public access to identified trail corridors, plan for trail construction and promote the use of existing and new trails along Coastal Georgia.
- Jo Hickson mentioned that Coastal Georgia Greenway has been advancing toward implementation an overall trail network for Coastal Georgia since 1997.
- Coastal Georgia Greenway is in the process of establishing a non-profit to continue efforts to implement and construct the trail system.
- Ms. Hickson noted that it is envisioned that the trail system would be completed by 2021.
- It was noted that the current organization has raise over $3 million for trail construction as well as has paid out approximately $1 million in trail planning and design efforts.
- She encouraged that the study team explore opportunities to leverage the Safe Routes to School initiative as a means to fund trail and pedestrian improvements identified in the planning process.
- She also mentioned that significant trail planning has occurred for Bryan County and that the study team should take advantage of this previous body of work.
- Ms. Hickson pointed out that Bryan County's portions of the planned trail network is focused on the US 17 corridor as the trunk line with various spur tie-ins.
- She also mentioned that Bryan County is currently working to receive a grant from Georgia DNR for the Green Creek trail near SR 144.
- Ms. Hickson also noted that it is envisioned that the coastal Georgia trail system would link into a national trail system connecting the eastern seaboard from Maine to Key West, Florida - with many spurs and trailhead connection points in between.
- Ms. Hickson noted that many trail advocates believe the US 17 corridor should be designated as a scenic greenway corridor similar to the Blue Ridge Scenic Byway.

Bryan County Transportation Study
Interview Summary Sheet

Provided below is a bulleted stakeholder interview summary for interviews held on November 18, 2008 as part of the first round of information gathering in the Bryan County Transportation Study. The stakeholder interview was completed by: Radney Simpson - GDOT Office of Planning, and Grady Smith - Jordon, Jones, and Goulding.

Interviewee Name: Phil Jones, Bryan County Administrator

- Phil Jones serves as the County Administrator for Bryan County. In this role, Mr. Jones oversees the day-to-day operation of the county's transportation functions, and various other county management duties. Transportation related activities include coordination/management of GDOT funded maintenance and improvement projects for the State Route and Interstate roadways within Bryan County. Mr. Jones also manages all county-level transportation concerns including implementation of SPLOST projects as well as programs such as Bryan County Transit, which currently provides FTA 5311 rural transit services throughout the county.
- Mr. Jones articulated from his viewpoint the need for a new interchange at I-95 and Belfast Siding Road is of high importance. Radney Simpson referenced GDOT's recently completed Interchange Analysis Report (IAR) that was done in coordination with Bryan County Radney Simpson noted that the technical findings did not support an access break along I-95 at Belfast Siding Rd. Mr. Simpson further explained that the Bryan County Transportation Study is not intended to address specifics regarding the interchange request and recent Interchange Justification Report, and further explained that the study is geared to be comprehensive to address countywide needs. However, if it is determined over the course of the study process the interchange is warranted, GDOT'S Interchange Justification Report process could be implemented and the Department would work with the county on next steps.
- Mr. Jones expressed concerns regarding cut-through traffic from Liberty and Bulloch counties via corridors such as SR 144 and US 17. He stated it would be important for the study to address this issue.
- Mr. Jones noted that City of Richmond Hill recently annexed property on the southwestern portion of its boundary. The annexation has triggered the need for transportation improvements to county roadways serving the area.
- He also suggested that the study team should examine the need for signal upgrades on SR 144, and access management improvements along the US 280 corridor.
- Mr. Jones distributed hard copy of Bryan County's accident database to the study team. He noted that the database has been continuously updated by the county, and that he would provide the electronic version on the database per request by the study team. It was noted that the database may be more current than the CARE accident information already collected by the study team.

- Precursory review of the accident data suggests that US 280 has the highest occurrence of accidents of all major corridor in Bryan County.
- Mr. Jones provided an overview of the plan by the RDC to consolidate the Bryan County FTA Section 5311 rural transit services program into a regional system that would provide cross county services throughout the coastal region.
- Mr. Simpson clarified that the Bryan County Transportation Study would not be addressing logistics of the 5311 consolidation, and that the RDC would be leading that effort.
- Mr. Jones provided status of the county's roadway resurfacing and SPLOST project activities. It was agreed that the study team would provide a base map to Mr. Jones for mark up to identify key county transportation project initiatives.
- It was indicated that Moreland Altobelli Associates developed the systemic process to determine countywide repaving needs.
- Mr. Jones indicated that the county spends roughly $500K to $600K annually on resurfacing projects funded with SPLOST dollars.
- It was noted that the current SPLOST would expire in 2012.

Bryan County Transportation Study
Interview Summary Sheet

Provided below is a bulleted stakeholder interview summary for interviews held on November 18, 2008 as part of the first round of information gathering in the Bryan County Transportation Study. The stakeholder interview was completed by: Kyle Mote - GDOT Office of Planning, and Gordon Burkette - Jordan, Jones, and Goulding.

Interviewee Name: Nevin Patton is Senior Vice Presidnet of the 1st Bank of Coastal Georgia. Mr. Patton has been a resident of the area for over thirty years and works with many local developers.

- If this study (Bryan County Transportation Study) does not address I-95 and Belfast Siding Interchange, you will have only one route to I-95 from that part of the county. This issue is very important to address, especially for developers.
- School traffic on 144 to 144 spur is very bad. Causes a lot of backups. Need to help school district with future locations of facilities. Currently facilities areas are clustered within a campus.
- Mr. Patton was not sure if sidewalks really make a difference in the town. He said that the area is growing mostly because of young families interested in quality schools. However, Mr. Patton said that multi use trails are attractive to young families moving into the community.
- A new development of 1,100 homes is going into golf community off 144 and Oak Level Road. This will increase traffic along SR 144. Perhaps a traffic signal and SR 144 widening are warranted.
- Mr Patton compared the value of constructing an interchange at Belfast Siding Road and SR 144 versus widening of SR 144. Mr. Patton feels that either the widening or the interchange should be completed in the short term. Later, whichever project has not been completed will need to be constructed.
- Sinking roads in the area is the biggest maintenance issue.
- Extension of Harris Trail out to Belfast Keller Road may be done in lieu of widening SR 144. The Belfast Keller Road project is seen as providing an parallel alternative route to traffic currently using SR 144.
- Making the transition from a rural to urban county is Mr. Patton's biggest long term concern in terms of the transportation network. Population and employment growth warrants a change in how the county and cities operate and cooperate.
- Mr. Patton suggested that Jean Brogdon should be included as a stakeholder interview. He lives in Liberty County. Mr. Brogdon's family are local developers of commercial and residential properties, including the building which houses the chamber of commerce. The Brogdon family have several other parcels in the area that they plan to develop in the future and are well connected with other development activites occurring in the area.

Bryan County Transportation Study
Interview Summary Sheet

Provided below is a stakeholder interview summary from February 11, 2009. This interview was part of the second round of stakeholder interviews and other information gathering activities held in as part of the Bryan County Transportation Study. This interview was completed by: Radney Simpson - GDOT Office of Planning, and Gordon Burkette - Jordan, Jones, and Goulding.

Interviewee Name: Dr. Sallie Brewer, Superintendent of Bryan County Public Schools

- The conversation began by discussing the continuing challenges the district faces in getting children to and from school facilities. According to Dr. Brewer, the biggest challenge is getting qualified bus drivers. Often the district operates without the appropriate number of drivers, requiring longer wait times for students going home in the evening and earlier pick up times in the morning. Dr. Brewer would like to encourage more parents to send their children via bus, but the district does not have the capacity due to lack of available drivers.

  Schools facilities tend to be designed in clusters within the county, often resulting in two to three separate schools (serving different age groups) built within close proximity to one another. The objective is to give the school district the future flexibility to convert a clustered campus into a single school when the demand for facilities dictates. However, clustering facilities has had the negative externality of creating traffic congestion in corridors leading to the facilities, with buses and parents converging on these campuses within a small period of time to drop off or pick up children. This practice has resulted in traffic congestion at a number of the clustered campuses, especially at State Route 144 and Francis Meeks Way in South Bryan County.

  Several initiatives have been implemented to mitigate traffic congestion at these locations. Initiatives include police officers assigned to manage traffic at key locations and times, consolidation of pick up and drop off locations within the campuses and staggering of pick up times within a clustered campus.

- A new clustered campus is planned to be located just off of Belfast Keller Road in South Bryan. This campus will initially host a new middle school, and is planned to eventually become a high school campus. This campus will be constructed in advance of the Rayonier mixed use development to be located adjacent to the campus.

  The school district has also purchased property off of State Route 119 and Payne Road behind an existing school facility. This location will likely be the sight of a future elementary and middle school campus as part of the E-SPLOST program. In Richmond Hill, the district is

developing plans to construct a new elementary school near US 17 west of State Route 144. Dr. Brewer agreed to provide the study team maps and locations of likely new school facilities.

- Dr. Brewer discussed the school district's participation in the Safe Routes to School program. A point of discussion between the program and the school district was the district's desire to separate possible bike/pedestrian traffic from users of the multi-use trails and/or sidewalks due to safety concerns. According to Dr. Brewer, the master plan of the school district includes fencing in all campus facilities including playgrounds, parking lots and school buildings. Dr. Brewer would like to see implementation of the Safe Routes to Schools program if their plan develops bike/ped facilities that are located along the perimeter of the school facilities, allowing the school district to limit student access outside of the school district facilities.

- Dr. Brewer's transportation priorities include the Interchange at Belfast Siding and I-95, which is likely to be located near the future high school planned for Belfast Keller Road. Also mentioned was the importance of widening State Route 144 from Belfast Keller Road south.

- Dr. Brewer agreed to provide the team with a copy of the Bryan County School master plan replete with likely future school locations and size. This information will be used to calibrate the future year of the travel demand model.

Bryan County Transportation Study
Interview Summary Sheet

Provided below is a stakeholder interview summary from February 24th 2009. This interview documents the third round of stakeholder interviews and was completed by: Kyle Mote - GDOT Office of Planning, and Gordon Burkette- Jordan, Jones, and Goulding.

Interviewee Name: Nevin Brown, Former President of the Main Street Homeowners Association and active member of the National Association for the Advancement of Colored People (NAACP) and resident of Richmond Hill.

- The conversation began with Ms. Brown sharing her interest in transportation as that of an advocate for more options accessible by the poor and lower income populations to reach needed job opportunities in nearby Chatham County. Ms. Brown believes that the greatest transportation need in the Richmond Hill is to have the option of mass transportation, especially in the more heavily developed corridors of US 17 (Ocean Highway) SR 144 (Ford Avenue).

- Ms. Brown suggested that since Richmond Hill has two railroads lines (CSX line between Waycross and Savannah and the Riceboro Southern Short line which connects the Port of Savannah to Riceboro) that are only a quarter of a mile apart, one of the lines may not be needed, and thus, providing the community with the option to convert one of the rail corridors into mass transit or commuter service.

- Ms. Brown noted that newer developments especially along US 17 and SR 144 have sidewalks. She believes that all developments should provide access for pedestrians, especially seniors.

- Ms. Brown agreed to help the study team publicize and distribute information for the upcoming public meetings to underserved groups in the area. Other methods to publicize the study included using the City of Richmond Hill Billboard, and the city council's email distribution list. The contact for the billboard and distribution list is Nancy Frye of the City of Richmond Hill.

Bryan County Transportation Study
Interview Summary Sheet

Provided below is a stakeholder interview summary from February 24th 2009. This interview documents the third round of stakeholder interviews and was completed by: Kyle Mote - GDOT Office of Planning, and Gordon Burkette- Jordan, Jones, and Goulding.

Interviewee Name: Jimmy Burnsed, Chairman of the Bryan County Commission

- The interview began with the Commissioner's discussion of a letter from Representative Vance Smith, Chairman of the Transportation Committee. According to Mr. Burnsed, this letter outlined the increases of transportation funding for counties outside of the Atlanta region. According to Mr. Burnsed, the letter included a schedule of funding by county in the form of a spreadsheet. According to Mr. Burnsed, the scheduled transportation funding allocated for most counties grew by 200-1000% but Bryan County's share grew by just 80%. Mr. Burnsed's concern was how small the increase for Bryan County was relative to other counties.

- Mr. Burnsed emphasized that Harris Trail is an important project to the county. The right of way for this project was recently donated by the Rayonier company and has been subsequently cleared by county staff. Mr. Burnsed believes this project is "shovel ready" but is currently without funding to be paved.

- Mr. Burnsed pointed out the importance of the Belfast Keller Loop widening which will be funded through the county's SPLOST program, insurance settlement and other local sources.

- Mr. Burnsed also believes that the widening of SR 144 is important, but it has been in some level of limbo because the project was cut from FY 2010 STIP schedule. According to Mr. Burnsed, GDOT amended the original widening to include a 6' to 8' trail to connect existing and future neighborhoods in the area to the new Henderson municipal park, to be located off of SR 144. Originally, the widening was to end at the 144 spur, but the county has formally requested that the widening be extended 1/8th of a mile to terminate at the new park. The county has not received official notice on the status of this extension.

- According to Mr. Burnsed, truck traffic on US 280 at Interstate Centre necessitates the widening of the road around the interchange to the industrial park . Interstate Centre is the location of nearly 800 jobs and will likely continue to grow with the construction of distribution facilities that support the Port of Savannah.

- Mr. Burkette asked how the SPLOST funding would cover Belfast Keller Loop, Harris Trail and various road paving projects given the small amount of the SPLOST money dedicated to road improvements. The response was that the county was conservative in the amount anticipated to be receive from SPLOST V proceeds by $5 million. Mr. Burnsed predicted that a portion of the total overage would likely be dedicated to road improvements.

- Mr. Burnsed also pointed out that the priority projects were developed through the 2007 Bryan County Transportation Plan.

Bryan County Transportation Study
Interview Summary Sheet

Provided below is a stakeholder interview summary from February 11, 2009. This summary was developed to document the second round of stakeholder interviews and other information gathering activities held in the study area. This stakeholder interview was completed by: Radney Simpson - GDOT Office of Planning, and Gordon Burkette- Jordan, Jones, and Goulding.

Interviewee Name: The Honorable Mayor Judy Cook, City Clerk Betty Hill and City Planner Wynn Carney from the City of Pembroke.

- The conversation began with the discussion of widening State Route 280 west from I-16. The mayor is concerned about the potential impact to downtown Pembroke. A commercial district exists between Warnell and Ledford/Strickland Streets. Parking for the commercial district and the rail line (operated by Georgia Central Railroad) are located just south of State Route 280, within the footprint of the widening. Currently, the widening calls for State Route 280 to be expanded from 2 through lanes to 4 through lanes and 1 turn lane. Mayor Cook stated that parking should be preserved because it is critical to the viability of the commercial district.

  The discussion moved to possible alternatives of widening State Route 280 through town. The first alternative discussed was creating a bypass around Pembroke. The mayor felt this was not a good option because it would attract development away from downtown and outside of the city limits.

  The mayor mentioned that talks by the city had been initiated with the Georgia Central Railroad to have the tracks moved farther south to provide adequate right of way for the widening. Moving the tracks could reduce the need to take existing parking. In addition, Mr. Simpson suggested a one-way pair as a possible alternative solution. This alternative was positively received.

- The conversation moved to State Route 280 between State Routes 119 and 67. At the beginning and end of the school day, school related traffic from Bryan County Elementary School creates congestion in this area, especially for those wishing to go north onto College from State Route 280 and those going south on State Route 67 wishing to go east or west on 280. The city currently uses the police department at this location during peak traffic times to manage traffic flow. The city believes a long term solution would be to install the town's second traffic signal at State Route 280 and State Route 67. The city's current traffic signal exists one block west of this intersection at Main Street and State Route 280. According to the mayor, GDOT believes that a second signal in this area would negatively affect operations due to the close proximity of the intersections.

- Wynn Carney provided a PowerPoint presentation which was presented by Fort Stewart the previous week. The presentation identified that $34 million had been secured to construct a bypass around the Fort Stewart with a connection to State Route 144. The purpose of this bypass is to serve new military barracks and to consolidate commercial traffic into the base. Construction is to begin in FY2010. Mr. Carney suggested that this new bypass could encourage truck traffic to use State Route 280 through Pembroke from I-16, and State Route 144 through Richmond Hill from I-95 for future deliveries to the base. Mr. Carney also provided a hard copy of the presentation and contact person at Fort Stewart.

- Betty Hill discussed the topic of trucks traveling south on Main Street and maneuvering right turns onto State Route 280. According to Ms. Hill, trucks making this right turn movement often jump the curb due to the tight turning radius. This often leads to collisions with ornamental streetlight poles installed in the area. To seek a solution to this issue, Mr. Simpson suggested that the Mayor have this concern relayed by the city engineer to the GDOT Jessup office.

- The mayor noted that the city has successfully secured two Transportation Enhancement grants for the area, including an upcoming beautification project at Main and State Route 280. Also, funding for paving the canal network which surrounds Pembroke has been identified.

Bryan County Transportation Study
Interview Summary Sheet

Provided below is a bulleted summary of the stakeholder interview held with Pastor Carlton Cooper on February 11, 2008. This interview was part of the second round of stakeholder interviews for the Bryan County Transportation Study. This interview was completed by Kyle Mote - GDOT Office of Planning, Matthew Fowler – GDOT Office of Planning, and Amanda Easoz - Jordan, Jones, and Goulding.

Interviewee Name: Carlton Cooper, Pastor, Bethel Baptist Church

- Kyle Mote began the discussion by recapping the purposes and goals of the Bryan County Transportation Study. He reviewed the 2035 planning time frame and thanked Pastor Cooper for sharing his perspective on county transportation needs.

- When asked about the most important transportation issues that should be addressed in the study, Pastor Cooper responded with issues associated with an increase in volume that is tied to growth.

- Pastor Cooper identified traffic on US 17 (Ocean Highway) and State Route 144 (Ford Avenue) as the major issue. He has talked to many people that have to deal with congestion on this road. In the afternoon, these roads begin to see traffic congestion at 3:30 pm.

- Pastor Cooper identified a couple likely causes of traffic congestion:
    1. Traffic from Liberty County traveling through Bryan to reach employment in Chatham;
    2. A number of Bryan County residents traveling to Chatham County and Savannah for work.

- Looking forward, Pastor Cooper identified the need to address capacity issues on US 17 as growth occurs in the area about three miles south of his church.

- Pastor Cooper identified a potential need to provide sidewalks in neighborhoods moving forward. He pointed out that he does not always pay attention to sidewalks.

- Pastor Cooper stated that the Daniel Hwy extension should be a priority for the County. Development is coming that will require better connectivity in that area.

- Mr. Mote asked Pastor Cooper if he was aware of any transportation issues in Pembroke. Mr. Cooper said he did not know of any.

- Some discussion ensued regarding the locations from which Bethel Baptist Church pulls its congregation. It was noted that the constituency is from Bryan and surrounding counties.

- Mr. Mote asked if members of Pastor Cooper's congregation would be interested in participating in the study. Pastor Cooper suggested the following two names but would allow the individuals to contact the project team if interested in participating:
    1. Tom Hill, business owner in Hinesville
    2. Matt Connor, Georgia Power employee

- Pastor Cooper would appreciate having more study pamphlets sent to him so he could redistribute them to his congregation.

- Pastor Cooper reinforced his perspective that SR 144, particularly areas with only two lanes near Keller, should be a priority area for increasing capacity.

- The group briefly discussed the urbanizing nature of Bryan County and the importance of maintaining Bryan County's rural character as growth occurs.

Bryan County Transportation Study
Interview Summary Sheet

Provided below is a bulleted summary of the interview held with Johnny Murphy on February 11, 2008. This interview was part of the second round of stakeholder interviews for the Bryan County Transportation Study. This interview was completed by Kyle Mote - GDOT Office of Planning, Matthew Fowler – GDOT Office of Planning, and Amanda Easoz - Jordan, Jones, and Goulding.

Interviewee Name: Johnny Murphy, Developer of Buckhead Lakes and other areas of Southern Bryan County

- Mr. Mote welcomed Johnny to the interview and thanked him for his time.

- Johnny Murphy offered to give his perspective on the county's future growth and transportation needs, in large part by looking back at how the county has gotten to this point. He thought this would address many of the interview questions. Mr. Murphy's main points included the following:
  - He arrived in the county in 1983 (has been in Bryan County for 25 years).
  - His family was the 64th family in the County; now there are 7,000 households.
  - Rayonier (land previously owned by the Ford Foundation, then the International Paper Company) will have the most significant impact on growth in Bryan County. Rainer's subsidiary is installing infrastructure on Rayonier lands, then slowly selling it off to developers. Johnny's company is part of the subsequent land development.
  - The only notable transportation change that has happened in 25 years is that there are two new, four lane roads (US 17(Ocean Highway) and State Route 144 (Ford Avenue).

- Mr. Murphy stated that the congestion problems in the southern region of the county are a result of all the schools being located in Richmond Hill. He said that heavy volumes are only a problem when school is in session.

- Mr. Murphy believes that peak travel trends will decrease when new schools are built outside of Richmond Hill in other areas of the county.

- Mr. Murphy sketched out when he foresaw major land and transportation developments occurring during the planning period. Two major developments (one being Mr. Murphy's and another being Genesis Point) will begin leaking new housing into the market within the next five years.

- Mr. Murphy projected that the earliest date the interchange at Belfast Siding Road will be needed for public use is 2018. Development of the interchange should coincide with

industrial growth along the railroad in the Daniel area. He believes that this is the only area in the county suitable for industrial development and that Bryan County will remain a bedroom community.

- Mr. Murphy highlighted the transportation improvements he thought would be needed during the period:
  - No improvements will be needed to I-95, other than some potential upgrade of the interchanges.
  - Towards the end of the study period, US 17 will need to be widened.
  - The US 17/State Route 144 intersection will need to be revamped. A traffic signal will not be sufficient to control the intersection beginning 2018.
  - The Harris Trail extension will help connect areas.

- When asked if he believed there were any multi-mode transportation needs, Mr. Murphy stated that this was essential.
  - He stated that a major network of sidewalks already exists and that it is critical that a good multi-use trail system be developed that is accessible to the whole community and logically connects places.
  - Mr. Murphy pointed about that there are no taxis or buses in the county at this time. There needs to be another way to get around besides the car, and they should look into public transit (he'd loved to see a rail system) that brings people to the west side of the community.

- In the long-term, Mr. Murphy said that land use strategies need to provide alternatives that allow for travel without the car (such as mixed use development) and that planning for the senior population will require this type of growth.

- Mr. Murphy believes that more resources from outside the county are needed to plan with a forward-thinking mindset. Mr. Mote reinforced that a fundamental purpose of the study was to help the County with such efforts.

- Mr. Murphy also stated that the "peninsula effect" of the county will always be a driving factor in transportation patterns and the county's overall growth.

- Mr. Murphy suggested looking at The Village development in Florida as a good model for future development.

Bryan County Transportation Study
Interview Summary Sheet

Provided below is a stakeholder interview summary from February 24th 2009. This interview is part of the third round documentation of stakeholder interviews and was completed by: Kyle Mote - GDOT Office of Planning, and Gordon Burkette- Jordan, Jones, and Goulding.

Interviewee Name: Sonny Timmerman, Director of the Hinesville MPO

- The interview began with discussion of the proposed interchange at I-95 and Belfast Siding road. Mr. Timmerman was concerned about the associated growth in population and employment and the potential impact this development would have on Liberty County. He believes that the Interstate 95 can absorb the impact of an additional interchange, but felt that GDOT was not likely to approve the interchange.

- According to Mr. Timmerman, Fort Stewart is planning to build a bypass on SR 144 and Military 47 to serve the new cantonment area for the new barracks and related facilities being built for the 5th Brigade. This has been on the Hinesville MPO's long range plan. He believes funding and construction is scheduled for FY 2010. Fort Stewart Bypass project is being funded through Department of Defense and is scheduled to come on line in 2011 to coincide with BRAC expansion.

- Mr. Timmerman indicated that the military is moving the location of where commercial vehicles will enter the base. Currently, the commercial vehicle point of entry is from the 15th Street Airport Entrance. The new location will allow commercial traffic from Atlanta via SR 119 through Pembroke and traffic from I-95 to access the base via SR 144. He was unsure of the recent number of commercial vehicles entering the base per day, but anticipated the number to be several hundred vehicles per day that will be impacted by the change.

- Coastal Georgia RDC is completing a Joint Land Use Study (JLUS) for Fort Stewart. These studies are similar to comprehensive plans with the focus being on base activities and surrounding land. Counties included in the study area are Bryan, Liberty, Tattnal and Long.

  As part of the JLUS funding through the Department of Defense (DOD), the Hinesville MPO has been commissioned to measure impacts of the base expansion on areas surrounding Fort Stewart through the use of an expanded travel demand model. The current Hinesville model includes Liberty and Long. Expansion through this effort is likely to include Tattnal and Bryan Counties. Mr. Timmerman suggested some coordination of the model expansion should occur with GDOT. The DOD military to local

funding match for expansion of the travel demand model is 90/10. The current model is maintained by RS&H.

- According to Mr. Timmerman, the military has advocated the widening of SR 144 from the I-95 Interchange west to the base. This is the military's preferred route for deploying troops and equipment from Fort Stewart to the Port of Savannah. He also mentioned that the military has not proposed to fund this project.
- Mr. Timmerman pointed out that SR 144 through Fort Stewart closes 3-4 times per year due to training. Fort Stewart usually publishes times and dates of closures well in advance to notify non-military traffic.

Local Agency Kickoff Meeting Summary Report

November 18th 2008
Richmond Hill/Bryan County Chamber of Commerce
2:00 – 3:00 pm

The purpose of the Local Agency Kickoff Meeting was to introduce the Bryan County Transportation Study to local officials and receive input on key issues affecting the Bryan County transportation system, in which the study should address. Meeting attendees are listed on the last page of this report. The following bullets highlight discussion items from the meeting:

Presentation

- Kyle Mote, GDOT Project Manager provided a presentation covering the study purpose, as well as, an overview of current and upcoming activities. The major points covered during the presentation included:
  - The Bryan County Transportation Study is to document mobility needs of today and the future (2035); identify transportation projects based on community priorities; prioritize future transportations projects and identify potential transportation funding sources.
  - The study will analyze existing and future transportation conditions, and review previously completed studies.
  - The study will develop a travel demand model which will predict future daily traffic based on future land use plans for the County.
  - Public involvement is an important study element. Public outreach activities will include public meetings, an Advisory Committee to provide input on technical elements, fact sheets to report study status and progress, and a study web page to keep the community apprised of upcoming meetings and activities.
  - Potential transportation improvements to be identified will include project such as safety improvements, access management, increased roadway capacity, new roadway connections and bicycle/pedestrian improvements.
  - Study next steps are to finalize data collection and review of previous studies, continue the stakeholder interview process, complete development of the travel demand model and prepare for the first Advisory Committee meeting tentatively scheduled for January 2009.
  - A 13-month schedule was presented to the group with an anticipated completion date of Fall/Winter 2009.

Map Exercise

- Following the presentation, the group engaged in an exercise to assist the study team in identifying transportation issues to be considered as the study progresses. The map exercise was conducted through the use of the following three maps: (1) Bryan County Study Area Map, (2) Pembroke Area Map and (3) Richmond Hill Area Map.

Dots to Identify Key Locations

Participants were given four types of colored dots and asked to place them on the maps provided. The intent of the effort was for participants to identify locations they felt transportation issues exist that should be addressed during the study process. Dot colors represented the following transportation needs:

- Red dots for indicated locations participants believe need traffic signal upgrades;
- Yellow dots indicated locations that lack adequate sidewalks and pedestrian facilities;
- Green dots indicated locations of safety concern; and
- Blue dots indicated needs for roadway expansion to accommodate additional traffic.

Map Dot Exercise Results

Ideas collected from the map exercise were transposed into a digital format. Figures 1-3 (attached) illustrate results from participants of the map dot exercise.

Participants Noted Key Areas of Need

In addition to the dots, participants were given pens and markers to write and/or note on the maps other areas and points of concerns. At the conclusion of this exercise, these maps were collected by the study team, and the result of the exercise has been documented in this report. Results of the map exercise identified transportation needs largely concentrated in three locations within the study area including:

1. Incorporated Pembroke;
2. Areas in close proximity to Richmond Hill;
3. Blitchton Area in and around Interstate Centre Industrial Park.

Summary of Written Explanations from Participants

The following points summarize the written notations during the mapping exercise. The notations have been organized by the map in which the information was collected:

Entire Study Area Maps

- Consider intersection of US 280 and State Route 30 for potential safety improvements.
- Identify sidewalks from US 280 to Hendrix Park Recreation Area along State Route 30.
- Consider roadway widening of Old Cuyler Road to four lanes from Blitchton to I-16.
- Consider new interchange at I-16 and Tar City Road to serve Interstate Centre Industrial Park.
- Consider extension of access roadway in the Interstate Centre Industrial Park (i.e., Oracal Parkway) which would connect Eldora to US 280.
- Consider new roadway connection from Bryant Highway in Hinesville to State Route 144.
- Consider extension of Harris Trail to Belfast Siding Road.

Pembroke Area Maps

- Analyze the benefit of realignment and signalization of College Street and Ashbranch Road.
- Consider addition of shoulder and acceleration/deceleration lanes on US 280 just west of the Pembroke city limits.
- Consider sidewalks improvements to connect adjacent neighborhoods to Bryan County High School along Payne Road and Camelia Drive.
- Address automobile traffic to Bryan County Elementary on Ashbranch Road.

Richmond Hill Area Maps

- Consider extension of Port Royal Road to Belfast/Keller.
- Consider improvements to Silk Hope Road (e.g., 4-lane upgrade and extension to the State Route 144 spur with sidewalk and bike trails).
- Consider a Fort Stewart Bypass which connects the northern and southern portions of the county. This road could begin at SR 144 and I-95, while the northern terminus is to be determined.
- Consider a frontage road along I-95 from State Route 144 to city limits.
- Consider a new roadway connection from the aforementioned new frontage roadway along I-95 to Ocean Highway.
- Consider a four lane widening improvement to State Route 144 throughout Richmond Hill.
- Sidewalks should exist on both sides of State Route 144.

Next Steps/Other

- The study team will continue to collect input on transportation conditions and areas of concern for Bryan County.

- The study team is currently developing an Advisory Committee (AC) formulated from local agencies and community stakeholders. The AC will meet periodically during the study to provide technical input and guidance.

- The study team will be drafting preliminary study goals based on the Joint Comprehensive Plan and input gathered during the upcoming Bryan County Transportation Study Advisory Committee meeting.

- The study team is developing the Existing Conditions Report to document current and future transportation conditions as well as document input from previous studies reviewed as part of the study effort.

Figure 1: Stakeholder Input: Pembroke

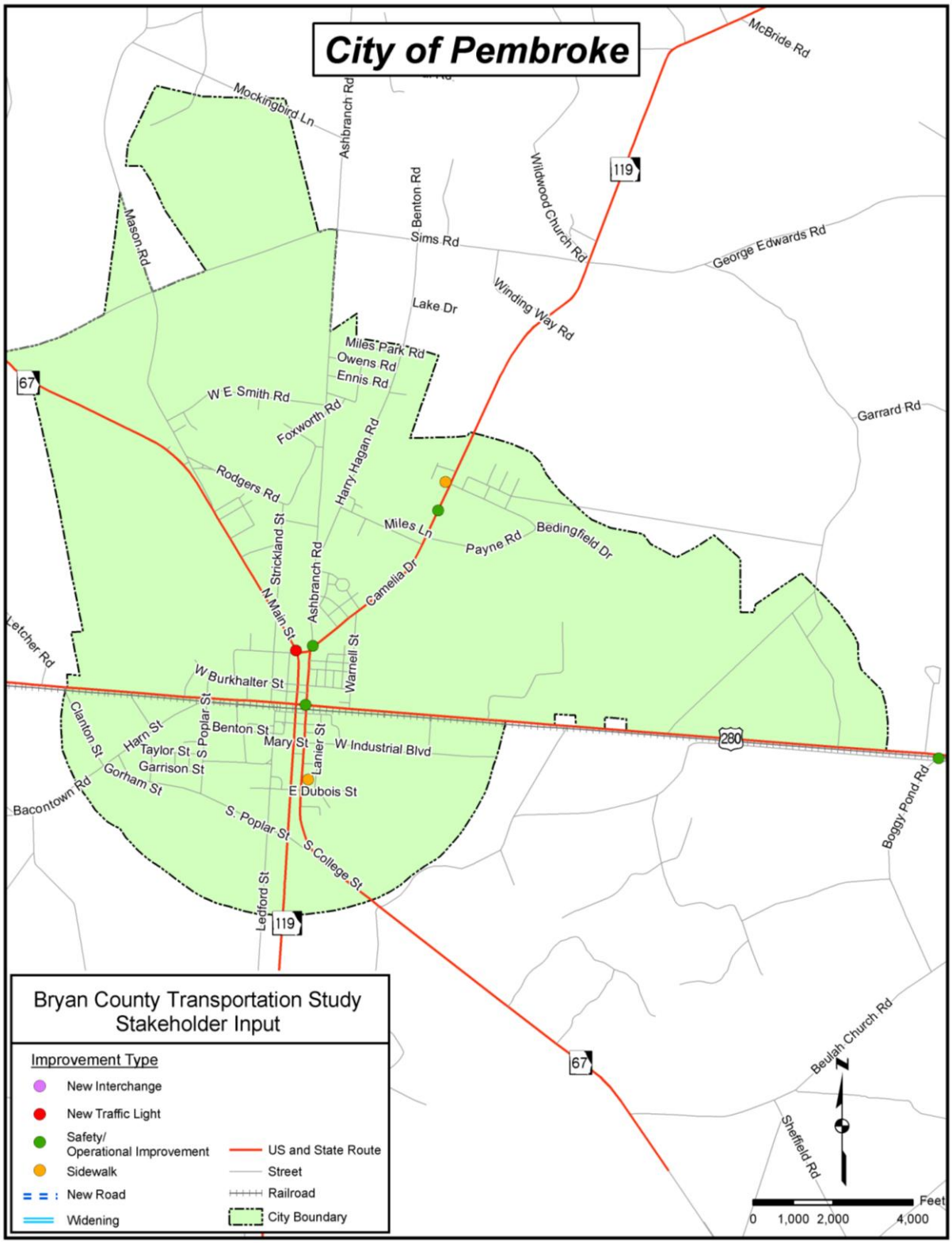


Figure 2: Stakeholder Input: Richmond Hill

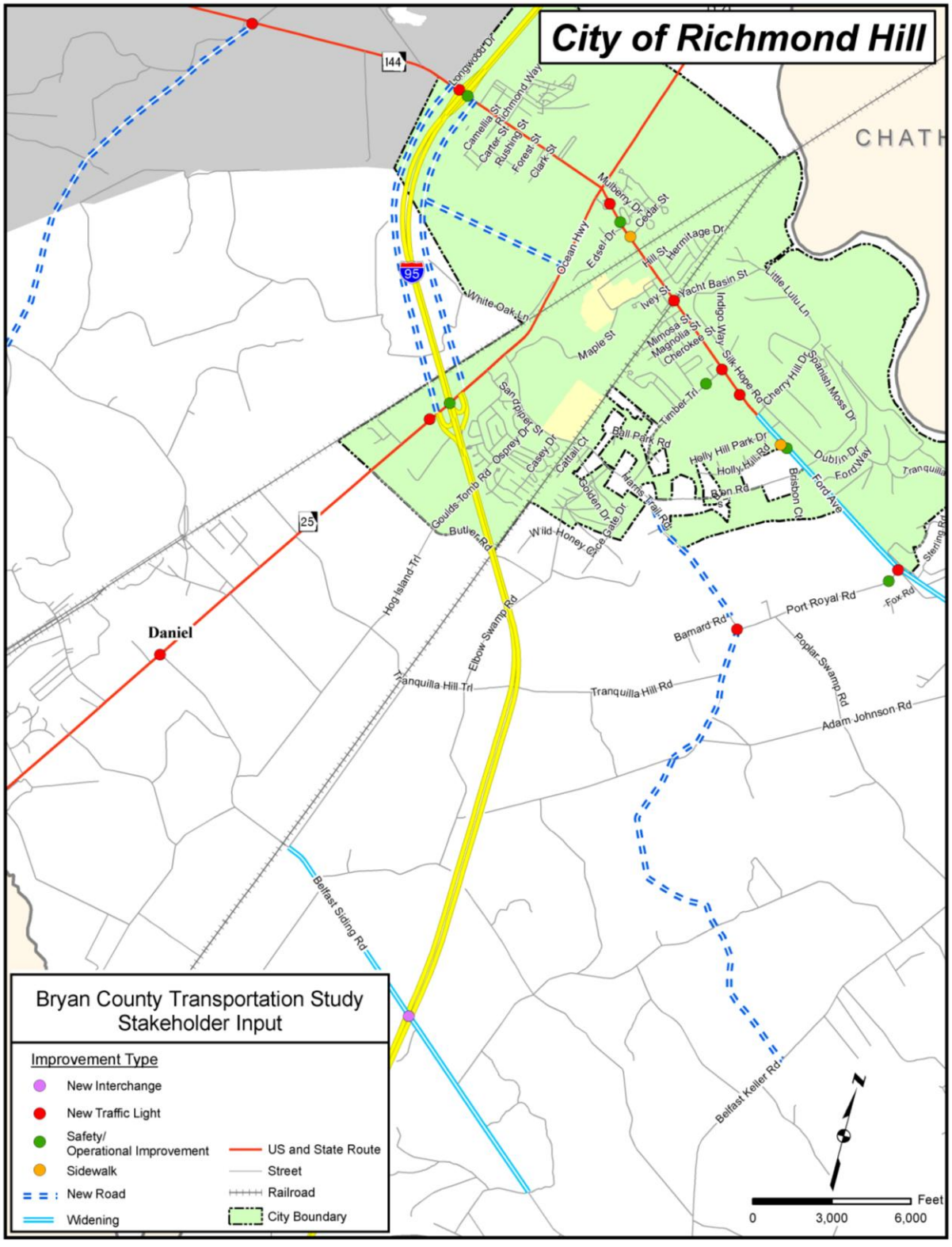
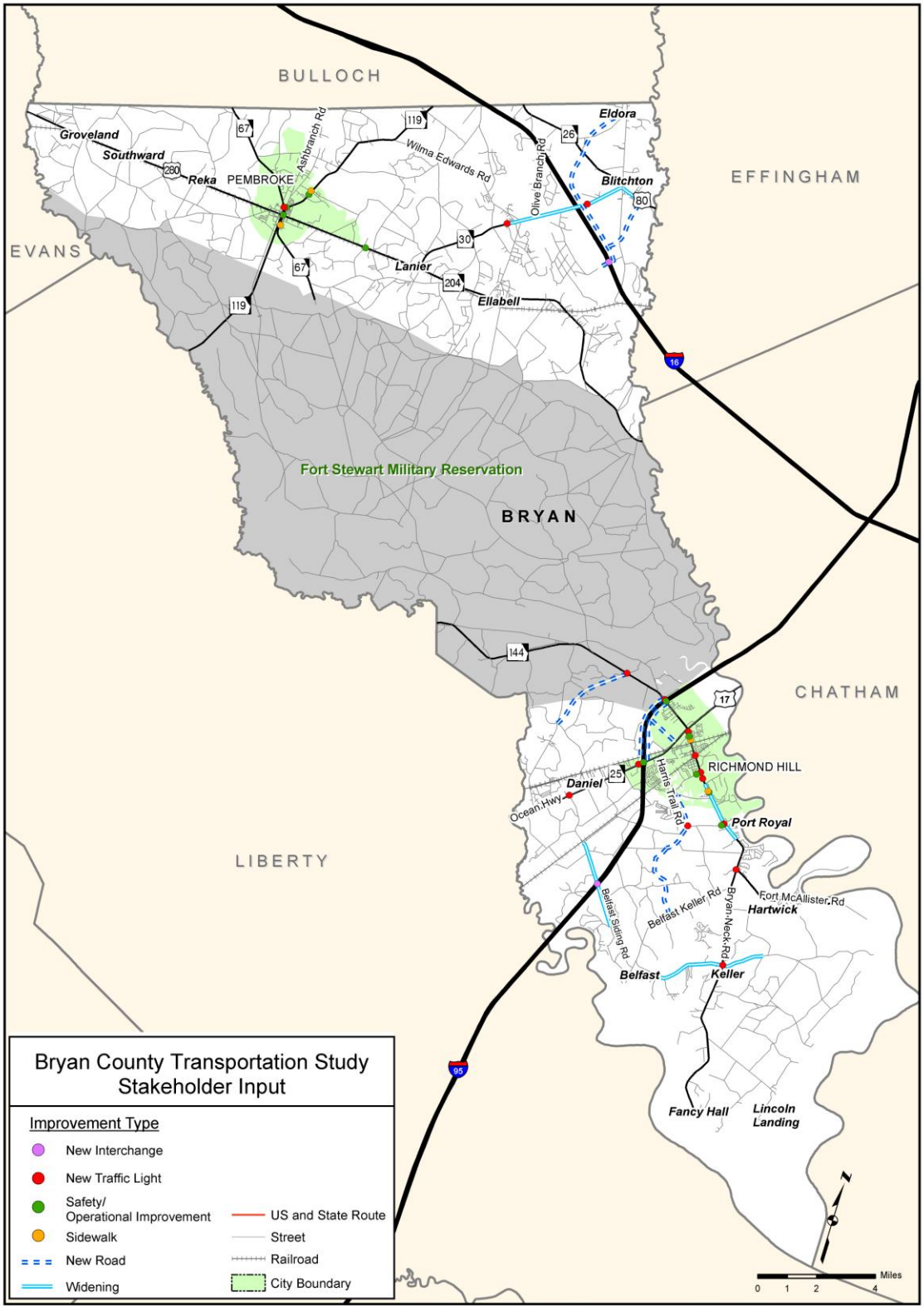


Figure 3: Stakeholder Transportation Input: Bryan County



Georgia Department of Transportation
Office of Planning

Meeting Attendees

1. Brad Anderson, Bryan County Public Schools
2. John Oliver, Bryan County Public Schools
3. Maureen Casey, Fort Stewart Transportation
4. Betty Hill, City of Pembroke
5. Richard McCoy, City of Pembroke
6. Terri Taylor, Bryan County Commission/Special Services
7. Steve Scholar, Richmond Hill Planning
8. Jerry DeLoach, Richmond Hill Chamber of Commerce
9. Dale Dudley, Bryan County
10. Ed Bacon, Bryan County Commission
11. Jean Bacon, Development Authority of Bryan County
12. Brad Saxon, GDOT District 5
13. Teresa Scott, GDOT District 5
14. Shirley Heagerty, S&J Bookkeeping
15. Bonnie Proctor, Bryan County Chamber of Commerce
16. Ross Blair, Bryan County News
17. Billy Reynolds, Richmond Hill Police Department
18. Tricia Reynolds, Coastal Georgia RDC
19. Phil Jones, Bryan County
20. Radney Simpson, GDOT Office of Planning
21. Kyle Mote, GDOT Office of Planning
22. Grady Smith, JJG
23. Gordon Burkette, JJG

Advisory Committee Meeting Minutes

February 11th 2009
Bryan County Court House Annex, Richmond Hill
2:00 – 3:00 pm

The first Bryan County Transportation Study Advisory Committee Meeting was held February 11th from 2-3pm at the Bryan County Courthouse Annex in Richmond Hill.

The following people signed in as meeting attendees:

- W. Phillip Jones, Bryan County Board of Commissioners
- Teresa Scott, GDOT District 5
- John Oliver, Bryan County Public Schools
- Jan Bass, City of Richmond Hill
- Steve Scholar, Richmond Hill Planning
- Dr. Sallie Brewer, Bryan County Board of Education
- Betty Hill, City of Pembroke
- Wynn Carney, City of Pembroke
- Dale Dudley, Bryan County
- Carl Elmore, Bryan County NOW Newspaper
- Derrell Newman, Bryan County Commission
- Ted Akins, Development Authority of Bryan County
- Matthew Fowler, GDOT Office of Planning
- Radney Simpson, GDOT Office of Planning
- Kyle Mote, GDOT Office of Planning
- Amanda Easoz, JJG
- Gordon Burkette, JJG

The following bullets highlight discussion items from the meeting:

Presentation

- Kyle Mote, GDOT Project Manager provided a presentation outlining the purpose of the first Advisory Committee presentation. Mr. Mote indicated that the purpose of the meeting was to provide a progress update on study activities, conduct an interactive voting exercise designed to refine transportation related goals from previous studies, and to discuss next steps in the study process.

  The presentation covered the following information:

  - The Bryan County Transportation Study will identify mobility needs of today and the future (2035); develop and prioritize transportation projects based on community priorities; and identify potential transportation funding sources.
  - The study will analyze existing and future transportation conditions through the year 2035; review findings from previous transportation studies; and develop a travel demand model which will be primarily used to predict future daily traffic taking into account land use changes identified in the Bryan County's Joint Comprehensive Plan.

- Public involvement activities will include a series of public meetings, input from the Advisory Committee which is intended to provide technical and policy guidance, fact sheets to provide updates and describe project activities, a questionnaire to gather input and gauge local concerns, and a web page to keep the community apprised of upcoming meetings and activities.
- The study will emphasize community input and use of previous studies to gauge community concerns and goals.
- Potential transportation improvements will include safety, improved access, increased capacity, new connections and alternative modes such as bicycle and pedestrian recommendations.
- Next steps include completion of the travel demand model, identification of future transportation needs, testing of potential improvement projects.
- A 13-month schedule was presented to the group with an anticipated completion date of September 2009.

Voting Exercise

- To foster interactive dialogue between the study team and meeting participants, an electronic voting system that operated within the presentation was employed to gather committee input on potential project goals. The voting exercise was based on 4 potential goals that were drafted by consolidating goal statements presented in previous Bryan County planning efforts (e.g., Bryan County City of Pembroke and City of Richmond Hill Comprehensive Plans and Bryan County Bicycle Pedestrian Study).

  Mr. Mote discussed each goal and posed a related question. The following summarizes the 4 potential goals presented, as well as, the voting results and associated discussion:

- **Goal 1: Encourage multi-modal transportation corridors**

  Participants were asked, "What is most lacking in terms of providing a multi-modal network in Bryan County?" Choices were:

  1. Pedestrian/sidewalk improvements/connectivity along major corridors;
  2. Increased roadway capacity within major corridors;
  3. Improved truck mobility and access to major freight generators;
  4. No changes needed;
  5. Not applicable.

  Seventy percent of participants voted for increased roadway capacity, while 30% voted for pedestrian/sidewalk improvements/connectivity along major corridors. The discussion that followed identified the following needs:

  - Widening improvements needed along SR 119 and SR 280;
  - Widening of SR 144 is needed in the southern part of the county where the roadway is currently two lanes;

- Construction of the interchange at Belfast Siding is important to connectivity and access to new developments;
- SR 204 to SR 280/Black Church Road should be upgraded;
- Pedestrian connections in Pembroke to local schools should be improved.

➢ **Goal 2: Expansion of the Bicycle/Pedestrian Network**

Participants were asked, "In terms of priority, where should the bike/pedestrian network be expanded?" Voting choices were:

1. Connections to parks and recreation;
2. Connections to schools and community facilities (e.g., Safe Routes to School Program);
3. Build bicycle and pedestrian network along major scenic corridors and greenways (e.g. canal ways;
4. Build bicycle and pedestrian network along major commercial corridors (e.g., Ford Avenue);
5. Not applicable.

Twenty percent of the respondents voted for connections to parks and recreation, 20% for connecting schools and community facilities while 60% would like trails built along major scenic corridors and canals.

During the discussion, it was noted that previous proposals have suggested using service roads along the canals as locations for possible multi-use trails, however there is some uncertainty regarding the feasibility of constructing such paths in these areas.

Additionally, a participant also noted that in Pembroke, if built a number of the canal adjacent multi-use trails would be in close proximity to school and recreation facilities, and therefore could serve a dual purpose connecting schools and community facilities.

To ensure that the network of trails is built strategically and is interconnected, one participant felt that a consolidated approach by the cities, county, and recreation departments be undertaken to construct and maintain trail facilities. . An additional comment received noted that a multi-use trail between Chatham and Bryan County should be completed extending a current trail that terminates on the Chatham side of US17 at King's Bridge and starts again at J F Gregory Park.

➢ **Goal 3: Coordinated Land Use and Transportation**

Participants were asked, "What is the most important to ensure coordinated land use with transportation decision making?" Possible responses were:

1. Mixed Use - Promote a mix of uses (employment/livable areas)within major development to reduce transportation demand;
2. Impact Fees – Investigate the possibility of developers to providing;
3. Transportation impact fees as part of new development projects;

4. Improve multimodal connectivity to major developments (e.g., Industrial Centre Park in Pembroke);
5. Not applicable.

Sixty percent of respondents voted for impact fees, 30% voted to improve multimodal connectivity to major developments and 10% for encouraging mixed-use developments.

Bryan County representatives stated that they currently use some impact fees to assist in making improvements related to development. The City of Richmond Hill stated that they do not currently impose impact fees. During this discussion it was also suggested that development reviews should include Emergency Management Services (EMS) to ensure that new facilities incorporate designs that are accessible to emergency vehicles.

- **Goal 4: Increase Safety of Transportation Network**

Participants were asked, "What are the most pressing safety concerns for Bryan County?" Possible answers were:

1. Reduce roadway-related accident contributors – deficient roadway geometrics (e.g., sight distances and tight curves), lack of signage, and drainage/flooding issues etc;
2. Improve current infrastructure - Reduce the number of unpaved roadways, add lighting on roadways, etc;
3. Improve pedestrian amenities (e.g., crosswalks, pedestrian signalization, etc.);
4. No change needed;
5. Not applicable.

Forty-four percent of respondents chose to improve current infrastructure, 33% chose reducing roadway-related accident contributors, while 22% noted improved pedestrian amenities.

Discussion concerning Goal 4 noted a clear differentiation of viewpoints expressed by representatives from urban areas versus rural areas of the county. Participants from urban parts of the county strongly advocated the need for sidewalks, while those in the rural areas suggested sidewalks were simply not a priority for their area.

The group collectively agreed that there were very few drainage issues and identified key areas to improve the existing transportation system. Other discussions surrounding Goal 4 included:

- Accidents mostly occur at major interchanges including US 80 and 280;
- Deep ditches especially along dirt roads are dangerous;
- Drainage around the Pembroke Dairy Queen should be addressed;
- The Warnell Road curve and Lanier curve on SR119 should be modified to increase safety;
- The speed limit at US 280 and I-16 should be reduced from 55mph to 45mph around the Interstate Centre;

- Due to limited lines of sight on US 280, the speed limit should be reduced to 45 mph from I-16 to Blichton;
- The county should prepare for new routing likely to be taken by trucks attempting to access the new commercial vehicle entrance to Fort Stewart. This entrance will be located on SR 119.

Potential Public Meeting Locations and Dates

- The final item for the meeting agenda was to ask the group about potential locations to hold upcoming public meetings. Locations suggested by the group included:

  - Pembroke's new Community Center;
  - Richmond Hill's City Hall Council Chambers;
  - The Wetlands Center (Richmond Hill);
  - Black Creek Golf Course Meeting Area.

- The group collectively agreed that the week of April 19-25 should be targeted for the first public meeting. This meeting would coincide with Georgia Cities week activities and could be coordinated with other area activities to increase public attendance. Other suggested methods to promote the meeting include the use of the Richmond Hill Billboard, Pembroke local cable access channel and other activities surrounding Georgia Cities week.

Next Steps

- Input regarding local values and vision from this meeting will be utilized to clarify project goals, better understand key elements needed to be included in project recommendations, development of project evaluation metrics, and to identify potential policy changes needed to implement the future transportation network envisioned.

- Information, including the presentation, maps, minutes and other materials will be available on the project website www.dot.ga.gov/bryanstudy.

- Locations and times of the next public meetings will be identified and distributed to the Advisory Committee members.

Advisory Committee Meeting Minutes

June 24, 2009
John W. Stevens Wetlands Education Center, Richmond Hill
3:00 – 4:00 pm

The second and final Bryan County Transportation Study Advisory Committee Meeting was held on June 24th from 3:00-4:00pm at the John W. Stevens Wetlands Education Center in Richmond Hill.

The following members of the Advisory Committee were in attendance:

- W. Phillip Jones, Bryan County Board of Commissioners
- Teresa Scott, GDOT District 5
- Mike Melton, City Manager of Richmond Hill
- Jan Bass, Community Planner - City of Richmond Hill
- Billy D. Reynolds, Chief of Richmond Hill Police Department
- Neil Smiley, Bryan County Engineering
- Kirk Croasmun, Bryan County Engineer
- Walter Shuman, Bryan County Public Works
- Matthew Fowler, GDOT Office of Planning
- Radney Simpson, GDOT Office of Planning
- Kyle Mote, GDOT Office of Planning
- Habte Kassa, GDOT
- Grady Smith, JJG
- Jenny Lee, JJG

The purpose of this meeting was to present the preliminary project recommendations and receive input from the committee to finalize these recommendations. The following bullets highlight discussion items from the meeting:

Presentation:

- Kyle Mote, GDOT Project Manager, opened the meeting by outlining the agenda items, which included a review of the work completed to date, an overview of the project identification process, preliminary project recommendations, summary of stakeholder activity to date, and next steps.

  The presentation covered the following information:

  - Mr. Mote reported that the following tasks have been completed:
    - Assessment of baseline conditions;
    - Development of study goals;
    - Travel Demand Model development;
    - Identification of potential improvements; and
    - Preliminary project evaluation and screening.

  - With respect to the project identification process, Mr. Mote announced that the projects have been identified based on recommendations from previous studies, LOS analysis, safety

and design issues, and stakeholder input. He emphasized that for every identified project, a need and purpose as well as logical termini were determined and refined.

- Mr. Mote then highlighted a few key System Management project recommendations and discussed the overall benefits of the System Management projects. He pointed out that these potential projects are recommended for consideration because they are low-cost and maximize the effectiveness of the existing system.

- Teresa Scott (GDOT District 5) asked why the bridge on I-95 at CSX Railroad should be replaced considering that I-95 bridges were upgraded as part of the I-95 widening. Mr. Mote replied that the bridge replacements identified in the study have sufficiency rating below 50, which make them eligible for federal funding. However, this is not to say that this particular bridge is structurally unsafe. The sufficiency rating also takes into account metrics not related to the structural integrity. Some of these factors include its role in public use (e.g., frequent school bus trips), if a bridge is on the national highway system and bridge approaches. Matthew Flower reiterated the point by stating that sufficiency ratings are used as a guide to identifying potential issues, and does not suggest that this particular bridge is structurally unsafe. The total estimated construction cost for System Management projects is approximately $41.2M.

- Mr. Mote explained that the cost estimations were performed using GDOT's cost estimation software (CES) and these costs are reported in today's dollars.

- With regards to Bicycle/Pedestrian recommendations, Mr. Mote stated that these projects were identified to enhance the multi-modal characteristics of the county. He then highlighted a few key sidewalk and multi-use path projects throughout the county. The total estimated construction cost for Bicycle/Pedestrian projects is approximately $13.4M.

- Mr. Mote then discussed in detail the top five capacity improvement projects in terms of benefit-cost rating. These projects included:
  - I-95 Widening (6 to 8 lanes, 2-mile segment - SR 144 to Chatham County) - $8.4M
  - SR 144 Widening (2 to 4 lanes, Timber Trail to Belfast Keller) - $32.3M
  - SR 144 Widening (4 to 6 lanes, US 17 to Timber Trail) - $32.3M
  - US 17 Widening (4 to 6 lanes, SR 196 to SR 144) – $42.7M
  - Belfast Siding Road Widening (2 to 4 lanes, US 17 to Park Hill 20 Road) – $24.8M

- Comments related to the capacity improvements are as follows:
  - Mike Melton stated that the widening of US 17 to SR 144 should terminate west of the I-95 interchange to direct commuter traffic from Liberty County to I-95 without having to go through the commercial district in Richmond Hill. Matthew Fowler indicated that there were operational reasons to have the logical terminus at SR 144, but the department will certainly take his suggestions into consideration.
  - Mr. Melton also commented on the impact of widening SR 144 to six lanes would have on the commercial district in central Richmond Hill. Jan Bass pointed out the apparent contradiction of widening SR 144 and recommending sidewalks at the

same time that will increase pedestrian and vehicular conflict. She stated that widening this segment of SR 144 is not in accordance with the city's plans to preserve its character. In response, Mr. Mote stated that when using federal dollars for capacity improvements, GDOT has a policy to incorporate sidewalks in an urban section of a roadway. Grady Smith pointed out that right-of way (ROW) cost estimates have not been determined, and thus, this project could be revisited once ROW costs are taken into account in calculating the benefit-cost ratio. Mr. Melton emphasized that the widening of SR 144 to four-lanes between Timber Trail and Belfast Keller Road needs to happen before the six lane section.

- With regards to the Belfast Siding Road Widening project, Mr. Melton commented that this project cannot be warranted based on today's traffic needs. He pointed out that there other pressing transportation issues that need immediate attention. Mr. Mote responded that these recommendations are based on a future land use scenario 25 years from now that reflects the county's aggressive growth policy, per the locally adopted land use plan, to develop the lands surrounding Belfast Siding Road.
- Jan Bass indicated that Harris Trail Road functions as the most logical bypass to the city. She stated that improving this road will deflect traffic from SR 144 and preserve the character of downtown Richmond Hill. She further added that Transportation Enhancement (TE) grant has been spent on improving the streetscape along SR 144 and these should not be destroyed to make room for the widening. In response, Kyle emphasized the long-range nature of these project recommendations and that they were identified based on LOS needs of the future. Mr. Fowler added that the preliminary recommendations were purely based on a technical analysis using a "what if" scenario. He stated that the purpose of the Advisory Committee meeting was to gather input from the locals to refine the projects and reflect community values. Mr. Smith further commented that stakeholder input is necessary to finalize the project list.
- Mr. Melton reiterated that widening the southern section of SR 144 to four lanes should be a priority based on safety as well. Phil Jones stated that this project was still a priority project in the county and programmed for 2011.
- With regards to the Harris Trail Widening, Mr. Jones recommended applying three phases to the project. First phase should extend the existing four lane section south to Port Royal Road. Assuming that the paving of Harris Trail Extension is completed by this time, the second phase should entail widening the remaining two lane section from Port Royal Road to Belfast Keller Road to four lanes. The last phase should be widening the entire Harris Trail Road from US 17 to Belfast Keller Road to six lanes.

- Mr. Mote then discussed the evaluation process used for assessing capacity improvement projects, which involved both quantitative and qualitative metrics. He explained that some of the metrics such as delay reduction and travel time savings were evaluated using the Travel Demand Model.

Next Steps:

- Input regarding local values and comments from this meeting will be utilized to refine the project recommendations. The final task is identifying potential funding sources for these improvements.

- The next public meeting is anticipated to be in July or August. Locations and times of the public meetings will be identified and distributed to the Advisory Committee members.

- The Bryan County Transportation study has an anticipated completion date of September 2009.

Bryan County
TRANSPORTATION STUDY

Bryan County Transportation Study
Local Agency Kickoff Sign-In Sheet

NAME: Jeri D. Taylor TITLE: Special Services Manager

ORGANIZATION/DEPARTMENT: Bryan Co. Commission / Special Services

NAME: STEVE SCHOLAR TITLE: DIRECTOR P+Z

ORGANIZATION/DEPARTMENT: RICHMOND HILL PLANNING
sscholar2@cogsta/now.net

NAME: JERRY DELOACH TITLE: CHAIRMAN

ORGANIZATION/DEPARTMENT: Richmond Hill / Bryan Co. Chamber

d. Neil Smiley@Bryan-county.org
NAME: Neil Smiley TITLE: Proj Manager

ORGANIZATION/DEPARTMENT: Bryan Co

NAME: Dale Dudley TITLE: Engineer

ORGANIZATION/DEPARTMENT: Bryan County
daledudley@bryan-county.org

Georgia Department of Transportation
Office of Planning

Bryan County
TRANSPORTATION STUDY

Bryan County Transportation Study
Local Agency Kickoff Sign-In Sheet

NAME: Ed Bacon jeaned@g-net.net TITLE: First Dist Co. Comm

ORGANIZATION/DEPARTMENT: Bryan County Commission

NAME: Jean Bacon jbacon@bryan-county.org TITLE: Ex Dir

ORGANIZATION/DEPARTMENT: Dev Auth of Bryan County

NAME: BRAD SAXON TITLE: Dist Precnstr Eng

ORGANIZATION/DEPARTMENT: GDOT

NAME: Teresa Scott TITLE: Dist. Planning Programming Eng.

ORGANIZATION/DEPARTMENT: GDOT / Jesup

NAME: Shirley Hengerty TITLE: President

ORGANIZATION/DEPARTMENT: S & J Bookkeeping

NAME: Bonnie Proctor TITLE: BOD

ORGANIZATION/DEPARTMENT: Chamber of Commerce

Georgia Department of Transportation
Office of Planning

Bryan County
TRANSPORTATION STUDY

Bryan County Transportation Study
Local Agency Kickoff Sign-In Sheet

NAME: Ross Blair TITLE: Bryan County Mgr

ORGANIZATION/DEPARTMENT:

NAME: Billy Reynolds TITLE: Chief

ORGANIZATION/DEPARTMENT: RHPD

NAME: Tricia Reynolds TITLE: Director of Planning & Govt Services

ORGANIZATION/DEPARTMENT: Coastal GA RDC

NAME: Phil Jones TITLE: Bryan County Administrator

ORGANIZATION/DEPARTMENT: Bryan County Commission
pjones@bryan-county.org

NAME: TITLE:

ORGANIZATION/DEPARTMENT:

NAME: TITLE:

ORGANIZATION/DEPARTMENT:

Georgia Department of Transportation
Office of Planning

Bryan County
TRANSPORTATION STUDY

Bryan County Transportation Study
Local Agency Kickoff Sign-In Sheet

NAME: Brad Anderson banderson@bryan.K12.ga.US TITLE: Asst Superint.

ORGANIZATION/DEPARTMENT: Bryan County Schools

NAME: John Oliver jolivier@bryan.k12.ga.us TITLE: Assoc. Supt

ORGANIZATION/DEPARTMENT: Bryan County Schools

NAME: Maurren Casey maureen.casey@us.army.mil TITLE: Chief Deployment Ops

ORGANIZATION/DEPARTMENT: Fort Stewart Transportation

NAME: Betty K. Hill TITLE: City Clerk

ORGANIZATION/DEPARTMENT: City of Pembroke pembrokega@g-net.net

NAME: Richard McCoy TITLE: City Projects Manager

ORGANIZATION/DEPARTMENT: City of Pembroke

Send to Betty Hill

Georgia Department of Transportation
Office of Planning

Bryan County Transportation Study
Advisory Committee Meeting #1 Sign-In Sheet
February 11, 2009

NAME: W/ Phillip Jones TITLE: Co Administrator

ORGANIZATION/DEPARTMENT: Bryan County Board of Commissioners

EMAIL ADDRESS: pjones@bryan-county.org

NAME: Teresa Scott TITLE: DPPE

ORGANIZATION/DEPARTMENT: GDOT

EMAIL ADDRESS: tscott@dot.ga.gov

NAME: MATTHEW FOWLER TITLE: ASST OFC HEAD

ORGANIZATION/DEPARTMENT: GDOT - PLANNING

EMAIL ADDRESS: MFOWLER@DOT.GA.GOV

NAME: RANNEY SIMPSON TITLE:

ORGANIZATION/DEPARTMENT: GDOT - PLANNING

EMAIL ADDRESS: RSIMPSON@DOT.GA.GOV

Bryan County
TRANSPORTATION STUDY

Bryan County Transportation Study
Advisory Committee Meeting #1 Sign-In Sheet
February 11, 2009

NAME: _____ TITLE: _____

ORGANIZATION/DEPARTMENT: JJG

EMAIL ADDRESS: _____

NAME: Amanda Easar TITLE: _____

ORGANIZATION/DEPARTMENT: JJG

EMAIL ADDRESS: _____

NAME: Jan Bass TITLE: Community Dev. Spec.

ORGANIZATION/DEPARTMENT: City of RH

EMAIL ADDRESS: jbass@richmondhill-ga.gov.

NAME: STEVE SCHOLAR TITLE: DIR, P+Z

ORGANIZATION/DEPARTMENT: CITY OF RH

EMAIL ADDRESS: sscholar@clgstg/mci.net
sscholar@richmondhill-ga.gov

Georgia Department of Transportation
Office of Planning

Bryan County Transportation Study
Advisory Committee Meeting #1 Sign-In Sheet
February 11, 2009

NAME: Sallie Brewer TITLE: Superintendent

ORGANIZATION/DEPARTMENT: Bryan Co BOE

EMAIL ADDRESS: sbrewer@bryan.k12.ga.us

NAME: Betty Hill TITLE: City Clerk

ORGANIZATION/DEPARTMENT: City of Pembroke

EMAIL ADDRESS: pembrokega@g-net.net

NAME: Wynn Carney TITLE: City Planner

ORGANIZATION/DEPARTMENT: City of Pembroke

EMAIL ADDRESS: WynnCarney@g-net.net

NAME: Dale Dudley TITLE: Cnty Engineer

ORGANIZATION/DEPARTMENT: Bryan County

EMAIL ADDRESS: daledudley@bryan-county.org

Bryan County
TRANSPORTATION STUDY

Bryan County Transportation Study
Advisory Committee Meeting #1 Sign-In Sheet
February 11, 2009

NAME: Carl Elmore TITLE: Reporter

ORGANIZATION/DEPARTMENT: Bryan County Now newspaper

EMAIL ADDRESS: carl.elmore@bryancountynow.com

NAME: Derrell Newman TITLE: PWD

ORGANIZATION/DEPARTMENT: Bryan County

EMAIL ADDRESS: derrellnewman@bryan-county.org

NAME: TED AKINS TITLE: VICE CHAIR

ORGANIZATION/DEPARTMENT: Development Authority - Bryan County

EMAIL ADDRESS: TFAKINS@COMCAST.NET

NAME: TITLE:

ORGANIZATION/DEPARTMENT:

EMAIL ADDRESS:

Georgia Department of Transportation
Office of Planning

Bryan County Transportation Study
Public Meeting Sign-In Sheet
April 21st, 2009

Pembroke

Name: Andra Rojeka

Organization/Department: Planner JJG

Phone: 678 332 0201 Email Address: andra.rojeka@jjg.com

Name: Kyle Mote

Organization/Department: GDOT

Phone: _____ Email Address: _____

Name: Carl Elmore

Organization/Department: Bryan County MOW

Phone: 756-5566 Email Address: carl.elmore@bryancountymow.com

Name: Tricia Reynolds

Organization/Department: Coastal GA RDC

Phone: 912-262-2870 Email Address: treynolds@coastalgeorgiardc.org

Name: Chris Chalmers

Organization/Department: GIS/IT CGRDC

Phone: 912-262-2580 Email Address: cchalmers@coastalgeorgiardc.org

JJG

GDOT Georgia Department of Transportation Office of Planning

Bryan County
TRANSPORTATION STUDY

Bryan County Transportation Study
Public Meeting Sign-In Sheet
April 21st, 2009

Pembroke

Name: F. J. Fenn

Organization/Department: Development Authority of Bryan County

Phone: 912-653-4967 Email Address: fjfenn@bryan-county.org

Name: TED Atkins

Organization/Department: Dev. Auth. - Bryan Co.

Phone: 912 441-1248 Email Address: TFAtkins@Comcast.net

Name: Phil JONES

Organization/Department: BRYAN County

Phone: 912-653-3835 Email Address: pjones@bryan-county.org

Name: BRAD SAXON

Organization/Department: GDOT

Phone: 912-427-5715 Email Address: bsaxon@dot.ga.gov

Name: RADNEY SIMPSON

Organization/Department: GDOT - Planning

Phone: _____ Email Address: _____

JJG

GDOT
Georgia Department of Transportation
Office of Planning

Bryan County
TRANSPORTATION STUDY

Bryan County Transportation Study
Public Meeting Sign-In Sheet
April 21st, 2009

Richmond Hill

Name: HAROLD FOWLER

Organization/Department: _____

Phone: 756-3058 Email Address: _____

Name: Steve Scholar

Organization/Department: Richmond Hill Planner

Phone: 756-3851 Email Address: SScholar@richmondhill-ga.gov

Name: Ross Blair

Organization/Department: Bryan Cty News

Phone: 758-3454 Email Address: _____

Name: Michael Adams

Organization/Department: Savannah/CORE MPO

Phone: 912-651-1458 Email Address: adamsm@thempc.org

Name: Michael MELTON

Organization/Department: City of Richmond Hill

Phone: 756-3632 Email Address: MMELTON@RichmondHill-GA.GOV

JJG

GDOT
Georgia Department of Transportation
Office of Planning

Bryan County
TRANSPORTATION STUDY

Bryan County Transportation Study
Public Meeting Sign-In Sheet
April 21st, 2009

Richmond Hill

Name: Richard R. Davis
Organization/Department: City of Richmond Hill - MAYOR
Phone: 912-756-2591 Email Address: RHONE713@coastalnow.net

Name: Jan Bass
Organization/Department: City of RH / Community Dev.
Phone: 756-6459 Email Address: jbass@richmondhill-ga.gov

Name: Phil Jones
Organization/Department: Bryan County
Phone: 912-653-3835 Email Address: pjones@bryan-county.org

Name: Cheryl Medina
Organization/Department: SCMG RH Peds
Phone: 756-3075 Email Address: Cmedina@southcoastmedical.com

Name:
Organization/Department:
Phone: Email Address:

JJG

GDOT
Georgia Department of Transportation
Office of Planning

Bryan County Transportation Study
Advisory Committee Meeting #2 Sign-In Sheet
June 24, 2009

NAME: Billy Reynolds TITLE: CHIEF

ORGANIZATION/DEPARTMENT: RHPD

EMAIL ADDRESS: breynolds@richmondhillga.gov

NAME: Neil Smiley TITLE: Bryan Co.

ORGANIZATION/DEPARTMENT: Engineering

EMAIL ADDRESS: d.Neil Smiley@Bryan-County.org

NAME: Jan Bass TITLE:

ORGANIZATION/DEPARTMENT: City of Richmond Hill

EMAIL ADDRESS:

NAME: Phil Jones TITLE:

ORGANIZATION/DEPARTMENT: County Admin't.

EMAIL ADDRESS:

Bryan County Transportation Study
Advisory Committee Meeting #2 Sign-In Sheet
June 24, 2009

NAME: Mike Melton TITLE: City Manager

ORGANIZATION/DEPARTMENT: City of Richmond Hill

EMAIL ADDRESS: MMelton@RichmondHill-GA.gov

NAME: Teresa Scott TITLE:

ORGANIZATION/DEPARTMENT: GDOT / Jesup

EMAIL ADDRESS:

NAME: Kirk Croasmun TITLE: Engineer

ORGANIZATION/DEPARTMENT: Bryan County

EMAIL ADDRESS: KCroasmun@Bryan-County.org

NAME: Walter Shuman TITLE: Superintendent

ORGANIZATION/DEPARTMENT: Public Works

EMAIL ADDRESS: W.Shuman@Bryan County.org

Bryan County Transportation Study
Public Meeting Sign-In Sheet
August 6th, 2009

Name: Jo Hickson

Organization/Department: Coastal GA. Greenway

Phone: 912-236-2225 *Email Address:* johickson@coastalgeorgiagreenway.org

Name: Marilyn Hodges

Organization/Department: City of Richmond Hill City Council

Phone: 756-3345 *Email Address:* _____

Name: Mark Cobb

Organization/Department: First Bank & Coastal Gas

Phone: 756-3391 *Email Address:* _____

Name: Richard R. Davis

Organization/Department: City of R. Hill

Phone: 756-2297 *Email Address:* RHONE7135@Coastalnow.net

Name: Rick GARDNER

Organization/Department: Bryan County Commission

Phone: 313 3914 *Email Address:* dr.gardner@comcast.net

JJG

GDOT Georgia Department of Transportation Office of Planning

Bryan County
TRANSPORTATION STUDY

Bryan County Transportation Study
Public Meeting Sign-In Sheet
August 6th, 2009

Name: Carlton Cooper

Organization/Department: Bethel Baptist Church

Phone: 912 756 3321 *Email Address:* CarltonCooper@Coastalnow.net

Name: John Tanner

Organization/Department: House owner

Phone: 727-3726 *Email Address:* tannerengr@yahoo.com

Name: Michael Metts

Organization/Department: City of Richmond Hill

Phone: 912 756-3632 *Email Address:* MMELTON@R.Richmond Hill GA-Gov

Name: Steve Scholar

Organization/Department: City of RH

Phone: 756-3851 *Email Address:* Scholar@richmondhillga.gov

Name: Ronald E. Sadonski

Organization/Department: Coastal Regional Commission

Phone: 912-262-2883 *Email Address:* rsadonski@crc.ga.gov

JJG

GDOT
Georgia Department of Transportation
Office of Planning

Bryan County
TRANSPORTATION STUDY

Bryan County Transportation Study
Public Meeting Sign-In Sheet
August 6th, 2009

Name: Jan Bass

Organization/Department: City of RH

Phone: 756-6459 *Email Address:* jbass@richmondh.11-ga.gov.

Name: Carl Elmore

Organization/Department: Bryan County NOW

Phone: 756 5566 *Email Address:* carl.elmore@bryancountynow.com

Name: _____

Organization/Department: _____

Phone: _____ *Email Address:* _____

Name: _____

Organization/Department: _____

Phone: _____ *Email Address:* _____

Name: _____

Organization/Department: _____

Phone: _____ *Email Address:* _____

JJG

GDOT
Georgia Department of Transportation
Office of Planning

Bryan County Transportation Study
Public Meeting Sign-In Sheet
August 6th, 2009

PM

Name: Franklin Etheridge

Organization/Department: City of Pembroke

Phone: 912-653-4466 Email Address: fetheridge@g-net.net

Name: Richard McCoy

Organization/Department: City of Pembroke

Phone: 912-653-4413 Email Address: _____

Name: _____

Organization/Department: _____

Phone: _____ Email Address: _____

Name: _____

Organization/Department: _____

Phone: _____ Email Address: _____

Name: _____

Organization/Department: _____

Phone: _____ Email Address: _____

Georgia Department of Transportation
Office of Planning

Bryan County Transportation Study
TWO PUBLIC MEETINGS
Tuesday, April 21st:
At the County Commissioner's Meeting Room in Pembroke at 2:00pm
And
At the John W. Stevens Wetlands Education Center in Richmond Hill at 6:00pm

About the Study:

The Georgia Department of Transportation (GDOT) is preparing the Bryan County Transportation Study in cooperation with Bryan County, the City of Pembroke, the City of Richmond Hill, and various other planning partners. The objective of the study is to identify and **potentially** recommend transportation improvements necessary to meet existing and **anticipated** future travel needs through the year 2035. Bryan County is experiencing a significant increase in population. Studies suggest that the County's population could potentially double from 23,500 in 2000 to roughly 46,000 by 2030. The Bryan County Transportation Study, scheduled for completion in the fall of 2009, will identify mobility and travel impacts associated with the anticipated growth, and recommend potential transportation improvements to serve the current and the anticipated future needs of Bryan County.

Purpose of Meetings:

The purpose of the meetings is to get the public's input regarding the transportation issues and challenges in the County and discuss some of the potential improvement suggestions available. These meetings are open to all, and will consist of informational displays and interactive discussion sessions. The community will be encouraged to share their ideas on the direction of transportation planning for Bryan County.

WE NEED YOUR INPUT!

Public Meeting Locations and Times

Tuesday, April 21st, 2009
County Commissioner's Meeting Room (2:00PM)
151 South College Street, Pembroke, GA 31321
And
John W. Stevens Wetlands Education Center (6:00PM)
600 Cedar Street, Richmond Hill, GA, 31324

To find out more, please visit:

www.dot.ga.gov/bryanstudy

Contact:

Kyle Mote, GDOT Project Manager
One Georgia Center
600 W. Peachtree Street, 5th Floor – Office 566
Atlanta, Georgia 30308
404-631-1987 (kmote@dot.ga.gov)

Grady Smith, Consultant Team
400 Colony Square
1201 Peachtree Street NE. Ste. 1905
Atlanta, GA 30061
770-455-8555 (grady.smith.jjg.com)

Overview of the Bryan County Transportation Study Process

The Georgia Department of Transportation (GDOT) is preparing the Bryan County Transportation Study in cooperation with Bryan County, the City of Pembroke, the City of Richmond Hill, and various other planning partners. The objective of the study is to identify and recommend transportation improvements necessary to meet existing and future travel needs through the year 2035.

Bryan County is experiencing a significant increase in population. In fact, projections released by the Georgia Institute of Technology's Center for Quality Growth and Regional Development (2006) indicate that the County's population is projected to increase from 23,500 in 2000 to roughly 46,000 by 2030 – an anticipated increase of 96 percent. The Bryan County Transportation Study will identify mobility and travel impacts associated with this growth, and recommend potential transportation improvement strategies and projects to adequately serve Bryan County residents.

Work efforts for the Bryan County Transportation Study are well underway. So far, the study team has reviewed all the relevant transportation and land use plans completed within the County. Additionally, the extensive data collection effort needed for the existing and future conditions analyses is nearly complete. These data include the inventory of current traffic/travel trends, land use/development patterns, environmentally sensitive areas, high accident locations, and other transportation network conditions. The study team has also interviewed various stakeholders throughout the County to incorporate their input in the development of goals and objectives of the study. The final phase of the data collection will involve input collected from the general public. Next steps include finalization of the potential improvements, followed by screening analysis of potential projects, and identification of project recommendations. The study, anticipated to be complete in the fall of 2009, will highlight a list of potential transportation improvement suggestions to address Bryan County's anticipated mobility and accessibility needs.

Additional information regarding the study is available via the GDOT website: www.dot.ga.gov/bryanstudy. For general comments or inquiries, please contact:

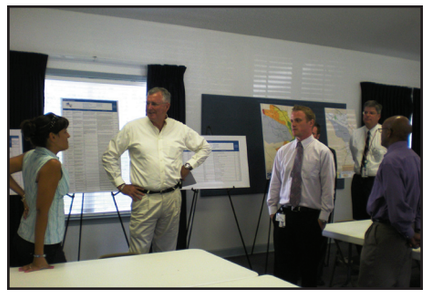
Kyle Mote, GDOT Project Manager
One Georgia Center
600 W. Peachtree Street, 5th Floor – Office 566
Atlanta, Georgia 30308
404-631-1987 (kmote@dot.ga.gov)

Grady Smith, Project Team
400 Colony Square
1201 Peachtree Street NE. Ste. 1905
Atlanta, GA 30061
770-455-8555 (grady.smith.jjg.com)

Bryan County Transportation Study

Bryan County Transportation Study Team is set to present a Preliminary List of Potential Transportation Projects for Public Review and Comment.

After more than ten months of intensive research, analysis and public outreach, The Georgia Department of Transportation (GDOT) has presented a list of potential transportation improvements for review and comment by public officials and other stakeholders in Bryan County. Through the work completed to date, which includes baseline conditions assessment, formulation of study goals, and travel demand model development, the study team has determined mobility and travel impacts associated with the anticipated growth in the County. The draft transportation improvements are designed to respond to an aggressive population projection, and also considered future land use strategies outlined in the County's Joint Comprehensive Plan. The project categories include Traffic Operations/System Management Projects, Bicycle/Pedestrian Projects and New Capacity Projects.



Traffic Operation/System Management Projects: These projects could maximize the effectiveness of the existing system, and can be potentially implemented quickly. Total of 22 project concepts have been identified to include improvements such as new traffic signals, adding turn lanes, and bridge replacements.

Bicycle and Pedestrian Projects: The multimodal recommendations are designed to potentially improve the general quality of life as well as improve safety for all users of the transportation network. Total of 22 potential sidewalks and shared-use paths have been identified throughout the County.

New Capacity Projects: The new capacity recommendations can be significant investments. Thus, these potential projects are evaluated based on performance and benefit-cost.

Next Steps

The Bryan County Transportation Study will address public comments, then submit a long-term transportation plan for the county's consideration. Given funding constraints facing the state, it is unlikely that all of the projects identified by the study can be funded over the next 25 years. Therefore, the principal task remaining in the Bryan County Transportation Study is to identify potential funding programs for the recommended projects. Based on the input from the last series of public meetings (scheduled for August 6th), GDOT will then finalize study recommendations and submit the final documentation in the fall of 2009.

Bryan County Transportation Study Final Public Meetings

The purpose of the last series of public meetings is to solicit input from stakeholders and residents in the county to prioritize and reach consensus on the list of potential transportation improvements. These meetings are open to all, and will consist of informational displays as well as interactive discussion sessions. The community will be encouraged to share their ideas on the direction of transportation planning for Bryan County.

WE NEED YOUR INPUT!

Thursday, August 6th, 2009

2:00 PM
Bethel Baptist Church Fellowship Hall
40 White Oak Lane, Richmond Hill, GA

6:00 PM
J Dixie Harn Community Hall
91 Lanier St, Pembroke, GA

Additional information regarding the study is available via the GDOT website: www.dot.ga.gov/bryanstudy. For general comments or inquiries, please contact:

GDOT Contact:
Kyle Mote, Project Manager
One Georgia Center
600 W Peachtree Street, 5th Floor, Office 566
Atlanta, Georgia 30308
404-631-1987
kmote@dot.ga.gov

Georgia Department of Transportation
Office of Planning

Consulting Team Contact:
Grady Smith
Jordan, Jones and Goulding
400 Colony Square, 1201 Peachtree Street NE. Ste. 1905
Atlanta, GA 30061
678-333-0414
grady.smith@jjg.com

Bryan County News - Windows Internet Explorer provided by JJG

http://www.bryancountynews.net/

File Edit View Favorites Tools Help

Gmail - Inbox - yoojeong@g... | Wild Animal Safari | (0 unread) Yahoo! Mail, jenn... | Bryan County TP | Bryan County News

start a print subscription | place a classified ad | contact us

BENEFITS OF REGISTRATION | REGISTER NOW | LOG IN

Bryan County's Online Community

BryanCountyNews.net

Bryan County Area RealEstateToday

Richmond Hill 90°F AccuWeather.com Weather Forecast

NEWS | CONNECT STEWART/HUNTER | WHERE TO EAT | MARKETPLACE | COMMUNITY | RSS | Search Archive | Search

News Home | Ask Experts | Education | Entertainment | Gas Buddy | Lifestyles | Local News | Obituaries | Opinion | Sports

Remember this guy? He's going to be a headliner at the 2009 Great Ogeechee Seafood Festival.

1 of 4 View Larger | Previous View Slides Next

TOP STORIES

Four die in I-95 wreck Saturday
Updated: July 27, 2009 5:36 p.m.

Fort Stewart, HAAF officials want drivers to update DOD vehicle registration
Updated: July 27, 2009 2:24 p.m.

Search for missing woman suspended
Updated: July 26, 2009 6:08 p.m.

Headliners announced for Seafood Fest
Updated: July 25, 2009 2 a.m.

Work on Rushing Street resurfacing gets under way
Updated: July 25, 2009 1 a.m.

Elderly woman still missing
Updated: July 25, 2009 1 a.m.

School board to furlough employees
Updated: July 25, 2009 1 a.m.

More News ...

Bryan County Transportation Study
FINAL PUBLIC MEETINGS
Thursday, August 6th:
At Bethel Baptist Church Fellowship Hall in 40 White Oak Lane, Richmond Hill at 2:00pm
And
At the J. Dixie Harn Community Center in 91 Lanier Street, Pembroke at 6:00pm

WE NEED YOUR INPUT!

To find out more, please visit:
www.dot.ga.gov/bryanstudy

Kyle Mote, GDOT Project Manager
One Georgia Center
600 W. Peachtree Street, 5th Floor – Office 566
Atlanta, Georgia 30308
404-631-1811 (kmote@dot.ga.gov)

Grady Smith, Consultant Team
400 Colony Square
1201 Peachtree Street NE. Ste. 1905
Atlanta, GA 30061
678-333-0414 (grady.smith.jjg.com)

GDOT Georgia Department of Transportation Office of Planning | Bryan County

MILITARY HEADLINES

Third ID units to deploy

EDUCATION HEADLINES

SPORTS HEADLINES

Simerly pitches, hits way to AoM honors

Redskins host passing league

BCHS girls' hoops coach pleased with results after summer season

Coach said Redskins 'should do

Top Jobs | Top Rentals | Top Homes | Top Autos

» Print, multimedia journalist(s)

View All Top Job »

View TOP JOBS VIDEO »

(1 item remaining) Waiting for http://www.bryancountynews.net/...

Internet 100%

Bryan County News - Windows Internet Explorer provided by JJG

http://www.bryancountynews.net/

File Edit View Favorites Tools Help

Gmail - Inbox - yoojeong@... | Wild Animal Safari | (0 unread) Yahoo! Mail, jen... | Bryan County TP | Bryan County News | Bryan County Multimodal Tr...

start a print subscription | place a classified ad | contact us

BENEFITS OF REGISTRATION | REGISTER NOW | LOG IN

Bryan County's Online Community

BryanCountyNews.net

Bryan County Area RealEstateToday

Richmond Hill 90°F AccuWeather.com Weather Forecast

NEWS | CONNECT STEWART/HUNTER | WHERE TO EAT | MARKETPLACE | COMMUNITY | RSS | Search Archive | Search

News Home | Ask Experts | Education | Entertainment | Gas Buddy | Lifestyles | Local News | Obituaries | Opinion | Sports

Remember this guy? He's going to be a headliner at the 2009 Great Ogeechee Seafood Festival.

1 of 4 View Larger

Previous View Slides Next

TOP STORIES

Four die in I-95 wreck Saturday
Updated: July 27, 2009 5:36 p.m.

Fort Stewart, HAAF officials want drivers to update DOD vehicle registration
Updated: July 27, 2009 2:24 p.m.

Search for missing woman suspended
Updated: July 26, 2009 6:08 p.m.

Headliners announced for Seafood Fest
Updated: July 25, 2009 2 a.m.

Work on Rushing Street resurfacing gets under way
Updated: July 25, 2009 1 a.m.

Elderly woman still missing
Updated: July 25, 2009 1 a.m.

School board to furlough employees
Updated: July 25, 2009 1 a.m.

More News ...

About the Study:
The Georgia Department of Transportation (GDOT) is in the final stages of the Bryan County Transportation Study in cooperation with Bryan County, the City of Pembroke, the City of Richmond Hill, and various other planning partners. Due to the anticipated growth projected for the County, coupled with the general lack of planned improvements, the travel conditions are expected to worsen significantly by 2035. Through the work completed to date, which includes extensive data collection, analysis and public outreach, the outcome of the Bryan County Transportation Study will be a long-term transportation plan that meets the existing and future needs of the county.

Purpose of Meetings:
The purpose of the last series of public meetings is to solicit input from stakeholders and residents in the county to prioritize and reach consensus on the list of potential transportation improvements. These meetings are open to all, and will consist of informational displays as well as interactive discussion sessions. The community will be encouraged to share their ideas on the direction of transportation planning for Bryan County.

GDOT Georgia Department of Transportation Office of Planning | Bryan County

MILITARY HEADLINES

Third ID units to deploy

EDUCATION HEADLINES

SPORTS HEADLINES

Simerly pitches, hits way to AoM honors

Redskins host passing league

BCHS girls' hoops coach pleased with results after summer season

Coach said Redskins 'should do

Top Jobs | Top Rentals | Top Homes | Top Autos

» Print, multimedia journalist(s)

View All Top Job »

View TOP JOBS VIDEO »

(1 item remaining) Waiting for http://www.bryancountynews.net/...

Internet 100%

SAL	First Name	Last Name	Agency	Title	Street	City	Zip
Ms.	Betty	Hill	City of Pembroke	City Clerk	160 N Main St	Pembroke, GA	31321
Mr.	Billy	Albritton	Planning Commission Richmond Hill		40 Richard Davis Dr	Richmond Hill, GA	31324
Chief	Billy D.	Reynolds	Richmond Hill Police Department		40 Richard Davis Dr	Richmond Hill, GA	31324
Mr.	Brad	Saxon	GDOT District 5 Office	District Preconstruction Engineer	P.O. Box 610	Jesup, GA	31598
Mr.	Carlton	Cooper	Bethel Baptist Church	Pastor	40 White Oak Lane	Richmond Hill	31324
Mr.	Dale	Dudley	Bryan County Planning and Zoning	Engineer	185 Richard Davis Drive Suite 105	Richmond Hill, GA	31324
Mr.	Derrell	Newman	Bryan County Public Works	County Engineer	PO Box 186 500 Ledford Avenue	Pembroke, GA	31321
Ms.	Donna	Reed	Richmond Hill Recreation Assoc	Director	508 Timber Trail	Richmond Hill , GA	31324
Ms	Gwen	Strickland	Bryan County Development Authority		116 Lanier Street P.O. Box 430	Pembroke, GA	31321
Ms.	Jan	Bass	Richmond Hill Planning and Zoning	Community Development Specialist	40 Richard Davis Dr	Richmond Hill, GA	31324
Ms.	Jean	Bacon	Development Authority of Bryan County	Executive Director	116 Lanier Street P.O. Box 430	Pembroke, GA	31321
Mr.	Jim	Anderson	Bryan County	EMS Director	PO Box 430	Pembroke, GA	31321
Mr.	Jimmy	Burnsed	Bryan County Commission	Chairman	116 Lanier Street P.O. Box 430	Pembroke, GA	31321
Ms.	Jo	Hickson	Coastal Georgia Greenway Program		3601 Abercorn Street	Savannah, GA	31405
Father	Joe	Smith	St. Anne's Catholic Church	Pastor	40 Richard Davis Dr	Richmond Hill, GA	31324
Mr.	Johnny	Murphy	Richmond Hill Planatation		10950 Ford Ave	Richmond Hill, GA	31324
Mayor	Judy	Cook	City of Pembroke		160 N Main St	Pembroke, GA	31321
Ms.	Kay	Green	Bryan County	Recreation Director	508 Timber Trail	Richmond Hill , GA	31324
Ms.	Kittie	Franklin	Bryan County Chamber of Commerce	Executive Director	2591 Hwy 17, Suite 100	Richmond Hill, GA	31324
Mr.	Leon	Davenport	Assistant Chatham County Engineer		124 Bull Street Room 430	Savannah, GA	31401
Chief	Mark	Crowe	Pembroke Police Department		160 N Main St	Pembroke, GA	31321
Ms.	Maureen	Casey	Fort Stewart	ITO	Building 2916 1624 West 6th Street	Fort Stewart , GA	31314
Mr.	Mike	Melton	City of Richmond Hill	Richmond HIll City Manager	40 Richard Davis Dr	Richmond Hill, GA	31324
Ms.	Nancy	Frye	City of Richmond Hill	Zoning Administrator	40 Richard Davis Dr	Richmond Hill, GA	31324
Mr.	Neil	Smiley	Bryan County	Director of Engineering	116 Lanier Street P.O. Box 430	Pembroke, GA	31321
Ms.	Nevin	Brown	Main Street Homeowners Assoc		P. O. Box 856 758 E. Bristol Way	Richmond Hill	31324
Mr.	Nevin	Patton	First Bank of Coastal Georgia	Senior Vice President	9720 Ford Ave	Richmond Hill, Ga	31324
Mr.	Phil	Jones	Bryan County	County Manager	116 Lanier Street P.O. Box 430	Pembroke, GA	31321
Mayor	Richard R	Davis	City of Richmond Hill		40 Richard Davis Dr	Richmond Hill, GA	31324
Mr.	Rickey	McCoy	City of Pembroke	City Engineer	160 N Main St	Pembroke, GA	31321
Ms.	Rita	Johanson	Transportation, Ft. Stewart	ITO Chief	Building 2916 1624 West 6th Street	Fort Stewart GA	31314
Mr.	Sonny	Timmerman	Hinesville Area Metropolitan Planning Organization	Executive Director	205 E. Court Street	Hinesville, GA	31313
Mr.	Steve	Scholar	Richmond Hill Planning and Zoning	Director	40 Richard Davis Dr	Richmond Hill, GA	31324
Ms.	Tanya	Raulston	North Pembroke Chamber of Commerce	Director	18 E. Bacon St P.O. Box 916	Pembroke, GA	31321
Ms.	Teresa	Scott	GDOT District 5 Office	District Planning Programming Engineer	P.O. Box 609	Jesup, GA	31597
Ms.	Terri	Taylor	Bryan County	Director of Transportation	116 Lanier Street	Pembroke, GA	31321
Mr.	Tom	Thomson	Chatham County-Savannah Metropolitan Planning Commission	Executive Director	110 East State Street	Savannah, GA	1412-8246
Ms.	Tricia	Reynolds	Services Coastal Georgia RDC	Director of Planning & Government	127 F Street	Brunswick, GA	31520

Officials, DOT talk roads

DOT and county officials discuss the future of road work that needs to be undertaken over the next 25 years at a meeting in Richmond Hill Tuesday

Ross Blair
Bryan County News
rblair@bryancountynews.net
912-756-3454
Posted: Nov. 21, 2008 6:41 p.m.
Updated: Nov. 22, 2008 1 a.m.

Officials with the Georgia Department of Transportation kicked off a Bryan County Transportation Study by conducting a meeting with area officials on Nov. 18 at the Richmond Hill/Bryan County Chamber of Commerce office.

"We just completed one for Effingham," DOT Project Manager Kyle Mote said. "We're trying to help out rapidly growing areas in rural Georgia by showing them the long range transportation planning process. We want to help Bryan County grow the way they want to grow."

Mote said the study will continue through 2009 and result in a plan that would identify, in order of priority, the work that DOT needs to do in Bryan County between now and 2035. After the plan is created, Mote and his partners plan to discuss available funding strategies with county officials.

During the meeting, Mote laid a five-foot map of the county in front of the attending local officials and asked them to mark it up with the areas they believe need DOT work, such as road widening, paving and additional traffic lights.

And exactly what projects do local officials deem to be most important? Here are a few responses:

- RHPD Chief Billy Reynolds: "As we've seen recently, when Hwy. 144 was cut off at the railroad crossing, we've got one main artery coming off the coast. When you cut that artery off, it causes all kinds of issues. In my opinion, the highest Richmond Hill priorities are the Belfast interchange and the connection from Harris Trail to Belfast. Widening of Hwy. 144 would be awesome, but, with that, we're still looking at one way off the coast."

- Pembroke Clerk of Works Ricky McCoy: "I would like to see the four-laning of Pembroke from Claxton to Hwy. 80. Also, we have several other areas that need attention due to safety concerns."

- County Engineer Dale Dudley: "The widening of the streets in the areas of growth, like Hwy. 144, is a definite priority. Also, there are some alternative routes from 144, 217 through Belfast-Siding/Belfast Keller. The interchange would be great, but even without that, we need an alternate route. We're working on it right now, in fact."

Work will begin as funding and scheduling allows, but DOT consultant Grady Smith said the completion of this plan coincides with the time that Congress is slated to discuss federal funding for transportation bills, "so timing works out really well."

The DOT is asking the public to complete a similar activity. They are requesting feedback, via www.dot.ga.gov/bryanstudy, from local residents on what Bryan road work needs to be done. A map of the area can be downloaded, which they are asking to be marked the same way they asked of the county officials and sent back to them.

"The more people that participate, the better we'll understand this community," said DOT transportation planner Gordon Burkette. "No one knows these areas better than the people that live in these neighborhoods or work in a part area or drive their kid down a part street every day. Especially things like sidewalks, multi-use trails – where should they connect to; what would make them work better? Also, making sure that safety issues are addressed. Is there a blind corner that continues to be a hazard? Those are the kinds of things we want to identify."

Burkette said this project will work in conjunction with the recently completed Bryan County Comprehensive Land Use Plan, which identifies many of the wants and needs of the citizens of Bryan County as growth commences.

News

Bryan | BryanCountyNow

printer friendly version | 196 reads | Blog This | Post to Forums |

DOT helps plan Bryan's roads

Comment on this story

Carl Elmore | Thursday, February 19, 2009 at 12:30 am

(Photo: Savannah Morning News)

DOT helps plan Bryan's roads

The Georgia Department of Transportation is planning to convene two public meetings, this spring and summer, to help Bryan County determine its future road needs.

"We are doing long-term planning," explained Matthew Fowler, DOT assistant planning administrator for south Georgia. "We are looking at our transportation networks and traffic volumes ...We will forecast future traffic."

The DOT planners are helping fast-growing rural counties forecast transportation needs, and met Feb. 11 with a group of local officials, including representatives from Bryan County, the cities of Richmond Hill and Pembroke, the Bryan Board of Education and the Industrial Development Authority.

This local group, an advisory committee, was formed during a larger meeting with DOT planners here in mid-November.

DOT planners - utilizing population projections, land use plans and employment growth forecasts - hope to outline a plan for Bryan's roads up to the year 2035. With Bryan's population projected to double in that time, the transportation possibilities range from more and larger roads, to increased mass transit, to non-fuel and recreational travel with more sidewalks, bike ways and canal paths.

The DOT planners polled the local advisory committee at the meeting and learned:

-- Most would like to consider enlarging existing thoroughfares, enabling more traffic;

-- Most are interested in developing more bicycle and pedestrian networks and sidewalks along Bryan County's scenic roads and canals;

-- And most want to investigate the possibility of utilizing impact fees paid by developers to fund new transportation infrastructure.

There were several discussions about the differing transportation needs of urban Richmond Hill and rural Bryan County, and specific needs around the county. Ted Akins, Bryan County Development Authority vice chairman, for instance, mentioned the need for freight truck access around the rapidly expanding Interstate Centre.

The DOT planners wondered whether more paving and better lighting would make Bryan County's rural roads safer? Bryan County Administrator Phil Jones, noting that excessive speed is often a factor in accidents along those secondary roads, said better traffic signals and tighter speed limits might be of more help.

Asking about bad curves around Bryan County, the DOT planners heard several nominations: the Lanier curve on U.S. 280; Ga. 119 at Old Patrick School Drive, and the Strathy Hall curve on Ga. 144.

Pembroke City Planner Wynn Carney pointed out the U.S. Army's intention to build a new bypass inside Fort Stewart to accommodate 3rd Infantry Division expansion, and asked the DOT planners to include that in their outlook. The $34-million bypass is part of some $400 million the Army is spending to accommodate 4,000 more soldiers at Fort Stewart, bringing some 10,000 new residents to Liberty, Bryan, Long, Chatham and Tattnall counties.

The DOT planners are taking all this input and hope to come up with a prioritized list of local improvement projects. They'll discuss and refine their ideas during public meetings in April and June. One meeting will be held in Richmond Hill, the other in Pembroke. The final study should be completed in September or October.

And what happens then? DOT officials concede there is little funding available.

"As you know ... there's not a lot of money going around. But that's probably not always going to be true," Kyle Mote, DOT project manager, told the Bryan advisory committee. But federal money - possibly stimulus funds - and other financing may become available for communities that have transportation plans ready, he said.

Want to learn more about the Bryan County Transportation Study? Or tell the Georgia DOT how you think Bryan County's roads should be improved? Visit www.dot.ga.gov/bryanstudy.

Your Rating

Score: 0.0, votes: 0
If you'd like to rate or comment on the story above, please log-in or register now.

printer friendly version | 196 reads | Blog This | Post to Forums |

SavannahNow Source Guide

» View All Source Items

Text Messages: Sign up now to receive breaking news, weather and sports messages on your phone.

Prep Central: High school sports stories, video, photos, more.

Food Inspections: Does your favorite restaurant make the grade? Check to find out.

Green Living: Your guide to living a green life in the Savannah-area.

Food & Dining: Click here for food, restaurant, drink information.

Horoscopes: What's your sign? Check out this page for your daily astrology reading.

Published on SavannahNow.com (http://savannahnow.com)

Turnout light for transportation meeting

By Carl Elmore
Created 2009-04-22 23:30

Turnout was light Tuesday afternoon for a Pembroke public meeting on Bryan County's future transportation needs.

A similar meeting was held Tuesday night at the Wetlands Education Center in Richmond Hill's J.F. Gregory Park, where more people were expected.

The Georgia Department of Transportation is looking at Bryan County's transportation needs through 2035. To do that long-term planning, DOT is looking at roads and traffic volumes to predict transportation needs in the future.

"Right now, we're in the data-gathering phase," explained Grady Smith, vice president at Jordan, Jones & Goulding, a firm working with DOT on the planning project.

"The most important part is getting the public input," said DOT Project Manager Kyle Mote. "We're not coming down here saying this is how it is. We're saying this is how we think things are, and we're asking you to tell us how it is."

Those who missed the meetings are invited to contact DOT at www.dot.ga.gov/bryanstudy [1].

DOT planners - utilizing population projections, land use plans and employment growth forecasts - hope to outline a plan for Bryan's roads.

With Bryan's population growth projected to double by 2035, the transportation possibilities range from more and larger roads, to increased mass transit, to non-fuel and recreational travel with more sidewalks, bike ways and canal paths.

The planners are now deriving local goals, and hope to create needs statements from those goals.

The final Bryan County Transportation Study, due in late summer or early autumn.

"This will be a tool that can be used ... as guidance for local leaders," explained Radney Simpson, a DOT planner. .

Data so far shows that Ga. 144 in south Bryan County is already busy, and will be jammed by 2035. There is a plan to widen the road, but it remains unfunded.

Bryan County Administrator Phil Jones told some of the planners about the county's hope to pave Harris Trail Extension, easing traffic in south Bryan County.

Bryan County also presents some unique problems for road planners. "Forty-two percent of the county is wetlands, so that's going to give us a lot of issues building roads," Smith said.

Tricia Reynolds, director of planning and government services with the Brunswick-based Coastal Georgia Regional Development Center, said it wasn't unusual for turnout to be low for transportation planning meetings.

"Transportation planning is long-range. It's a long, involved process," she explained.

Reynolds, who was at another meeting in the area, said she stopped in the public meeting to see how the Coastal Georgia RDC's county comprehensive plan melded with the DOT plans.

Print This Article

Ross Blair
rblair@bryancountynews.net
912-756-3454

DOT: Traffic is going to get heavy

n Near gridlock could be common if projections of growth hold true

The Georgia Department of Transportation is progressing in their Bryan County Transportation Study. The study, which began last year and will be presented to county officials in September, is intended to be a tool for how future roadwork should be approached from now through 2035.

GDOT recently conducted public hearings on both ends of the county to "so that the citizens of Bryan County can give us information to make sure we're basing our information on all the right criteria," project manager Kyle Mote said. "Right now, we're almost to the point to come up with project recommendations."

Mote projects that the county population will double from 23,000 to 46,000 by 2035. He also projects the number of jobs in the county will triple from 5,500 to 14,500. All of this equals more commuters and more total traffic for the area.

Mote said if the county grows according to those projections and no road improvements are made, there will near-gridlock conditions in several parts of Bryan, including along Hwy. 144 and around the area of the Black Creek industrial park. He said traffic congestion will more than triple in many parts of Richmond Hill. For example, he said it would take 45 minutes to get to the interstate from Belfast Siding Road.

But Mote still is not ready to say what road projects should take place to avoid this dilemma.

That will come in July during the next phase, followed by more public hearings to see if the public thinks they're on target.

"That's when we'll be looking at data and decide projects and their priority level," said Grady Smith with the GDOT. "At that point, we'll look at cost estimates and potential environmental issues and come out with final set of recommendations. We'll then give our report to leaders in the county and put it up on our website."

http://www.bryancountynews.net/news/article/4134/

Transport planners zero in on Bryan bottlenecks

Carl Elmore | Thursday, August 13, 2009 at 12:30 am

Related Topics

- Places - Bryan County, GA, Savannah, GA, Richmond Hill, GA, Pembroke, GA

Contextual linking provided by Topix

Georgia Department of Transportation planners have conducted their final public meeting on Bryan County's future road needs, and hope to produce a report this autumn, likely in October.

Working with city and county officials, and the public, the planners have been able to identify several current bottlenecks. Many have identified Ga. 144 south of Richmond Hill as the road most needing attention, in this case, widening.

Keller resident John Tanner, a semi-retired engineer, attended the Aug. 6 afternoon public meeting at the Bethel Baptist Church in Richmond Hill. A similar meeting was held that evening at the Dixie Harn Community Center in Pembroke.

Tanner said he came to the hearing as an interested citizen because traffic has gotten so bad between his home and Richmond Hill.

"Eight years ago, I could get to Richmond Hill from my place down on Sweet Hill Road in 10 minutes. It's a minimum 20 (minutes) now, and it can be 40, according to the traffic," Tanner said.

"People going to work nowadays from that area cannot get to Savannah in a reasonable time," he continued.

The Ga. 144 widening "has been needed for years," Tanner said. "I don't know how they can expect to have the development that they've authorized and permitted out in that area without having proper infrastructure to support it."

Richmond Hill City Administrator Michael Melton, attending the Aug. 6 public hearing, said he also saw the widening of Ga. 144 as a priority.

And at this month's Bryan County Commission meeting, Chairman Jimmy Burnsed emphasized the need for the paving of Harris Trail Extension to Belfast Keller Road, not only to support the new Richmond Hill Middle School, but also to provide traffic relief should funding become available to widen Ga. 144.

The DOT planners, working since late 2008, hope to produce the Bryan County Transportation Study by October, according to Kyle Mote, the project manager. The planners are helping fast-growing rural counties forecast transportation needs.

The planners - utilizing population projections, land use plans, employment growth forecasts, and community input - are attempting to outline Bryan County's transportation needs through the year 2035.

With population projected to double in that time, the transportation possibilities range from more and larger roads, to increased mass transit, to non-fuel and recreational travel on more sidewalks, bikeways and canal paths. In fact, DOT

planners could even call for the Ga. 144 bottleneck between Belfast Keller Road and Port Royal Road to be widened not only to four lanes, but eventually to six lanes.

While Mote conceded Georgia's DOT has little money for road building, he said the final study will present alternative funding sources and ideas for local planners.

Lack of money didn't stop the planners from creating several lists of needed or proposed transportation improvements, including:

-- New transportation capacity could be created on Bryan County's roads by widening U.S. 17, Belfast Siding Road and Ga. 144. The cost would be some $120 million, in 2009 dollars;

-- Bridge rebuilding would be the most costly traffic operations projects, including replacement of bridges at U.S. 80 over the Ogeechee River, Olive Branch Road over I-16, Belfast Siding Road over I-95, and the I-95 bridge over the CSX railroad. The four bridges would cost more than $20 million, in 2009 dollars.

Traffic improvements at I-95 and U.S. 17 would cost an estimated $3.3 million, and traffic improvements on Ga. 144 from I-95 to U.S. 17 would cost $2.8 million;

-- The planner's Bicycle/Pedestrian Projects list includes a proposal for a circular canal/bikeway/path around Pembroke, costing some $4.5 million. A separate but connected bikeway, costing another $4 million, would connect Pembroke to Ellabell/Black Creek. Adding bicycle access and sidewalks on Ga. 144 from I-95 through Richmond Hill would cost $1.6 million.