

Prepared for:

Metropolitan Transportation Planning Organization for the

Gainesville Urbanized Area

Year 2040 Long Range Transportation Plan

TECHNICAL REPORT 2

Data Collection, Mapping, and Data Development



Prepared by:





Metropolitan Transportation Planning Organization For the Gainesville Urbanized Area YEAR 2040 LONG RANGE TRANSPORTATION PLAN

Technical Report 2

The preparation of this report has been financed in part through grants from the Federal Highway Administration, Federal Transit Administration and U.S. Department of Transportation, under the State Planning and Research Program, Section 505 (or Metropolitan Planning Program, Section 104 (f) of Title 23, U.S. Code. The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation.



Table of Contents

Data Collection, Mapping and Data Development	
Introduction	
Task 2.1 Data Collection	1
Task 2.1.1 Screenline and Cutline Development	
Task 2.1.2 Traffic Count Data	2
Task 2.1.3 Highway Network	2
Task 2.1.4 Transit Network	5
Task 2.1.5 Transit Service Data	
Task 2.2 Mapping	
2.2.1 Traffic Analysis Zone Map	7
2.2.2 Highway System Network Map	7
2.2.3 Transit System Network Map	7
2.2.4 Bicycle Facilities Network Map	
2.2.5 Sidewalk Network Map	19
2.2.6 Freight Corridor Map	19
Task 2.3 Data Development	23
2.3.1 ZONEDATA File	23
Population and Household Data	25
Employment and School Enrollment Data	27
Socioeconomic Data Summary	29
Special Generators	29
Internal-External (IE) and External-External (EE) Trip Data	30
Task 2.4 Designation of Screenlines	33
Task 2.5 Traffic Count Data	33
Task 2.6 Highway and Transit Networks	33
2.6.1 Highway Network	33
2.6.2 Transit Network	36
Task 2.7 Transit Service Data	39
Transit Service Data	41

Task 2.8 Data Projections	43
Conclusion	50
List of Figures	
Figure 1: Screenlines	3
Figure 2: Year 2010 Highway Network – Traffic Count Locations	4
Figure 3: Traffic Analysis Zone Map	8
Figure 4: Traffic Analysis Zone Map - Inset	9
Figure 5: Highway Network – Number of Lanes	10
Figure 6: Highway Network – Number of Lanes – Inset	11
Figure 7: Highway Network – Area Types	12
Figure 8: Highway Network – Area Types - Inset	13
Figure 9: Highway Network – Facility Types	14
Figure 10: Highway Network – Facility Types - Inset	15
Figure 11: Transit Network	16
Figure 12: Bicycle Facilities Network Map	17
Figure 13: Bicycle Facilities Network Map - Inset	18
Figure 14: Sidewalk Network Map	20
Figure 15: Sidewalk Network Map – Inset	21
Figure 16: Freight Corridor Map	22
Figure 17: Population Change Between 2007 and 2010	26
Figure 18: Employment Change Between 2007 and 2010	28
Figure 19: External Station Locations	31
Figure 20: Highway Network	34
Figure 21: Highway Network - Inset	35
Figure 22: 2010 Transit Network	37
Figure 23: 2010 Population Data	44
Figure 24: 2040 Population Forecasts	45
Figure 25: Population Growth	46
Figure 26:2010 Employment Data	47
Figure 27: 2040 Employment Forecast	48
Figure 28: Employment Growth	49



List of Tables

Table 1 – Transit Ridership by Route	6
Table 2 – Socioeconomic Data Variables	
Table 3 – Comparison of Year 2007 and Year 2010 Socioeconomic Data	
Table 4 – Special Generators	30
Table 5 – Estimation of 2010 IE and EE Trips	
Table 6 - Transit Routes	38
Table 7 – Transit Ridership by Route	42
List of Charts	
Chart 1: Transit Hourly Frequency	40



Data Collection, Mapping and Data Development

Introduction

This Technical Report documents the data development process of the Gainesville Urbanized Area Year 2040 Long Range Transportation Plan (LRTP) Update. The data development process included the development of various maps, model networks and data files necessary to validate and calibrate the transportation model. Also included in this effort was the development of the existing and forecasted financial resources to fund needed transportation projects through the Year 2040. This report describes the mapping development effort, including the refinement of the zonal data (ZDATA) as well as the research of the available financial resources. Key tasks documented in the report include; data collection, mapping, data development, designation of screenlines, traffic count data, highway and transit networks, transit service data, and data projections. (Tasks 2.1 through 2.8 in the scope of services).

Task 2.1 Data Collection

The data development process included development of maps, model networks and data files needed to validate and run the transportation model as well as development of existing and projected financial resources to fund needed transportation projects by the Year 2040. datasets were collected from various sources, reviewed and compared with the existing model, and the model files were updated as necessary. These datasets, outlined in Tasks 2.1.1 through 2.1.5, included the following: traffic count data, highway network, transit network, transit service data, and bicycle pedestrian network. For each dataset, this report describes the data content, data source, and how it was or will be utilized. All datasets will be thoroughly reviewed and utilized as necessary during Task 3 (Data Review and Verification) and Task 4 (Model Update and Validation).

Task 2.1.1 Screenline and Cutline Development

Screenlines, cutlines, and cordon lines are useful for comparing model flows with observed counts for critical links. Screenlines are often associated with physical barriers such as rivers or railroads, although jurisdictional boundaries that extend through the study area may also be

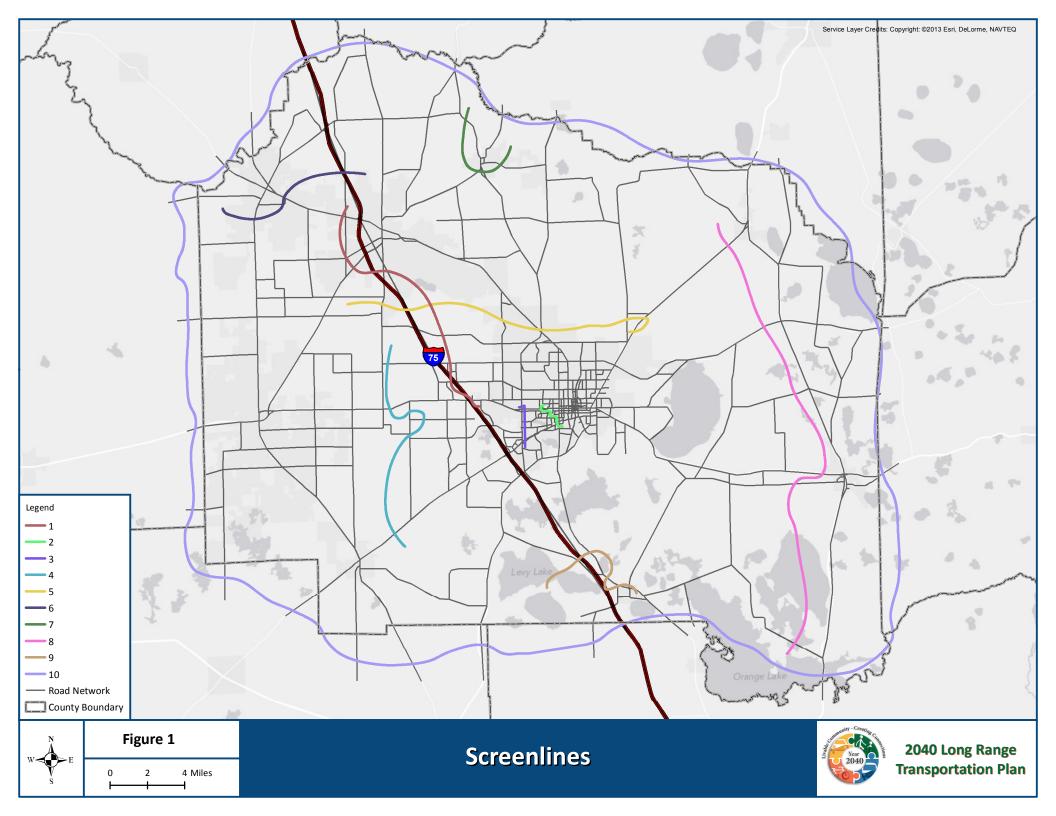
used as screenlines. Cutlines extend across a corridor containing multiple facilities. Cordon lines completely encompass the study area. Screenlines, cutlines, and cordon line from the previous Long Range Transportation Plan Update were evaluated for their applicability to the Year 2040 Update and determined to be sufficient. This will be further evaluated during model validation as part of Task 4. The screenlines, cutlines, and cordon line are shown in Figure 1 (they are generally referred to as screenlines).

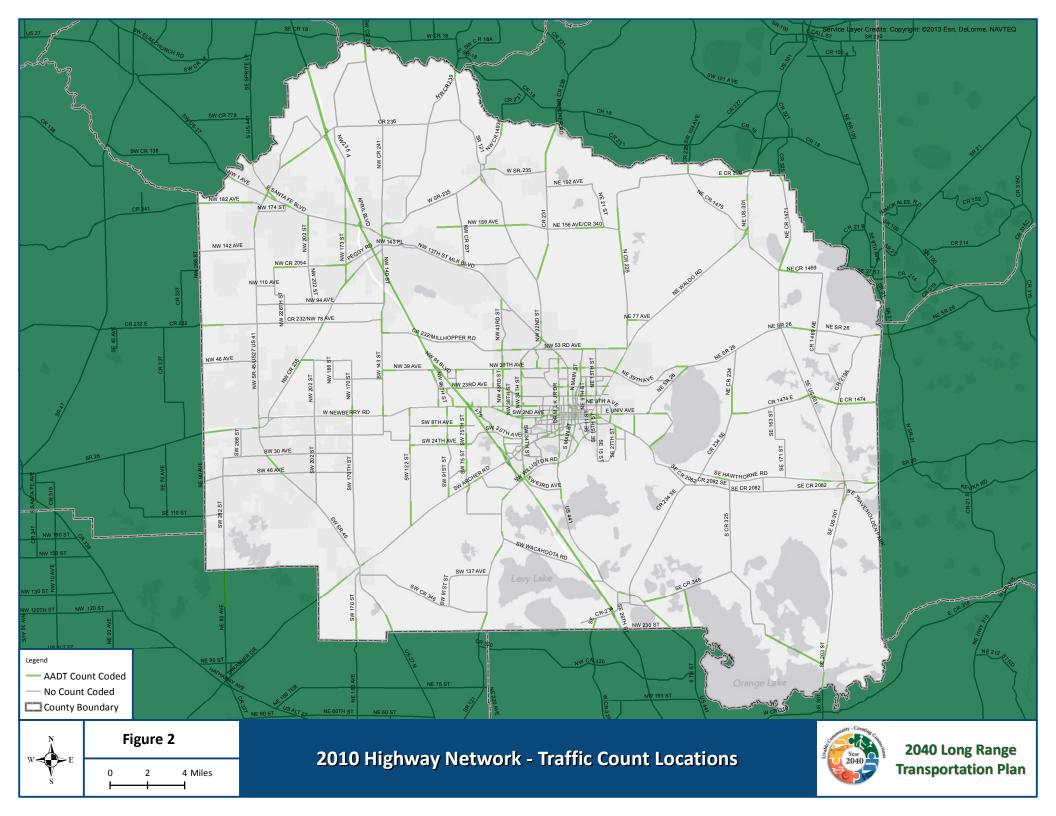
Task 2.1.2 Traffic Count Data

Annual average daily traffic counts (AADT) for 2010 were obtained from 3 sources – the MTPO, Florida Department of Transportation (FDOT), and the City of Gainesville. The MTPO Year 2010 Multimodal Level of Service Report included counts on state roads, Alachua County arterials, and City of Gainesville/ University of Florida Arterials. The FDOT Roadway Characteristics Inventory (RCI) provided 2010 counts on the State Highway System (SHS). In addition, 2010 traffic counts were also obtained from the City of Gainesville. All traffic counts are being reviewed for use in the 2010 Base Year validation. A map of traffic count station locations for use in model validation is included as Figures 2 and 3. The map identifies the links in the base year highway network where traffic count data exists.

Task 2.1.3 Highway Network

The 2010 base year highway network includes major facilities in Alachua County like I-75, US 301, SR 26, and SR 20 as well as some relatively minor facilities. The RCI data was utilized as the primary data source for the highway network. Local knowledge and 2010 base aerials were also utilized for updating the non-state facilities. The 2010 Base Year Network incorporates changes since the last plan update, to reflect the current number of lanes and roadway functional classification. Maps of the 2010 highway network are included under Task 2.2.2 below. A full description of the model networks and updates will be provided in Technical Report 3 (Data Review and Verification) and Technical Report 4 (Model Update and Validation).







Task 2.1.4 Transit Network

The transit network for the 2010 Base Year has been developed based on information provided by the Gainesville Regional Transit System (RTS) in General Transit Feed Specification (GTFS) format. The GTFS files provide information on routes, stop locations, and service characteristics of the system. A map of the 2010 transit network is included under Task 2.2.3 below. A full description of the transit network and updates will be provided in Technical Report 3 (Data Review and Verification) and Technical Report 4 (Model Update and Validation).

Task 2.1.5 Transit Service Data

Transit service data for Year 2011 has been obtained from the RTS for Citywide and University of Florida (UF) campus routes. Table 1 shows the ridership data by month for each route. In addition to ridership data, information on service characteristics (fare, frequency, span of service, etc.) has been obtained from RTS in GTFS format.



Table 1 - Transit Ridership by Route

		December	November	October	September	August	July	June	May	April	March	February	January
Route	City Routes	Passengers											
1	Downtown to Butler Plaza via Archer Road	31,183	41,605	46,776	51,310	44,425	39,233	36,647	32,279	40,098	41,085	40,795	40,261
2	Downtown to Health Department via SE 15th Street	6,800	7,082	8,575	8,658	8,003	6,908	7,093	6,605	7,483	8,128	7,092	7,563
5	Downtown to Oaks Mall via University Avenue	27,048	32,950	37,936	40,136	29,897	24,327	24,280	23,063	35,533	34,947	36,025	35,400
6	Downtown to Gainesville Mall via 6th Street	7,615	8,503	9,462	9,888	8,506	8,088	8,141	8,430	7,751	7,907	6,680	7,251
7	Downtown to Eastwood Meadows	7,792	9,017	9,367	9,364	8,480	7,887	8,089	7,990	9,580	9,297	7,957	9,036
8	Shands to Northwood Village via NW 13th Street	18,994	25,204	27,887	31,701	24,288	20,732	19,504	18,221	23,528	24,684	24,459	24,725
9	McCarty to Hunters Run	35,111	71,352	82,596	92,966	46,071	39,635	33,470	31,809	56,206	60,391	68,170	65,372
10	Downtown to Santa Fe via NW 16th Ave	4,626	8,846	10,021	10,827	6,690	5,190	5,046	5,224	7,875	7,757	7,678	8,296
11	Downtown to Eastwood Meadows via University Ave.	10,091	10,709	11,478	10,978	10,267	8,263	9,241	9,497	10,070	10,277	9,156	9,373
12	McCarty to Butler Plaza	39,882	70,270	79,368	85,955	49,528	32,000	30,086	30,185	65,463	66,295	71,648	71,178
13	Shands to Florida Works via SW 13th Street	23,857	41,638	47,755	51,692	30,881	19,863	19,737	18,916	32,665	35,604	38,256	35,969
15	Downtown to Gainesville Mall	22,963	22,179	24,769	25,941	23,667	21,661	21,105	20,631	21,231	22,013	19,402	19,388
16	Shands to Sugar Hill via SW 16th Avenue	9,879	14,226	16,143	17,651	13,672	14,741	13,764	12,217	21,346	20,794	22,012	20,932
17	Shands to Downtown	11,410	15,308	17,044	18,114	13,321	9,985	11,185	10,828	15,535	17,216	18,115	17,493
20	McCarty to Oaks Mall via SW 20th Avenue	59,168	102,236	118,714	126,568	71,409	61,022	52,141	49,262	89,090	90,717	99,181	94,102
21	McCarty to Cabana Beach	20,702	45,269	52,450	60,382	24,347	6,669	4,817	4,483	32,405	36,570	43,191	43,124
22	McCarty to SW 43rd St @ SW 24th Avenue	3,658	7,178	8,730	10,599	4,355	-	-	-	5,614	6,400	8,218	7,813
23	Oaks Mall to Santa Fe	2,138	4,420	5,047	5,402	2,045	0	0	0	0	0	0	0
24	Downtown to Job Corps via SR 24 (Waldo Rd.)	6,719	7,999	8,617	8,700	7,685	5,744	6,449	6,681	6,854	7,799	6,666	6,901
25	McCarty to Airport	1,123	1,352	1,464	1,282	519	0	0	0	0	0	0	0
29	Beaty Towers to Cobblestone	1,839	3,785	4,538	5,115	1,980	-	-	-	2,587	3,062	3,550	3,511
34	HUB to Lexington Crossing	21,529	42,426	48,143	57,668	30,249	22,523	18,251	17,296	40,905	43,982	50,799	49,674
35	McCarty to Homestead Apartments	35,498	64,765	73,904	81,028	41,814	28,090	25,882	25,385	59,584	61,764	69,126	66,952
36	McCarty to Williston Plaza	7,439	14,470	15,990	17,002	6,655	-	-	-	9,745	11,437	13,813	13,169
38	HUB to Gainesville Place	8,285	19,915	22,373	25,599	9,099	-	-	-	3,637	4,510	3,728	2,833
43	Downtown to Santa Fe via 43rd Street	11,025	18,514	19,935	21,442	15,067	12,733	12,396	11,052	15,713	16,437	16,094	16,324
75	Oaks Mall to Butler Plaza via 75th Street	21,597	22,380	25,037	22,989	21,584	19,555	20,167	19,589	20,986	21,563	19,329	18,791
300	Later Gator A (Downtown to Reitz Union)	1,968	3,275	5,100	6,142	3,639	5,906	12	-	4,153	2,682	3,965	4,854
301	Later Gator B (Downtown to Lexington Cr.)	1,559	2,680	4,995	4,948	3,104	2,594	-	-	2,840	1,744	2,923	3,035
302	Later Gator C (Downtown to Oaks Mall)	1,824	2,890	5,960	5,590	2,562	4,012	-	-	3,496	2,033	3,147	3,478
305	Later Gator F : Downtown to Butler Plaza	-	-	-	0	0	0	0	0	0	0	0	0
400-410	Saturday Service Routes (400-410) (excluding 407)	8,518	11,756	15,534	14,460	10,988	10,132	7,759	10,148	11,249	9,613	11,468	12,277
400-408	Sunday Service Routes (400-408) (excluding 409 & 410)	4,523	5,563	7,100	5,685	7,098	3,997	4,308	4,988	4,449	4,118	5,152	6,370
	City totals	476,363	759,762	872,808	945,782	581,895	441,490	399,570	384,779	667,671	690,826	737,795	725,445

Route	Campus Route	Passengers											
117	Park-N-Ride 2 (SW 34th Street)	7,251	16,435	18,228	21,543	7,796		-		12,896	13,318	15,781	14,769
118	Park-N-Ride 1 (Harn Museum)	18,460	44,360	49,462	53,437	16,385			,	46,075	50,718	61,204	56,022
119	Family Housing	3,748	7,514	7,414	8,361	4,603	6,642	3,545	2,506	8,263	7,317	8,281	8,063
120	West Circulator (Fraternity Row)	17,151	35,537	40,831	47,689	25,869	31,560	11,050	6,943	31,005	32,325	40,491	37,036
121	Commuter Lot	12,637	22,791	27,661	34,041	16,201	19,082	12,130	9,128	19,732	22,189	26,336	24,389
122	UF North/South Circulator	1,346	3,144	3,219	4,147	1,782	1,079	831	810	3,221	3,304	3,980	4,002
125	Lakeside	8,129	18,615	21,669	25,523	16,650	27,374	9,329	7,867	18,466	19,237	22,815	21,542
126	UF East/West Circulator	3,139	6,401	8,512	9,949	5,971	2,317	739	575	5,488	5,405	7,606	6,428
127	East Circulator (Sorority Row)	11,804	25,173	26,550	33,399	13,428	6,842	5,314	5,076	20,867	25,653	31,713	30,794
	Campus totals	83,665	179,970	203,546	238,089	108,685	94,896	42,938	32,905	166,013	179,466	218,207	203,045

Systemwide Totals 560,028 939,732 1,076,354 1,183,903 690,580 536,417 442,508 417,684 833,756 870,292 956,002 928,490



Task 2.2 Mapping

2.2.1 Traffic Analysis Zone Map

Traffic Analysis Zones (TAZs) used for the previous Plan Update (base year 2007) were evaluated for use in the Year 2040 Update. Based on this review and the model validation results, no changes to the traffic analysis zone structure were needed. Figures 3 and 4 depict the 2010 TAZ structure.

2.2.2 Highway System Network Map

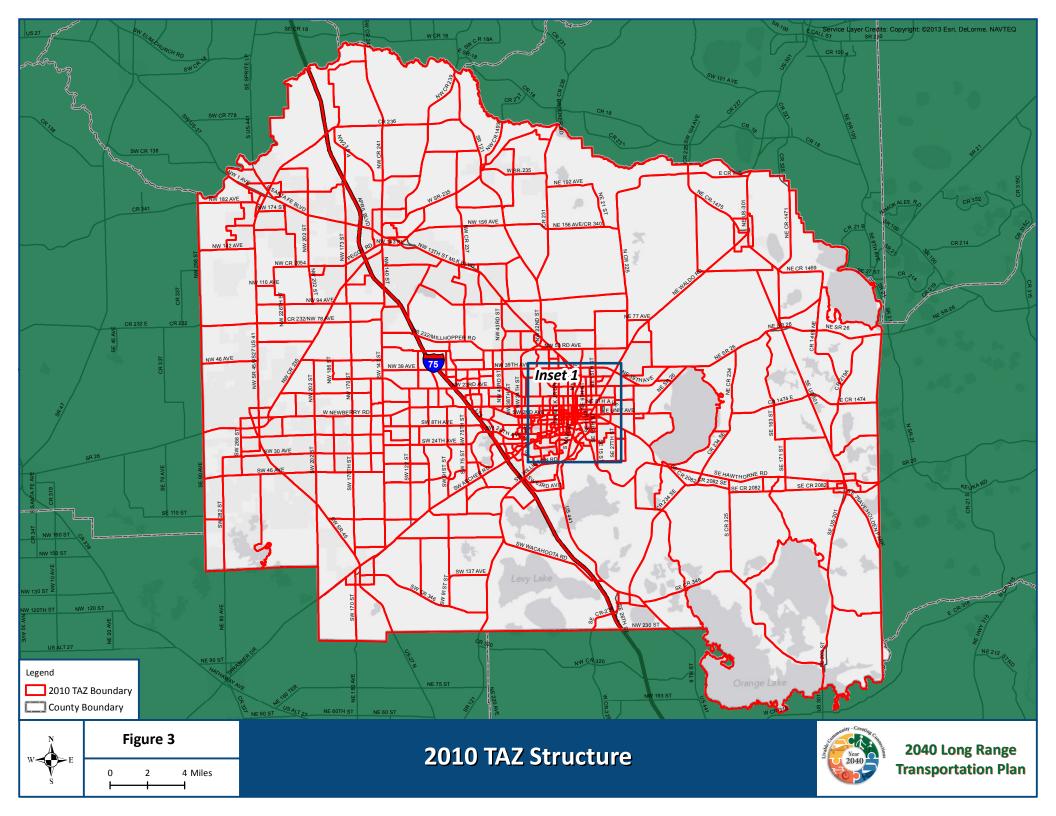
Figures 5 through Figure 10 show various characteristics of the highway network for the 2010 Base year. The number of lanes shown in Figures 5 and 6 are based on the 2010 RCI data. Figures 7, 8, 9 and 10 show the area types and facility types coded in the model network. Based on the review and the model validation results, no changes to the area type and facility type coding in the 2007 model were necessary.

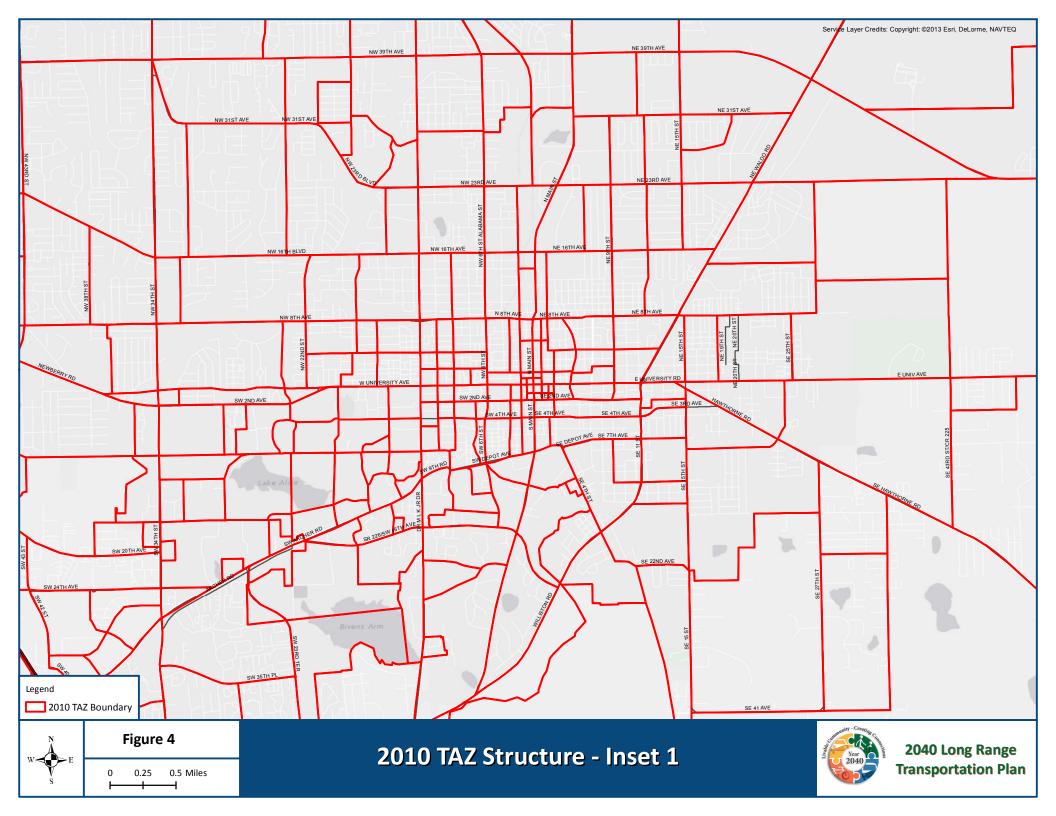
2.2.3 Transit System Network Map

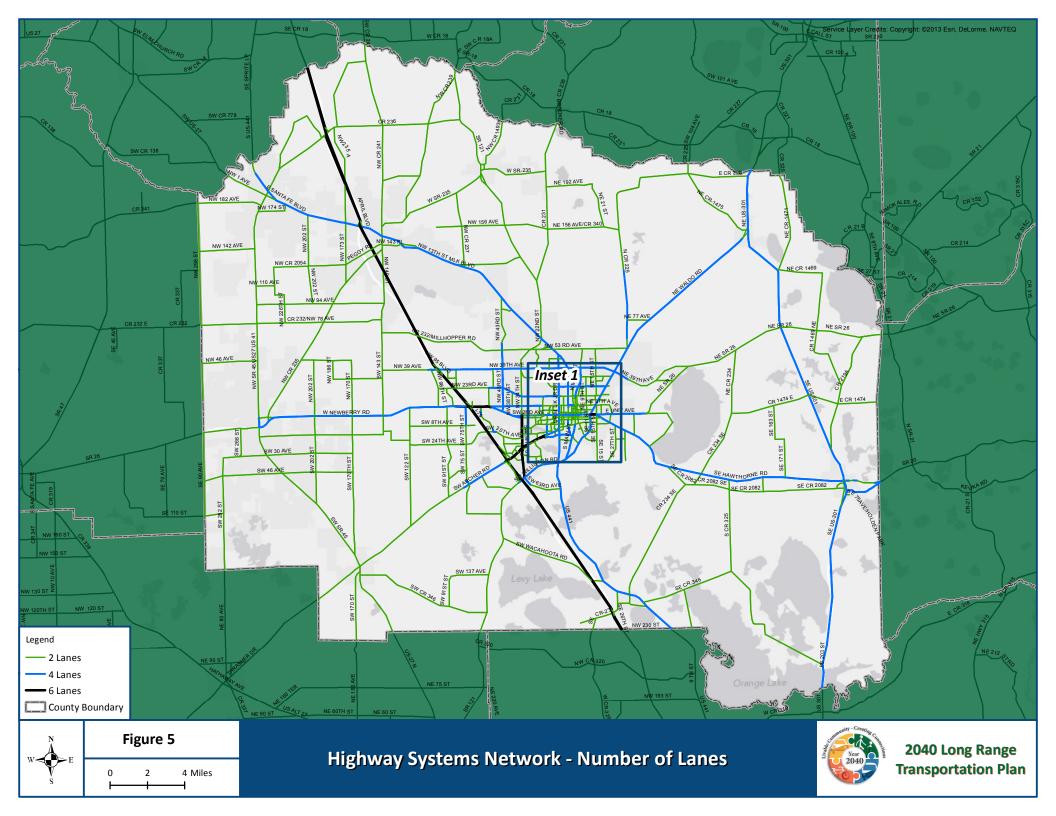
Figure 11 displays the base year transit routes based on the GTFS data provided by RTS. The transit routes have been coded in the 2010 base year model along with the service characteristics of the routes. They will be used as a base of transit network alternatives to be developed and evaluated in the LRTP.

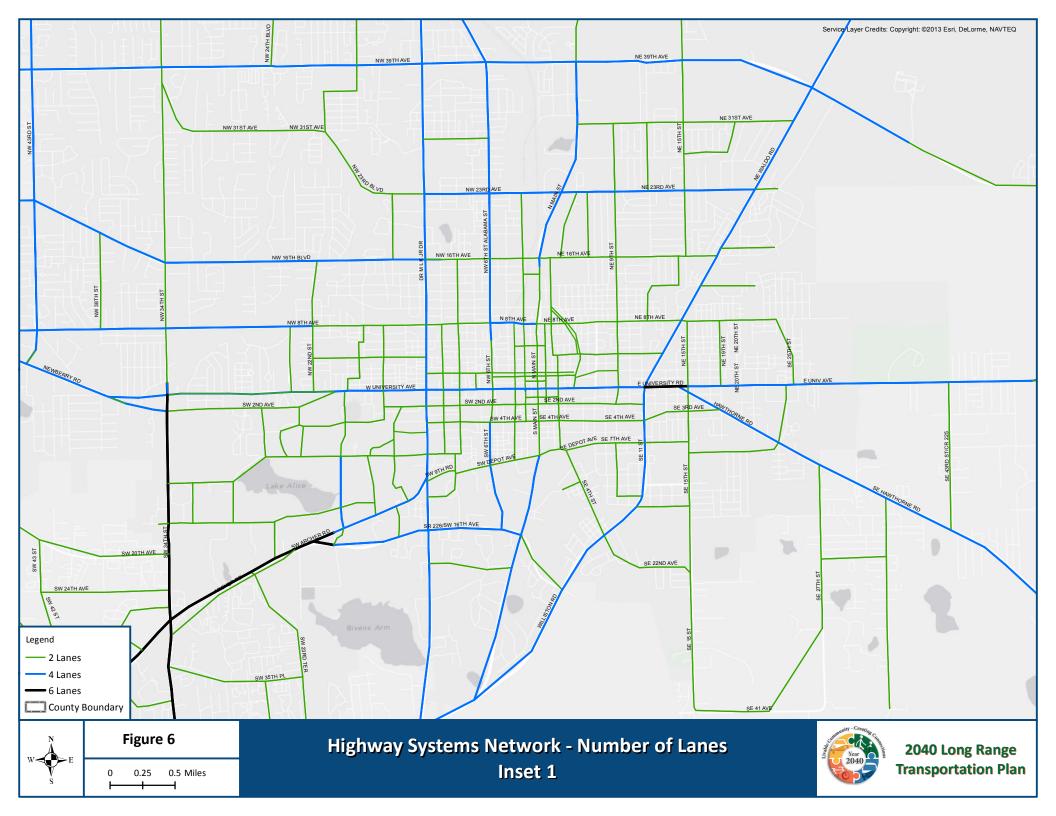
2.2.4 Bicycle Facilities Network Map

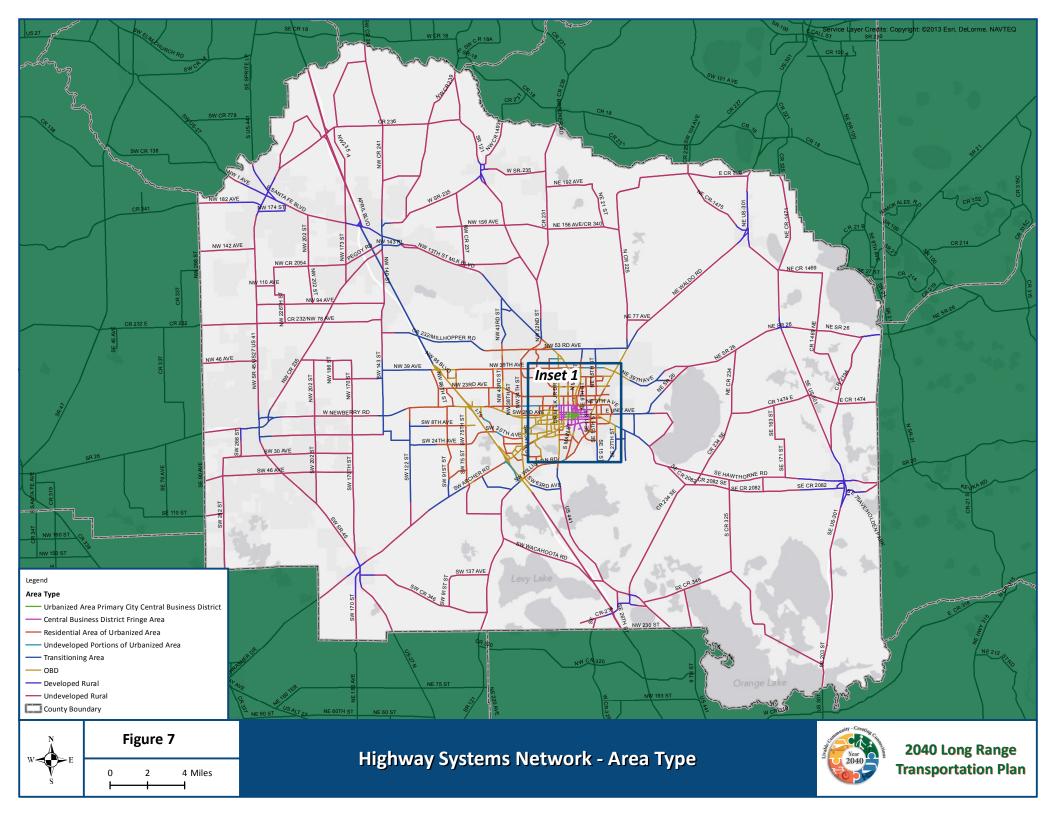
For purposes of documenting mode split, a Bicycle Facilities Network Map was developed for the 2010 Base Year. The existing model from the last LRTP cycle included information on bicycle and pedestrian network. Year 2010 information was obtained from the City of Gainesville and Alachua County in GIS shapefile format, which is being used in the model update and validation process. A full description of the bicycle-pedestrian network and updates will be provided in Technical Report 3 (Data Review and Verification) and Technical Report 4 (Model Update and Validation). Figures 12 and 13 present the bicycle facilities network provided by the City of Gainesville.

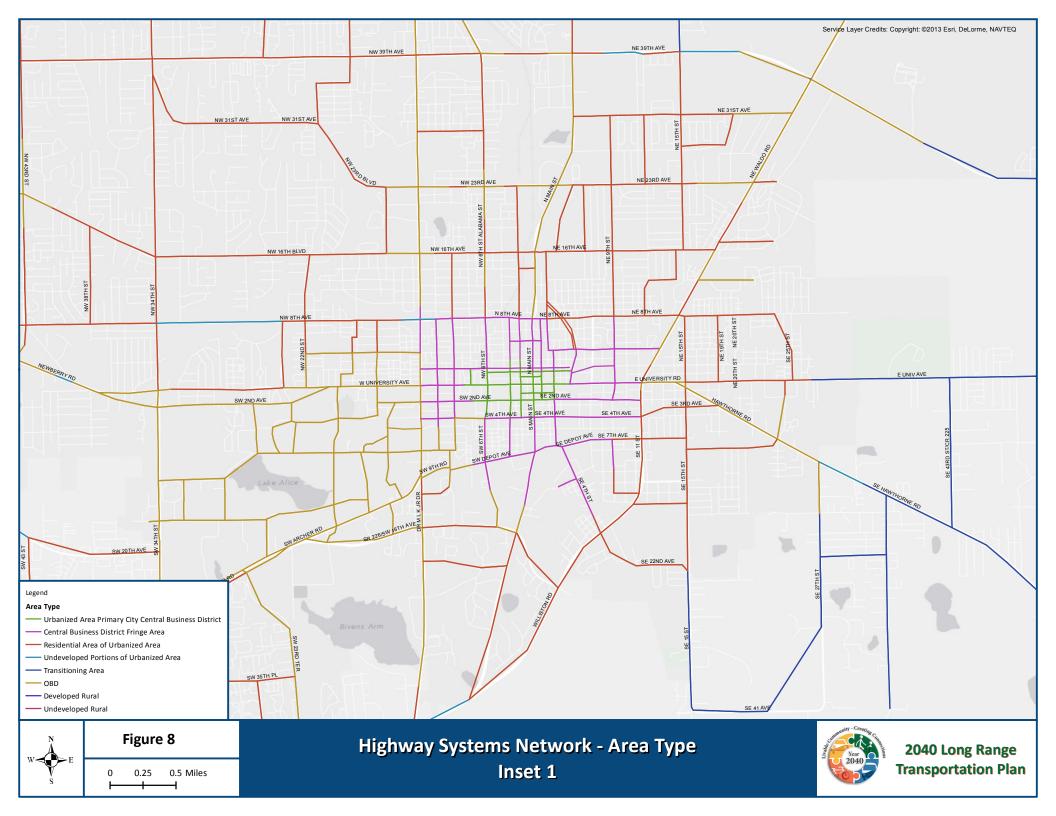


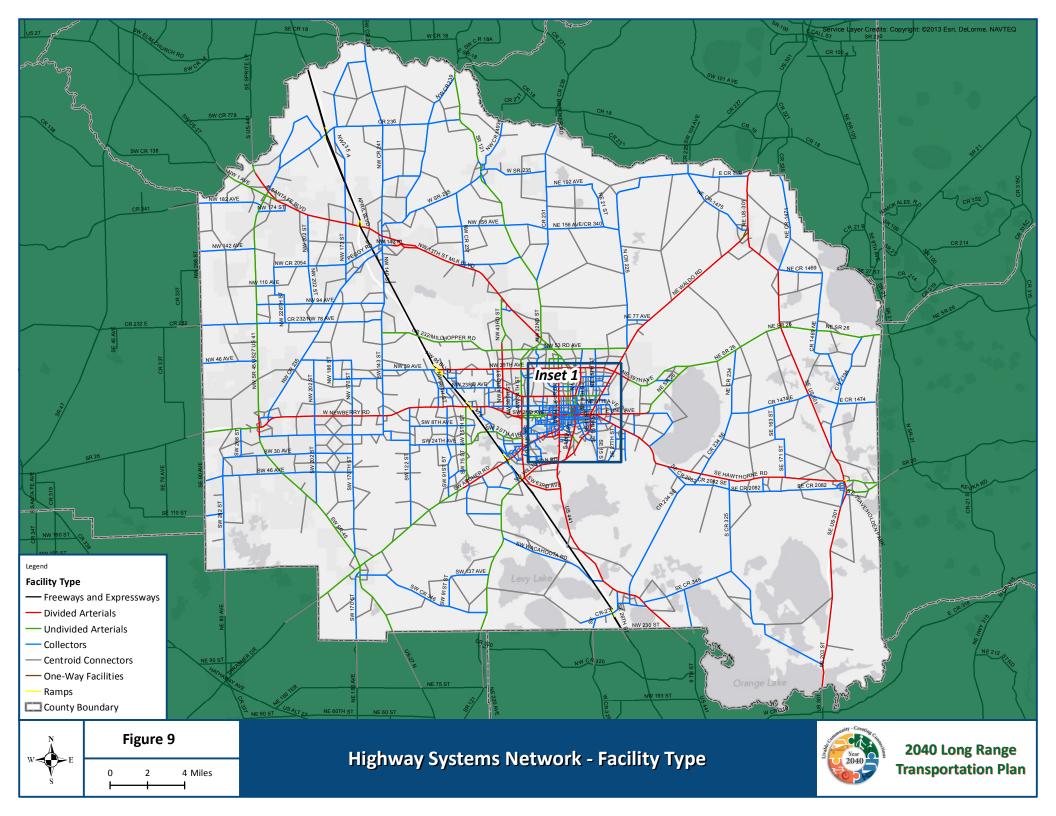


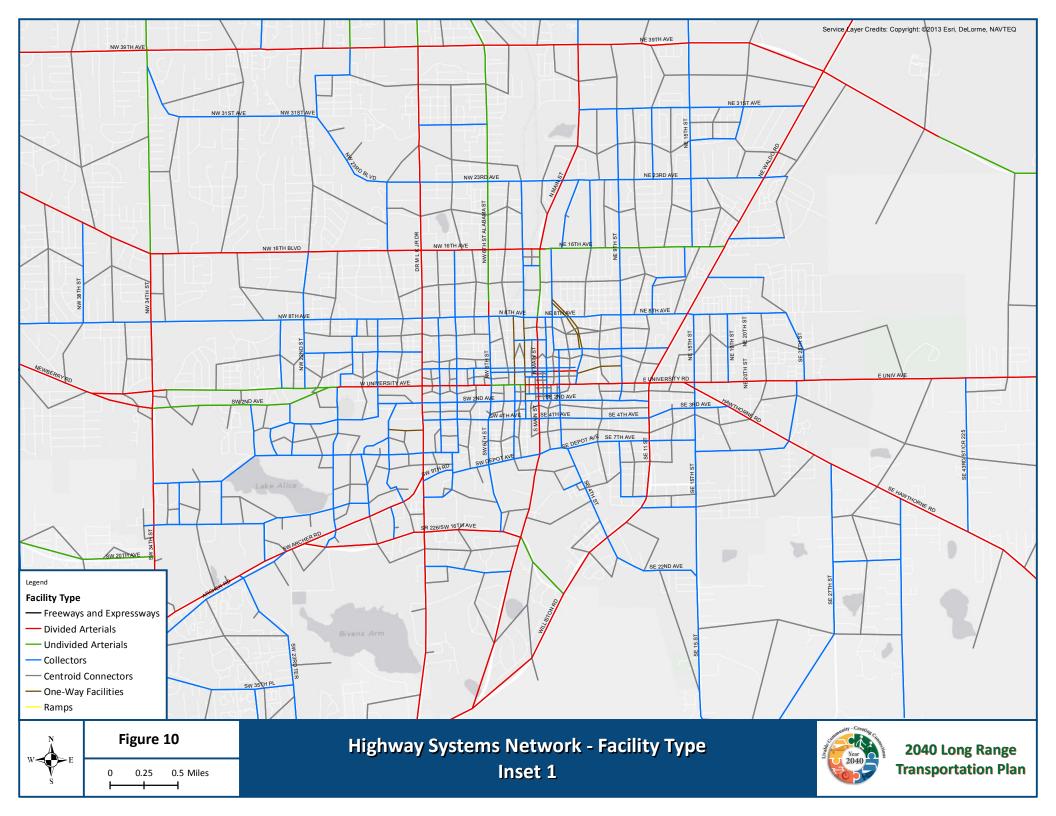


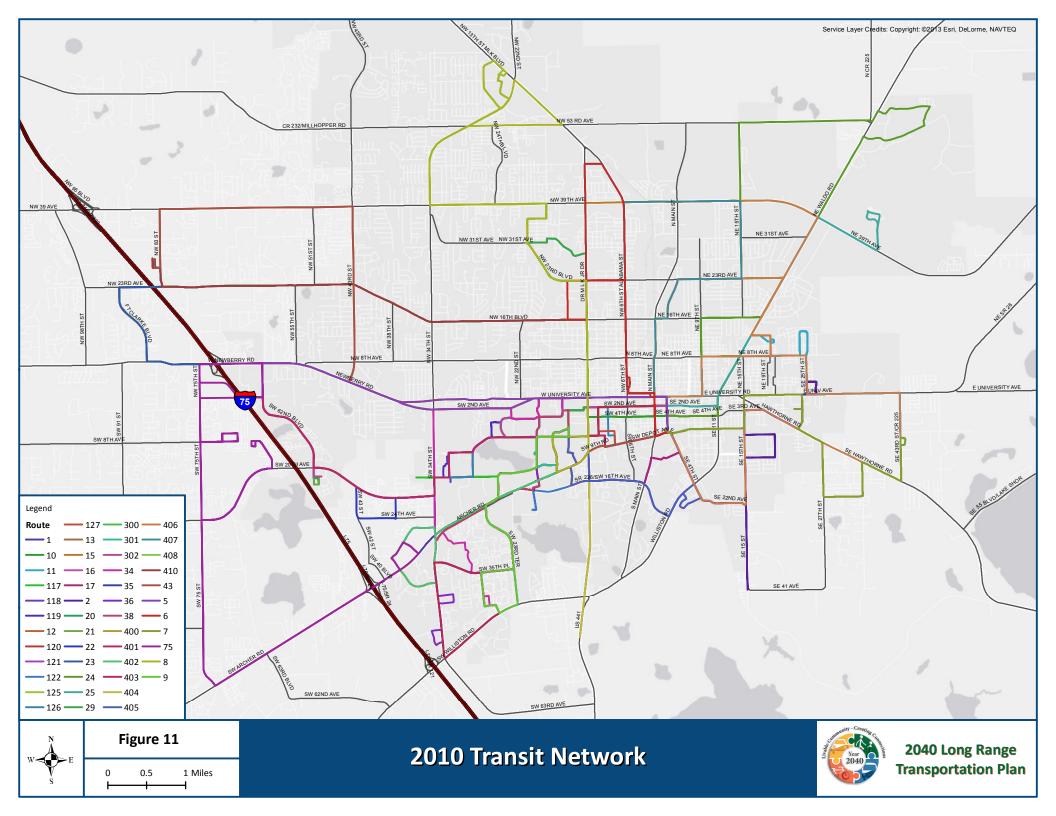


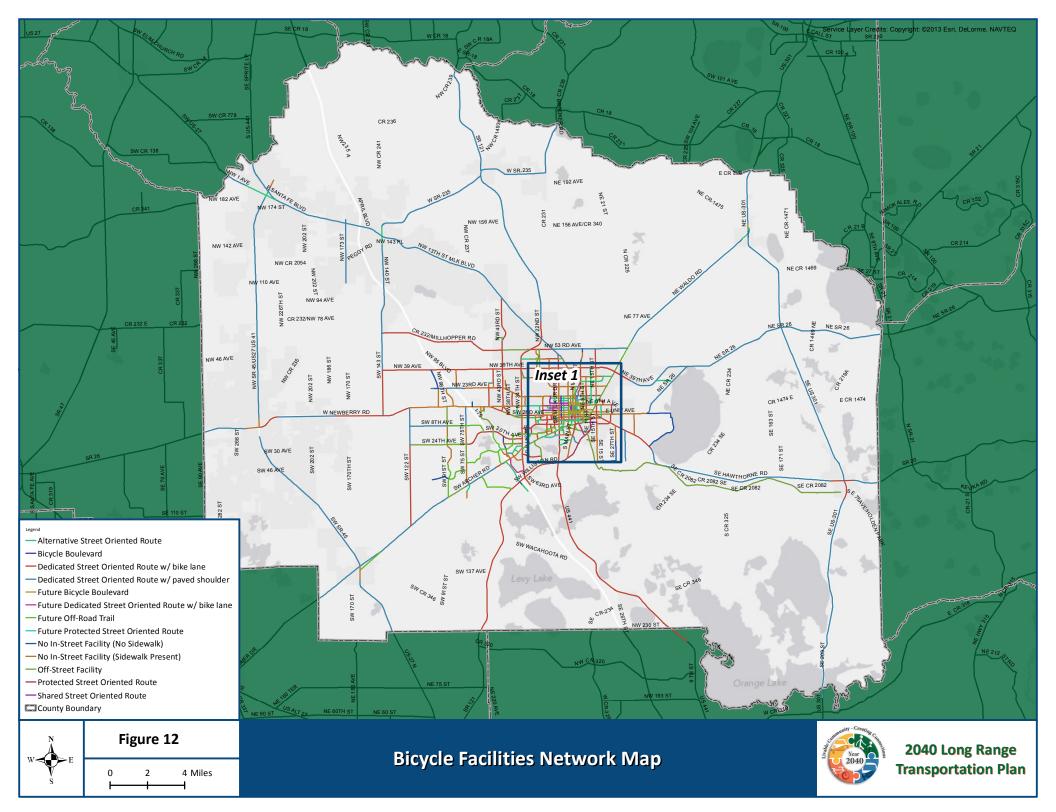


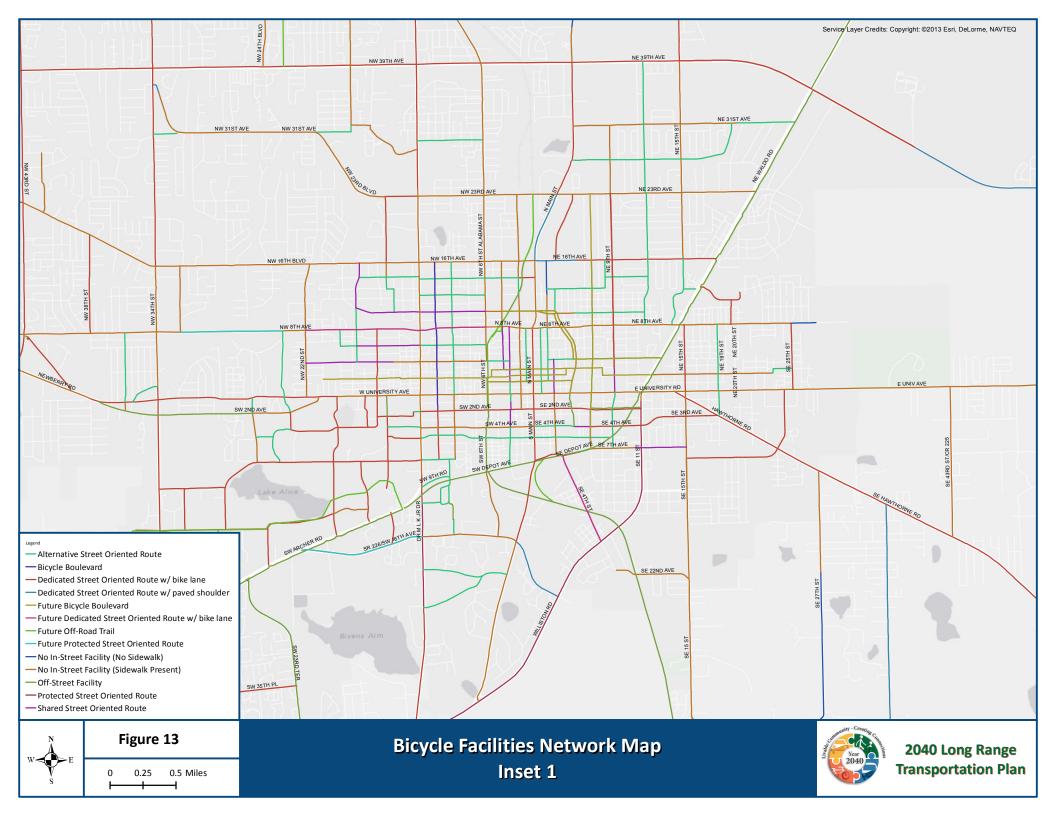












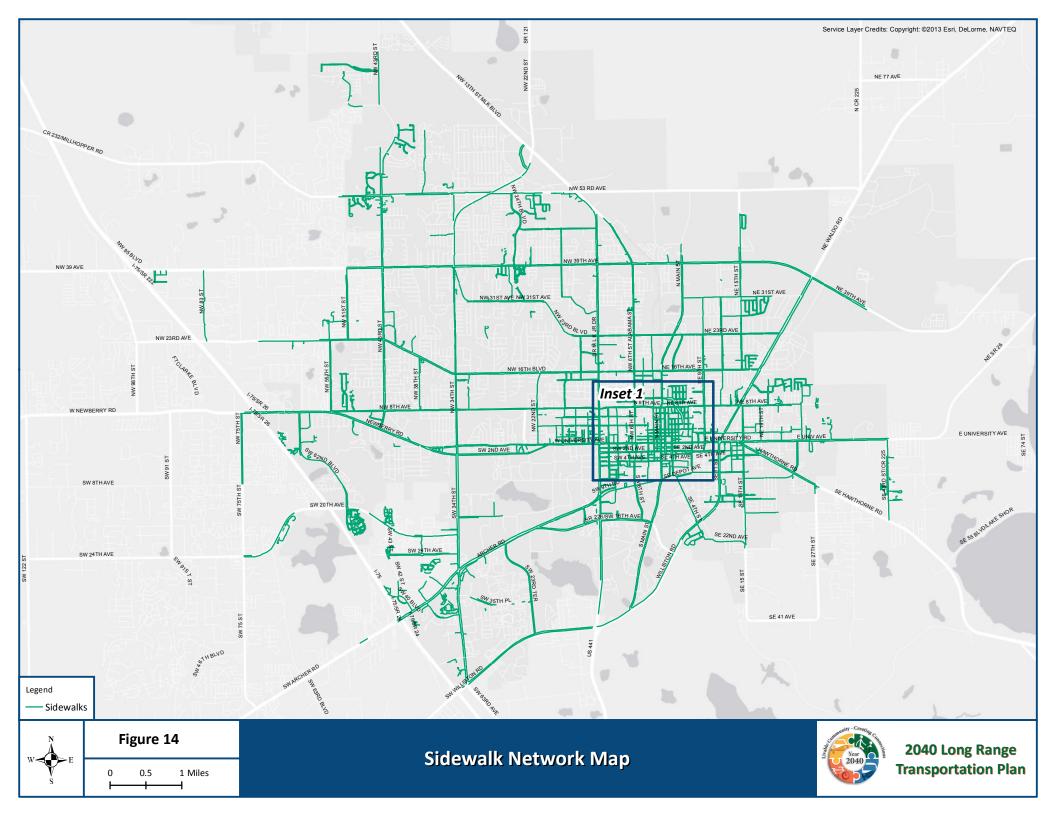


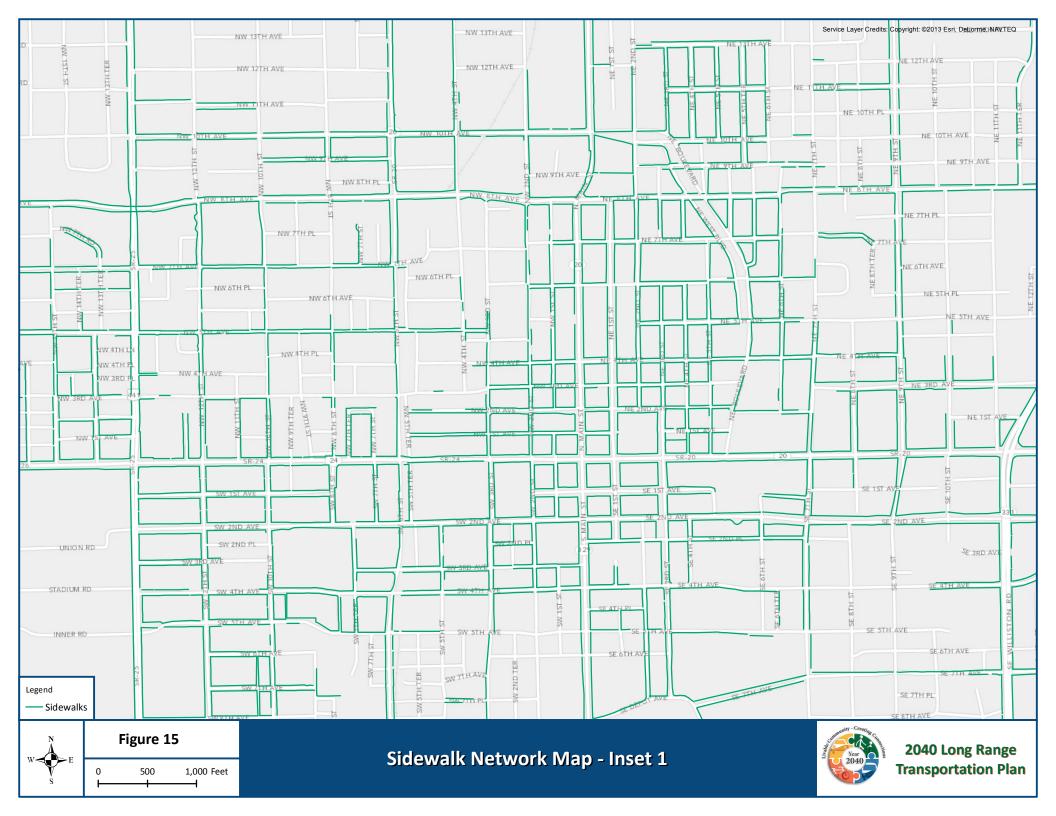
2.2.5 Sidewalk Network Map

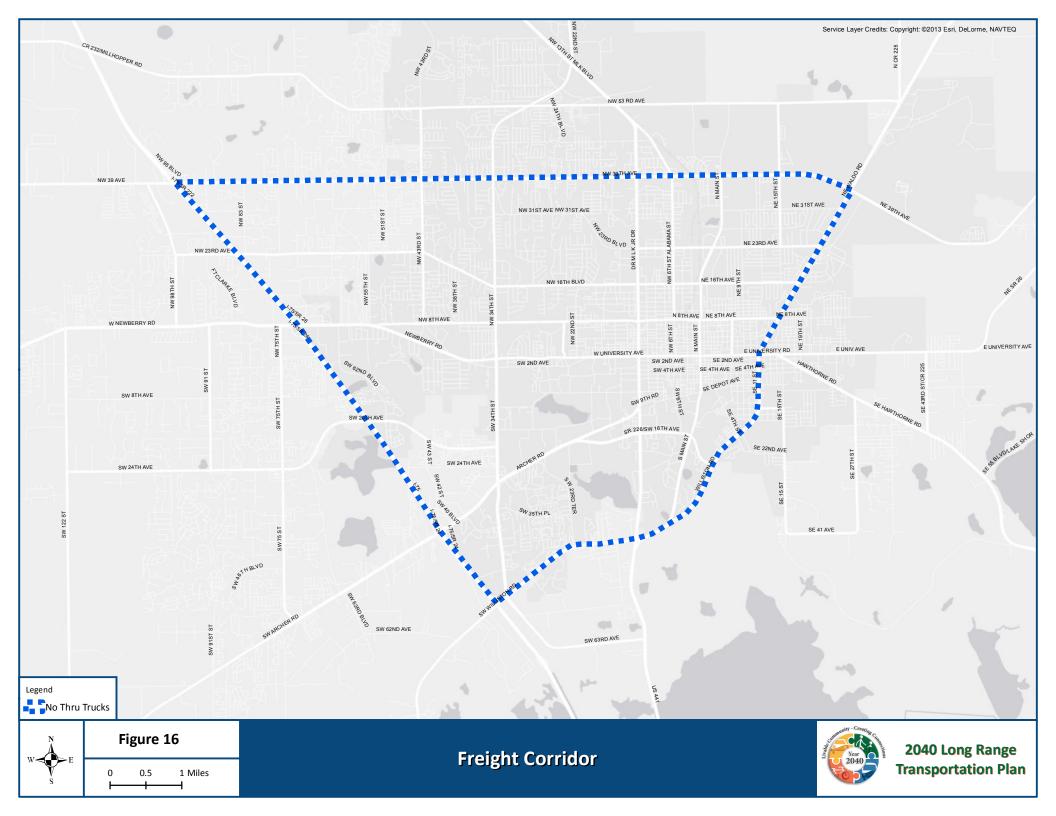
For purposes of documenting mode split and identifying gaps in access to transit, a Sidewalk Network Map shall be developed for the 2010 Base Year. Figures 14 and 15 present the sidewalk facilities network provided by the City of Gainesville.

2.2.6 Freight Corridor Map

For purposes of documenting freight considerations, a Freight Corridor Map shall be developed for the 2010 Base Year. Figure 16 presents the freight corridors provided by the MTPO Staff.









Task 2.3 Data Development

The Data Development task focused on socioeconomic data for the model and use in preparing the Long Range Transportation Plan. The 2010 and 2040 population and employment datasets were prepared by the Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area (MTPO) and University of Florida staff based on the latest available estimates and assumptions. The following section outlines the datasets provided by the Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area (MTPO) and a status report on the development of any additional data.

2.3.1 ZONEDATA File

The file naming convention was changed to the New FSUTMS file naming standards during the model conversion from TRANPLAN to Cube Voyager as part of the last model update. The old file naming conventions of ZDATA1 through Zdata4 were eliminated by file names that better relate to the use and function of the datasets.

The 2010 and 2040 socioeconomic data provided by MTPO staff contains the attributes specified in Table 2. On the population side, the dataset contains information disaggregated by single family, multifamily, and hotel/motel units. It also provides information on auto availability, property vacancy rates, and seasonal use. On the employment side, the dataset contains information disaggregated by service, commercial, manufacturing, and other industrial sectors. It also contains information on school enrollment, university employment, dormitory students, and parking. Figure 17 and Figure 18 show spatial patterns of population and employment changes in the study area between 2007 and 2010.



Table 2 - Socioeconomic Data Variables

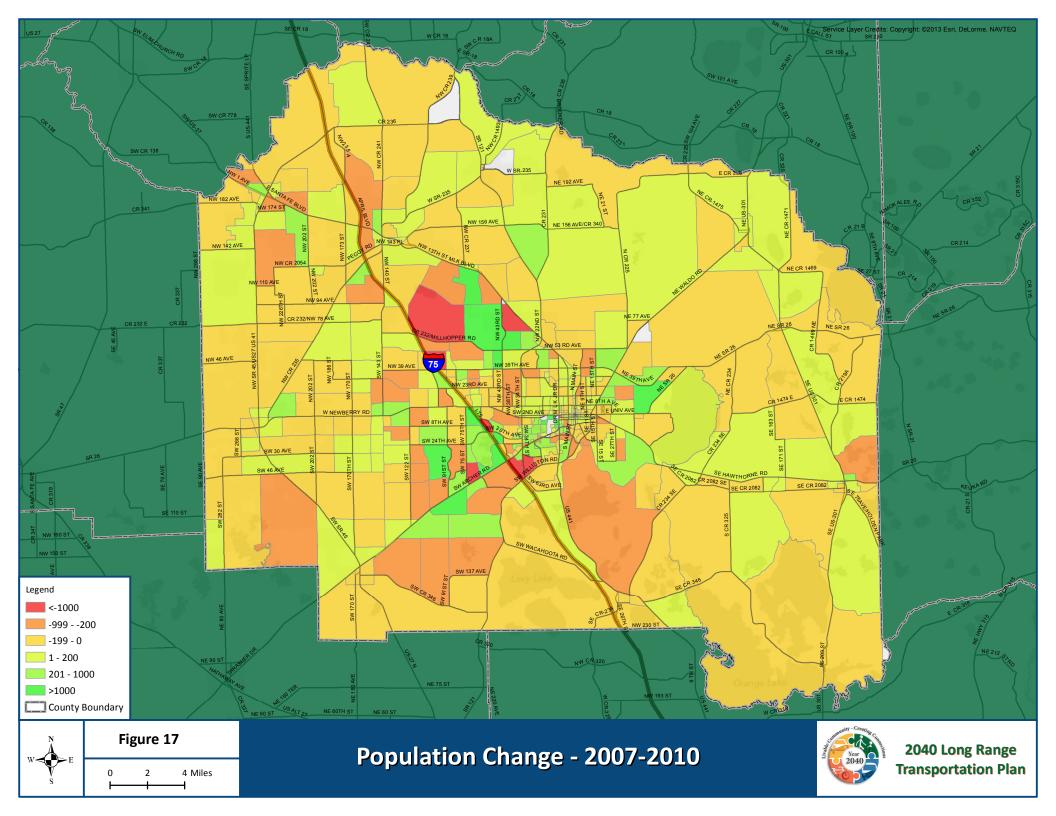
Variable	Description
SFDU	Single Family Dwelling Units
SPOP	Sing. Family Population
MFDU	Multi Family Dwelling Units
MFPOP	Multi Family Population
ТОТРОР	Total Population
HM_DU	Hotel/Motel Units
HM_POP	Hotel/Motel Population
OIEMP	Other Industrial Employment
MFGEMP	Manufacturing Employment
СОМЕМР	Commercial Employment
SERVEMP	Service Employment
ТОТЕМР	Total Employment
SCHENR	School Enrollment
UF_EMP	University Employment
UF_DORM_ST	University Dorm Students
UP_PARKING	University Parking
SEATS	University Classroom Seats
UF_OC_ST	University Off-Campus Students
SHORTPARK	Short term parking
LONGPARK	Long term parking
SF_SEA	Single Family Seasonal
SF_0V	Single Family 0- vehicles Percent
SF_1V	Single Family 1- vehicles Percent
SF_2V	Single Family 2- vehicles Percent
SF_3V	Single Family 3+- vehicles Percent
SF_VAC	Single Family Permanent Vacant
MF_SEA	Multi Family Seasonal
MF_0V	Multi Family 0- vehicles Percent
MF_1V	Multi Family 1- vehicles Percent
MF_2V	Multi Family 2- vehicles Percent
MF_3V	Multi Family 3+- vehicles Percent
MF_VAC	Multi Family Permanent Vacant
HM_POC	Hotel/Motel Percent Occupied



Population and Household Data

MTPO staff provided population and housing data for each TAZ. The data include the following:

- 1. Base year (2010) population and housing data from the 2010 U.S. Census for each TAZ, including:
 - Population and number of single-family and multi-family units;
 - Auto availability;
 - Percentage of vacant single-family and multi-family units; and
 - Population and number of single-family and multi-family units occupied by nonpermanent residents.
- Future year population forecasts from the University of Florida, Bureau of Economic and Business Research (BEBR), interpolated to estimate the Year 2040 study area population.
 MTPO staff reallocated the Year 2040 data to reflect TAZ adjustments described previously.
- 3. Number of hotel/motel units from and associated occupancy rates.
- 4. Vacancy rates for single-family and multi-family dwelling units (Year 2000 Census).

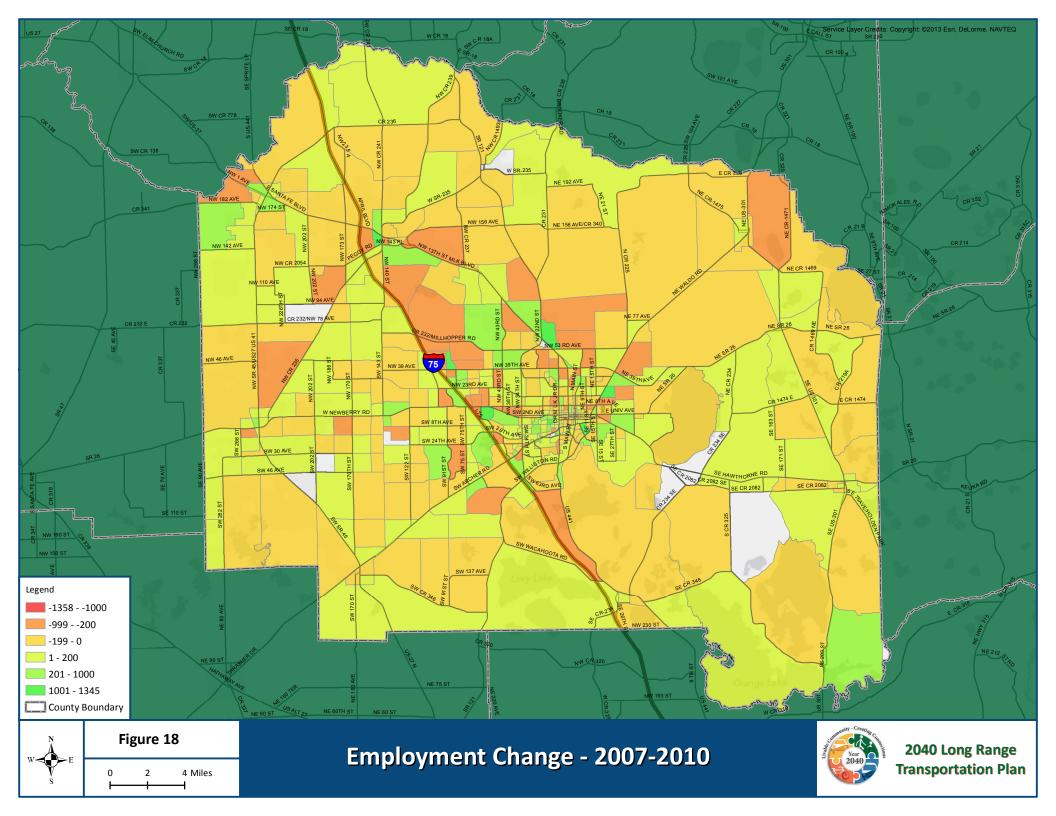




Employment and School Enrollment Data

MTPO staff provided base year (2010) employment data for each TAZ classified by type (service, commercial, industrial). The ZDATA2 dataset also includes the following:

- 1. Parking cost data for City and UF campus TAZs where short-term paid parking and long-term paid parking are available.
- 2. Base Year (2010) public school enrollment from Alachua County School Board and comparable data for private schools within the study area.
- 3. MTPO staff reallocated the 2040 data to reflect TAZ adjustments described previously.





Socioeconomic Data Summary

Table 3 shows a comparison of the 2007 and 2010 socioeconomic datasets. Population and employment in the study area have increased by 2.7% and 3.8%, respectively.

Table 3 - Comparison of Year 2007 and Year 2010 Socioeconomic Data

Socioeconomic Data Variable	2007	2010
Permanent Population	239,666	247,336
Total Population	245,218	251,951
Permanently Occupied Dwelling Units	108,479	112,766
Total Service Employment	86,054	91,399
Total Commercial Employment	31,396	32,669
Total Manufacturing Employment	9,615	4,048
Total Other Industrial Employment	5,409	9,478
Total Employment	132,474	137,594

Special Generators

It is best practice in travel demand forecasting to minimize the use of special generators. Special generators should only be used where validation discrepancies exist that cannot be corrected with edits to other model files and parameters. The special generators used for the previous Year 2035 Plan Update (2007 Base Year) are listed below. At the current time, only Santa Fe College and the University of Florida are included as special generators for the Year 2040 Update. The special generators will be thoroughly evaluated as part of the model calibration and validation.



Table 4 - Special Generators

TAZ	Person Trips	HBW	нвѕн	HBSR	НВО	NHB	Description
536	27,000	2	2	2	92	2	Santa Fe College
440	655	20	38	38	0	4	UF
441	576	20	38	38	0	4	UF
443	408	20	38	38	0	4	UF
449	662	20	38	38	0	4	UF
453	1,816	20	38	38	0	4	UF
460	362	20	38	38	0	4	UF

TAZ: Traffic Analysis Zone HBW: Home Based Work trips HBSH: Home Based Shopping trips

HBSR: Home Based Social/Recreation trips

HBO: Home Base Other trips NHB: Non-Home Based trips UF: University of Florida

Internal-External (IE) and External-External (EE) Trip Data

Figure 19 shows the external stations in the travel demand model. No changes to the external stations were necessary as part of this model update.

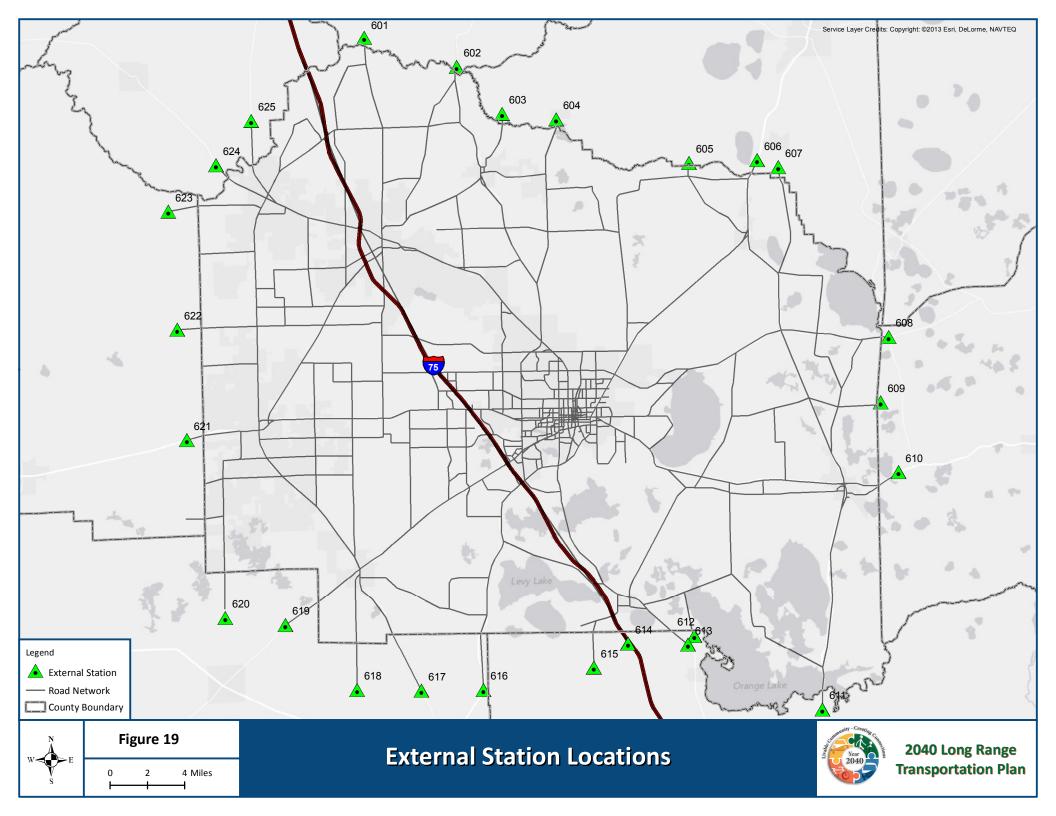




Table 5 shows IE and EE trips estimated for 2010 using year 2007 percent split and 2010 counts. It is important to note that several external station counts have decreased since 2007, which is due to the economic downturn we recently underwent.

Table 5 - Estimation of 2010 IE and EE Trips

TA7			2010						
TAZ	IE Trips	EE Trips	Total	Count	IE %	EE %	Counts	IE Trips	EE Trips
600	12,037	38,464	50,501	50,526	24%	76%	47,368	11,290	36,078
601	823	388	1,211	1,220	68%	32%	1,031	699	330
602	3,243	1,472	4,715	4,742	69%	31%	5,464	3,740	1,706
603	160	26	186	186	86%	14%	103	89	14
604	3,274	344	3,618	3,608	90%	10%	2,784	2,519	265
605	336	142	478	480	70%	30%	670	469	199
606	9,709	14,964	24,673	24,664	39%	61%	23,078	9,081	13,997
607	766	350	1,116	1,124	69%	31%	1,134	776	356
608	4,254	4,302	8,556	8,556	50%	50%	8,763	4,357	4,406
609	248	138	386	388	64%	36%	412	264	147
610	4,713	4,860	9,573	9,382	49%	51%	8,454	4,386	4,444
611	1,343	10,640	11,983	11,980	11%	89%	11,250	1,261	9,989
612	287	56	343	346	84%	16%	345	288	56
613	6,908	826	7,734	7,732	89%	11%	7,938	7,090	848
614	22,844	42,456	65,300	65,264	35%	65%	48,947	17,123	31,824
615	2,368	1,266	3,634	3,656	65%	35%	1,340	870	467
616	5,895	1,890	7,785	7,784	76%	24%	6,907	5,230	1,677
617	3,039	1,262	4,301	4,330	71%	29%	4,536	3,190	1,331
618	1,053	320	1,373	1,382	77%	23%	979	745	228
619	5,688	2,298	7,986	8,042	71%	29%	7,320	5,190	2,106
620	943	370	1,313		72%	28%	1,237	885	349
621	7,333	2,266	9,599	9,588	76%	24%	10,000	7,639	2,361
622	1,568	610	2,178	2,186	72%	28%	2,062	1,474	577
623	3,046	1,216	4,262	4,264	71%	29%	3,711	2,672	1,070
624	7,098	2,800	9,898	9,896	72%	28%	8,351	5,988	2,362
625	4,757	2,000	6,757	6,804	70%	30%	6,082	4,262	1,800



For the validation adjustment of external model, the INTEXT and EETRIPS files are modified to achieve a 1.00 volume-over-count ratio at each external station link. The adjustment is accomplished in several iterations in order to make sure no over-adjustment has occurred.

Task 2.4 Designation of Screenlines

As discussed in Task 2.1.1, screenlines, cutlines, and cordon lines are useful for comparing model flows with observed counts for critical links. Screenlines, cutlines, and cordon line from the previous Long Range Transportation Plan Update were evaluated for their applicability to the Year 2040 Update and determined to be sufficient. This will be further evaluated during model validation as part of Task 4. The screenlines, cutlines, and cordon line were previously shown in Figure 1.

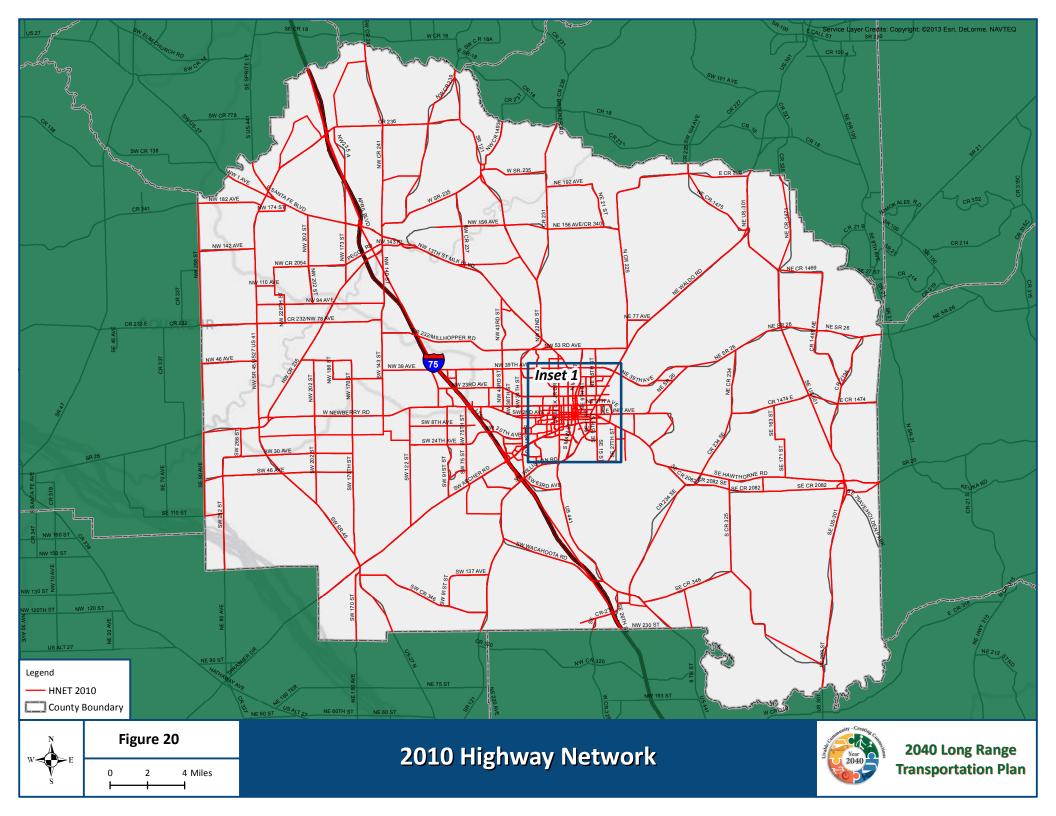
Task 2.5 Traffic Count Data

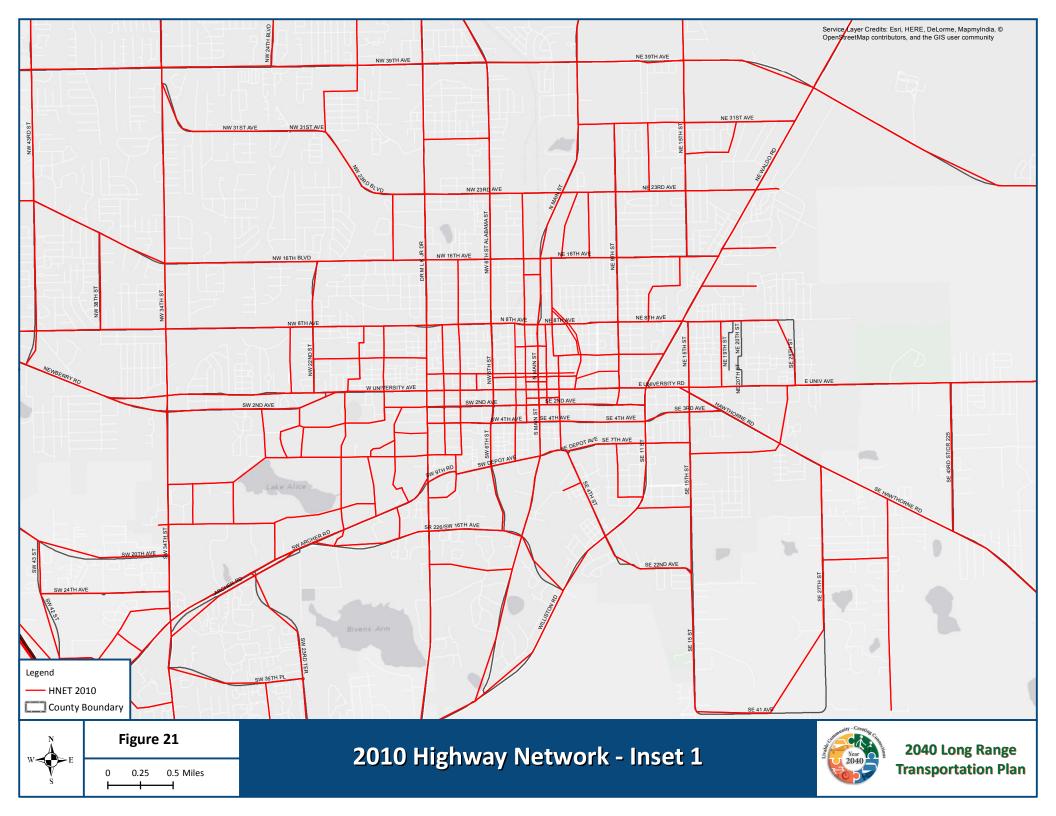
As discussed under Task 2.1 Data Collection, annual average daily traffic (AADT) counts for 2010 were obtained from 3 sources — the MTPO, Florida Department of Transportation, Alachua County, and the City of Gainesville. All traffic counts are being reviewed for use in the 2010 Base Year validation. Generally, if there are multiple counts available for a given facility, reasonableness checks are conducted and the most appropriate count is selected. Seasonal adjustments are also needed for short-term counts. A map of traffic count station locations for use in model validation is included as Figures 2 and 3 under Task 2.1.1 presented earlier.

Task 2.6 Highway and Transit Networks

2.6.1 Highway Network

Figures 20 and 21 illustrate the highway network of the 2010 model. The network includes major facilities in Alachua County like I-75, US 301, SR 26, and SR 20 as well as some relatively minor facilities. The RCI data was utilized as the primary data source for the highway network. Local knowledge and 2010 base aerials were also utilized for updating the non-state facilities.







The 2010 Base Year Network incorporates changes since the last plan update, to reflect the current number of lanes and roadway functional classification. A full description of the model networks and updates will be provided in Technical Report 3 (Data Review and Verification) and Technical Report 4 (Model Update and Validation).

2.6.2 Transit Network

The transit network of the model has been updated to 2010 based on information provided by the RTS staff. Table 6 contains a listing of all the transit routes that are coded into the transit system and Figure 22 shows the geographic context of the routes. A full description of the transit network and updates will be provided in Technical Report 3 (Data Review and Verification) and Technical Report 4 (Model Update and Validation).

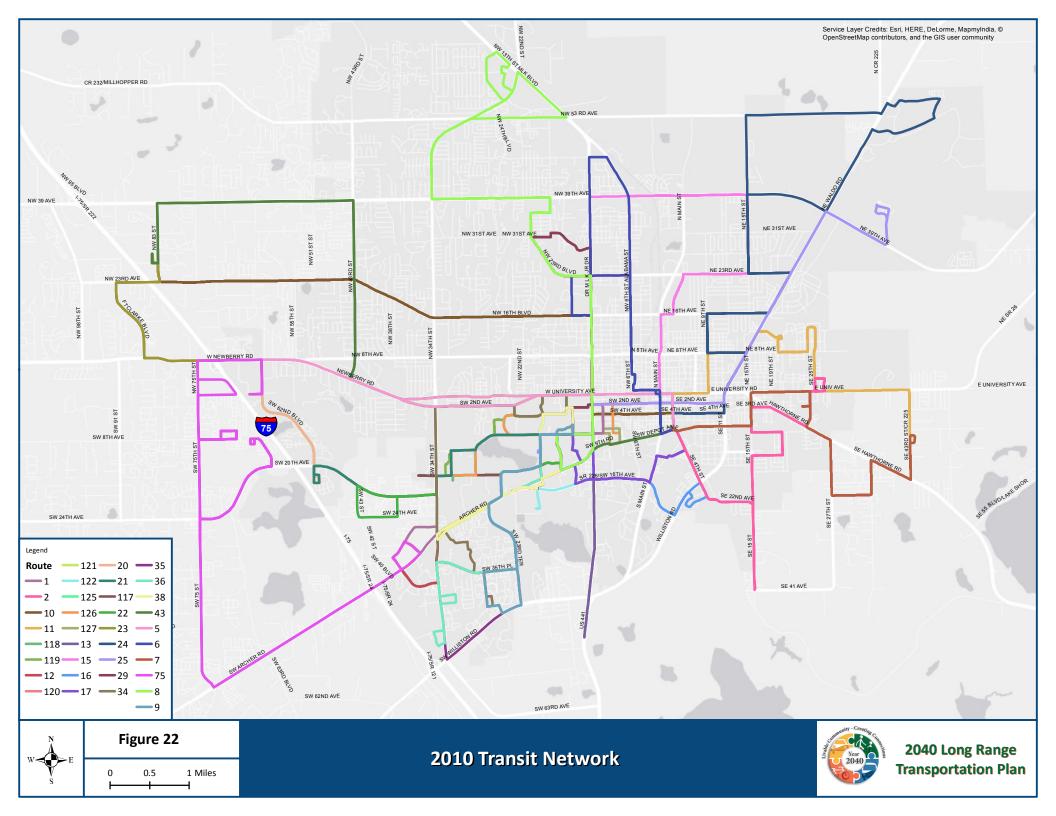




Table 6 - Transit Routes

Route	Original-Destination Stops								
1	Downtown - Butler Plaza								
2	Downtown - Health Department								
5	Downtown - Oaks Mall								
6	Downtown - Gainesville Mall								
7	Downtown - Eastwood Meadows								
8	Shands - Northwood Village								
9	McCarty - Hunters Run								
10	Downtown - Santa Fe								
11	Downtown - Eastwood Meadows								
12	McCarty - Butler Plaza								
13	Shands - Florida Works								
15	Downtown - Gainesville Mall								
16	Shands - Sugar Hill								
17	Shands – Downtown								
20	McCarty - Oaks Mall								
21	McCarty - Cabana Beach								
22	Mcarty - SW 43rd Street at 24th Avenue								
23	Oaks Mall - Santa Fe								
24	Downtown - Job Corps								
25	Commuter Lot - GNV Airport								
29	Beaty Towers – Cobblestone								
34	Hub - Lexington Crossing								
35	McCarty – Homestead								
36	McCarty - Williston Plaza								
38	Hub - Gainesville Place								
43	Downtown - Santa Fe								
75	Oaks Mall - Butler Plaza								
117	McCarty - SW 34th Street Lot								
118	Hub - Cultural Plaza								
119	Family Housing								
120	Fraternity Row								
121	Commuter Lot								
122	Animal Science								
125	Lakeside								
126	UF East/West Circulator								
127	Sorority Row								



Task 2.7 Transit Service Data

As discussed under Task 2.1.4, existing transit service data has been obtained from the RTS for Citywide and University of Florida (UF) campus routes.

In 2010, RTS operated a fleet of 105 vehicles. RTS operated 88 diesel buses on its fixed-route system within a service area of approximately 76 square miles. Of those, 19 were utilized for the UF campus. The RTS fleet contained 78 vehicles with an automatic vehicle location system, 75 with video cameras, and 75 with talking bus capabilities. The average age of the fleet was 6.8 years.

Majority of the general fixed route service was provided between 6 am and 11 pm on weekdays. Limited weekend service was also available, but with longer headways. The Campus Routes were generally operated between 6 am and 7:30 pm. Later Gator Routes provide late night services. The headways vary depending on time of day and day of the week for each route.

The regular one-way fare in 2010 was \$1.50, which didn't change since October 2008. Half-fares were available to youth (under 17 years) and to seniors and persons with disabilities. Children shorter than the farebox ride RTS for free.

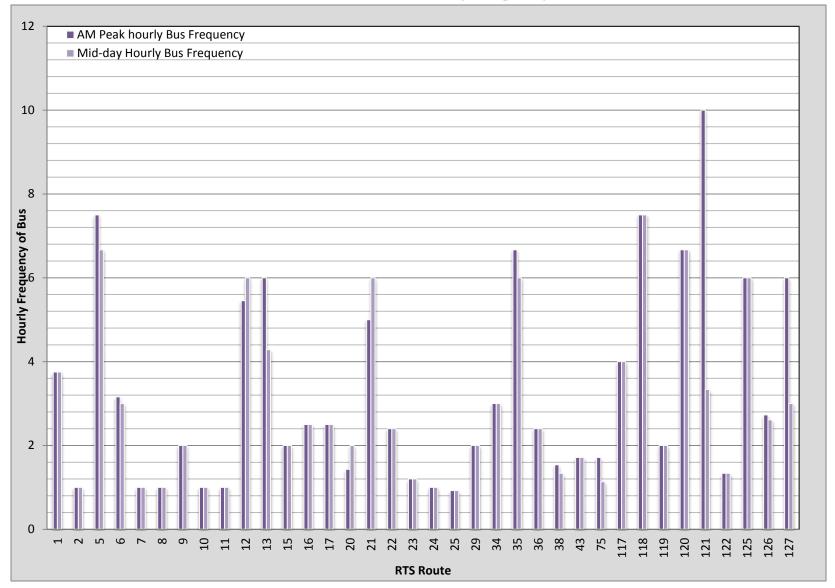
The system wide monthly ridership varied between 417,684 and 1,183,903 in 2010. September and October were the busiest months and May and June were relatively slower months.

A full description of the transit service data will be provided in Technical Report 3 (Data Review and Verification) and Technical Report 4 (Model Update and Validation).

Chart 1 shows the hourly frequency of bus (round up to integer) for AM peak hour and Mid-day which are derived from GTFS transit data provided by RTS.



Chart 1: Transit Hourly Frequency





Transit Service Data

Transit service data for Year 2011 has been obtained from the RTS for Citywide and University of Florida (UF) campus routes. Table 7 shows the ridership data by month for each route. In addition to ridership data, information on service characteristics (fare, frequency, span of service, etc.) has been obtained from RTS in GTFS format.



Table 7 - Transit Ridership by Route

		December	November	October	September	August	July	June	May	April	March	February	January
Route	City Routes	Passengers											
1	Downtown to Butler Plaza via Archer Road	31,183	41,605	46,776	51,310	44,425	39,233	36,647	32,279	40,098	41,085	40,795	40,261
2	Downtown to Health Department via SE 15th Street	6,800	7,082	8,575	8,658	8,003	6,908	7,093	6,605	7,483	8,128	7,092	7,563
5	Downtown to Oaks Mall via University Avenue	27,048	32,950	37,936	40,136	29,897	24,327	24,280	23,063	35,533	34,947	36,025	35,400
6	Downtown to Gainesville Mall via 6th Street	7,615	8,503	9,462	9,888	8,506	8,088	8,141	8,430	7,751	7,907	6,680	7,251
7	Downtown to Eastwood Meadows	7,792	9,017	9,367	9,364	8,480	7,887	8,089	7,990	9,580	9,297	7,957	9,036
8	Shands to Northwood Village via NW 13th Street	18,994	25,204	27,887	31,701	24,288	20,732	19,504	18,221	23,528	24,684	24,459	24,725
9	McCarty to Hunters Run	35,111	71,352	82,596	92,966	46,071	39,635	33,470	31,809	56,206	60,391	68,170	65,372
10	Downtown to Santa Fe via NW 16th Ave	4,626	8,846	10,021	10,827	6,690	5,190	5,046	5,224	7,875	7,757	7,678	8,296
11	Downtown to Eastwood Meadows via University Ave.	10,091	10,709	11,478	10,978	10,267	8,263	9,241	9,497	10,070	10,277	9,156	9,373
12	McCarty to Butler Plaza	39,882	70,270	79,368	85,955	49,528	32,000	30,086	30,185	65,463	66,295	71,648	71,178
13	Shands to Florida Works via SW 13th Street	23,857	41,638	47,755	51,692	30,881	19,863	19,737	18,916	32,665	35,604	38,256	35,969
15	Downtown to Gainesville Mall	22,963	22,179	24,769	25,941	23,667	21,661	21,105	20,631	21,231	22,013	19,402	19,388
16	Shands to Sugar Hill via SW 16th Avenue	9,879	14,226	16,143	17,651	13,672	14,741	13,764	12,217	21,346	20,794	22,012	20,932
17	Shands to Downtown	11,410	15,308	17,044	18,114	13,321	9,985	11,185	10,828	15,535	17,216	18,115	17,493
20	McCarty to Oaks Mall via SW 20th Avenue	59,168	102,236	118,714	126,568	71,409	61,022	52,141	49,262	89,090	90,717	99,181	94,102
21	McCarty to Cabana Beach	20,702	45,269	52,450	60,382	24,347	6,669	4,817	4,483	32,405	36,570	43,191	43,124
22	McCarty to SW 43rd St @ SW 24th Avenue	3,658	7,178	8,730	10,599	4,355	-	-	-	5,614	6,400	8,218	7,813
23	Oaks Mall to Santa Fe	2,138	4,420	5,047	5,402	2,045	0	0	0	0	0	0	0
24	Downtown to Job Corps via SR 24 (Waldo Rd.)	6,719	7,999	8,617	8,700	7,685	5,744	6,449	6,681	6,854	7,799	6,666	6,901
25	McCarty to Airport	1,123	1,352	1,464	1,282	519	0	0	0	0	0	0	0
29	Beaty Towers to Cobblestone	1,839	3,785	4,538	5,115	1,980	-	-	-	2,587	3,062	3,550	3,511
34	HUB to Lexington Crossing	21,529	42,426	48,143	57,668	30,249	22,523	18,251	17,296	40,905	43,982	50,799	49,674
35	McCarty to Homestead Apartments	35,498	64,765	73,904	81,028	41,814	28,090	25,882	25,385	59,584	61,764	69,126	66,952
36	McCarty to Williston Plaza	7,439	14,470	15,990	17,002	6,655	-	-	-	9,745	11,437	13,813	13,169
38	HUB to Gainesville Place	8,285	19,915	22,373	25,599	9,099	-	-	-	3,637	4,510	3,728	2,833
43	Downtown to Santa Fe via 43rd Street	11,025	18,514	19,935	21,442	15,067	12,733	12,396	11,052	15,713	16,437	16,094	16,324
75	Oaks Mall to Butler Plaza via 75th Street	21,597	22,380	25,037	22,989	21,584	19,555	20,167	19,589	20,986	21,563	19,329	18,791
300	Later Gator A (Downtown to Reitz Union)	1,968	3,275	5,100	6,142	3,639	5,906	12	-	4,153	2,682	3,965	4,854
301	Later Gator B (Downtown to Lexington Cr.)	1,559	2,680	4,995	4,948	3,104	2,594	-	-	2,840	1,744	2,923	3,035
302	Later Gator C (Downtown to Oaks Mall)	1,824	2,890	5,960	5,590	2,562	4,012	-	-	3,496	2,033	3,147	3,478
305	Later Gator F : Downtown to Butler Plaza	-	-	-	0	0	0	0	0	0	0	0	0
400-410	Saturday Service Routes (400-410) (excluding 407)	8,518	11,756	15,534	14,460	10,988	10,132	7,759	10,148	11,249	9,613	11,468	12,277
400-408	Sunday Service Routes (400-408) (excluding 409 & 410)	4,523	5,563	7,100	5,685	7,098	3,997	4,308	4,988	4,449	4,118	5,152	6,370
	City Totals	476,363	759,762	872,808	945,782	581,895	441,490	399,570	384,779	667,671	690,826	737,795	725,445

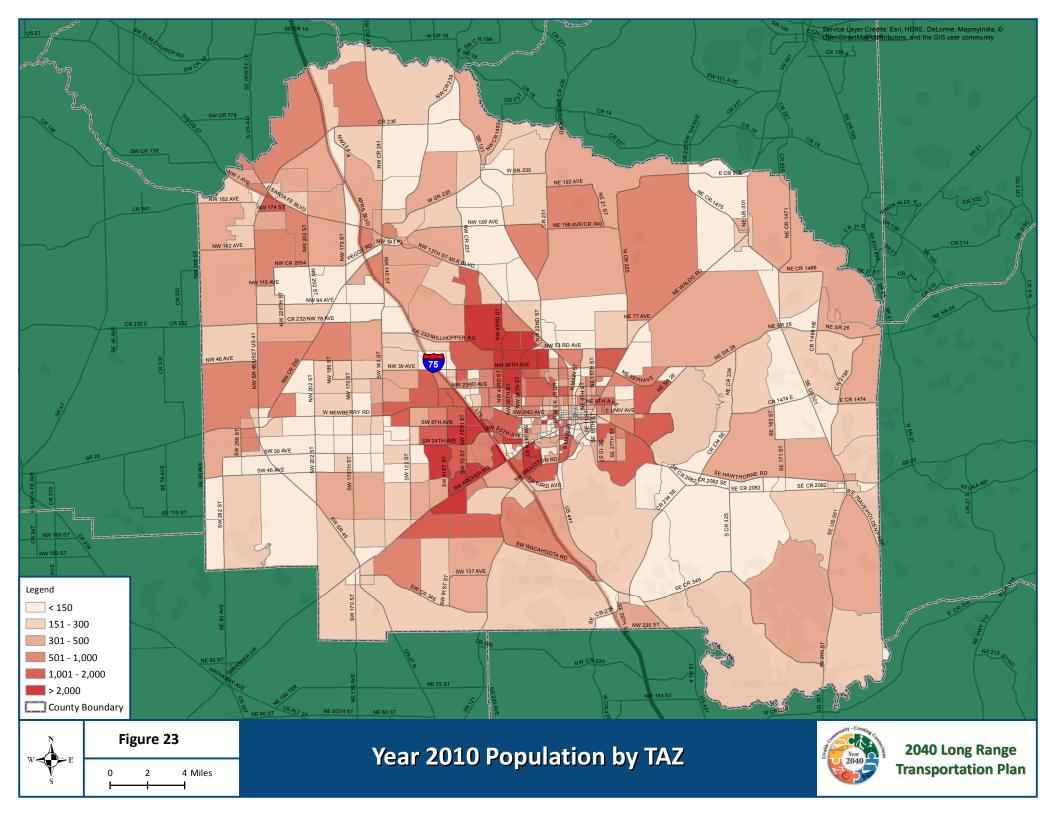
Route	Campus Route	Passengers											
117	Park-N-Ride 2 (SW 34th Street)	7,251	16,435	18,228	21,543	7,796				12,896	13,318	15,781	14,769
118	Park-N-Ride 1 (Harn Museum)	18,460	44,360	49,462	53,437	16,385		1	,	46,075	50,718	61,204	56,022
119	Family Housing	3,748	7,514	7,414	8,361	4,603	6,642	3,545	2,506	8,263	7,317	8,281	8,063
120	West Circulator (Fraternity Row)	17,151	35,537	40,831	47,689	25,869	31,560	11,050	6,943	31,005	32,325	40,491	37,036
121	Commuter Lot	12,637	22,791	27,661	34,041	16,201	19,082	12,130	9,128	19,732	22,189	26,336	24,389
122	UF North/South Circulator	1,346	3,144	3,219	4,147	1,782	1,079	831	810	3,221	3,304	3,980	4,002
125	Lakeside	8,129	18,615	21,669	25,523	16,650	27,374	9,329	7,867	18,466	19,237	22,815	21,542
126	UF East/West Circulator	3,139	6,401	8,512	9,949	5,971	2,317	739	575	5,488	5,405	7,606	6,428
127	East Circulator (Sorority Row)	11,804	25,173	26,550	33,399	13,428	6,842	5,314	5,076	20,867	25,653	31,713	30,794
	Campus Totals	83,665	179,970	203,546	238,089	108,685	94,896	42,938	32,905	166,013	179,466	218,207	203,045

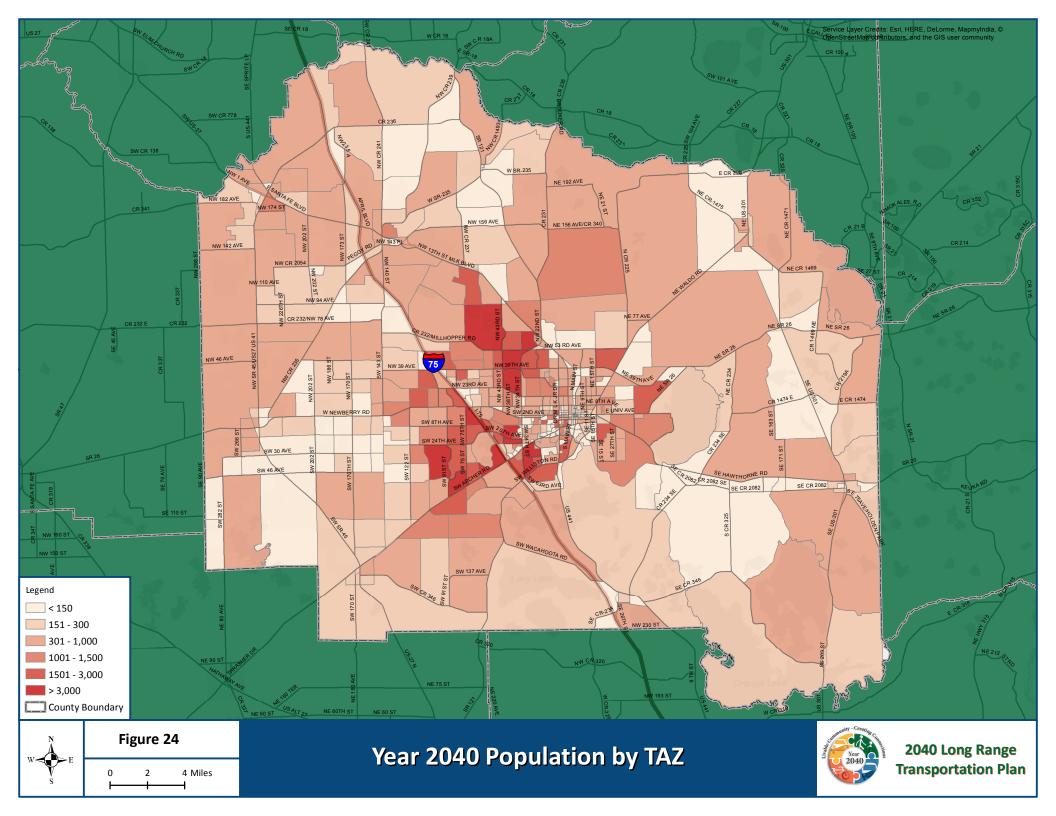
Systemwide Totals 560,028 939,732 1,076,354 1,183,903 690,580 536,417 442,508 417,684 833,756 870,292 956,002 928,490

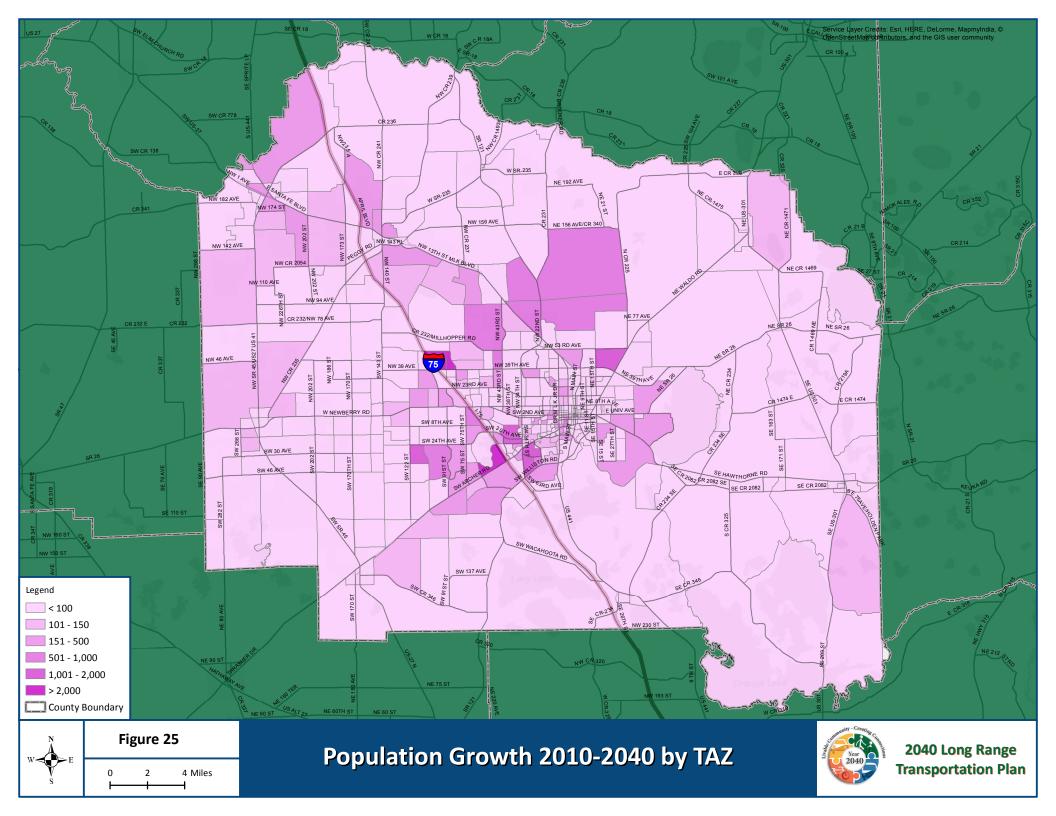


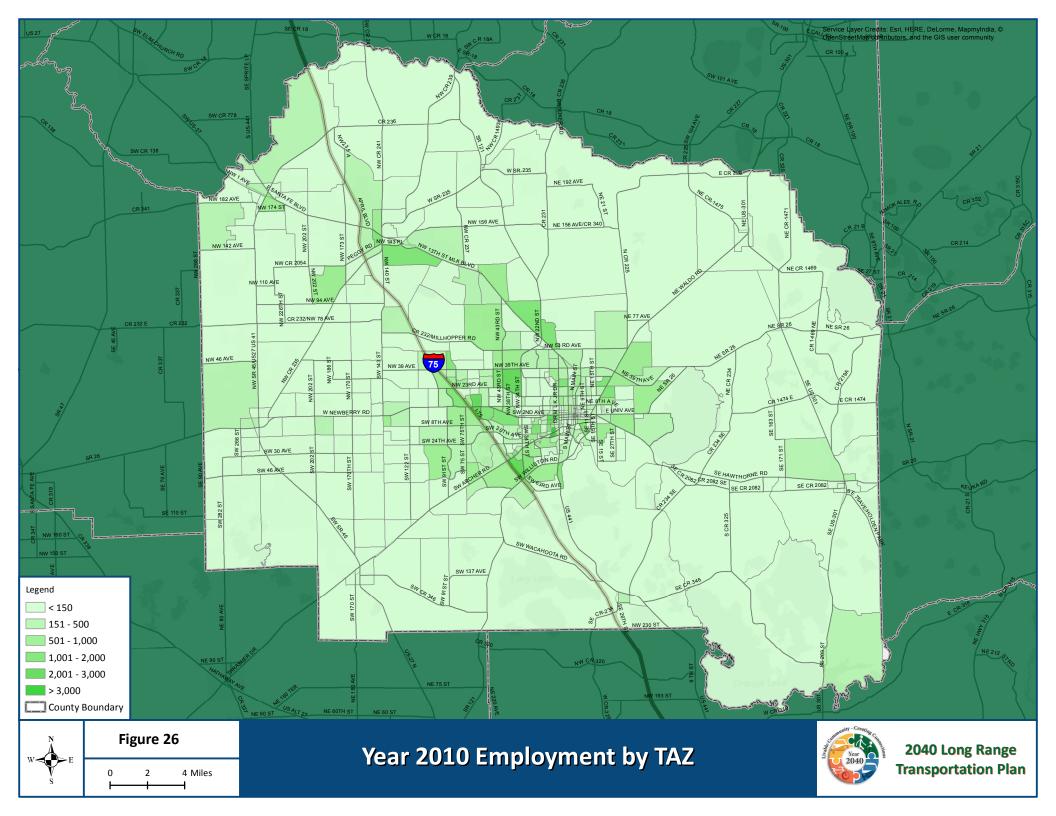
Task 2.8 Data Projections

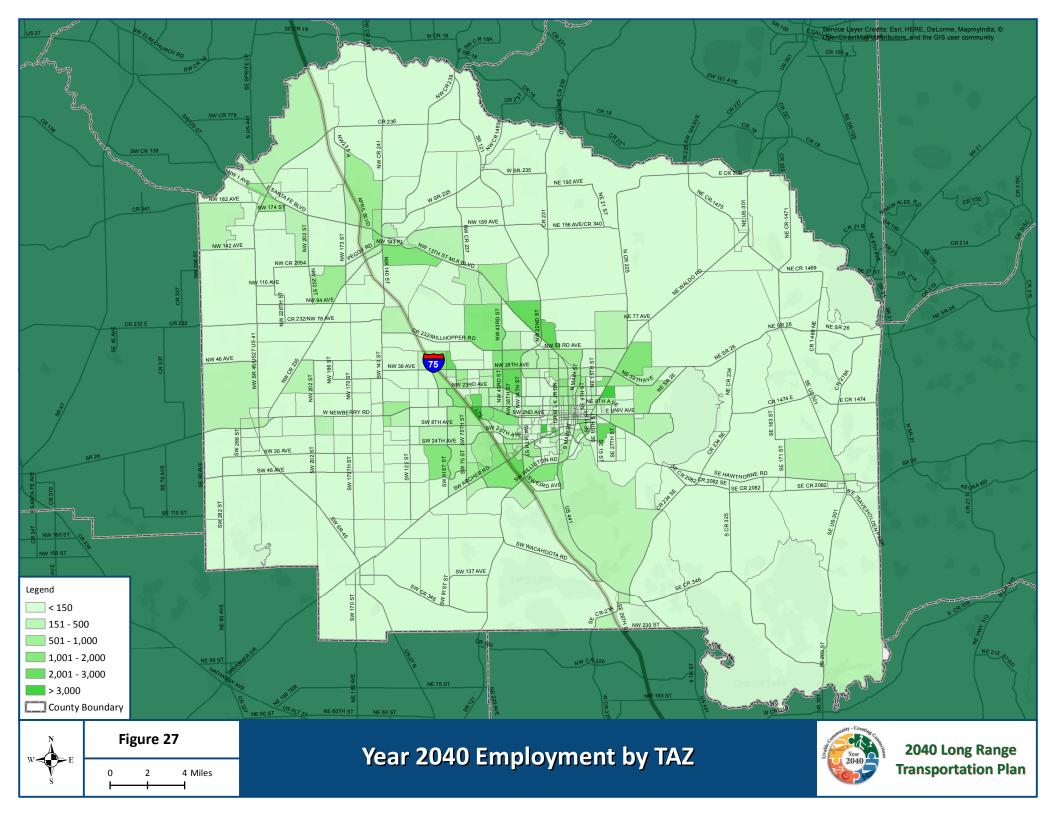
The MTPO staff provided population (ZDATA1) and employment (ZDATA2) datasets for the base year 2010 and the forecast year 2040. Figures 23 through 29, on the following pages, depict population and employment numbers for the base year (2010) and the forecast year, 2040. They also show growth in population and employment by Traffic Analysis Zone (TAZ). As described in Technical Memorandum 2.3, Internal/External (IE) and External/External (EE) trips were estimated for the Year 2010 using Year 2007 percent split and Year 2010 traffic counts. Those trips will be projected for the forecast year 2040 as part of the Year 2040 model development. Also, the special generator trips were updated as part of Task 2.3. The special generator trips will be projected to the Year 2040 as part of the 2040 model development.

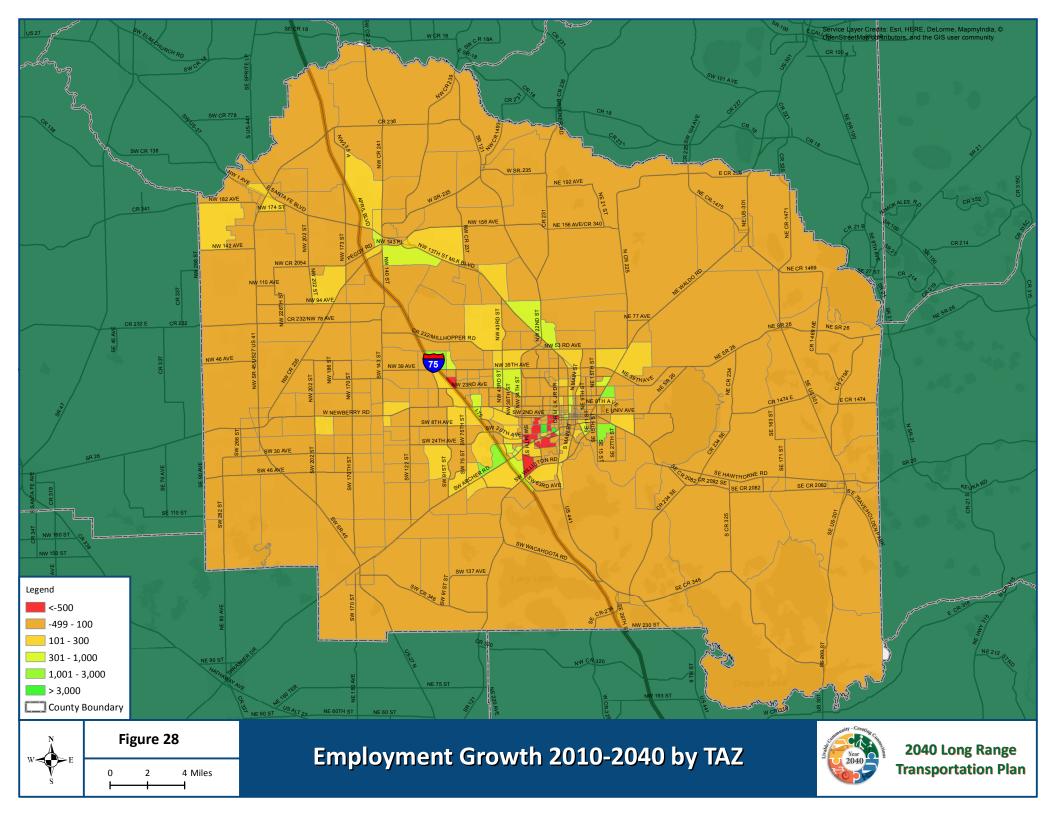














Conclusion

This report documents the data development activities undertaken to prepare for the validation of the 2010 Base Year Gainesville Urbanized Area Transportation Study Model and the development of the Year 2040 Long Range Transportation Plan. The data developed as part of this task will be used in the iterative model validation process in subsequent steps, and some information documented here is subject to change based on agency review and efforts to optimize model performance. These final adjustments will be sufficiently documented in the Model Validation Technical Report and in subsequent tasks associated with the LRTP Update.



Use the QR Reader App on your smart phone to visit our website!

Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area

2009 NW 67th Place Gainesville, FL 32653-1603 352.955.2200

www.ncfrpc.org/mtpo