

# TRANSPORTATION ELEMENT

CITY OF ZEPHYRHILLS 2025 COMPREHENSIVE PLAN

[This page intentionally left blank.]

# TABLE OF CONTENTS

---

## TRANSPORTATION ELEMENT

<b>REGIONAL CONNECTIVITY AND POSITION .....</b>	<b>TRA-1</b>
Location of City .....	TRA-1
Proximity to State and County Roads .....	TRA-1
Proximity to Transit Systems.....	TRA-1
Proximity to Airports (Public and Private) .....	TRA-1
Analysis of the Effect of these Connections to the City of Zephyrhills .....	TRA-1
<b>STUDY AREA/BUILD-OUT AREA .....</b>	<b>TRA-2</b>
Study Area Boundaries .....	TRA-2
Existing Roadway Network .....	TRA-2
Existing Land Use.....	TRA-2
Future Land Use .....	TRA-4
Population.....	TRA-4
Build-out Scenario .....	TRA-6
Area Wide Level of Service.....	TRA-6
Connectivity Index .....	TRA-11
<b>CITY LIMIT AREA .....</b>	<b>TRA-12</b>
City Boundaries .....	TRA-12
Existing Roadway Network and LOS .....	TRA-13
Roadway Classification.....	TRA-13
Area Wide Level of Service.....	TRA-15
Connectivity .....	TRA-21
Service Areas .....	TRA-21
City Land Use .....	TRA-21
Transit System.....	TRA-21
Pedestrian Facilities.....	TRA-22
Bicycle Facilities .....	TRA-23
Public Parking Availability .....	TRA-23
<b>TRANSPORTATION ELEMENT MAPS.....</b>	<b>TRA-18</b>
<b>GOALS, OBJECIVES AND POLICIES.....</b>	<b>TRA-25</b>
Introduction .....	TRA-25
Implementation .....	TRA-25
<b>TRANSPORTATION APPENDIX.....</b>	<b>TRA APPENDIX</b>

## LIST OF TABLES

Table TRA-1	Analysis of Population Densities over the Time Period .....	TRA-5
Table TRA-2	Roadway Spacing Criteria .....	TRA-7
Table TRA-3	Automotive Level of Service .....	TRA-13
Table TRA-4	LOS Rating of Important Roadways .....	TRA-13
Table TRA-5	Roadway Traffic Volumes and Levels Of Service, 2007 .....	TRA-14
Table TRA-6	Roadway Traffic Volumes and Levels Of Service, 2015 .....	TRA-15
Table TRA-7	Roadway Traffic Volumes and Levels Of Service, 2025 .....	TRA-18
Table TRA-8	Transit Level of Service Standards.....	TRA-16
Table TRA-9	Pedestrian Level of Service Standards.....	TRA-16
Table TRA-10	Bicycle Level of Service Standards.....	TRA-17

## TABLE OF MAPS

Map TRA-1	2025 Master Thoroughfare Plan.....	TRA-1
Map TRA-2	2025 Long Range Transportation Plan.....	TRA-2
Map TRA-3	2025 Downtown US 301 Circulation Plan.....	TRA-3
Map TRA-4	Location of Zephyrhills City .....	TRA-4
Map TRA-5	Regional Connections in the Vicinity of Zephyrhills .....	TRA-5
Map TRA-6	Regional Connections in the Vicinity of Zephyrhills .....	TRA-6
Map TRA-7	Major Roads and Highways for Study Area.....	TRA-7
Map TRA-8	Study Area Land Use.....	TRA-8
Map TRA-9	Study Area Future Land Use.....	TRA-9
Map TRA-10	Study Area Population Density.....	TRA-10
Map TRA-11	Study Area Future Population Density .....	TRA-11
Map TRA-12	Area Wide Level of Service by TAZs.....	TRA-12
Map TRA-13	Area Wide Level of Service by TAZs for Buildout .....	TRA-13
Map TRA-14	Transportation Network Diagram .....	TRA-14
Map TRA-15	Major Roads and Highways for City of Zephyrhills .....	TRA-15
Map TRA-16	Road Classifications for City of Zephyrhills .....	TRA-16
Map TRA-17	Level of Service for Roads in City Limits .....	TRA-17
Map TRA-18	Zephyrhills Service Area .....	TRA-18
Map TRA-19	City of Zephyrhills Land Use .....	TRA-19
Map TRA-20	Bus Service for Zephyrhills City .....	TRA-20
Map TRA-21	Bicycle and Pedestrian Circulation.....	TRA-21
Map TRA-22	Multi-Use Trail Master Plan.....	TRA-22
Map TRA-23	Public Parking Facilities for Zephyrhills City .....	TRA-23

# **TRANSPORTATION ELEMENT**

---

## **REGIONAL CONNECTIVITY AND POSITION**

### **Location of City**

The City of Zephyrhills is located in the southeastern region of Pasco County, Florida. The closest major cities to Zephyrhills are Tampa, Florida 35 miles to the southwest, Orlando, Florida 84 miles to the northeast, and Dade City 9 miles to the north. The City of Zephyrhills is the second largest in Pasco County at a population of 11,033 year-round residents (51,000 for area wide population) with in a city limit area of 28,340 square miles.

### **Proximity to State and County Roads**

The City of Zephyrhills has US 301 running north-south through the middle of the city and the downtown core. This major arterial connects Zephyrhills with Dade City in the North and Tampa to the South. Other major arterials in the city are SR (State Road) 39 and SR 54. State Road 39 connects Zephyrhills to I-4 in the southeast and State Road 54 running east-west into the city connects from the west into US 301 and gives access to I-75 to the east. There is also a county road CR 54 that runs east-west and allows access to US 98 to the west. US98 also connects with 301 north of the city limits. Lastly there are two Bypasses around the City of Zephyrhills one to the East and one to the West.

### **Proximity to Transit Systems**

There is a railroad that runs through the southeast section of the city that is owned by CSX () named the Coastline Railroad. This is the only still active rail in the vicinity of Zephyrhills City. After passing through the city the tracks head southward eventually running alongside SR39. As to other major transit systems in the area, Pasco County provides a county wide bus transit system of which two routes either intersect or loop around the City of Zephyrhills. County Route 30 (known as the East Route) is a commuter bus that comes down from Dade City to Zephyrhills and back again. County Route 33 (known as the West Route) loops around mostly the city core of Zephyrhills with a south westerly orientation.

### **Proximity to Airports (Public and Private)**

The City of Zephyrhills has a public Municipal Airport within city limits. This is the most likely airport used for flight out of the city with connections at a nearby larger airport such as Orlando's International Airport or the Airport in Tampa. Some citizens of Zephyrhills may also opt to drive to these other airports and maybe decrease their cost or their number of flight connections.

### **Analysis of the Effect of these Connections to the City of Zephyrhills**

The City of Zephyrhills regionally is well connected through state and county roads to all nearby major cities. The city also has additional transportation with rail, bus, and the airport which can give them a starting point for a well connected multimodal transportation grid.

See the following maps relative to this section:

- Map TRA-4    Location of Zephyrhills City
- Map TRA-5    Regional Connections in the Vicinity of Zephyrhills
- Map TRA-6    Regional Connections in the Vicinity of Zephyrhills

## STUDY AREA/BUILD-OUT AREA

This section of the report will consist of the major analysis for the future build out of the study area. Section II will analyze and provide maps on present and future build out projections of the roadway networks, land use, population (density), and area wide LOS of the traffic zones (TAZ) within the study area. As for the area wide LOS calculations the method to be used is derived from the connection between miles of roadway, density of area, and average trips per household. This method will be further explained in the correlating subsection. Also roadway connectivity will be addressed using two methods. The first is a link and node based method, and the second is based on the number of polygons created by a network in a square mile area. Both of these methods will also be further explained in the forthcoming subsections.

### Study Area Boundaries

The study area chosen for this project consists of the city limits of Zephyrhills, Florida and an approximately 2.5 mile buffer out from those city limits. This area was specifically mapped to incorporate the major roadway network that runs into and around the city especially the East and West Bypasses. See Map TRA-4 to view the study area boundary.

### Existing Roadway Network

See the following map:

- Map TRA-7 Major Roads and Highways for Study Area

Analysis of the Roadway Network  
Describing Problem Links/ Heavy Use Links

### Existing Land Use

See the following map:

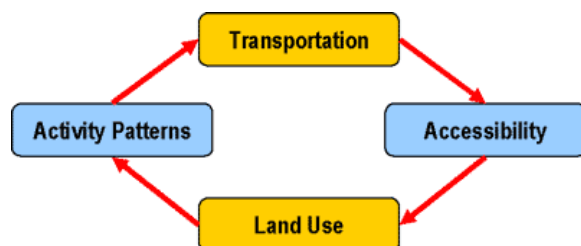
- Map TRA-8 Study Area Land Use

### *Analysis of Land Use*

#### **Land Use and Transportation Relationship**

Urban land use comprises of two elements: the nature of land use which relates to what activities are taking place where, and the level of spatial accumulation, which indicates their intensity and concentration. (Rodrigue 2006) Urban land use is also known to be linked with economic and demographic attributes. Transportation on the other hand deals with the movement of goods and people, this mostly entails accessibility. Figure below is obtained from Giuliano, G. (1995) "Land Use Impacts of Transportation Investments: Highway and Transit", in S. Hanson (ed) The Geography of Urban Transportation, New York: The Guilford Press, p. 307.

The figure is a diagram of the relationship between transportation and land use, it is known as a dynamic system (or an always changing system). This means anything that changes in the transportation field will change both land use and transportation. It is also shown in the figure that transportation and land use is pointing in the direction of their respective attributes. Since



the system is dynamic it is almost impossible to have one not affect the other, so how do they affect each other.

As for transportation affect on land use, there is one major factor and that is the building of a new transportation facility. A new facility will increase capacity and accessibility in turn creating more development to be categorized into land use areas. This is the main factor of transportation to land use "There is no doubt that new roadway capacity might cause more development to occur."(ULI 2004) Land Use however can be affected by many other factors outside of transportation such as market demand, site suitability, capital availability, economic feasibility, regulatory environment, and personal choice which affect both land use and transportation and can even control both. Also It is important to note that the increase in facilities and development can be attributed to need (demand) due to the population growth.

The table below from a report entitled "Land Use Impacts on Transport" (Litman 2005). The table shows all the factors in land use that can affect transportation and their respective definitions. Not all of these factors will affect transportation with the same significance or even at all. Some of the factors have a greater significance by themselves and some have a greater impact when combined with others. "Urban design characteristics may appear insignificant when tested individually, but quite significant when combined into an overall 'pedestrian-friendliness' measure. Conversely, urban design characteristics may appear significant when they are tested alone, but insignificant when tested in combination" (Ewing 1996).

Transportation is mostly effected by land use in the form of home based work trip; this also lends to personal choice. Some people tend to live in low density areas and have a long commute compared to those that live next to their jobs. Also with mixed land use transportation is affected by a decrease of trips made by the household. For instance in a community where the job, grocery store, school, and other extracurricular activities are close together fewer trips are made to complete a full day's activities due to trip chaining.

Factor	Definition
Density	People or jobs per unit of land area (acre or hectare).
Mix	Degree that related land uses (housing, commercial, institutional) are located together. Sometimes measured as <i>Jobs/Housing Balance</i> , the ratio of jobs and residents in an area.
Regional Accessibility	Location of development relative to regional urban center. Often measured as the number of jobs accessible within a certain travel time (e.g., 30 minutes).
Centeredness	Portion of commercial, employment, and other activities in major activity centers.
Connectivity	Degree that roads and paths are connected and allow direct travel between destinations.
Roadway design and management	Scale and design of streets, and how various uses are managed to control traffic speeds and favor different modes and activities.
Parking supply and management	Number of parking spaces per building unit or hectare, and the degree to which they are priced and regulated for efficiency.
Walking and Cycling conditions	Quality of walking and cycling transport conditions, including the quantity and quality of sidewalks, crosswalks, paths and bike lanes, and the level of pedestrian security.
Transit quality and accessibility	The quality of transit service and the degree to which destinations are accessible by quality public transit in an area.
Site design	The layout and design of buildings and parking facilities.
Mobility Management	Various programs and strategies that encourage more efficient travel patterns. Also called <i>Transportation Demand Management</i> .

*This table describes various land use factors that can affect travel behavior and population health.*

**Table Notes:**

ULI-Urban Land Institute, 2004. Influence of Transportation Infrastructure on Land Use.  
<http://www.dot.wisconsin.gov/localgov/docs/uli-report.pdf>  
 Rodriguez, Daniel and David Godschalk, 2004. The Connection between Land Use and Transportation in Land Use Plans. NCDOT.  
<http://www.dot.wisconsin.gov/localgov/docs/ncdot-landuse.pdf>  
 Litman, Todd. 2005. Land Use Impacts on Transport How Land Use Factors Affect Travel Behavior. Victoria Transport Policy Institute.  
<http://www.dot.wisconsin.gov/localgov/docs/victoria-transport.pdf>  
 Rodrigue, Jean-Paul, 2006. Urban Land Use and Transportation. The Geography of Transport Systems: Chapter 6.  
<http://people.hofstra.edu/geotrans/eng/ch6en/conc6en/ch6c2en.html>  
 Ewing, Reid and Robert Cervero. 2002. "Travel and the Built Development: A Synthesis." Transportation Research Board. V. 1780. n 01-3515. pp. 87-114  
 Handy, Susan. 2002. Smart Growth and The Transportation-Land Use Connection: What Does the Research Tell US? ITS Davis Publication No. UCD-ITS-RR-02-14.  
 Ewing, Reid, Eric Dumbaugh and Mike Brown, 2002. "Internalizing Travel by Mixing Land Uses: A Study of Master-Planned Communities in South Florida."  
 Transportation Research Record. V. 1780. n 01-3524. pages 115-120.

**Future Land Use**

See the following map:

- Map TRA-9 Study Area Future Land Use

***Analysis of Future Land Use***

- a. Difference between present and future maps
- b. Possible new impacts on transportation
- c. Possible reasons why the land use changed in the manner it did

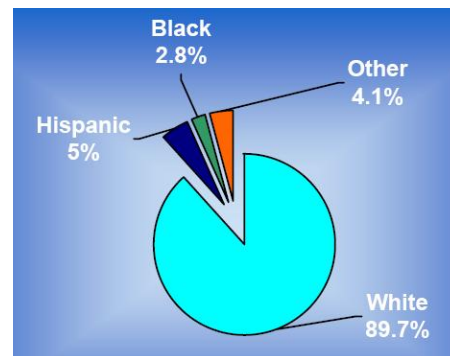
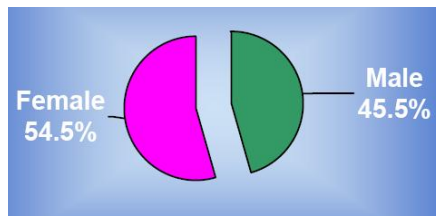
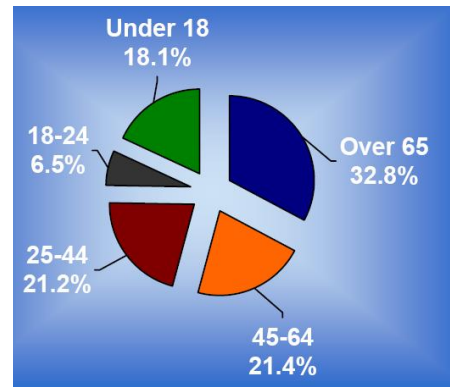
**Population**

See the following map:

- Map TRA-10 Study Area Population Density

**Current Population Statistics:**

Population	11,033
Zephyrhills Area	53,000
Zephyrhills Area Seasonal	85,000
County Population	352,380
Density (County)	462.9 /sq. mile
Average Home Cost	\$110,000
Housing Units	6,167
Per Capita Income	\$18,047
Median Age	49.0



**TABLE TRA-1  
ANALYSIS OF POPULATION DENSITIES OVER THE TIME PERIOD  
CITY OF ZEPHYRHILLS**

<b>Traffic Analysis Zone (TAZ)</b>	<b># of Dwelling Units</b>	<b>Population</b>	<b># of Dwelling Units (Build-Out)</b>	<b>Population (Build-Out)</b>
224	310	714	810	1754
225	42	118	520	1687
226	260	659	2282	6248
227	263	697	963	2219
228	1424	2474	1721	2962
229	8	18	437	742
230	680	1016	1290	1856
231	952	2426	2618	6665
232	193	278	285	466
233	15	33	137	477
235	93	216	386	1013
236	1466	2232	1422	2523
237	742	1381	1591	3179
238	164	443	1067	3266
240	1165	2115	2224	3888
243	1516	2336	2985	5186
244	544	683	516	1221
246	513	1081	617	1192
248	813	786	533	1711
249	34	99	1126	4895
250	292	493	810	1700
251	299	750	547	1564
252	12	24	58	172
253	180	431	948	2985
254	948	1134	1147	1956
255	574	980	608	809
256	501	779	523	543
257	1252	1460	1366	1599
258	1453	1975	1614	2122
259	3	102	442	957
260	296	474	50	128
261	953	1439	1064	1571
262	756	1495	849	1447
263	2306	3666	2531	3939
264	512	764	606	999
265	549	861	498	739
266	519	759	556	729
267	539	1109	601	1193
268	1456	1936	1707	2256
269	412	700	496	783
270	401	844	500	1352

**TABLE TRA-1  
ANALYSIS OF POPULATION DENSITIES OVER THE TIME PERIOD  
CITY OF ZEPHYRHILLS**

<b>Traffic Analysis Zone (TAZ)</b>	<b># of Dwelling Units</b>	<b>Population</b>	<b># of Dwelling Units (Build-Out)</b>	<b>Population (Build-Out)</b>
271	898	961	597	1507
272	475	711	594	736
<b>Totals</b>	<b>26783</b>	<b>43652</b>	<b>42242</b>	<b>84936</b>

**Build-out Scenario**

See the following map:

- Map TRA-11 Study Area Future Population Density

Explanation of Calculation of Future Growth (Source)  
Correlation of Population Growth to Future Land Use Patterns

**Area Wide Level of Service**

See the following maps:

- Map TRA-12 Area Wide Level of Service by TAZs
- Map TRA-13 Area Wide Level of Service by TAZs for Buildout
- Map TRA-14 Transportation Network Diagram

***Method Used to Create Area Wide LOS***

**Area Wide Lane-Mile Methodology**

The method used to obtain area wide level-of service is a compilation of two methods including the CUPR Road Model developed by the Center for Urban Policy Research, Rutgers University and course material from Coordinating Transportation and Land Use: Course Manual prepared for the National Transit Institute. This method is used as a tool to evaluate the relationship between population density and lane-mile density to create benchmarks or guidelines for the development of a well connected and efficient roadway network. The first step is to identify your study area. In this project the study area is the City of Zephyrhills plus a buffer of 3 miles. This area was further divided into the Traffic Analysis Zones (TAZs) for ease of data collection. From the individual TAZs the following data was collected to obtain the relationship of population density to roadway density:

- Area of TAZ (acres and square miles)
- No. of Dwelling Units with in TAZ
- Population with in TAZ
- All Roadway Links with in TAZ and their lengths

After this data was collected and inputted into a database then calculations are made to obtain the *number of persons per square mile* and *miles of road per square mile*, which are then graphed with an overlaying best-fit power function. For this particular project the road classes that were included in the model were all primary, secondary, and local collector roads. The

neighborhood roads were excluded because they are incorporated through a future assumption of this method as well as their low connectivity with the entire network. The equation obtained from the power function will then be used to get the TAZ road density.

$$\text{Road Density} = 1.2644 * (\text{Pop Density})^{0.3397}$$

$$R^2 = 0.3602$$

43 TAZs

The next step in the process is to define a coordinated capacity efficient street network. This section of the method is used to acquire the needed street spacing for the different road classifications to accommodate the density of the area on the aspect of Vehicle Miles Traveled (VMTs). The base-case assumptions are:

- 10 Vehicle trips per DU per day
- Average trip length is 5 miles
- Ratio of peak to daily traffic volumes .10
- Roadway capacity at 1000 veh/ln/hr

$$\text{VMT/Unit} = 10 \text{ veh trips/day} * 5 \text{ mi/trip} = 50 \text{ VMT/day}$$

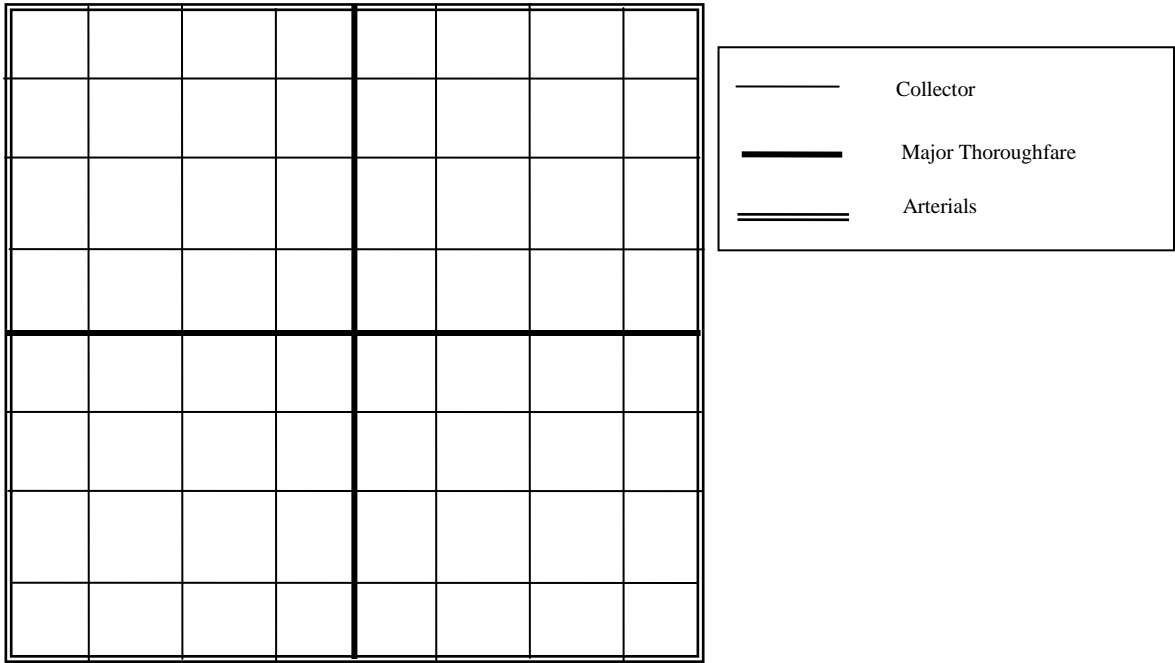
$$\text{VMT/Mile}^2 = (50 * \text{Densty}^{-.01}) * \text{Densty} * 640 \text{ acres/mile}^2 * 1.5 \text{ (non-home-based travel)} * .10$$

*(peak hour conversion)*

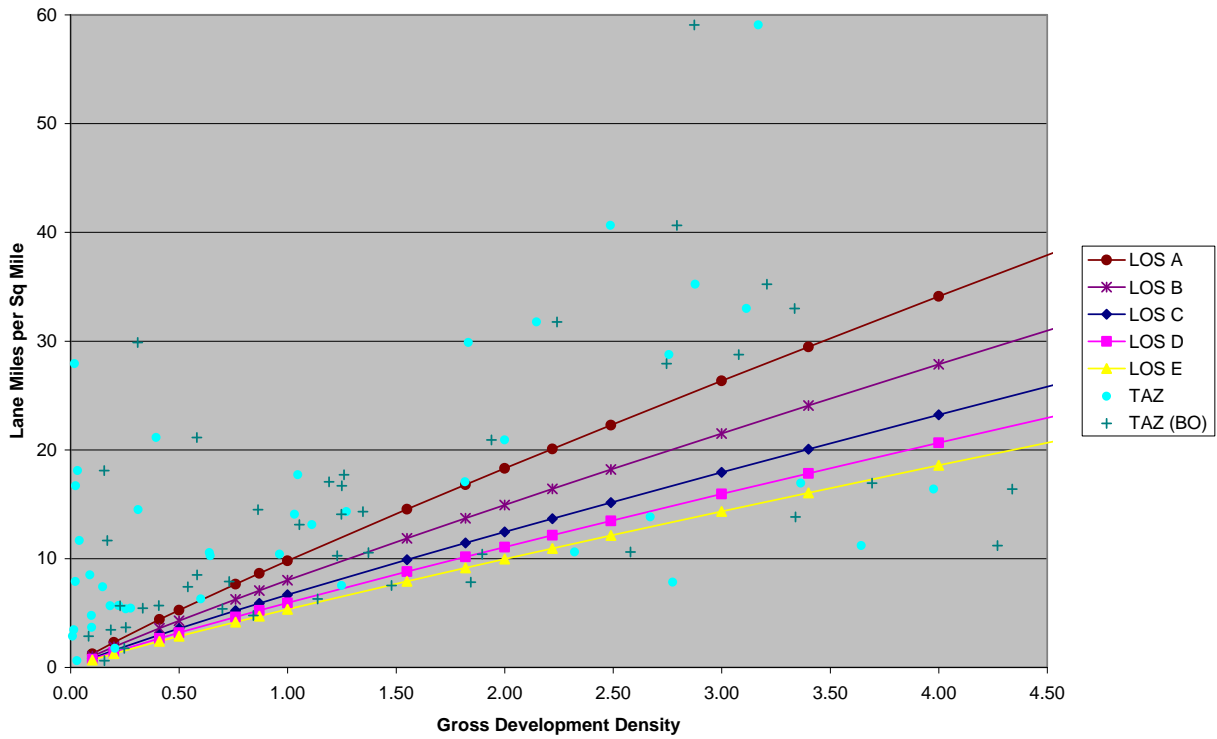
The spacing criteria for the City of Zephyrhills will be based on 2 lane major arterials (primary roads), 2 lane thoroughfares (minor arterials and urban collectors), local collectors, and residential streets.

<b>TABLE TRA-2 ROADWAY SPACING CRITERIA CITY OF ZEPHYRHILLS</b>		
	4 SQUARE GRID (LN MILES)	1 SQUARE GRID (LN MILES)
Major Network	40	10
Arterials (2 lanes)	8	2
Major Thoroughfare (2 lanes)	8	2
Collector	24	6
Local Roads	24	6
Total	64	16

From this set up of the network, which best fits the city, calculations of spacing can be made on a grid pattern as the one shown above. Arterials occur once every mile, major thoroughfares every half mile, and collectors every quarter mile. After the spacing formulas are formed the model has to be adapted to the level of service criteria of vehicle miles per day of the City of Zephyrhills. Level of service C, D, and E tables that give the spacing criteria for the different classifications of roadways and the required lane miles to support the density of the area can be found in the appendix. The spacing columns are used to determine future spacing requirements to maintain a certain level of service, and the major lane miles per square mile column is used to determine the current area wide level of service of a TAZ.



**Major Street Lane Miles per Square Mile LOS**



**Table of all TAZs within Study Area along with LOS Rating**

<b>TAZ</b>	<b>pop/du</b>	<b>du/sq mi</b>	<b>miles of road/sq mi</b>	<b>LOS of TAZ</b>
224	2.303225806	62.44256166	3.662431401	A
225	2.80952381	9.564644973	3.442343699	A
226	2.534615385	61.46049944	4.774801378	A
227	2.650190114	94.49172524	7.408420366	A
228	1.737359551	660.6738967	14.07861298	A
229	2.25	14.64656578	16.68093919	A
230	1.494117647	383.9096683	6.283453133	A
231	2.548319328	162.7419975	5.369816424	A
232	1.440414508	252.3030414	21.12127739	A
233	2.2	5.795771502	2.85780294	A
235	2.322580645	26.11328039	11.65715435	A
236	1.522510232	1279.860315	20.8973888	A
237	1.861185984	409.6052995	10.55292906	A
238	2.701219512	57.32762387	8.492740585	A
240	1.815450644	411.776726	10.25531729	A
243	1.540897098	616.4911902	10.41162211	A
244	1.255514706	711.43079	13.12126683	A
246	2.107212476	176.8384313	5.426685511	A
248	0.966789668	1162.986142	17.05939564	A
249	2.911764706	14.12720981	7.892352931	A
250	1.688356164	199.2685241	14.49194579	A
251	2.508361204	142.2655733	5.673879826	A
252	2	20.57491896	18.09106234	A
253	2.394444444	19.00874039	0.600631809	B
254	1.196202532	130.7930102	1.753027115	C
255	1.707317073	813.87775	14.32007357	A
256	1.55489022	1374.19106	31.74766926	A
257	1.166134185	2545.200432	16.39182608	F
258	1.35925671	1486.278709	10.61371498	F
259	34	11.92768839	27.91663722	A
260	1.601351351	1173.075732	29.8657248	A
261	1.50996852	1764.559526	28.74878923	A
262	1.977513228	1592.102665	40.63432398	A
263	1.589765828	2153.222159	16.92482715	E
264	1.4921875	799.6095656	7.527317842	D
265	1.568306011	2027.817857	59.06709943	A
266	1.462427746	1993.278925	32.98107661	A
267	2.057513915	1841.751201	35.21330683	A
268	1.32967033	2331.465172	11.19694861	F
269	1.699029126	670.1059747	17.6997219	A
270	2.104738155	116.8702241	5.657040108	A
271	1.070155902	1775.525966	7.819594056	F
272	1.496842105	1709.401709	13.83674358	E

TAZ	pop/du	du/sq mi (BO)	miles of road/sq mi (BO)	LOS of TAZ (BO)
224	2.165432099	163.1563708	3.662431401	A
225	3.244230769	118.419414	3.442343699	A
226	2.737949167	539.4340759	4.774801378	E
227	2.304257529	345.9906137	7.408420366	A
228	1.721092388	798.4689439	14.07861298	A
229	1.697940503	800.0686558	16.68093919	A
230	1.43875969	728.2992237	6.283453133	E
231	2.545836516	447.5404932	5.369816424	C
232	1.635087719	372.5718488	21.12127739	A
233	3.481751825	52.93471305	2.85780294	A
235	2.624352332	108.384153	11.65715435	A
236	1.774261603	1241.447045	20.8973888	A
237	1.998114393	878.2776704	10.55292906	C
238	3.060918463	372.9791139	8.492740585	A
240	1.748201439	786.0870718	10.25531729	B
243	1.737353434	1213.869527	10.41162211	E
244	2.36627907	674.8130287	13.12126683	A
246	1.931928687	212.6887176	5.426685511	A
248	3.210131332	762.4497094	17.05939564	A
249	4.347246892	467.8599485	7.892352931	A
250	2.098765432	552.7654266	14.49194579	A
251	2.859232176	260.2651124	5.673879826	A
252	2.965517241	99.44544164	18.09106234	A
253	3.148734177	100.1126994	0.600631809	F
254	1.705318221	158.248505	1.753027115	D
255	1.330592105	862.0865365	14.32007357	A
256	1.038240918	1434.534779	31.74766926	A
257	1.17057101	2776.951909	16.39182608	F
258	1.314745973	1650.966164	10.61371498	F
259	2.165158371	1757.346089	27.91663722	A
260	2.56	198.1546845	29.8657248	A
261	1.476503759	1970.085346	28.74878923	A
262	1.704358068	1787.956565	40.63432398	A
263	1.556301857	2363.315388	16.92482715	F
264	1.648514851	946.4128843	7.527317842	F
265	1.483935743	1839.441334	59.06709943	A
266	1.311151079	2135.381661	32.98107661	A
267	1.985024958	2053.603844	35.21330683	A
268	1.321616872	2733.386709	11.19694861	F
269	1.578629032	806.729523	17.6997219	A
270	2.704	145.7234715	5.657040108	A
271	2.524288107	1180.388643	7.819594056	F
272	1.239057239	2137.651822	13.83674358	F

Analysis of Maps and Data for Present and Future LOS

## Connectivity Index

### **Method 1: Link - Node Method (Automobiles, Pedestrians, and Bicyclists)**

Link-Node Ratio is an index of connectivity equal to the number of links divided by the number of nodes within in a study area. Links are defined as roadway or pathway segments between two nodes. Nodes are intersections or the end of a cul-de-sac. Ewing (1996) suggests that a link-node ratio of 1.4, about halfway between extremes, is a good target for network planning purposes. Increasing the link-node ratio increases connectivity. Intuitively, having more than one route between destinations represents increased connectivity. However, for walking and bicycling, minimizing trip distance is perhaps a more important objective. Moreover, link-node ratio does not reflect the length of the links in any way. Therefore, a perfect grid of 1,000-foot blocks will have the same link-node ratio as a grid with 200-foot blocks. The latter would result in shorter network trip distances. In addition, link-node ratio is less intuitive and, therefore, may be less attractive as a policy tool. Another issue with using link-node ratio as a performance standard is the need to clearly define which links and nodes are included in the calculation. (Dr. Jennifer Dill, Measuring Network Connectivity for Bicycling and Walking, 2003)

### **Method 2: Polygons per Square Mile (Automobiles, Pedestrians, and Bicyclists)**

Polygon Method is also an index of connectivity. This method is more general and requires less calculation. The main standard for the method is that there should be at least 50 polygons per a square mile area. This is for pathways of roads, pedestrian ways, and bike ways. The main purpose to create a well defined grid. If there are at least 50 polygons in a 1 square mile than the connectivity is good, if there are less than fifty the level of connectivity progressively declines.

<b>TAZ</b>	<b>No. of Polygons</b>	<b>Connectivity Level</b>
224	1	N/A
225	0	N/A
226	10	Bad
227	3	N/A
228	62	Bad
229	2	N/A
230	5	N/A
231	64	N/A
232	11	Bad
233	0	N/A
235	19	N/A
236	52	Bad**
237	22	N/A
238	6	N/A
240	81	N/A
243	33	N/A
244	9	N/A
246	7	N/A
248	30	N/A**
249	0	N/A
250	10	N/A
251	17	N/A
252	0	Bad
253	10	Bad
254	29	N/A

TAZ	No. of Polygons	Connectivity Level
255	16	Bad
256	21	Good
257	43	Good*
258	50	Good
259	3	Bad
260	8	Bad
261	42	Good
262	103	Good
263	91	Good
264	14	N/A
265	60	Good
266	42	Good
267	47	Good
268	61	Good
269	11	Bad
270	17	N/A
271	39	Good
272	14	Good

### **Method 3: Percent Connected Network**

This method takes the total amount of link lengths in center lane miles and the total amount of link lengths in center lane miles of the completely connected network in the whole study area. A percentage is obtained of connected roadways to total roadway center lane miles. This gives a sense of the connectivity of the area.

### **Calculation for Study Area and Result**

Whole Network = 5444.586336  
Efficient Network = 4409.966807  
Percent Connected = 0.809972794

### **Analysis of the Methods corresponding to each other and the Area Wide LOS**

#### **CITY LIMIT AREA**

This section of the report will focus on the transportation facilities and modes of the City of Zephyrhills. The section will analyze the city roadway network, the transit bus system, the pedestrian facilities, bike facilities, and parking facilities. Level of Service for the roads will be conducted as well as the area wide LOS of the city TAZs. Connectivity will be assessed for the roads, the walkways, the bikeways, and the transit system. All methods used are the same as those for the study area section.

#### **City Boundaries**

See the following maps:

- Map TRA-15 Major Roads and Highways for City of Zephyrhills
- Map TRA-16 Road Classifications for City of Zephyrhills
- Map TRA-17 Level of Service for Roads in City Limits

**Existing Roadway Network and LOS**

**Roadway Classification**

***Level of Service (LOS)***

The Level of Service Method used for the roadway network in this analysis is obtained from the Highway Capacity Manual 2000 (Formula found in appendix). The table below gives a physical explanation of what is viewed as LOS A through F. Table provides the major roadways and their LOS at the present time calculated according to the HCM 2000 formula. As can be seen some of these roadways have LOS of D and they are the links that should be looked at for improvement or change in some way because in the future scenario these roads will be the first to turn into LOS of E or worse. US 301 is especially important due to its central location in the city

<b>TABLE TRA-3 AUTOMOTIVE LEVEL OF SERVICE</b>	
<b>Grade/Explanation</b>	
A	Free Flow
B	Reasonably Free Flow
C	Stable Flow
D	Approaching Unstable Flow
E	Unstable Flow
F	Forced or Broken Down Flow

<b>TABLE TRA-4 LOS RATING OF IMPORTANT ROADWAYS CITY OF ZEPHYRHILLS</b>	
<b>Roadway Name</b>	<b>LOS Rating</b>
US 301	D
Wire Rd	C
Daughtery Rd	C
Dairy Rd	C
CR54	C
North Av	D
7 <sup>th</sup> St	D
12 <sup>th</sup> Av	C
5 <sup>th</sup> Av	C
20 <sup>th</sup> St	D
6 <sup>th</sup> St	C
1 <sup>st</sup> St	C
6 <sup>th</sup> Av	C
Green Slope Dr	C
Eiland Blvd	D
South Av	D

**TABLE TRA-5  
ROADWAY TRAFFIC VOLUMES AND LEVELS OF SERVICE, 2007  
CITY OF ZEPHYRHILLS**

ID	ROADWAY SECTION	ADT	SEASONAL FACTOR	AADT	PEAK HOUR VOL.	K FACTOR	PEAK HOUR CAPACITY	RATIO	PEAK HOUR LOS STD**	LOS
1	1st Street (11th Ave. to 12th Ave.)	6467	1.00	6467	544	0.084	1300	0.42	D	C
2	1st Street (12th Ave. to U.S. 301)	5147	1.00	5147	436	0.085	1300	0.34	D	C
3	5th Avenue (U.S. 301 to 7th St.)	7654	0.98	7501	666	0.087	1300	0.51	D	C
4	6th Street (6th Ave. to 7th Ave.)	5395	1.00	5395	538	0.100	1300	0.41	D	C
5	6th Street (North of 12th Ave.)	6528	1.00	6528	651	0.100	1300	0.50	D	C
6	8th Street (North of South Ave.)	4607	1.00	4607	415	0.090	1300	0.32	D	C
7	6th Street (North of "A" Ave.)	1561	1.00	1561	148	0.095	1300	0.11	D	C
8	7th Street (South of 5th Ave.)	5909	1.00*	5909	544	0.092	1300	0.42	D	C
9	7th Street (South of 12th Ave.)	5833	1.00	5833	502	0.086	1300	0.39	D	C
10	7th Street (South of North Ave.)	6731	1.00	6731	650	0.097	1300	0.50	D	C
11	7th Street (North Ave. to U.S. 301)	8608	1.00	8608	777	0.090	1300	0.60	D	D
12	12th Avenue (10th St. to 11th St.)	1453	1.00	1453	147	0.101	1300	0.11	D	C
13	20th Street (5th Ave. to 6th Ave.)	5006	0.98	4906	411	0.082	1300	0.32	D	C
14	20th Street (4th Ave. to 5th Ave.)	3631	1.00	3631	342	0.094	1300	0.26	D	C
15	U.S. 301 (North of Alston Ave)	19584	1.00	19584	1492	0.076	1490	1.00	D	E
16	U.S. 301 (South of 9th Ave.)	15804	1.00	15804	1177	0.074	1490	0.79	D	C
17	U.S. 301 (Fl. King to Eiland Blvd.)*	33888	0.94	31687	2598	0.077	3290	0.79	D	B
18	Eiland Blvd. (Fl. King to U.S. 301)	13730	1.00	13730	1042	0.076	1300	0.80	D	D
19	South Avenue (East of U.S. 301)	4041	1.00	4041	338	0.084	1300	0.26	D	C
20	South Avenue (West of U.S. 301)	1688	1.00	1688	168	0.101	1300	0.13	D	C
21	North Avenue (7th St. to U.S. 301)	6943	1.00	6943	608	0.089	1300	0.47	D	C
22	North Avenue (9th St. to 10th St.)	5171	1.00	5171	413	0.080	1300	0.32	D	C
23	Wire Road (North of Daughtery Rd.)	6716	1.00	6716	544	0.081	1300	0.42	D	C
24	Wire Road (North of CR 54.)	8336	1.00	8336	700	0.084	1300	0.54	D	D
25	Greenslope Drive	6897	1.00	6897	589	0.085	1300	0.45	D	C
26	Dairy Road - Between CR 54 and Daughtery Road	2025	1.00	2025	191	0.094	1300	0.15	D	C
27	Dairy Road - Daughtery Road and Pretty Pond Road	1724	1.00	1724	162	0.094	1300	0.12	D	C
28	Copeland Drive	2443	1.00	2443	170	0.070	1300	0.13	D	C
29	Daughtery Road (East of 301)	5373	1.00	5373	451	0.084	1300	0.35	D	C
30	6th Avenue (Airport Road to Bypass)	1868	1.00	1868	131	0.079	1300	0.10	D	C
31	US 301 (North of Pretty Pond Road)	23007	1.00	23007	1633	0.080	3290	0.56	D	B
32	CR 54 (US 301 to Dairy Road)	13436	1.00	13436	989	0.074	1300	0.76	D	D
33	County Road 54 (Dairy Road to Wire Road)	13026	1.00	13026	964	0.074	1300	0.74	D	D
34	20th Street at Woodland Drive	2271	1.00	2271	194	0.085	1300	0.15	D	C
35	Geiger Road (West of US 301)	5188	1.00	5188	416	0.060	1300	0.32	D	C

Sources: Project 2006 count taken from FDOT count station 1400019 (3.9% growth factor). Peak hour capacities taken from Table 4-5 LOS Thresholds (FDOT QLOS Manual).

\*\* Assumed standard.

BES, Inc. Transportation Engineers, 2008.

**TABLE TRA-6  
ROADWAY TRAFFIC VOLUMES AND LEVELS OF SERVICE, 2015  
CITY OF ZEPHYRHILLS**

ID#	ROADWAY SEGMENT	JURIS- DICTION	CROSS SECTION	PK HOUR VOLUME	PK HOUR CAPACITY	AADT VOLUME	LOS STD PK HOUR	OPERATING PK HOUR LOS	IMPROVE- MENT
---	1 <sup>ST</sup> ST (11 <sup>TH</sup> AVE TO US 301)	CITY	2LD	600	1390	5616	D	C	
10	20 <sup>TH</sup> ST (CITY LIMITS TO CR 54)	CITY	2LU	373	1390	3929	D	C	
1892	5 <sup>TH</sup> AVE/SR 54 (US 301 TO 7 <sup>TH</sup> ST)	STATE	2LD	1252	1294	13184	D	D	
1894	6 <sup>TH</sup> ST (A AVE TO SOUTH AVE)	CITY	2LO	695	1770	7315	D	C	
1894.1	6 <sup>TH</sup> ST (SOUTH AVE TO SR 54)	CITY	2LO	767	1770	8071	D	C	
1894.2	6 <sup>TH</sup> ST (SR 54 TO 12 <sup>TH</sup> AVE)	CITY	2LO	483	1770	5085	D	C	
1894.3	6 <sup>TH</sup> ST (12 <sup>TH</sup> AVE TO US 301)	CITY	2LO	434	1770	4570	D	C	
1893.1	6 <sup>TH</sup> ST EXT (C AVE TO A AVE)	CITY	2LO	1141	1770	12014	D	C	
1895.2	7 <sup>TH</sup> ST (7 <sup>TH</sup> ST EXT TO SOUTH AVE)	CITY	2LO	1037	1770	10914	D	C	
1895.3	7 <sup>TH</sup> ST (7 <sup>TH</sup> ST TO SOUTH AVE)	CITY	2LO	1037	1770	10914	D	C	
1895.4	7 <sup>TH</sup> ST (SOUTH AVE TO SR 54/5 <sup>TH</sup> AVE)	CITY	2LO	380	1770	4000	D	C	
1895.5	7 <sup>TH</sup> ST (5 <sup>TH</sup> AVE TO 12 <sup>TH</sup> AVE)	CITY	2LO	380	1770	4000	D	C	
1895.6	7 <sup>TH</sup> ST (12 <sup>TH</sup> AVE TO NORTH AVE)	CITY	2LO	950	1770	10000	D	C	
1896	7 <sup>TH</sup> ST (NORTH AVE TO US 301)	CITY	2LU	564	1390	5932	D	C	
1900	20 <sup>TH</sup> ST (C AVE TO SOUTH AVE)	CITY	2LU	397	1630	4176	D	B	
1900.1	20 <sup>TH</sup> ST (C AVE TO SOUTH AVE)	CITY	2LU	500	1630	5262	D	C	
1900.2	20 <sup>TH</sup> ST (CITY LIMITS TO C AVE)	CITY	2LU	366	1630	3855	D	B	
1900.3	20 <sup>TH</sup> ST EXT (TUCKER TO CITY LIMITS)	CITY	2LU	366	1630	3855	D	B	2010-2015
1900.4	20 <sup>TH</sup> ST EXT (CHANCEY/Z EAST TO TUCKER)	CITY	2LU	213	1630	2242	D	C	
1915	A AVE (6 <sup>TH</sup> ST TO US 301/GALL BLVD)	CITY	2O	99	1770	1037	D	C	
1830.3	CHANCEY RD/Z EAST (20TH ST EXT TO ALSTON RD)	COUNTY	2LU	437	1630	4595	D	B	
1830.4	CHANCEY RD/Z EAST (ALSTON RD TO CA AVE)	COUNTY	2LU	437	1630	4595	D	B	
1830.5	CHANCEY RD/Z EAST (C AVE TO 6 <sup>TH</sup> AVE EXT)	COUNTY	2LU	437	1630	4595	D	B	
1830.6	CHANCEY RD/Z EAST (6 <sup>TH</sup> AVE EXT TO CR 54)	COUNTY	2LU	505	1390	5317	D	C	
886	DAUHERTY RD (DAIRY RD TO WIRE RD)	COUNTY	2LU	439	1390	4624	D	C	
886.1	DAUHERTY RD (CR 41 TO GREENSLOPE)	COUNTY	2LU	439	1390	1306	D	C	
888	DAUGHTERY RD (DAIRY RD TO WIRE RD)	CITY	2LU	17	1390	182	D	C	
888.1	DAUGHTERY RD (US 301 TO DAIRY RD)	CITY	2LU	129	1390	1362	D	C	
1870	EILAND BLVD (DEAN DAIRY TO SIMON RD)	COUNTY	4LD	2181	5879	22955	D	A	2010-2015
1870.1	EILAND BLVD (SIMON RD TO GEIGER RD)	COUNTY	4LD	2101	5870	22116	D	A	2010-2015

**TABLE TRA-6  
ROADWAY TRAFFIC VOLUMES AND LEVELS OF SERVICE, 2015  
CITY OF ZEPHYRHILLS**

ID#	ROADWAY SEGMENT	JURIS-DICTION	CROSS SECTION	PK HOUR VOLUME	PK HOUR CAPACITY	AADT VOLUME	LOS STD PK HOUR	OPERATING PK HOUR LOS	IMPROVE-MENT
1880	EILAND BLVD (GEIGER RD TO CR 41/FT KING HWY)	COUNTY	4LD	1750	2950	18417	D	C	2010-2015
1890	EILAND BLVD (CR 41/FT KING HWY TO US 301)	COUNTY	4LD	1807	2950	19016	D	C	
990	GEIGER RD (EILAND BLVD TO US 301)	COUNTY	2LU	512	1294	5508	D	B	
2030	CR 54 (US 301 TO WIRE RD)	COUNTY	4LD	2377	2950	25019	D	D	
2030.1	CR 54 (WIRE RD TO CITY LIMITS)	COUNTY	4LD	1742	2950	18340	D	D	2010-2015
2720.3	SR 54 (COURT ST TO CITY LIMITS)	STATE	2LU	1362	1720	14334	D	D	
3100	US 301 (S CITY LIMITS TO "C" AVE)	STATE	3LU	1706	3480	17770	D	A	
3100.1	US 301 ("C" AVE TO "B" AVE)	STATE	3LU	1679	0	17487	D	F	2010-2015
3100.2	US 301 ("B" AVE TO "A" AVE)	STATE	3LU	1588	0	16542	D	F	2010-2015
3100.3	US 301 ("A" AVE TO SOUTH RD)	STATE	2LU	1452	1200	15284	D	D	
3100.4	US 301 (SOUTH RD TO SR 54)	STATE	2LU	1332	1460	14016	D	D	
3100.5	US 301 (SR 54 TO 12 <sup>TH</sup> AVE)	STATE	2LU	1403	1460	14767	D	D	
3100.6	US 301 (12 <sup>TH</sup> AVE TO 6 <sup>TH</sup> ST)	STATE	2LU	1368	1460	14402	D	D	
3100.7	US 301 (6 <sup>TH</sup> ST TO GEIGER RD)	STATE	6LD	1655	4240	17424	D	C	
3100.8	US 301 (GEIGER RD TO FT KING HWY)	STATE	6LD	3026	4680	31854	D	C	
3105	US 301 (FT KING HWY TO EILAND BLVD)	STATE	6LD	3111	4680	32747	D	C	
3110.0	US 301 (EILAND BLVD TO DAUGHTERY RD)	STATE	6LD	2985	4680	31425	D	C	
3110.1	US 301 (DAUGHTERY RD TO TOWNVIEW)	STATE	6LD	3340	4240	35158	D	C	
3110.2	US 301 (TOWNVIEW TO N CITY LIMIT)	STATE	6LD	3351	4680	35270	D	C	
485	CR 530 EXT (DAIRY RD TO WIRE ROAD)	COUNTY	2LU	970	1630	9327	D	C	
485.1	CR 530 EXT (US 301 TO DAIRY RD)	COUNTY	4LD	893	5870	10212	D	C	2010-2015
485.2	CR 530 EXT/KOSSIK RD (US 301 TO GREENSLOPE DR)	COUNTY	4LD	893	5870	9399	D	A	2006-2009
485.3	CR 530 EXT/KOSSIK RD (CR 41 TO GREENSLOPE DR)	COUNTY	2LU	692	1630	7283	D	C	2006-2009
3160	GREENSLOPE (CITY LIMITS TO KOSSIK)	CITY	2LU	291	1630	3059	D	B	
3160.1	GREENSLOPE (DAUGHTERY RD TO CITY LIMITS)	CITY	2LU	384	1630	4038	D	B	
3190	SOUTH AVE ( US 301 TO 7 <sup>TH</sup> ST)	CITY	2LU	200	1390	2103	D	C	
3190.1	SOUTH AVE (7 <sup>TH</sup> ST TO 20 <sup>TH</sup> ST)	CITY	2LU	353	1390	3720	D	C	
3170	SOUTH AVE EXT (20 <sup>TH</sup> ST TO 6 <sup>TH</sup> AVE EXT)	COUNTY	2LU	380	1630	3995	D	B	
---	NORTH AVE (16 <sup>TH</sup> ST TO US 301)	CITY	2LD	553	1390	5709	D	C	
2200	NORTH AVE (US 301 TO 7 <sup>TH</sup> ST)	CITY	2LU	777	1390	8182	D	C	

**TABLE TRA-6  
ROADWAY TRAFFIC VOLUMES AND LEVELS OF SERVICE, 2015  
CITY OF ZEPHYRHILLS**

ID#	ROADWAY SEGMENT	JURIS-DICTION	CROSS SECTION	PK HOUR VOLUME	PK HOUR CAPACITY	AADT VOLUME	LOS STD PK HOUR	OPERATING PK HOUR LOS	IMPROVE-MENT
2220	WIRE ROAD (CR 54 TO DAUGHTERY RD)	COUNTY	2LD	481	1390	5060	D	C	
2220.1	WIRE ROAD (DAUGHTERY RD TO N CITY LIMITS)	COUNTY	2LU	337	1630	3550	D	B	

**NOTES:**

- ADT – AVERAGE DAILY TRIPS
- AADT – ANNUAL AVERAGE DAILY TRIPS
- K-FACTOR
- PEAK HOUR VOLUME: K-FACTOR x AADT
- CAPACITY: FDOT GENERALIZED TABLES
- V/C RATIO: PEAK HOUR VOLUME / CAPACITY
- LOS: LEVEL OF SERVICE
- O-ONE WAY
- L-LANE
- D-DIVIDED
- U-UNDIVIDED

- Analysis utilized Table 5-2, (Transitioning) FDOT Level of Service Tables.
- K100 = 0.093
- Segments without an ID# were not analyzed by the Pasco County MPO. Projections for these segments were conducted using 2007 counts and a growth factor of 0.02 per year to year 2015.

**SOURCES:** Pasco County Comprehensive Plan, 2006.

**TABLE TRA-7  
ROADWAY TRAFFIC VOLUMES AND LEVELS OF SERVICE, 2025  
CITY OF ZEPHYRHILLS**

ID#	ROADWAY SEGMENT	JURIS-DICTION	CROSS SECTION	PK HOUR VOLUME	PK HOUR CAPACITY	AADT VOLUME	LOS STD PK HOUR	OPERATING PK HOUR LOS	IMPROVE-MENT
---	1 <sup>ST</sup> ST (11 <sup>TH</sup> AVE TO US 301)	CITY	2LD	600	1390	5616	D	C	
10	20 <sup>TH</sup> ST (CITY LIMITS TO CR 54)	CITY	2LU	373	1390	3929	D	C	
1892	5 <sup>TH</sup> AVE/SR 54 (US 301 TO 7 <sup>TH</sup> ST)	STATE	2LD	1252	1294	13184	D	D	
1894	6 <sup>TH</sup> ST (A AVE TO SOUTH AVE)	CITY	2LO	695	1770	7315	D	C	
1894.1	6 <sup>TH</sup> ST (SOUTH AVE TO SR 54)	CITY	2LO	767	1770	8071	D	C	
1894.2	6 <sup>TH</sup> ST (SR 54 TO 12 <sup>TH</sup> AVE)	CITY	2LO	483	1770	5085	D	C	
1894.3	6 <sup>TH</sup> ST (12 <sup>TH</sup> AVE TO US 301)	CITY	2LO	434	1770	4570	D	C	
1893.1	6 <sup>TH</sup> ST EXT (C AVE TO A AVE)	CITY	2LO	1141	1770	12014	D	C	
1895.2	7 <sup>TH</sup> ST (7 <sup>TH</sup> ST EXT TO SOUTH AVE)	CITY	2LO	1037	1770	10914	D	C	
1895.3	7 <sup>TH</sup> ST (7 <sup>TH</sup> ST TO SOUTH AVE)	CITY	2LO	1037	1770	10914	D	C	
1895.4	7 <sup>TH</sup> ST (SOUTH AVE TO SR 54/5 <sup>TH</sup> AVE)	CITY	2LO	380	1770	4000	D	C	
1895.5	7 <sup>TH</sup> ST (5 <sup>TH</sup> AVE TO 12 <sup>TH</sup> AVE)	CITY	2LO	380	1770	4000	D	C	
1895.6	7 <sup>TH</sup> ST (12 <sup>TH</sup> AVE TO NORTH AVE)	CITY	2LO	950	1770	10000	D	C	
1896	7 <sup>TH</sup> ST (NORTH AVE TO US 301)	CITY	2LU	564	1390	5932	D	C	
1900	20 <sup>TH</sup> ST (C AVE TO SOUTH AVE)	CITY	2LU	397	1630	4176	D	B	
1900.1	20 <sup>TH</sup> ST (C AVE TO SOUTH AVE)	CITY	2LU	500	1630	5262	D	C	
1900.2	20 <sup>TH</sup> ST (CITY LIMITS TO C AVE)	CITY	2LU	366	1630	3855	D	B	
1900.3	20 <sup>TH</sup> ST EXT (TUCKER TO CITY LIMITS)	CITY	2LU	366	1630	3855	D	B	
1900.4	20 <sup>TH</sup> ST EXT (CHANCEY/Z EAST TO TUCKER)	CITY	2LU	213	1630	2242	D	C	
1915	A AVE (6 <sup>TH</sup> ST TO US 301/GALL BLVD)	CITY	2O	99	1770	1037	D	C	
1830.3	CHANCEY RD/Z EAST (20TH ST EXT TO ALSTON RD)	COUNTY	2LU	437	1630	4595	D	B	
1830.4	CHANCEY RD/Z EAST (ALSTON RD TO CA AVE)	COUNTY	2LU	437	1630	4595	D	B	
1830.5	CHANCEY RD/Z EAST (C AVE TO 6 <sup>TH</sup> AVE EXT)	COUNTY	2LU	437	1630	4595	D	B	
1830.6	CHANCEY RD/Z EAST (6 <sup>TH</sup> AVE EXT TO CR 54)	COUNTY	2LU	505	1390	5317	D	C	
886	DAUGHTERY RD (DAIRY RD TO WIRE RD)	COUNTY	2LU	439	1390	4624	D	C	
886.1	DAUGHTERY RD (CR 41 TO GREENSLOPE)	COUNTY	2LU	439	1390	1306	D	C	
888	DAUGHTERY RD (DAIRY RD TO WIRE RD)	CITY	2LU	17	1390	182	D	C	
888.1	DAUGHTERY RD (US 301 TO DAIRY RD)	CITY	2LU	129	1390	1362	D	C	
1870	EILAND BLVD (DEAN DAIRY TO SIMON RD)	COUNTY	4LD	2181	5879	22955	D	A	
1870.1	EILAND BLVD (SIMON RD TO GEIGER RD)	COUNTY	4LD	2101	5870	22116	D	A	
1880	EILAND BLVD (GEIGER RD TO CR 41/FT)	COUNTY	4LD	1750	2950	18417	D	C	

**TABLE TRA-7  
ROADWAY TRAFFIC VOLUMES AND LEVELS OF SERVICE, 2025  
CITY OF ZEPHYRHILLS**

ID#	ROADWAY SEGMENT	JURIS-DICTION	CROSS SECTION	PK HOUR VOLUME	PK HOUR CAPACITY	AADT VOLUME	LOS STD PK HOUR	OPERATING PK HOUR LOS	IMPROVE-MENT
	KING HWY)								
1890	EILAND BLVD (CR 41/FT KING HWY TO US 301)	COUNTY	4LD	1807	2950	19016	D	C	
990	GEIGER RD (EILAND BLVD TO US 301)	COUNTY	2LU	512	1294	5508	D	B	
2030	CR 54 (US 301 TO WIRE RD)	COUNTY	4LD	2377	2950	25019	D	D	
2030.1	CR 54 (WIRE RD TO CITY LIMITS)	COUNTY	4LD	1742	2950	18340	D	D	
2720.3	SR 54 (COURT ST TO CITY LIMITS)	STATE	2LU	1362	1720	14334	D	D	
3100	US 301 (S CITY LIMITS TO "C" AVE)	STATE	3LU	1706	3480	17770	D	A	
3100.1	US 301 ("C" AVE TO "B" AVE)	STATE	3LU	1679	0	17487	D	F	
3100.2	US 301 ("B" AVE TO "A" AVE)	STATE	3LU	1588	0	16542	D	F	
3100.3	US 301 ("A" AVE TO SOUTH RD)	STATE	2LU	1452	1200	15284	D	D	
3100.4	US 301 (SOUTH RD TO SR 54)	STATE	2LU	1332	1460	14016	D	D	
3100.5	US 301 (SR 54 TO 12 <sup>TH</sup> AVE)	STATE	2LU	1403	1460	14767	D	D	
3100.6	US 301 (12 <sup>TH</sup> AVE TO 6 <sup>TH</sup> ST)	STATE	2LU	1368	1460	14402	D	D	
3100.7	US 301 (6 <sup>TH</sup> ST TO GEIGER RD)	STATE	6LD	1655	4240	17424	D	C	
3100.8	US 301 (GEIGER RD TO FT KING HWY)	STATE	6LD	3026	4680	31854	D	C	
3105	US 301 (FT KING HWY TO EILAND BLVD)	STATE	6LD	3111	4680	32747	D	C	
3110.0	US 301 (EILAND BLVD TO DAUGHTERY RD)	STATE	6LD	2985	4680	31425	D	C	
3110.1	US 301 (DAUGHTERY RD TO TOWNVIEW)	STATE	6LD	3340	4240	35158	D	C	
3110.2	US 301 (TOWNVIEW TO N CITY LIMIT)	STATE	6LD	3351	4680	35270	D	C	
485	CR 530 EXT (DAIRY RD TO WIRE ROAD)	COUNTY	2LU	970	1630	9327	D	C	
485.1	CR 530 EXT (US 301 TO DAIRY RD)	COUNTY	4LD	893	5870	10212	D	C	
485.2	CR 530 EXT/KOSSIK RD (US 301 TO GREENSLOPE DR)	COUNTY	4LD	893	5870	9399	D	A	
485.3	CR 530 EXT/KOSSIK RD (CR 41 TO GREENSLOPE DR)	COUNTY	2LU	692	1630	7283	D	C	
3160	GREENSLOPE (CITY LIMITS TO KOSSIK)	CITY	2LU	291	1630	3059	D	B	
3160.1	GREENSLOPE (DAUGHTERY RD TO CITY LIMITS)	CITY	2LU	384	1630	4038	D	B	
3190	SOUTH AVE ( US 301 TO 7 <sup>TH</sup> ST)	CITY	2LU	200	1390	2103	D	C	
3190.1	SOUTH AVE (7 <sup>TH</sup> ST TO 20 <sup>TH</sup> ST)	CITY	2LU	353	1390	3720	D	C	
3170	SOUTH AVE EXT (20 <sup>TH</sup> ST TO 6 <sup>TH</sup> AVE EXT)	COUNTY	2LU	380	1630	3995	D	B	
---	NORTH AVE (16 <sup>TH</sup> ST TO US 301)	CITY	2LD	553	1390	5709	D	C	
2200	NORTH AVE (US 301 TO 7 <sup>TH</sup> ST)	CITY	2LU	777	1390	8182	D	C	
2220	WIRE ROAD (CR 54 TO DAUGHTERY RD)	COUNTY	2LD	481	1390	5060	D	C	
2220.1	WIRE ROAD (DAUGHTERY RD TO N CITY	COUNTY	2LU	337	1630	3550	D	B	

**TABLE TRA-7  
ROADWAY TRAFFIC VOLUMES AND LEVELS OF SERVICE, 2025  
CITY OF ZEPHYRHILLS**

ID#	ROADWAY SEGMENT	JURIS-DICTION	CROSS SECTION	PK HOUR VOLUME	PK HOUR CAPACITY	AADT VOLUME	LOS STD PK HOUR	OPERATING PK HOUR LOS	IMPROVEMENT
	LIMITS)								

**NOTES:**

- ADT – AVERAGE DAILY TRIPS
- AADT – ANNUAL AVERAGE DAILY TRIPS
- K-FACTOR
- PEAK HOUR VOLUME: K-FACTOR x AADT
- CAPACITY: FDOT GENERALIZED TABLES
- V/C RATIO: PEAK HOUR VOLUME / CAPACITY
- LOS: LEVEL OF SERVICE
- O-ONE WAY
- L-LANE
- D-DIVIDED
- U-UNDIVIDED

**SOURCES:** Pasco County Comprehensive Plan, 2006.

- Analysis utilized Table 5-2, (Transitioning) FDOT Level of Service Tables.
- K100 = 0.093
- Segments without an ID# were not analyzed by the Pasco County MPO. Projections for these segments were conducted using 2007 counts and a growth factor of 0.02 per year to year 2025.

## **Area Wide Level of Service**

1. Method Used to Create Area Wide LOS
3. Analysis

## **Connectivity**

### ***Method 1: Link - Node Method***

- a. Stick Diagram of Roadway
- b. Explanation of Method
- c. Calculation for Study Area and Result

### ***Method 2: Polygons per Square Mile***

- a. Stick Diagram of Roadway
- b. Explanation of Method
- c. Calculation for Study Area and Result

## ***Analysis of the Methods corresponding to each other and the Area Wide LOS***

## **Service Areas**

See the following map:

- Map TRA-18 Zephyrhills Service Area

Description of Service Areas

## **City Land Use**

See the following maps:

- Map TRA-19 City of Zephyrhills Land Use
- Map LU-4 2025 Future Land Use

Analysis of Land Use

Analysis of Future Land Use

- a. Difference between present and future maps
- b. Possible new impacts on transportation
- c. Possible reasons why the land use changed in the manner it did

## **Transit System**

See the following map:

- Map TRA-21 Bus Service for Zephyrhills City

**Level of Service**

TABLE TRA-8 TRANSIT LEVEL OF SERVICE STANDARDS CITY OF ZEPHYRHILLS			
GRADE	ADJUSTED SERVICE FREQUENCY (VEHICLES/HOUR)	HEADWAY (MINUTES)	COMMENTS TO USER
A	> 6	< 10	Passengers don't need schedules
B	4.01 - 6.0	10 – 14	Frequent service, passengers consult schedules
C	3 – 4.0	15 – 20	Maximum desirable time to wait if transit vehicle missed
D	2 - 2.9	21 – 30	Service unattractive to choice riders
E	1 - 1.9	31 – 60	Service available during hour
F	< 1	> 60	Service unattractive to all riders

Source: Quality/Level-of-Service Handbook, Florida Department of Transportation, 2002.

Map Series Accounting for Individual Standards Listed Above

Connectivity  
Analysis

**Pedestrian Facilities**

See the following maps:

- Map TRA-21 Bicycle and Pedestrian Circulation
- Map TRA 22 Multi-Use Trail Master Plan

**Level of Service**

TABLE TRA-9 PEDESTRIAN LEVEL OF SERVICE STANDARDS CITY OF ZEPHYRHILLS			
GRADE	AVERAGE BUFFER WIDTH	TRAFFIC VOLUME (VEH/DAY)	AUTOMOBILE SPEED (MILES/HOUR)
A	≥ 10* ft	≤ 2,000	≤ 25
B	6 - 9.9* ft.	2,001 - 6,000	30
C	4 - 5.9 ft.	6,001 - 12,000	35
D	2 - 3.9 ft.	12,001 - 15,000	40
E	1 - 1.9 ft.	15,001 - 20,000	45
F	< 1 ft.	> 20,000	≥ 50

\* Sidewalks must be present on both sides of the road

Map Series Accounting for each Individual Standard Listed Above

Connectivity  
Analysis

**Bicycle Facilities**

See the following maps:

- Map TRA-21 Bicycle and Pedestrian Circulation
- Map TRA 22 Multi-Use Trail Master Plan

***Level of Service***

<b>TABLE TRA-10 BICYCLE LEVEL OF SERVICE STANDARDS CITY OF ZEPHYRHILLS</b>			
A	≥ 17* ft	≤ 2,000	0%
B	15 - 16.9* ft.	2,001 - 5,000	0.01% - 0.5%
C	13 - 14.9 ft.	5,001 - 9,000	0.51% - 1%
D	12 - 12.9 ft.	9,001 - 15,000	1.01% - 2.5%
E	10.1 - 11.9 ft.	15,001 - 25,000	2.51% - 5%
F	≤ 10 ft.	> 25,000	> 5%

\* Must include striped bike lane.

Map Series Accounting for Individual Standards Listed Above  
Connectivity  
Analysis

**Public Parking Availability**

See the following map:

- Map TRA-24 Public Parking Facilities for Zephyrhills City

[This page intentionally left blank.]

## GOALS, OBJECTIVES, AND POLICIES

### Introduction

Pursuant to Sections 163.3177(6)(a), FS, and Section 9J-5.006(3), FAC, the following represents the Land Use Goals, Objectives and Policies of the City of Zephyrhills. In addition to statutory requirements, the following Goals, Objectives and Policies were developed in keeping with the character, conditions, both environmental and social, and desires of the community. These Goals, Objectives and Policies are intended to address the establishment of the long-term end towards which the land use programs and activities are ultimately directed.

### Implementation

Unless otherwise stated, the implementation of objectives and policies shall be developed, adopted, and application of regulations set forth in the City Code of Ordinances and Land Development Code.

**GOAL**  
TRA-1: ESTABLISH A MULTI-MODAL TRANSPORTATION SYSTEM THAT PROVIDES FOR THE NEEDS OF PEDESTRIANS, BICYCLISTS, AND MOTORIZED-VEHICLE USERS, IS COORDINATED WITH THE STATE AND COUNTY TRANSPORTATION FACILITIES THAT SERVE THE CITY AND IS SENSITIVE TO THE COMMUNITY, ECONOMIC AND ENVIRONMENTAL AMENITIES OF ZEPHYRHILLS AND PASCO COUNTY.

**OBJECTIVE**  
TRA-1-1: MASTER THOROUGHFARE PLAN. Adopt and maintain a Master Thoroughfare Plan that establishes a network of roadways adequate to serve the existing community and accommodate the transportation needs required to implement the Future Land Use Plan.

**POLICY**  
TRA-1-1-1: The City hereby adopts a Master Thoroughfare Plan as shown by Map TRA 1.

**POLICY**  
TRA-1-1-2: For purposes of implementing the Master Thoroughfare Plan, the City hereby adopts the following roadway classifications:

- a. Major Arterials
- b. Minor Arterials
- c. Urban Collectors
- d. Local/Residential

**POLICY**  
TRA-1-1-3: Right-Of-Way. The City will amend the Land Development Code to establish procedures for identification, protection from encroachment, or acquisition of roadway right-of-way. The City will enforce all minimum setback requirements from all future rights-of-way and shall adopt minimum right-of-way requirements for new roadways containing the following criteria:

- a. Major Arterials - 240 foot right-of-way.
- b. Minor Arterials - 100 foot right-of-way except where modified by "Context Sensitive Design" guidelines.

- c. Urban Collectors – 80 foot right-of-way except where modified by “Context Sensitive Design” guidelines.
- d. Residential Collectors – 60 foot right-of-way.
- e. Local Roadways - 60 foot right-of-way with swale & drainage.
- f. Local Roadways - 40 foot right-of-way with curb & gutter except where modified by “Context Sensitive Design” guidelines.

**POLICY** Corridor Preservation Ordinance. By December 2011, the City shall adopt a  
 TRA-1-1-4: “Corridor Preservation Ordinance” to preserve future roadway corridors as prescribed by the Master Thoroughfare Plan.

**POLICY** Relationship to Urban Service Area. The City’s planning area, build-out  
 TRA-1-1-5: boundaries, and service areas shall be identified by interlocal agreement with Pasco County.

**OBJECTIVE** Long Range Transportation Plan Adopt and maintain a Long Range  
 TRA-1-2: Transportation Plan that identifies the transportation needs required to support the growth of the City through the Year 2025.

**POLICY** The City hereby adopts the 2025 Long Range Transportation as shown by Map  
 TRA-1-2-1: TRA-2.

**POLICY** For purposes of implementing the 2025 Long Range Transportation, the  
 TRA-1-2-2: following roadway classifications are established:

- a. Major Arterials
- b. Minor Arterials
- c. Urban Collectors
- d. Local/Residential

The roadway classifications are designated in Map TRA-2.

**OBJECTIVE** Levels of Service. Vehicular Level of Service Standards (LOS) shall be adopted  
 TRA-1-3: and maintained to maximize the efficient use and safety of roadway facilities and to coordinate capital improvement planning with land use decisions to meet the requirement that adequate roadway facilities be available concurrent with the impacts of development in accordance with the latest version of the Level of Service Handbook developed by the Florida Department of Transportation Systems Planning Office.

**POLICY** Vehicular Levels of Service. Establish and maintain adopted levels of service on  
 TRA-1-3-1: all classifications of roadways within the City. The following level of service standards (LOS) are adopted:

<b>Vehicular Level of Service Standards (LOSS) for Roadways</b>	
<b>Designation or Classification</b>	<b>LOS PEAK HOUR</b>
State Highways	D
County Maintained Roadways	D
City Maintained Arterials	D
City Maintained Major Collectors	D
City Maintained Collectors	D
Residential Collectors	D

**POLICY**  
TRA-1-3-2: Bicycle Levels of Service. Design bicycle facilities to include the following considerations:

- a. Bike paths, lanes and shoulders planned for designated roadways, in coordination with adjacent uses and appropriate to different roadway types.
- b. Bicycle lanes / paths: One (1) mile per one (1) mile of new roadway
- c. Bicycle lanes / paths connecting schools, parks, shopping areas and major medical facilities.
- d. Facilities which meet standards set by Florida Department of Transportation, American Association of State Highway Transportation Officials, and local regulating agencies Facilities which are well marked and signed, and which are designed for ease of maintenance.

**POLICY**  
TRA-1-3-3: Pedestrian Levels of Service. Design pedestrian facilities for designated roadways in urban and suburban areas to include the following considerations:

- a. Continuous sidewalks, free of obstruction, buffered from traffic by landscape or setbacks, and shaded where appropriate
- b. Clearly marked crosswalks at intersections, with handicapped provisions
- c. Traffic control signals with safe crossing time for pedestrians
- d. Street furnishings, including benches, trash receptacles, bus shelters, and lighting, as appropriate to the surroundings.
- e. Sidewalks: Two (2) miles per one (1) mile of new roadway
- f. Sidewalks connecting schools, parks, shopping areas and major medical facilities

**POLICY**  
TRA-1-3-4: Downtown US 301 Circulation Plan. To maintain level of service standards and to preserve the function and character of its downtown, the City shall give high priority to the reclamation and development of the downtown main street intersection. The plan consists of the following elements:

- a. The reclaiming of roadway US 301 from the intersections of North Av to South Av, and making it a two-way three lane roadway;
- b. Creating parallel one-way pairs from 6th and 7th Street for through traffic in City;
- c. Recreating US 301 and 5th Avenue as the Main Street Intersection of the Downtown Core;
- d. "Context sensitive" redesign of the newly claimed Main Street intersection ;

- e. Re-configuration of intersections North Av and US 301, 12th Av and US 301, 9th Av and US 301, and 3rd Av and US 301 into roundabouts. Construction of roundabouts as primary traffic control at all major points of convergence;
- f. “Context sensitive” solutions applied to all segments within the CSD area as designated on Map TRA 3 ;
- g. Redefine City Core Area according to boundary specified by Map TRA 3.

By December 2011, the City will prepare a detailed downtown circulation plan including the above elements.

**POLICY**  
TRA-1-3-5: Implementation of Downtown US 301 Design. The City will take proactive steps to implement the Downtown US 301 Circulation Plan including (1) coordination with FDOT regarding planning, design and engineering, (2) acquisition and/or reservation of required rights-of-way, (3) City investment in supporting street design and improvement, (4) access management controls and (5) the amendment of Land Development Regulations to promote complimentary land use within the corridor:

**POLICY**  
TRA-1-3-6: All development orders/permits shall be issued only when it is documented that such development is consistent with adopted level of service standards in the Comprehensive Plan. New concurrency requirements will allow issuance of a development order/permit if the facilities/services are scheduled to be in place or under construction not more than three years after issuance of certificate of occupancy as provided in the Capital Improvements Element. The Concurrency Management Policy will amended to add a definition for de minimus impact, and the number of links analyzed for concurrency. Transportation facilities needed to serve new development shall be in place or under actual construction within three years after the local government approves a building permit or it functional equivalent that results in traffic generation.

**POLICY**  
TRA-1-3-7: The City shall assess new development or redevelopment an equitable pro rata share of the costs to provide roadway and/or intersection improvements necessary to serve new construction. Pro rata share cost will be determined based upon procedures set forth in the Land Development Code.

**POLICY**  
TRA-1-3-8: Establish with the assistance of the Pasco County MPO, numerical indicators on modal split, transit trips per capita, automobile occupancy rates, and the like to help measure progress towards improved transportation system efficiency.

**POLICY**  
TRA-1-3-9: Except in cases where the impacts of the proposed development are demonstrated to be *de minimis* as that term is defined in Section 163.3180 of the Florida Statutes, all projects requesting development approval shall conduct a transportation study to determine the transportation impacts of significantly impacted roadway segments within the City. In cases where projects within the City access State or County public roadway facilities, transportation studies will be required to conform with State or County jurisdictional access requirements.

Projects that will have only a *de minimis* impact shall be exempt from the transportation portion of the required concurrency review.

If a proposed development does not qualify as *de minimis*, and the development is projected to generate more than 5% of the level of service “D” capacity during the PM peak hour, at any project entrance, the applicant will be required to conduct a detailed traffic study in accordance with the provisions of Chapter 4210, Zephyrhills Land Development Code.

In the event the significantly impacted roadway segments in the traffic study are anticipated to operate below the adopted level of service at project buildout, no development permit shall be issued unless the criteria set forth in Section 9J-5.0055(3), FAC has been satisfied.

**POLICY**  
TRA-1-3-10: The City will continue to utilize all legitimate regulatory authority, including mandatory dedications and fees in lieu of, as a condition of plat approval to identify, reserve, and acquire sufficient right-of-way for future development and expansion of collector and arterial roadways identified in Map TRA-2.

**POLICY**  
TRA-1-3-11: Use of existing or future rights-of-way for public or private utilities shall be permitted in accordance with applicable regulations.

## **MULTIMODAL TRANSPORTATION SYSTEM**

**OBJECTIVE**  
TRA-1-4: The City shall, through revisions to the Land Development Code, establish criteria and procedures to ensure the maintenance of a safe, convenient, and energy efficient multimodal transportation system.

**POLICY**  
TRA-1-4-1: The City shall support and encourage through site plan review alternative modes of transportation/transit friendly design features along roadways to accommodate the needs of pedestrians, cyclists, and handicapped persons, and promote ridesharing by public and private sector employees.

**POLICY**  
TRA-1-4-2: As an on-going policy, the City’s traffic circulation system shall emphasize pedestrian safety and transit-friendly design.

**POLICY**  
TRA-1-4-3: The City Police Department shall continue to maintain accident frequency data and annually review problem areas and potential solutions.

**POLICY**  
TRA-1-4-4: The City’s site plan review process shall address driveway connection/access points for new development or redevelopment activities to ensure minimal adverse impact to traffic flow or safety on adjacent roadways.

**POLICY**  
TRA-1-4-5: In conjunction with the Pasco County MPO and FDOT, the City shall participate in transportation demand management (TDM) measures such as alternate transportation modes (i.e., bicycle, pedestrian, transit), telecommuting, and ridesharing, etc. to reduce peak hour travel demand on US 301 and SR 54.

**POLICY**  
TRA-1-4-6: With assistance of Pasco County and FDOT, the City will address the following issues: improve intersection capacities, optimize traffic signalization, and improve signage to increase transportation efficiency and safety.

**POLICY** TRA-1-4-7: The City shall establish, through its capital improvement budget, an annual roadway maintenance and improvement program, sidewalk construction program, and a plan to improve existing unpaved City streets.

**POLICY** TRA-1-4-8: The City shall coordinate with responsible entities to maintain adequate pedestrian crossing times along US 301 and SR 54 for the safety of pedestrians and bicyclists.

### **Public Transit System**

**OBJECTIVE** TRA-1-5: Continue to participate on the Pasco County MPO to ensure that County operated public transportation efficiently serves existing and proposed major trip generators and attractors, land uses, and the transportation disadvantaged in Zephyrhills.

**POLICY** TRA-1-5-1: The City will continue to facilitate the efforts of the Pasco County MPO and FDOT to provide convenient and efficient public transportation.

**POLICY** TRA-1-5-2: The City will coordinate with Pasco County Public Transit (PCPT) to provide additional bus stops.

**POLICY** TRA-1-5-3: The City will attempt to continue construction of bicycle/pedestrian paths that provide connections to transit routes in the City.

**POLICY** TRA-1-5-4: The City shall implement parking strategies that promote transportation objectives. Strategies could include:

- a. maximum, in lieu of minimum, parking requirements;
- b. elimination of parking requirements in Downtown or for proposed traditionally designed developments;
- c. park and ride lots;
- d. on-street parking as a traffic calming technique;
- e. location of parking lots behind buildings.

**POLICY** TRA-1-5-5: The City shall encourage compact, mixed use, nodal development in designated public transportation corridors to promote convenient and efficient use of public transportation.

**POLICY** TRA-1-5-6: The City shall coordinate with the Pasco County MPO and PCPT to provide bus service to areas of the City which demonstrate a need for service, especially assisted living facilities (ALFs) and other retirement facilities, with focus on providing basic transportation needs to those who have no private means of transportation.

**POLICY** TRA-1-5-7: The City shall attempt to increase public awareness regarding PCPT transit schedules, services, and route information.

**POLICY** The City shall incorporate bikeways in the design of roadway improvements and  
TRA-1-5-8: mark designated bicycle routes which will provide citizens access to shopping, employment, education, and recreational centers.

**POLICY** The City shall maintain development regulations and design standards for on-  
TRA-1-5-9: site motorized and nonmotorized parking; safe and convenient on-site vehicle circulation systems; and access points through the development review process to ensure adequate vehicular, transit, bicycle, and pedestrian site access and to discourage use of single-occupant vehicles.

**POLICY** The City shall implement development regulations and design standards that  
TRA-1-5-10: require pedestrian and bicycle facilities within residential and nonresidential developments.

### **FUTURE LAND USE**

**OBJECTIVE** The planning of traffic circulation shall continue to be coordinated with the City's  
TRA-1-6: Future Land Use Plan to consider existing and projected population density, housing and employment patterns, and land use trends.

**POLICY** The City will continue to consider and coordinate traffic circulation planning  
TRA-1-6-1: issues locally and with the Pasco County MPO. Proposed development will be reviewed in accordance with the City's Comprehensive Plan Elements and current/future employment and growth trends.

### **COMMUNITY DESIGN AND AESTHETICS**

**OBJECTIVE** Evaluate all transportation projects for aesthetic benefits.  
TRA-1-7:

**POLICY** Roadway improvements that incorporate medians or parkways in their design  
TRA-1-7-1: shall landscape these features to enhance the roadway's aesthetic.

**POLICY** The Land Development Code shall require parking lots to be functionally  
TRA-1-7-2: landscaped to provide maximum shading, beauty, and stormwater drainage.

### **AIR TRANSPORTATION**

**GOAL** DEVELOPMENT OF THE ZEPHYRHILLS MUNICIPAL AIRPORT AS A  
TRA-2: SIGNIFICANT SOURCE OF REVENUE FOR THE CITY OF ZEPHYRHILLS TAX BASE, AND TO INSURE SELF SUFFICIENCY OF THE AIRPORT.

### **ECONOMIC DEVELOPMENT**

**OBJECTIVE** Recruit and locate new businesses each year to lease property at the Airport  
TRA-2-1: and Industrial Park.

**POLICY** The City will provide adequate water, sewer and road access to all lessees at  
TRA-2-1-1: the Airport.

## **AIRPORT LAYOUT PLAN**

- OBJECTIVE** TRA-2-2: Coordinate all future development and expansion with the Airport Layout Plan, Future Land Use, Conservation and Transportation Elements.
- POLICY** TRA-2-2-1: The City will review all future Airport development and expansion in compliance with the Comprehensive Plan and the Airport Layout Plan.
- POLICY** TRA-2-2-2: Ensure that all access routes to the Airport are properly integrated with other modes of transportation.
- POLICY** TRA-2-2-3: Lands adjacent to the CSX Railroad will be reserved for prospective tenants requiring rail access.
- POLICY** TRA-2-2-4: Ensure protection and conservation of natural resources located on airport property.
- POLICY** TRA-2-2-5: Review proposed development abutting Airport property to ensure compatibility with Airport.
- OBJECTIVE** TRA-2-3: By 2000, develop potential airport expansion opportunities.
- POLICY** TRA-2-3-1: Develop strategies to acquire or protect property for purposes of clear zones to the north of runways 1-8 and 3-6 for future runway expansion to 7,500 feet.
- GOAL** TRA-3: MINIMIZE CONFLICT BETWEEN DEVELOPMENT OF THE ZEPHYRHILLS AIRPORT AND ADJACENT LAND USES AND NATURAL RESOURCES.

## **LAND USE COMPATIBILITY**

- OBJECTIVE** TRA-3-1: Improve the existing interlocal agreement with Pasco County to assure land use compatibility.
- POLICY** TRA-3-1-1: Develop strategies to ensure protection of airport from the encroachment of incompatible uses.
- POLICY** TRA-3-1-2: Protect all existing and projected airspace surfaces and runway protection zones around the airport to ensure safe airport operations.
- POLICY** TRA-3-1-3: Maintain and implement the "Airport Zoning Ordinance to (1) minimize encroachment into areas critical to airport operations and (2) to ensure compatibility between airport operations and surrounding land uses.

## **INTERGOVERNMENTAL COORDINATION**

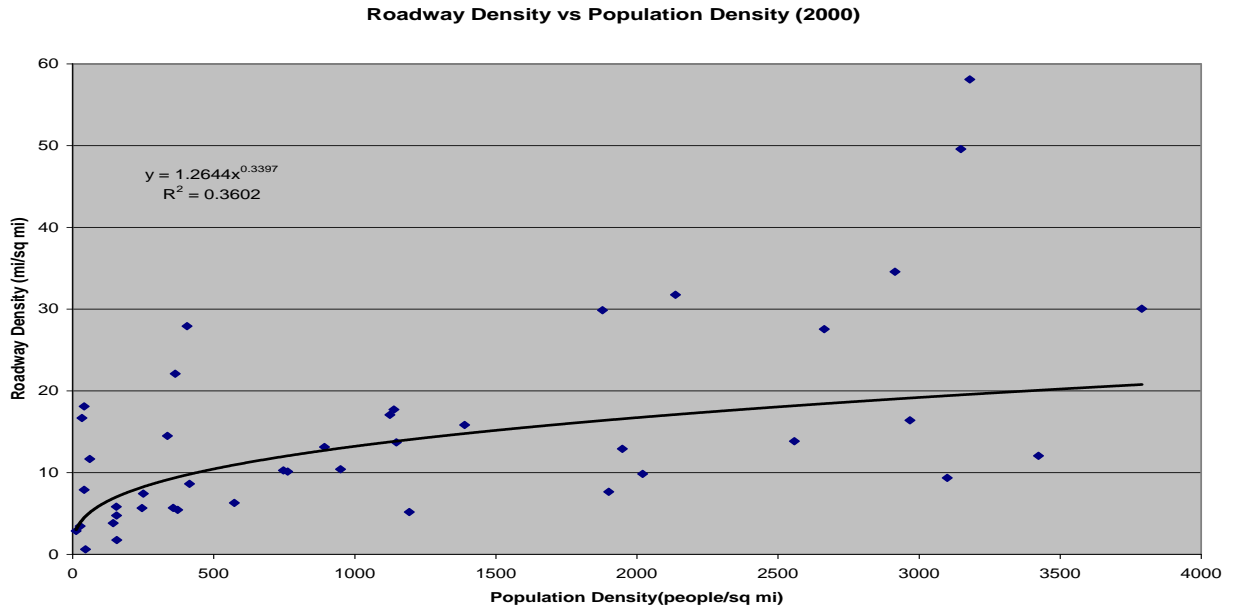
- OBJECTIVE** TRA-3-2: Coordinate all aviation plans with the Pasco County MPO, FDOT, USACOE, and FAA, as required.

**POLICY** All airport property development will be reviewed by the City and coordinated  
TRA-3-2-1: with all appropriate governmental entities.

# Transportation Element Appendix

---

## Study Area Section



Local Road Density = 1.2644\*Population Density (persons per Sq Mile)<sup>0.339</sup>

Persons per Household 2.59

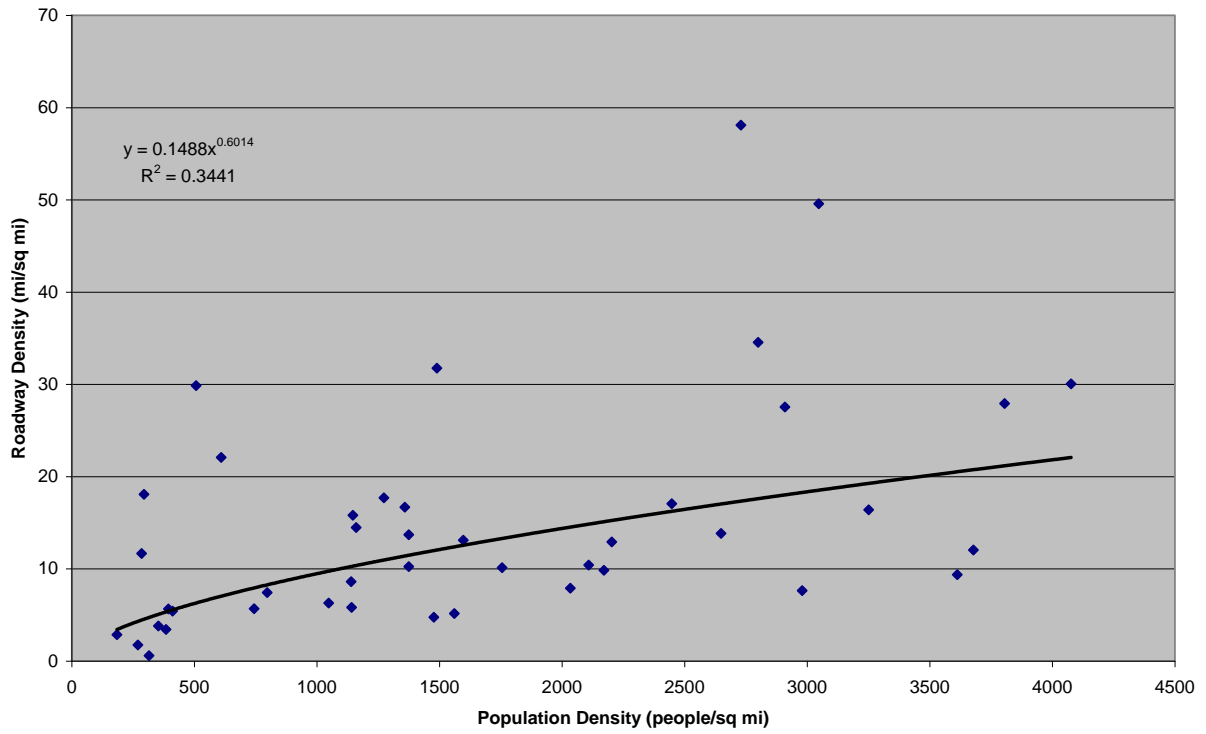
Gross Density du/ac	Gross Density du/ sq mile	Population Density persons/ sq mile	Miles of Road per Sq Mile	Lane Miles <sup>1</sup> per Sq Mile	VMT/ Unit = 50 X DENSITY-0.1		
					Density	VMT/du	Daily VMT
0.10	64	165.76	7.18	14.35	0.10	62.95	604.28
0.20	128	331.52	9.08	18.16	0.20	58.73	1127.63
0.41	262.4	679.62	11.59	23.18	0.41	54.66	2151.53
0.50	320	828.80	12.40	24.79	0.50	53.59	2572.26
0.76	486.4	1259.78	14.29	28.58	0.76	51.39	3749.50
0.87	556.8	1442.11	14.96	29.92	0.87	50.70	4234.56
1.00	640	1657.60	15.69	31.37	1.00	50.00	4800.00
1.55	992	2569.28	18.21	36.41	1.55	47.86	7120.98
1.82	1164.8	3016.83	19.23	38.45	1.82	47.09	8228.21
2.00	1280	3315.20	19.85	39.70	2.00	46.65	8957.12
2.22	1420.8	3679.87	20.57	41.14	2.22	46.17	9839.18
2.49	1593.6	4127.42	21.39	42.77	2.49	45.64	10909.90
3.00	1920	4972.80	22.78	45.57	3.00	44.80	12901.80
3.40	2176	5635.84	23.77	47.55	3.40	44.24	14440.17
4.00	2560	6630.40	25.12	50.24	4.00	43.53	16714.57
5.00	3200	8288.00	27.10	54.20	5.00	42.57	20432.16
6.00	3840	9945.60	28.83	57.66	6.00	41.80	24075.61
7.00	4480	11603.20	30.38	60.76	7.00	41.16	27658.55
8.00	5120	13260.80	31.79	63.58	8.00	40.61	31190.49
8.10	5184	13426.56	31.93	63.85	8.10	40.56	31541.17
9.00	5760	14918.40	33.09	66.18	9.00	40.14	34678.44
10.00	6400	16576.00	34.30	68.59	10.00	39.72	38127.76
11.00	7040	18233.60	35.42	70.85	11.00	39.34	41542.69
12.00	7680	19891.20	36.49	72.97	12.00	39.00	44926.68
13.00	8320	21548.80	37.49	74.99	13.00	38.69	48282.56
14.00	8960	23206.40	38.45	76.90	14.00	38.40	51612.69
15.00	9600	24864.00	39.36	78.72	15.00	38.14	54919.09
16.00	10240	26521.60	40.23	80.47	16.00	37.89	58203.52
17.00	10880	28179.20	41.07	82.14	17.00	37.66	61467.46
18.00	11520	29836.80	41.88	83.75	18.00	37.45	64712.25
19.00	12160	31494.40	42.65	85.30	19.00	37.25	67939.05
20.00	12800	33152.00	43.40	86.80	20.00	37.06	71148.91

			LOS C							
			Major Lane Miles		Major St		Collector		Local	
			per Sq mile	Arterial	Spacing	Lane Miles	Spacing	Lane Miles	Spacing	Lane Miles
VMT/ Unit = 50 X DENSITY-0.1			720.00							
Density	VMT/du	Daily VMT								
0.10	62.95	604.28	0.84	0.17	15.89	0.17	7.94	0.50	1.99	13.51
0.20	58.73	1127.63	1.57	0.31	8.51	0.31	4.26	0.94	1.06	16.59
0.41	54.66	2151.53	2.99	0.60	4.46	0.60	2.23	1.79	0.56	20.19
0.50	53.59	2572.26	3.57	0.71	3.73	0.71	1.87	2.14	0.47	21.22
0.76	51.39	3749.50	5.21	1.04	2.56	1.04	1.28	3.12	0.32	23.37
0.87	50.70	4234.56	5.88	1.18	2.27	1.18	1.13	3.53	0.28	24.04
1.00	50.00	4800.00	6.67	1.33	2.00	1.33	1.00	4.00	0.25	24.71
1.55	47.86	7120.98	9.89	1.98	1.35	1.98	0.67	5.93	0.17	26.52
1.82	47.09	8228.21	11.43	2.29	1.17	2.29	0.58	6.86	0.15	27.02
2.00	46.65	8957.12	12.44	2.49	1.07	2.49	0.54	7.46	0.13	27.26
2.22	46.17	9839.18	13.67	2.73	0.98	2.73	0.49	8.20	0.12	27.47
2.49	45.64	10909.90	15.15	3.03	0.88	3.03	0.44	9.09	0.11	27.62
3.00	44.80	12901.80	17.92	3.58	0.74	3.58	0.37	10.75	0.09	27.65
3.40	44.24	14440.17	20.06	4.01	0.66	4.01	0.33	12.03	0.08	27.49
4.00	43.53	16714.57	23.21	4.64	0.57	4.64	0.29	13.93	0.07	27.03
5.00	42.57	20432.16	28.38	5.68	0.47	5.68	0.23	17.03	0.06	25.82
6.00	41.80	24075.61	33.44	6.69	0.40	6.69	0.20	20.06	0.05	24.23
7.00	41.16	27658.55	38.41	7.68	0.35	7.68	0.17	23.05	0.04	22.35
8.00	40.61	31190.49	43.32	8.66	0.31	8.66	0.15	25.99	0.04	20.26
8.10	40.56	31541.17	43.81	8.76	0.30	8.76	0.15	26.28	0.04	20.05
9.00	40.14	34678.44	48.16	9.63	0.28	9.63	0.14	28.90	0.03	18.02
10.00	39.72	38127.76	52.96	10.59	0.25	10.59	0.13	31.77	0.03	15.64
11.00	39.34	41542.69	57.70	11.54	0.23	11.54	0.12	34.62	0.03	13.15
12.00	39.00	44926.68	62.40	12.48	0.21	12.48	0.11	37.44	0.03	10.58
13.00	38.69	48282.56	67.06	13.41	0.20	13.41	0.10	40.24	0.02	7.93
14.00	38.40	51612.69	71.68	14.34	0.19	14.34	0.09	43.01	0.02	5.21
15.00	38.14	54919.09	76.28	15.26	0.17	15.26	0.09	45.77	0.02	2.44
16.00	37.89	58203.52	80.84	16.17	0.16	16.17	0.08	48.50	0.02	
17.00	37.66	61467.46	85.37	17.07	0.16	17.07	0.08	51.22	0.02	
18.00	37.45	64712.25	89.88	17.98	0.15	17.98	0.07	53.93	0.02	
19.00	37.25	67939.05	94.36	18.87	0.14	18.87	0.07	56.62	0.02	
20.00	37.06	71148.91	98.82	19.76	0.13	19.76	0.07	59.29	0.02	

			LOS D							
			Major Lane Miles		Major St		Collector		Local	
			per Sq mil	Arterial	Spacing	Lane Miles	Spacing	Lane Miles	Spacing	Lane Miles
VMT/ Unit = 50 X DENSITY-0.1			810.00							
Density	VMT/du	Daily VMT								
0.10	62.95	604.28	0.75	0.15	15.89	0.15	7.94	0.45	1.99	13.60
0.20	58.73	1127.63	1.39	0.28	8.51	0.28	4.26	0.84	1.06	16.77
0.41	54.66	2151.53	2.66	0.53	4.46	0.53	2.23	1.59	0.56	20.52
0.50	53.59	2572.26	3.18	0.64	3.73	0.64	1.87	1.91	0.47	21.62
0.76	51.39	3749.50	4.63	0.93	2.56	0.93	1.28	2.78	0.32	23.95
0.87	50.70	4234.56	5.23	1.05	2.27	1.05	1.13	3.14	0.28	24.70
1.00	50.00	4800.00	5.93	1.19	2.00	1.19	1.00	3.56	0.25	25.45
1.55	47.86	7120.98	8.79	1.76	1.35	1.76	0.67	5.27	0.17	27.62
1.82	47.09	8228.21	10.16	2.03	1.17	2.03	0.58	6.09	0.15	28.29
2.00	46.65	8957.12	11.06	2.21	1.07	2.21	0.54	6.63	0.13	28.65
2.22	46.17	9839.18	12.15	2.43	0.98	2.43	0.49	7.29	0.12	28.99
2.49	45.64	10909.90	13.47	2.69	0.88	2.69	0.44	8.08	0.11	29.30
3.00	44.80	12901.80	15.93	3.19	0.74	3.19	0.37	9.56	0.09	29.64
3.40	44.24	14440.17	17.83	3.57	0.66	3.57	0.33	10.70	0.08	29.72
4.00	43.53	16714.57	20.64	4.13	0.57	4.13	0.29	12.38	0.07	29.61
5.00	42.57	20432.16	25.22	5.04	0.47	5.04	0.23	15.13	0.06	28.98
6.00	41.80	24075.61	29.72	5.94	0.40	5.94	0.20	17.83	0.05	27.94
7.00	41.16	27658.55	34.15	6.83	0.35	6.83	0.17	20.49	0.04	26.62
8.00	40.61	31190.49	38.51	7.70	0.31	7.70	0.15	23.10	0.04	25.08
8.10	40.56	31541.17	38.94	7.79	0.30	7.79	0.15	23.36	0.04	24.91
9.00	40.14	34678.44	42.81	8.56	0.28	8.56	0.14	25.69	0.03	23.37
10.00	39.72	38127.76	47.07	9.41	0.25	9.41	0.13	28.24	0.03	21.52
11.00	39.34	41542.69	51.29	10.26	0.23	10.26	0.12	30.77	0.03	19.56
12.00	39.00	44926.68	55.47	11.09	0.21	11.09	0.11	33.28	0.03	17.51
13.00	38.69	48282.56	59.61	11.92	0.20	11.92	0.10	35.76	0.02	15.38
14.00	38.40	51612.69	63.72	12.74	0.19	12.74	0.09	38.23	0.02	13.18
15.00	38.14	54919.09	67.80	13.56	0.17	13.56	0.09	40.68	0.02	10.92
16.00	37.89	58203.52	71.86	14.37	0.16	14.37	0.08	43.11	0.02	8.61
17.00	37.66	61467.46	75.89	15.18	0.16	15.18	0.08	45.53	0.02	6.25
18.00	37.45	64712.25	79.89	15.98	0.15	15.98	0.07	47.93	0.02	3.86
19.00	37.25	67939.05	83.88	16.78	0.14	16.78	0.07	50.33	0.02	1.43
20.00	37.06	71148.91	87.84	17.57	0.13	17.57	0.07	52.70	0.02	

			LOS E								
VMT/ Unit = 50 X DENSITY-0.1			Major Lane Miles		Major St		Collector		Local		
Density	VMT/du	Daily VMT	per Sq mil Arterial	Lane Miles	Spacing	Lane Miles	Spacing	Lane Miles	Spacing	Lane Miles	
0.10	62.95	604.28	0.67	0.13	15.89	0.13	7.94	0.40	1.99	13.68	
0.20	58.73	1127.63	1.25	0.25	8.51	0.25	4.26	0.75	1.06	16.91	
0.41	54.66	2151.53	2.39	0.48	4.46	0.48	2.23	1.43	0.56	20.79	
0.50	53.59	2572.26	2.86	0.57	3.73	0.57	1.87	1.71	0.47	21.93	
0.76	51.39	3749.50	4.17	0.83	2.56	0.83	1.28	2.50	0.32	24.42	
0.87	50.70	4234.56	4.71	0.94	2.27	0.94	1.13	2.82	0.28	25.22	
1.00	50.00	4800.00	5.33	1.07	2.00	1.07	1.00	3.20	0.25	26.04	
1.55	47.86	7120.98	7.91	1.58	1.35	1.58	0.67	4.75	0.17	28.50	
1.82	47.09	8228.21	9.14	1.83	1.17	1.83	0.58	5.49	0.15	29.31	
2.00	46.65	8957.12	9.95	1.99	1.07	1.99	0.54	5.97	0.13	29.75	
2.22	46.17	9839.18	10.93	2.19	0.98	2.19	0.49	6.56	0.12	30.20	
2.49	45.64	10909.90	12.12	2.42	0.88	2.42	0.44	7.27	0.11	30.65	
3.00	44.80	12901.80	14.34	2.87	0.74	2.87	0.37	8.60	0.09	31.23	
3.40	44.24	14440.17	16.04	3.21	0.66	3.21	0.33	9.63	0.08	31.50	
4.00	43.53	16714.57	18.57	3.71	0.57	3.71	0.29	11.14	0.07	31.67	
5.00	42.57	20432.16	22.70	4.54	0.47	4.54	0.23	13.62	0.06	31.50	
6.00	41.80	24075.61	26.75	5.35	0.40	5.35	0.20	16.05	0.05	30.91	
7.00	41.16	27658.55	30.73	6.15	0.35	6.15	0.17	18.44	0.04	30.03	
8.00	40.61	31190.49	34.66	6.93	0.31	6.93	0.15	20.79	0.04	28.93	
8.10	40.56	31541.17	35.05	7.01	0.30	7.01	0.15	21.03	0.04	28.81	
9.00	40.14	34678.44	38.53	7.71	0.28	7.71	0.14	23.12	0.03	27.65	
10.00	39.72	38127.76	42.36	8.47	0.25	8.47	0.13	25.42	0.03	26.23	
11.00	39.34	41542.69	46.16	9.23	0.23	9.23	0.12	27.70	0.03	24.69	
12.00	39.00	44926.68	49.92	9.98	0.21	9.98	0.11	29.95	0.03	23.06	
13.00	38.69	48282.56	53.65	10.73	0.20	10.73	0.10	32.19	0.02	21.34	
14.00	38.40	51612.69	57.35	11.47	0.19	11.47	0.09	34.41	0.02	19.55	
15.00	38.14	54919.09	61.02	12.20	0.17	12.20	0.09	36.61	0.02	17.70	
16.00	37.89	58203.52	64.67	12.93	0.16	12.93	0.08	38.80	0.02	15.80	
17.00	37.66	61467.46	68.30	13.66	0.16	13.66	0.08	40.98	0.02	13.84	
18.00	37.45	64712.25	71.90	14.38	0.15	14.38	0.07	43.14	0.02	11.85	
19.00	37.25	67939.05	75.49	15.10	0.14	15.10	0.07	45.29	0.02	9.82	
20.00	37.06	71148.91	79.05	15.81	0.13	15.81	0.07	47.43	0.02	7.75	

Roadway Density vs Populaiton Density (Buildout)



Local Road Density = 0.1488*Population Density (persons per Sq Mile) <sup>0.6014</sup>								
Persons per Household		2.11						
Gross Density Population Density Miles of Road Lane Miles1						VMT/ Unit = 50 X DENSITY-0.1		
du/ac	du/ sq mile	persons/ sq mile	per Sq Mile	per Sq Mile	Density	VMT/du	Daily VMT	
0.10	64	135.04	2.84	5.69	0.10	62.95	604.28	
0.20	128	270.08	4.31	8.63	0.20	58.73	1127.63	
0.41	262.4	553.66	6.64	13.29	0.41	54.66	2151.53	
0.50	320	675.20	7.49	14.97	0.50	53.59	2572.26	
0.76	486.4	1026.30	9.63	19.26	0.76	51.39	3749.50	
0.87	556.8	1174.85	10.44	20.89	0.87	50.70	4234.56	
1.00	640	1350.40	11.36	22.71	1.00	50.00	4800.00	
1.55	992	2093.12	14.78	29.56	1.55	47.86	7120.98	
1.82	1164.8	2457.73	16.28	32.56	1.82	47.09	8228.21	
2.00	1280	2700.80	17.23	34.46	2.00	46.65	8957.12	
2.22	1420.8	2997.89	18.35	36.69	2.22	46.17	9839.18	
2.49	1593.6	3362.50	19.66	39.32	2.49	45.64	10909.90	
3.00	1920	4051.20	21.99	43.98	3.00	44.80	12901.80	
3.40	2176	4591.36	23.71	47.42	3.40	44.24	14440.17	
4.00	2560	5401.60	26.14	52.28	4.00	43.53	16714.57	
5.00	3200	6752.00	29.90	59.79	5.00	42.57	20432.16	
6.00	3840	8102.40	33.36	66.72	6.00	41.80	24075.61	
7.00	4480	9452.80	36.60	73.20	7.00	41.16	27658.55	
8.00	5120	10803.20	39.66	79.33	8.00	40.61	31190.49	
8.10	5184	10938.24	39.96	79.92	8.10	40.56	31541.17	
9.00	5760	12153.60	42.57	85.15	9.00	40.14	34678.44	
10.00	6400	13504.00	45.36	90.72	10.00	39.72	38127.76	
11.00	7040	14854.40	48.03	96.07	11.00	39.34	41542.69	
12.00	7680	16204.80	50.62	101.23	12.00	39.00	44926.68	
13.00	8320	17555.20	53.11	106.22	13.00	38.69	48282.56	
14.00	8960	18905.60	55.53	111.06	14.00	38.40	51612.69	
15.00	9600	20256.00	57.88	115.77	15.00	38.14	54919.09	
16.00	10240	21606.40	60.18	120.35	16.00	37.89	58203.52	
17.00	10880	22956.80	62.41	124.82	17.00	37.66	61467.46	
18.00	11520	24307.20	64.59	129.19	18.00	37.45	64712.25	
19.00	12160	25657.60	66.73	133.46	19.00	37.25	67939.05	
20.00	12800	27008.00	68.82	137.64	20.00	37.06	71148.91	