

SECTION 4

TRANSPORTATION

1. PURPOSE

The purpose of the Transportation element is to evaluate the existing conditions of traffic circulation within the City of Panama City Beach in relation to the existing land use and population growth. After this evaluation and the defining of specific problem areas, the Plan will evaluate different alternatives to determine what effect they will have on the community, considering the projected population and future land use. The ultimate goal is to provide an integrated system of free-flowing safe movement for pedestrian, motorized and non-motorized vehicles throughout the City.

In order to accomplish this effort, it is necessary to see what improvements have been made over the past years, and the effect of these improvements. This will include improvements by the City of Panama City Beach, Bay County and the Florida Department of Transportation since all three governments control streets and roads within and adjacent to the City. Through proper planning, land use regulations, funding and Intergovernmental Coordination with Bay County and the State, an effective traffic circulation plan can be developed.

2. INTRODUCTION

The City of Panama City Beach is continues to be one of the fastest growing communities in Bay County. Major improvements have been and are being implemented by the City of Panama City Beach regarding traffic and street improvements. These improvements have been primarily the result of implementing the plan for the Front Beach Road Community Redevelopment Area. Churchwell Drive was recently expanded to three lanes and improved with sidewalks, bicycle lanes, street lighting, landscaping, and a public parking area (120 spaces) for the nearby beach accesses. The Front Beach Road CRA is a \$400 million multimodal transportation plan that will be implemented through the year 2031. Other roadway improvements occur in the paving and resurfacing of existing local streets. Funding for these projects is provided through local funds and Bay County Ordinance 85-02, a local option gas tax, adopted September 1, 1985. This tax is collected by Bay County, and distributed to the different communities based upon population for roadway improvement projects.

The Front Beach Road Transportation Concurrency Exception Area (the TCEA) is located within the Front Beach Road Community Redevelopment Area. Sitting as the Front Beach Road Community Redevelopment Agency, the City Council has approved a redesign of Front Beach Road that is vastly different than the original plan in existence when the TCEA was adopted in 2004. Front Beach Road now has completed engineering plans with dedicated transit (tram) lanes that will extend the length of the city limits. In March of 2007, the City Council also completed purchase of a 4 acre site at the east end of the City for use as a multimodal center. The property purchase was the result of the first phase of a transit feasibility study. It is expected that the transit study will be ongoing until such time the system is completed. The first phase of the tram system will be constructed along with the roadway widening of N. Thomas Drive and S. Thomas Drive

which are to begin in 2008. Work has also recently begun on finding an appropriate location for a multimodal center near the west end of the city limits.

Because the TCEA follows the boundaries of the Front Beach Road CRA, the TCEA benefits from the tax increment financing of the CRA and the associated transportation improvements. The CRA will widen connector roads between Front Beach Road and the Parkway; create a transit system; construct two multimodal centers, pocket parks and other public parking; and design the area to be bicycle/pedestrian friendly by providing sidewalks, dedicated bike lanes, public gathering areas, landscaping, and enhanced public beach accesses. Construction is completed on the 3-laning of Churchwell Road and the 4-laning of Beckrich Road has commenced. Late in 2008, the 3-laning of S. Thomas Drive and the first phase of Front Beach Road will begin. The growth in tax increment over the life of the CRA is expected to result in approximately \$400 million with the cost of the CRA improvements estimated to be approximately \$350 – \$400 million.

The City coordinated with the FDOT on the creation of the FBR-TCEA. The configuration of the CRA boundaries and the programmed improvements are expected to have little impact on the FIHS and no impact on a SIS roadway.

Roadways within the City of Panama City Beach fall under three classifications. These classifications and their definitions are as follows:

- A. Arterial Road - Is a roadway providing service for relatively continuous high traffic volume, long trip length, and high operating speeds.
- B. Collector Road - Is a roadway providing service for relatively moderate traffic volume, moderate trip length, and moderate operating speed. Collector roads collect and distribute traffic between local and arterial roads.
- C. Local Road - Is a roadway providing service which is of relatively low traffic volume, short average trip length or minimal through traffic movements, with high volume land access to abutting property.

The Future Traffic Circulation Map is Exhibit number 3.

3. INVENTORY OF EXISTING SYSTEM

Transportation planning areas are defined as one of the following three types of areas:

- A. Existing Urbanized Area - An area consisting of an incorporated place and adjacent densely settled surrounding area that together have a minimum population of 50,000, characterized by Panama City and surrounding communities.
- B. Transitioning Urbanized or Incorporated Areas- Existing areas projected to become part of the urbanized area in the next approximate 20 years.

- C. Rural Areas - Areas currently not projected to become urbanized in approximately the next 20 years.

The road system of Panama City Beach is considered a part of the urban system.

All roadways within the City limits of Panama City Beach are included in this inventory. The roads leading into, around and through the City are an integral part of the City's traffic circulation system.

In 1984, the Metropolitan Planning Organization (MPO) was created to oversee the transportation planning process in Bay County. The name has since changed to the Transportation Planning Organization (The TPO). The TPO performs a variety of tasks of which one of the most important is the development of the Long Range Transportation Plan (LRTP). The first LRTP was produced in 1984, projecting transportation needs through the year 1995. Subsequent Plan updates for the years 2015 and 2020 were completed in 1990, 1995, and 2000 respectively. In December 2006, an update of the 2030 Area Transportation Study was completed. The LRTP attempts to forecast an area's mobility needs to a point in the future based on projected transportation demands. Typically, LRTP's have a twenty to twenty-five year planning horizon.

The LRTP is used by the TPO to establish a five (5) year implementation schedule for the Transportation Improvements Plan (TIP). The TIP is updated annually by the TPO after receiving comments and recommendations from the Technical Coordinating Committee, the Citizens Advisory Committee, and the Bicycle/Pedestrian Committee.

4. ANALYSIS OF EXISTING DEFICIENCIES

Levels of service (LOS) are used to analyze roadway capacities. A LOS is determined for roadways by analyzing operational roadway characteristics and traffic volumes. The FDOT updated the Level of Service Handbook on 2002 based upon the 2000 Highway Capacity Manual Update. These tables have been adopted as the basis for determining levels of service for this Plan. These tables, shown as Tables 4-1, 4-4, and 4-7 illustrate maximum traffic volumes for a range of levels of service on roadways with various characteristics. There are six parameters used to determine the LOS for each roadway. They are:

- A. Type of Planning Area:
 - 1. Urbanized Areas
 - 2. Areas Transitioning into Urbanized Areas or Areas over 5,000 Not in Urbanized Areas
 - 3. Rural Undeveloped Areas and Cities or Developed Areas less than 5,000 Population.

- B. Functional Classification:
 - 1. Freeways
 - 2. Arterials
 - 3. Non-State Roadways

- C. Number of Lanes:
 - 1. 2
 - 2. 4
 - 3. 6
 - 4. 8

- D. Facility Type:
 - 1. Divided
 - 2. Undivided

- E. Signalized Intersections per Mile

- F. Types of Analyses:
 - 1. Annual Average Daily Traffic (AADT) Count
 - 2. Peak Hour Directional Volumes
 - 3. Two-Way Peak Hour Volumes

Listed below are the descriptions of the six levels of service (LOS) used in transportation planning:

- A. LOS A: Highest LOS, which describes primarily freeflow traffic operations at average travel speeds. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Stopped delay at intersection is minimal.

- B. LOS B: Represents reasonable unimpeded traffic flow operations at average travel speeds. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays are not bothersome. Drivers are not generally subjected to appreciable tension.

- C. LOS C: Represents stable traffic flow operations, however, ability to maneuver and change lanes may be more restrictive than LOS B, and longer queues and/or adverse signal coordination may contribute to lower average travel speeds. Motorists will experience noticeable tension while driving.

- D. LOS D: Borders on a range in which small increases in traffic flow may cause substantial increases in approach delays and, hence, decreases in speed. This may be due to adverse signal progression, inappropriate signal timing, high volumes, or some combinations of these.

- E. LOS E: Represents traffic flow characterized by significant delays at lower operating speeds. Such operations are caused by some combination or adverse progression, high signal density, intense queuing at critical intersections, and inappropriate signals.

- F. LOS F: Represents traffic flow characterized at extremely low speeds. Intersection congestion is likely at critical signalized locations, with high approach

delays resulting. Adverse signal progression and heavy pedestrian traffic is frequently a contributor to this condition.

Table 1 shows the existing traffic counts as of 2008 and evaluates the level of service for the roads in Panama City Beach. Traffic counts are from 2007, unless otherwise noted. FDOT counts were not available on some roads, so in some cases counts from Bay County were used where available. Exhibit 3 shows the existing roadway network.

Historically, Panama City Beach has been a tourist destination that has thrived on slow moving traffic on Front Beach Road (referred to by tourists as "cruising the strip"). Because Panama City Beach is long and narrow and parallels the water, traffic can usually transfer from Front Beach Road to less traveled streets. The movement of emergency vehicles through traffic is accomplished by use of hard road shoulders which are maintained for vehicular traffic. In some areas of Front Beach Road, existing development is constructed up to the front property line with parking in the right-of-way. In these areas during congested times, it may be difficult for emergency vehicles to quickly get through traffic. In essence, traffic congestion on Panama City Beach, as in other tourist attractions, is created by the choice of the travelers. However, appropriate land use and traffic controls should continue to be developed to ensure that traffic congestion on Front Beach Road does not compromise safety issues.

According to the TPO's Congestion Management System Plan (September, 2007), the only state roadways that fall below the minimum acceptable level of service in the Panama City Beach city limits are Panama City Beach Parkway from Mandy Lane to Beckrich Road and Front Beach Road from Beckrich Road to Hutchison Boulevard (East). Front Beach Road is within the Front Beach Road Transportation Concurrency Exception Area that was established in 2004. State Road 79 exceeds the adopted level of service once committed trips are added. The following City roads fall below the minimum level of service: North Thomas Drive, South Thomas Drive, Beckrich Road, Alf Coleman Road, Clara Avenue, Hill Road, and Powell Adams Road. Actual traffic counts for all of the City roads are within the adopted level of service. However, all of the roads fail once committed trips are added. As such, the City has been collecting proportionate fair share payments from development impacting these segments. All of the segments have been added to the Capital Improvements Element and will be widened as part of the Front Beach Road CRA program.

5. ACCIDENT FREQUENCY DATA

The sources of accident data for the City of Panama City Beach are the Panama City Beach Police Department, the Bay County Sheriff's Office and the Florida Highway Patrol. Accident data shows most occurrences are at signalized intersections along Panama City Beach Parkway, Hutchison Boulevard, and Front Beach Road. The accidents on the Parkway tend to be more severe as running speeds are much higher than on Hutchison Boulevard and Front Beach Road. It is expected that more accidents will occur as the number of signalized intersections on the Parkway increases. However, the severity of those accidents should decrease. The City will be constructing intersection improvements on all three major roadways as part of the Front Beach Road Community Redevelopment Program.

6. BICYCLE AND PEDESTRIAN PROGRAM

The City recognizes the needs for pedestrian and bicycle facilities. Through the TPO, a bicycle advisory committee was formed to research and develop a Bicycle/Pedestrian Plan. This plan identifies appropriate road segments for the location of bicycle routes and pedestrian improvements and makes recommendations to the TPO. Exhibit 3-2 shows the location of pedestrian and bicycle accidents throughout the County. Exhibits 3-3 and 3-4 show the existing and proposed bicycle and pedestrian improvements respectively.

The City of Panama City Beach is currently working with the Community Traffic Safety Team to obtain grants for sidewalks. Additionally, the Front Beach Road CRA program will construct sidewalks and bicycle lanes on all reconstructed roadways. The City also amended the sidewalk ordinance in 2001 by adding several road segments, where sidewalks are required as part of any new development, redevelopments, or changes of use.

7. MASS TRANSIT

The Bay Town Trolley serves the public transit needs for Bay County and beaches. The trolley is funded by the TPO and, in part, by user fares. The trolley operates on weekdays from 6 am to 6:30 p.m. Several cities, including Panama City Beach, pay extra for weekend service. Since its inception, the routes and stops has changed in order to respond to consumer demand and preferences. Exhibit 3-1 shows the location of major Attractors and Generators and the current trolley route within the Panama City Beach Service Area. Front Beach Road has already been designed with dedicated transit lanes as part of the Front Beach Road CRA program. A transit plan has been completed and has been adopted into the the TPO Transit Plan. It has not yet been determined if the City, a private contractor, or the Bay Towne Trolley will actually provide the service.

8. HURRICANE EVACUATION

The Coastal High Hazard Area (CHHA) is defined as the Category 1 Storm Surge Area. In Panama City Beach, this area is predominantly along the shores of the Gulf of Mexico (Front Beach Road, Beach Boulevard, and Thomas Drive). Other less significant areas within the CHHA are near Turtle Cove (22 single family residential lots), along Grand Lagoon (30 multi-family dwellings), and in the Colony Club area (35 single family residential lots). The State's definition of the CHHA changing from the "evacuation" area to the "surge" area had a minimal impact on the number of lots and structures within the CHHA.

Within the CHHA, 7,657 units of new Gulf front condominiums have been constructed since 2000 taking the place of 2,044 units of older hotel/motel rooms. The increase in rooms by 5,613 units has resulted in an insignificant increase in population (permanent and tourists) of the CHHA as evidenced by the traffic volumes on Front Beach Road. All segments of Front Beach Road have current traffic volumes similar to those that occurred in the early and mid 1990's.

| <u>Front Beach Road Segment</u> | <u>2006 Vol.</u> | <u>1990's Vol.</u> |
|-----------------------------------|------------------|--------------------|
| US 98 – SR 79 | 7,066 | 1990 - 7,005 |
| SR 79 – Hutch. Blvd. | 14,155 | 1995 - 13,014 |
| Hutch. Blvd – Beckrich Rd. | 13,500 | 1995- 20,000 |
| Beckrich Rd. – US 98/Hutch. Blvd. | 16,000 | 1995- 14,063 |
| US 98/Hutch. Blvd – PCB Parkway | 21,400 | 1995 - 23,500 |

Source: Historical data from the Bay County TPO Congestion Management System Plan, August 2003.

The reason for virtually no growth in the population within the CHHA over the past ten (10) years is likely because the units are almost exclusively purchased and occupied by a stable tourist population rather than a growing permanent resident population. A sampling of the newer resorts shows less than 3% of the units are homesteaded properties. Reasons for this include the high price of the new resorts vs. the median income of Bay County residents; and, permanent residents seem to prefer living in areas away from where tourists congregate (along Front Beach Road). In 2000, the City had a permanent population of 7,671 and an estimated annual tourist population of 7.5 million. The City increased its permanent population by 3,980 since 2000 to 11,651 in 2007. However, the estimated annual tourist population has decreased and now ranges between 4.6 – 6.0 million. From year to year, the annual tourist population can fluctuate based primarily on such factors as: the number of hurricanes, the economy, gas prices, and the length of school summer vacation. The reduction in “spring break” visitors has been noticeable as evident by the sizeable reduction in law enforcement personnel needed during this time.

Although the City has experienced a significant rise in gulf-front resort units, the actual tourist population has remained relatively stable, or even declined, (as reflected in traffic counts) while the permanent population has had only a modest rise of approximately 389 residents per year since 2000. As such, development has had relatively little impact on hurricane evacuation routes and clearance times.

The hurricane evacuation routes for Panama City Beach are shown on Exhibit 14. It is expected that some residents on the eastern portion of the city would opt to travel east across Hathaway Bridge to State Road 77 or US 231 just as the residents on the western end may opt to travel west to State Roads 81 and 331.

The location of the hurricane evacuation routes are shown on Exhibit 14. The Bay County Comprehensive Plan states that the County has adopted a hurricane evacuation time of 24 hours for category 4-5 storms. Bay County and the City worked together to create the Bay County Hurricane Abbreviated Transportation Model (Updated, 2004). The County and the City have continued to share information on development order approvals in order to keep the hurricane model updated. Below is the most recent tables that have been updated with additional development orders approved by the City.

| Modeled/Critical Roadway Segment | Times Cat 1-2 low occ | Times Cat 1-2 high occ | Times Cat 3 low occ | Times Cat 3 high occ | Times Cat 4-5 low occ | Times Cat 4-5 high occ |
|----------------------------------|-----------------------|------------------------|---------------------|----------------------|-----------------------|------------------------|
| SR 79 at SR 20 | 3.6 | 5.5 | 5.0 | 6.4 | 7.2 | 9.7 |
| SR 77 at SR 20 | 3.3 | 4.1 | 4.1 | 5.1 | 5.2 | 6.5 |
| US 231 at SR 20 | 5.7 | 7.5 | 9.4 | 12.6 | 13.1 | 17.2 |
| SR 20 eb out of Bay | 2.7 | 3.4 | 4.1 | 5.4 | 5.6 | 7.2 |
| Hathaway Bridge | 6.1 | 7.7 | 7.5 | 10.1 | 8.8 | 12.1 |
| US 231/SR77/US98 int | 5.8 | 7.8 | 8.5 | 12.0 | 10.5 | 14.9 |
| CR 386 into Gulf County | 1.2 | 1.3 | 1.3 | 1.5 | 1.5 | 1.7 |

The results of the updated model show that under a high occupancy and a category 4-5 hurricane, the critical segment will be US 231 at SR 20 with an evacuation time of 17.2 hours. This, however, is still below the adopted evacuation time of 24 hours.

9. PARKING FACILITIES

The City recently constructed a beach access public parking area on Churchwell Drive that will accommodate approximately 120 vehicles. In 2007, the City purchased approximately 4 acres on N. Thomas Drive near the Front Beach Road intersection. The property is to ultimately be developed with a multimodal transportation center with associated retail.

10. EVALUATION AND RECOMMENDATION OF 2005-2010 SYSTEMS

Attached Table 1 shows the anticipated traffic volumes for 2011 and 2020. Based on the adopted level of service, the goal is to maintain the traffic volume beneath the figure shown in "MAX VOL" on all roadways.

Tables 4-1, 4-4, and 4-7 are the Generalized Level of Service tables from the FDOT Level of Service Handbook, 2002.

11. GOALS, OBJECTIVES AND POLICIES OF TRAFFIC CIRCULATION

GOAL: Provide a safe and efficient transportation system to accommodate current and future land use patterns and to maintain an adopted traffic circulation level of service standards.

OBJECTIVE 1: With the adoption of this Plan, establish level of service (LOS) standards to be used in the processing of development and redevelopment orders.

POLICY 1.1: With the adoption of this Plan, the following peak hour level of service standards for roads shall be established to evaluate the facility's capacity for issuance of development permits.

| <u>FACILITY TYPE</u> | <u>PEAK HOUR LEVEL OF SERVICE</u> |
|-----------------------------|--|
| Principal Arterial | D* |
| Minor Arterial | D* |
| Collector | D* |
| Local | D* |
| Front Beach Road | D * |
| FIHS Road Segments | As determined by FDOT |

Note: * is to denote that some roads, or portions of roads, may be located within the Front Beach Road Transportation Concurrency Exception Area and not subject to the LOS designation.

POLICY 1.2: The City will review with Bay County and the State Department of Transportation any special transportation needs. If necessary, the City will review its roadway standards and their application to particular roadways.

POLICY 1.3: Continue evaluating and reporting the level of service for each road segment identified in this Plan.

POLICY 1.4: The City shall review all proposed developments for consistency with the level of service standards adopted by this Plan to maintain concurrency as specified in the Concurrency Management System.

POLICY 1.4.1: Deminimis exceptions to transportation concurrency are adopted as defined in Chapter 163.3180(6) F.S. The City shall maintain records of all deminimis exceptions and submit a summary report to the DCA along with the annual update of the Capital Improvements Element.

POLICY 1.5: The City may use a proportionate fair-share process consistent with Chapter 163.3180(16) in order to satisfy the level of service standard for roads.

POLICY 1.6: The Front Beach Road Transportation Concurrency Exception Area will be evaluated annually to assess its progress of increasing mobility within the Front Beach Road Community Redevelopment Area.

POLICY 1.6.1: The City hereby creates a Transportation Concurrency Exception Area for Front Beach Road for the reasons and based upon the information contained within the April, 2004 City of Panama City Beach Transportation Concurrency Exception Area (TCEA) Report.

POLICY 1.6.2: The boundary of the Transportation Concurrency Exception Area is the boundary of the Front Beach Road Redevelopment Area.

POLICY 1.6.3: The Front Beach Road Community Redevelopment Plan is incorporated by reference and adopted as part of this Comprehensive Plan pursuant to Policy 4.6 of the Future Land Use Element (*updated, 2004*).

POLICY 1.7: A detailed level of service study shall be conducted for any road segment that has reached at least ninety percent (90%) of the adopted maximum level of service volume.

POLICY 1.8: The City will continue to encourage the TPO to give a high priority ranking to the six-laning of Panama City Beach Parkway from Mandy Lane to Beckrich Road.

POLICY 1.9: Through land development regulations, the City will, amend when necessary, land development policies for the Panama City Beach Parkway that further implement and support the recommendations of the US 98 (Panama City Beach Parkway) Corridor Management Report.

OBJECTIVE 2: Establish a procedure to protect existing and future rights-of-way for building encroachment.

POLICY 2.1: A twenty-five foot minimum front building set back from rights-of-way will be required of future development, unless reasons exist why such setback cannot be implemented on a particular parcel. A twenty foot minimum building setback may be permitted for future development where expressly authorized by the Land Development Code for a particular zone or overlay district as shown on the zoning map (*Amended June 10, 2004 - Ord. No. 879*).

POLICY 2.2: The City shall establish minimum right-of-way requirements for each street classification.

OBJECTIVE 3: Traffic circulation and planning will be coordinated with the future land uses shown on the Future Land Use Map, the Florida Department of Transportation's five year transportation plan, the Panama City TPO Long Range Transportation Plan, and plans of adjoining jurisdictions.

POLICY 3.1: The City shall review the traffic circulation plans of adjacent incorporated and unincorporated areas for compatibility with this Plan.

POLICY 3.2: The review of development orders for projects connecting to the State road system shall be reviewed for compatibility with the Florida Department of Transportation's five year transportation plan.

POLICY 3.3: When appropriate, the City will control land use to meet level of service standards adopted as part of this Plan.

POLICY 3.4: Continue to participate in the Panama City Transportation Planning Organization planning process in coordination with adjacent local governments and other public agencies and private organizations whose purpose is to implement the transportation, land use, parking, and other provisions of the transportation element.

POLICY 3.5: Continue to participate in the development and update of the Transit Development Plan especially in the establishment of numerical indicators against which the achievement of the mobility goals of the community can be measured, such as modal split, annual transit trips per capita, and automobile occupancy rates.

OBJECTIVE 4: Coordinate the traffic circulation system with the plans and programs of the Transportation Planning Organization (TPO) and the Florida Department of Transportation's five year transportation plan.

POLICY 4.1: Support the TPO by designating a City representative to serve on a transportation technical advisory committee.

POLICY 4.2: Coordinate changes in this traffic plan with changes in the Florida Department of Transportation's five year transportation plan, the TPO's Long Range Transportation Plan, and subsequent updates.

POLICY 4.3: Continue to support the provision of transportation services to the transportation disadvantaged through the TPO.

POLICY 4.4: The City shall coordinate and schedule any major roadway improvements consistent with the Florida Department of Transportation's five year construction plan.

OBJECTIVE 5: Provide convenient and efficient movement of motorized and non-motorized traffic.

POLICY 5.1: Continue controlling the installation of sidewalks and bicycle paths.

POLICY 5.2: Require the Panama City Beach Police Department to compile accident data by location involving motorized vehicles, bicycles and pedestrians. Utilize this data to improve safety conditions.

POLICY 5.3: Continue implementing off-street parking requirements through the Land Development Code. Applications for development orders shall not be approved if adequate and safe parking is not provided.

POLICY 5.4: Cooperate with the TPO and Bay County in planning studies for a comprehensive bicycle plan. Panama City Beach shall consider the establishment of bicycle and pedestrian ways upon completion of the studies. If necessary, Panama City Beach shall amend the Plan in the future to address these considerations.

POLICY 5.5: Direct through traffic onto principal arterials and away from local streets, and promote the use of traffic calming strategies to protect local streets from high traffic volumes and speeds.

POLICY 5.6: Facilitate the provision of a network for pedestrians and bicyclists that allows shortcuts and alternatives to traveling along high-volume streets.

TABLE 1

**PANAMA CITY BEACH ROADWAYS
EVALUATION OF EXISTING LEVEL OF SERVICE**

| <u>ROAD</u> | <u>AADT/PH Vol/LOS</u> |
|--|-------------------------------|
| <ul style="list-style-type: none"> ▪ <u>SR 30A a.k.a US 98 a.k.a Panama City Beach Parkway</u> | |
| 1. <u>From Front Beach Road to Cobb Road</u> | |
| Max. Vol./LOS: | 61,800/5,871/(D) |
| 2008 Volume/LOS: | 17,200/1,634/(A) |
| Committed Trips: | 4,036/383 trips |
| Existing + Committed Volume/LOS: | 21,236/2,017/(B) |
| 2012 Projected Vol./LOS: | 22,358/2,124/(B) |
| 2020 Projected Vol./LOS: | 26,000/2,470/(C) |

2. From Cobb Road to SR 79

| | |
|----------------------------------|------------------|
| Max. Vol./LOS: | 61,800/5,871/(D) |
| 2008 Volume/LOS: | 30,500/2,898/(B) |
| Committed Trips: | 320/30/ trips |
| Existing + Committed Volume/LOS: | 30,820/2,928/(B) |
| 2012 Projected Vol./LOS: | 33,122/3,147/(C) |
| 2020 Projected Vol./LOS: | 39,000/3,705/(C) |

3. From SR 79 to Mandy Lane

| | |
|----------------------------------|------------------|
| Max. Vol./LOS: | 92,700/8,807/(D) |
| 2008 Volume/LOS: | 34,500/3,278/(B) |
| Committed Trips: | 47/4 trips |
| Existing + Committed Volume/LOS: | 34,547/3,282/(C) |
| 2012 Projected Vol./LOS: | 40,851/3,881/(C) |
| 2020 Projected Vol./LOS: | 47,000/4,465/(C) |

4. From Mandy Lane to Beckrich Road

| | |
|----------------------------------|------------------|
| Max. Vol./LOS: | 35,700/3,392/(D) |
| 2008 Volume/LOS: | 35,500/3,373/(D) |
| Committed Trips: | 2,778/264 trips |
| Existing + Committed Volume/LOS: | 38,278/3,637/(E) |
| 2012 Projected Vol./LOS: | 41,403/3,934/(E) |
| 2020 Projected Vol./LOS: | 47,000/4,465/(E) |

5. From Beckrich Road to Thomas Dr/US 98A

| | |
|----------------------------------|------------------|
| Max. Vol./LOS: | 35,700/3,392/(D) |
| 2008 Volume/LOS: | 31,500/2,993/(C) |
| Committed Trips: | 1,836/174trips |
| Existing + Committed Volume/LOS: | 33,336/3,167(C) |
| 2011 Projected Vol./LOS: | 33,122/3,147/(C) |
| 2020 Projected Vol./LOS: | 39,000/3,705/(E) |

▪ **SR 79**

1. **From Front Beach Road to PCB Parkway**

| | |
|----------------------------------|------------------|
| Max. Vol./LOS: | 15,400/1,463/(D) |
| 2008 Volume/LOS: | 7,200/684/(C) |
| Committed Trips: | 6,840/650 trips |
| Existing + Committed Volume/LOS: | 14,040/1,334/(D) |
| 2012 Projected Vol./LOS: | 9,606/913/(D) |
| 2020 Projected Vol./LOS: | 12,000/1,140/(D) |

Road segment is in the Front Beach Road Transportation Concurrency Exception Area.

2. **From PCB Parkway to Bay Urban Boundary**

| | |
|----------------------------------|------------------|
| Max. Vol./LOS: | 47,800/4,541/(C) |
| 2008 Volume/LOS: | 6,500/618/(A) |
| Committed Trips: | 6,745/641 trips |
| Existing + Committed Volume/LOS: | 13,245/1,259/(A) |
| 2012 Projected Vol./LOS: | 8,722/829/(A) |
| 2020 Projected Vol./LOS: | 10,000/950/(B) |

Road segment is on the Florida Intrastate Highway System.

▪ **SR 392A a.k.a Hutchison Blvd.**

1. **From Front Beach Road to Beckrich Rd.**

| | |
|----------------------------------|------------------|
| Max. Vol./LOS: | 35,700/3,392/(D) |
| 2008 Volume/LOS: | 11,600/1,102/(B) |
| Committed Trips: | 3,909/371 trips |
| Existing + Committed Volume/LOS: | 15,509/1,473/(B) |
| 2012 Projected Vol./LOS: | 12,697/1,207/(B) |
| 2020 Projected Vol./LOS: | 16,000/1,520/(B) |

Road segment is in the Front Beach Road Transportation Concurrency Exception Area.

2. From Beckrich Road to Miracle Strip Pkwy.

| | |
|----------------------------------|------------------|
| Max. Vol./LOS: | 32,700/3107/(D) |
| 2008 Volume/LOS: | 24,000/2,280/(C) |
| Committed Trips: | 4,581/435 trips |
| Existing + Committed Volume/LOS: | 28,581/2,716/(D) |
| 2012 Projected Vol./LOS: | 23,738/2,256/(C) |
| 2020 Projected Vol./LOS: | 28,000/2,660/(E) |

Road segment is in the Front Beach Road Transportation Concurrency Exception Area.

▪ South Thomas Drive (From Front Beach Road to Thomas Dr.)

| | |
|----------------------------------|------------------|
| Max. Vol./LOS: | 14,600/1,387/(D) |
| 2008 Volume/LOS: | 10,500/998/(D) |
| Committed Trips: | 7,090/674/ trips |
| Existing + Committed Volume/LOS: | 17,590/1,672/(E) |
| 2012 Projected Vol./LOS: | 10,378/986/(D) |
| 2020 Projected Vol./LOS: | 13,000/1,235/(D) |
| Max. Capacity After 3-Laning: | 22,850/2,171/(D) |

Road segment is in the Front Beach Road Transportation Concurrency Exception Area.

▪ North Thomas Drive (From Front Beach Road to Joan Avenue)

| | |
|----------------------------------|------------------|
| Max. Vol./LOS: | 14,600/1,387/(D) |
| 2008 Volume/LOS: | 12,150/1,155/(D) |
| Committed Trips: | 7,304/694 trips |
| Existing + Committed Volume/LOS: | 19,454/1,849/(E) |
| 2012 Projected Vol./LOS: | 15,457/1,469/(E) |
| 2020 Projected Vol./LOS: | 17,000/1,615/(E) |
| Max. Capacity After 4-Laning: | 31,100/2,954/(D) |

Road segment is in the Front Beach Road Transportation Concurrency Exception Area.

▪ **Jackson Boulevard (Formerly Beckrich Road)**

1. From Front Beach Rd. to Hutch. Blvd.

| | |
|----------------------------------|--------------------|
| Max. Vol./LOS: | 31,100/2,954/(D) |
| 2008 Volume/LOS: | 5,900/561/(C) |
| Committed Trips: | 10,994/1,044 trips |
| Existing + Committed Volume/LOS: | 16,894/1,605/(C) |
| 2012 Projected Vol./LOS: | 10,047/955/(C) |
| 2020 Projected Vol./LOS: | 15,000/1,425/(C) |

Road segment is in the Front Beach Road Transportation Concurrency Exception Area.

2. From Hutch. Blvd. to PCB Pkwy.

| | |
|----------------------------------|--------------------|
| Max. Vol./LOS: | 31,100/2,954/(D) |
| 2008 Volume/LOS: | 10,500/998/(C) |
| Committed Trips: | 12,614/1,198 trips |
| Existing + Committed Volume/LOS: | 23,114/2,196/(D) |
| 2012 Projected Vol./LOS: | 12,145/1,154/(C) |
| 2020 Projected Vol./LOS: | 15,000/1,425/(C) |

Road segment is in the Front Beach Road Transportation Concurrency Exception Area.

▪ **Alf Coleman Road**

1. From Front Beach Rd. to Hutch. Blvd.

| | |
|----------------------------------|--------------------|
| Max. Vol./LOS: | 14,600/1,387/(D) |
| 2008 Volume/LOS: | 3,200/304/(C) |
| Committed Trips: | 11,694/1,111 trips |
| Existing + Committed Volume/LOS: | 14,894/1,415/(E) |
| 2012 Projected Vol./LOS: | 4,196/399/(C) |
| 2020 Projected Vol./LOS: | 7,000/665/(C) |
| Max. Capacity After 4-Laning: | 31,100/2,954 |

Road segment is in the Front Beach Road Transportation Concurrency Exception Area.

| | | |
|----|---------------------------------------|--------------------|
| 2. | <u>From Hutch. Blvd. to PCB Pkwy.</u> | |
| | Max. Vol./LOS: | 16,400/1,558/(D) |
| | 2008 Volume/LOS: | 5,800/551/(B) |
| | Committed Trips: | 11,733/1,115 trips |
| | Existing + Committed Volume/LOS: | 17,533//1,666/(E) |
| | 2012 Projected Vol./LOS: | 4,416/420/(C) |
| | 2020 Projected Vol./LOS: | 7,000/665/(C) |
| | Max. Capacity After 4-Laning: | 31,100/2,954 |

Road segment is in the Front Beach Road Transportation Concurrency Exception Area.

▪ **Front Beach Road**

| | | |
|----|----------------------------------|--------------------|
| 1. | <u>From US 98 to SR 79</u> | |
| | Max. Vol./LOS: | 16,400/1,558/(D) |
| | 2008 Volume/LOS: | 6,333/602/(C) |
| | Committed Trips: | 11,791/1,121 trips |
| | Existing + Committed Volume/LOS: | 18,124/1,723/(E) |
| | 2012 Projected Vol./LOS: | 7,803/742/(C) |
| | 2020 Projected Vol./LOS: | 10,000/950/(D) |

Road segment is in the Front Beach Road Transportation Concurrency Exception Area.

| | | |
|----|--|------------------|
| 2. | <u>From SR 79 to Hutch. Blvd. (west)</u> | |
| | Max. Vol./LOS: | 16,400/602/(D) |
| | 2008 Volume/LOS: | 11,598/1,102/(D) |
| | Committed Trips: | 10,429/991 trips |
| | Existing + Committed Volume/LOS: | 22,027/2,093/(E) |
| | 2012 Projected Vol./LOS: | 12,563/1,194/(C) |
| | 2020 Projected Vol./LOS: | 15,000/1,425/(D) |

Road segment is in the Front Beach Road Transportation Concurrency Exception Area.

3. From Hutch. Blvd. (west) to Beckrich Rd.

| | |
|----------------------------------|------------------|
| Max. Vol./LOS: | 16,400/602/(D) |
| 2008 Volume/LOS: | 8,900/846/(C) |
| Committed Trips: | 5,771/548 trips |
| Existing + Committed Volume/LOS: | 14,671/1,394/(D) |
| 2012 Projected Vol./LOS: | 14,905/1,416/(D) |
| 2020 Projected Vol./LOS: | 17,000/1,615/(E) |

Road segment is in the Front Beach Road Transportation Concurrency Exception Area.

4. From Beckrich Rd. to N. Thomas Dr.

| | |
|----------------------------------|------------------|
| Max. Vol./LOS: | 15,400/1,463/(D) |
| 2008 Volume/LOS: | 17,000/1,615/(E) |
| Committed Trips: | 6,500/618 trips |
| Existing + Committed Volume/LOS: | 23,500/2,233/(E) |
| 2012 Projected Vol./LOS: | 19,873/1,888/(E) |
| 2020 Projected Vol./LOS: | 23,000/2,185/(E) |

Road segment is in the Front Beach Road Transportation Concurrency Exception Area.

▪ **Hill Road (From Front Beach Road to Panama City Beach Parkway)**

| | |
|----------------------------------|------------------|
| Max. Vol./LOS: | 10,000/950/(D) |
| 2008 Volume/LOS: | 2,000/190/(C) |
| Committed Trips: | 9,300/884 trips |
| Existing + Committed Volume/LOS: | 11,300/1,074/(E) |
| 2012 Projected Vol./LOS: | 3,000/285/(C) |
| 2020 Projected Vol./LOS: | 6,000/570/(D) |
| Max. Capacity After 4-Laning: | 31,100/2,954 |

Road segment is in the Front Beach Road Transportation Concurrency Exception Area.

- **Powell Adams Road (From Front Beach Road to Panama City Beach Parkway)**

| | |
|----------------------------------|--------------------|
| Max. Vol./LOS: | 10,000/950/(D) |
| 2008 Volume/LOS: | 2,000/190/(C) |
| Committed Trips: | 11,225/1,066 trips |
| Existing + Committed Volume/LOS: | 13,225/1,256/(E) |
| 2012 Projected Vol./LOS: | 3,000/285/(C) |
| 2020 Projected Vol./LOS: | 6,000/570/(D) |
| Max. Capacity After 4-Laning: | 31,100/2,954 |

Road segment is in the Front Beach Road Transportation Concurrency Exception Area.

- **Cobb Road (From Front Beach Road to Panama City Beach Parkway)**

| | |
|----------------------------------|-----------------|
| Max. Vol./LOS: | 10,000/950/(D) |
| 2008 Volume/LOS: | 1,000/95/(C) |
| Committed Trips: | 1,945/185 trips |
| Existing + Committed Volume/LOS: | 2,945/280/(C) |
| 2012 Projected Vol./LOS: | 2,000/190/(C) |
| 2020 Projected Vol./LOS: | 3,000/285/(C) |

Road segment is in the Front Beach Road Transportation Concurrency Exception Area.

- **Churchwell Drive (From Front Beach Road to Panama City Beach Parkway)**

| | |
|----------------------------------|------------------|
| Max. Vol./LOS: | 22,850/2,171/(D) |
| 2008 Volume/LOS: | 2,500/238/(C) |
| Committed Trips: | 5,428/516 trips |
| Existing + Committed Volume/LOS: | 7,928/754/(C) |
| 2012 Projected Vol./LOS: | 3,000/285/(C) |
| 2020 Projected Vol./LOS: | 8,500/808/(C) |

Road segment is in the Front Beach Road Transportation Concurrency Exception Area.

▪ **Clarence Avenue (From Hutchison Boulevard to Moylan Road)**

| | |
|----------------------------------|-----------------|
| Max. Vol./LOS: | 10,000/950/(D) |
| 2008 Volume/LOS: | 1,000/95/(C) |
| Committed Trips: | 6,887/654 trips |
| Existing + Committed Volume/LOS: | 7,887/749/(D) |
| 2012 Projected Vol./LOS: | 2,000/190/(D) |
| 2020 Projected Vol./LOS: | 3,000/285/(D) |

▪ **Lyndell Lane (From Front Beach Road to Hutchison Boulevard)**

| | |
|----------------------------------|-----------------|
| Max. Vol./LOS: | 10,000/950/(D) |
| 2008 Volume/LOS: | 1,500/143/(C) |
| Committed Trips: | 6,500/618 trips |
| Existing + Committed Volume/LOS: | 8,000/761/(D) |
| 2012 Projected Vol./LOS: | 8,100/770/(D) |
| 2020 Projected Vol./LOS: | 8,500/808/(D) |
| Max. Capacity After 4-Laning: | 31,100/2,954 |

Road segment is in the Front Beach Road Transportation Concurrency Exception Area.

▪ **Lyndell Lane (From Front Hutchison Boulevard to Panama City Beach Parkway)**

| | |
|----------------------------------|-----------------|
| Max. Vol./LOS: | 10,000/950/(D) |
| 2008 Volume/LOS: | 1,500/143/(C) |
| Committed Trips: | 6,500/618 trips |
| Existing + Committed Volume/LOS: | 8,000/761/(D) |
| 2012 Projected Vol./LOS: | 8,100/770/(D) |
| 2020 Projected Vol./LOS: | 8,500/808/(D) |

Road segment is in the Front Beach Road Transportation Concurrency Exception Area.

▪ **Clara Avenue (From Front Beach Road to Hutchison Boulevard)**

| | |
|----------------------------------|------------------|
| Max. Vol./LOS: | 10,000/950/(D) |
| 2008 Volume/LOS: | 2,000/190/(C) |
| Committed Trips: | 10,228/972 trips |
| Existing + Committed Volume/LOS: | 12,228/1,162/(E) |
| 2012 Projected Vol./LOS: | 3,000/285/(C) |
| 2020 Projected Vol./LOS: | 5,000/475/(C) |
| Max. Capacity After 4-Laning: | 31,100/2,954 |

Road segment is in the Front Beach Road Transportation Concurrency Exception Area.

▪ **Clara Avenue (From Hutchison Boulevard to Panama City Beach Parkway)**

| | |
|----------------------------------|------------------|
| Max. Vol./LOS: | 10,000/950/(D) |
| 2008 Volume/LOS: | 2,000/190/(C) |
| Committed Trips: | 10,122/962 trips |
| Existing + Committed Volume/LOS: | 12,122/1,152/(E) |
| 2012 Projected Vol./LOS: | 3,000/285/(C) |
| 2020 Projected Vol./LOS: | 5,000/475/(C) |
| Max. Capacity After 4-Laning: | 31,100/2,954 |

Road segment is in the Front Beach Road Transportation Concurrency Exception Area.

- Note:
1. Committed trips are calculated from approved traffic studies submitted as part of development order applications that have been approved and remain active.
 2. Projected Volumes are from the City of Panama City Beach Building and Planning Department. A comparison was made in some cases with the traffic estimates of the Bay County TPO in order to validate the traffic projections.

**TABLE 4 - 1
GENERALIZED ANNUAL AVERAGE DAILY VOLUMES FOR FLORIDA'S
URBANIZED AREAS***

| UNINTERRUPTED FLOW HIGHWAYS | | | | | | FREEWAYS | | | | | | |
|---|--------|--------|--------|--------|---------|--|-----------|------------|---------|--------------------|---------|--|
| Level of Service | | | | | | Level of Service | | | | | | |
| Lanes Divided | A | B | C | D | E | Interchange spacing ≥ 2 mi. apart | | | | | | |
| 2 Undivided | 2,000 | 7,000 | 13,800 | 19,600 | 27,000 | Lanes | A | B | C | D | E | |
| 4 Divided | 20,400 | 33,000 | 47,800 | 61,800 | 70,200 | 4 | 23,800 | 39,600 | 55,200 | 67,100 | 74,600 | |
| 6 Divided | 30,500 | 49,500 | 71,600 | 92,700 | 105,400 | 6 | 36,900 | 61,100 | 85,300 | 103,600 | 115,300 | |
| STATE TWO-WAY ARTERIALS | | | | | | Interchange spacing < 2 mi. apart | | | | | | |
| Class I (>0.00 to 1.99 signalized intersections per mile) | | | | | | Level of Service | | | | | | |
| Lanes Divided | A | B | C | D | E | Lanes | A | B | C | D | E | |
| 2 Undivided | ** | 4,200 | 13,800 | 16,400 | 16,900 | 4 | 22,000 | 36,000 | 52,000 | 67,200 | 76,500 | |
| 4 Divided | ** | 29,300 | 34,700 | 35,700 | *** | 6 | 34,800 | 56,500 | 81,700 | 105,800 | 120,200 | |
| 6 Divided | ** | 44,700 | 52,100 | 53,500 | *** | 8 | 47,500 | 77,000 | 111,400 | 144,300 | 163,900 | |
| 8 Divided | ** | 58,000 | 66,100 | 67,800 | *** | 10 | 60,200 | 97,500 | 141,200 | 182,600 | 207,600 | |
| Class II (2.00 to 4.50 signalized intersections per mile) | | | | | | Level of Service | | | | | | |
| Lanes Divided | A | B | C | D | E | 12 | 72,900 | 118,100 | 170,900 | 221,100 | 251,200 | |
| 2 Undivided | ** | 1,900 | 11,200 | 15,400 | 16,300 | BICYCLE MODE | | | | | | |
| 4 Divided | ** | 4,100 | 26,000 | 32,700 | 34,500 | (Note: Level of service for the bicycle mode in this table is based on roadway geometrics at 40 mph posted speed and traffic conditions, not number of bicyclists using the facility.) (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.) | | | | | | |
| 6 Divided | ** | 6,500 | 40,300 | 49,200 | 51,800 | Paved Shoulder/ Bicycle Lane | | | | | | |
| 8 Divided | ** | 8,500 | 53,300 | 63,800 | 67,000 | Coverage | A | B | C | D | E | |
| Class III (more than 4.5 signalized intersections per mile and not within primary city central business district of an urbanized area over 750,000) | | | | | | Level of Service | | | | | | |
| Lanes Divided | A | B | C | D | E | 0-49% | ** | ** | 3,200 | 13,800 | >13,800 | |
| 2 Undivided | ** | ** | 5,300 | 12,600 | 15,500 | 50-84% | ** | 2,500 | 4,100 | >4,100 | *** | |
| 4 Divided | ** | ** | 12,400 | 28,900 | 32,800 | 85-100% | 3,100 | 7,200 | >7,200 | *** | *** | |
| 6 Divided | ** | ** | 19,500 | 44,700 | 49,300 | PEDESTRIAN MODE | | | | | | |
| 8 Divided | ** | ** | 25,800 | 58,700 | 63,800 | (Note: Level of service for the pedestrian mode in this table is based on roadway geometrics at 40 mph posted speed and traffic conditions, not number of pedestrians using the facility.) (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.) | | | | | | |
| Class IV (more than 4.5 signalized intersections per mile and within primary city central business district of an urbanized area over 750,000) | | | | | | Level of Service | | | | | | |
| Lanes Divided | A | B | C | D | E | Sidewalk Coverage | A | B | C | D | E | |
| 2 Undivided | ** | ** | 5,200 | 13,700 | 15,000 | 0-49% | ** | ** | ** | 6,400 | 15,500 | |
| 4 Divided | ** | ** | 12,300 | 30,300 | 31,700 | 50-84% | ** | ** | ** | 9,900 | 19,000 | |
| 6 Divided | ** | ** | 19,100 | 45,800 | 47,600 | 85-100% | ** | 2,200 | 11,300 | >11,300 | *** | |
| 8 Divided | ** | ** | 25,900 | 59,900 | 62,200 | BUS MODE (Scheduled Fixed Route) | | | | | | |
| NON-STATE ROADWAYS | | | | | | Major City/County Roadways | | | | | | |
| Level of Service | | | | | | Level of Service | | | | | | |
| Lanes Divided | A | B | C | D | E | (Buses per hour) | | | | | | |
| 2 Undivided | ** | ** | 9,100 | 14,600 | 15,600 | (Note: Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.) | | | | | | |
| 4 Divided | ** | ** | 21,400 | 31,100 | 32,900 | Level of Service | | | | | | |
| 6 Divided | ** | ** | 33,400 | 46,800 | 49,300 | Sidewalk Coverage | A | B | C | D | E | |
| Other Signalized Roadways (signalized intersection analysis) | | | | | | Level of Service | | | | | | |
| Lanes Divided | A | B | C | D | E | 0-84% | ** | >5 | ≥4 | ≥3 | ≥2 | |
| 2 Undivided | ** | ** | 4,800 | 10,000 | 12,600 | 85-100% | >6 | >4 | ≥3 | ≥2 | ≥1 | |
| 4 Divided | ** | ** | 11,100 | 21,700 | 25,200 | ARTERIAL/NON-STATE ROADWAY ADJUSTMENTS | | | | | | |
| Source: Florida Department of Transportation 02/22/02 | | | | | | DIVIDED/UNDIVIDED | | | | | | |
| Systems Planning Office | | | | | | (alter corresponding volume by the indicated percent) | | | | | | |
| 605 Suwannee Street, MS 19 | | | | | | Lanes | Median | Left Turns | Lanes | Adjustment Factors | | |
| Tallahassee, FL 32399-0450 | | | | | | 2 | Divided | Yes | | +5% | | |
| http://www11.myflorida.com/planning/systems/sm/los/default.htm | | | | | | 2 | Undivided | No | | -20% | | |
| | | | | | | Multi | Undivided | Yes | | -5% | | |
| | | | | | | Multi | Undivided | No | | -25% | | |
| | | | | | | ONE-WAY FACILITIES | | | | | | |
| | | | | | | Decrease corresponding two-directional volumes in this table by 40% to obtain the equivalent one directional volume for one-way facilities. | | | | | | |
| *This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Values shown are two-way annual average daily volumes (based on K ₁₀₀ factors) for levels of service and are for the automobile/truck modes unless specifically stated. Level of service letter grade thresholds are probably not comparable across modes and, therefore, cross modal comparisons should be made with caution. Furthermore, combining levels of service of different modes into one overall roadway level of service is not recommended. The table's input value defaults and level of service criteria appear on the following page. Calculations are based on planning applications of the Highway Capacity Manual, Bicycle LOS Model, Pedestrian LOS Model and Transit Capacity and Quality of Service Manual, respectively for the automobile/truck, bicycle, pedestrian and bus modes. | | | | | | | | | | | | |
| **Cannot be achieved using table input value defaults. | | | | | | | | | | | | |
| ***Not applicable for that level of service letter grade. For automobile/truck modes, volumes greater than level of service D become F because intersection capacities have been reached. For bicycle and pedestrian modes, the level of service letter grade (including F) is not achievable, because there is no maximum vehicle volume threshold using table input value defaults. | | | | | | | | | | | | |

TABLE 4 - 1 (continued)
GENERALIZED ANNUAL AVERAGE DAILY VOLUMES FOR FLORIDA'S
Urbanized Areas
INPUT VALUE ASSUMPTIONS

| ROADWAY CHARACTERISTICS | UNINTERRUPTED FLOW FACILITIES | | | |
|-------------------------------------|-------------------------------|--------------------|----------|-------|
| | Freeways | | Highways | |
| Number of through lanes | Class III 4 + 12 | Class IV 4 + 12 | 2 | 4 + 6 |
| Posted speed (mph) | 65 | 55 | 50 | 50 |
| Free flow speed (mph) | 70 | 60 | 55 | 55 |
| Basic segment length (mi) | 1.5 | 0 | | |
| Maximum spacing per mile | 2.5 | 1 | | |
| Median width (ft) | | | n | |
| Left turn lanes (n) | | | n | |
| Terrain (G.I.) | 1 | 1 | 1 | 1 |
| % no passing zone | | | 80 | |
| Passing lanes (n) | | | n | |
| TRAFFIC CHARACTERISTICS | | | | |
| Planning analysis hour factor (K) | 0.097 | 0.095 | 0.095 | 0.095 |
| Directional distribution factor (D) | 0.55 | 0.55 | 0.55 | 0.55 |
| Peak hour factor (PHF) | 0.95 | 0.95 | 0.95 | 0.95 |
| Bus capacity (people) | 6.0 | 4.0 | 2.0 | 2.0 |
| Bus vehicle percent | 2.0 | 2.0 | 2.0 | 2.0 |
| Local adjustment factor | 0.98 | 1.00 | 1.0 | 1.0 |

| ROADWAY CHARACTERISTICS | INTERRUPTED FLOW FACILITIES | | | | | | | | | | | | | |
|-------------------------------------|-----------------------------|-------|----------|-------|-----------|-------|----------|-------|-------------------|-------|------------------|-------|------------------------|-----|
| | Class I | | Class II | | Class III | | Class IV | | Major City/County | | Other Signalized | | Pedestrian Class II | Bus |
| Number of through lanes | 2 | 4 + 6 | 8 | 2 | 4 + 6 | 8 | 2 | 4 + 6 | 8 | 2 | 4 + 6 | 2 + 4 | | |
| Posted speed (mph) | 45 | 50 | 45 | 45 | 35 | 35 | 30 | 30 | 45 | 45 | 45 | 40 | 40 | |
| Free flow speed (mph) | 50 | 55 | 50 | 50 | 40 | 40 | 35 | 35 | 50 | 50 | 50 | 45 | 45 | |
| Median type (n) | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| Left turn lanes (n) | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| Fixed shoulder/shoulder lane (n) | | | | | | | | | | | | n-50% | n | |
| Variable lane width (n) | | | | | | | | | | | | 1 | 1 | |
| Shoulder width (ft) | | | | | | | | | | | | 1 | 1 | |
| Shoulder slope (G.S.F) | | | | | | | | | | | | 1 | 1 | |
| Sidewalk/roadway separation (ft) | | | | | | | | | | | | 1 | 1 | |
| Sidewalk/roadway separation (ft) | | | | | | | | | | | | 1 | 1 | |
| Obstacle to bus stop (n) | | | | | | | | | | | | 1 | 1 | |
| TRAFFIC CHARACTERISTICS | | | | | | | | | | | | | | |
| Planning analysis hour factor (K) | 0.095 | 0.095 | 0.095 | 0.095 | 0.095 | 0.095 | 0.095 | 0.095 | 0.095 | 0.095 | 0.095 | 0.095 | 0.095 | |
| Directional distribution factor (D) | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | |
| Peak hour factor (PHF) | 0.925 | 0.925 | 0.925 | 0.925 | 0.925 | 0.925 | 0.925 | 0.925 | 0.925 | 0.925 | 0.925 | 0.925 | 0.925 | |
| Base saturation flow rate (people) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Heavy vehicle percent | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| % total pavement factor | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| % total pavement factor | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | |
| Base saturation flow rate | 1.5 | 1.0 | 1.0 | 3.0 | 3.0 | 5.0 | 5.0 | 8.0 | 8.0 | 8.0 | 3.0 | 3.0 | 3.0 | |
| Signalized intersection per mile | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| Signal type (s.a.f) | a | a | a | a | a | a | a | a | a | a | a | a | a | |
| Cycle length (C) | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | |
| Effective green time (g/C) | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.41 | 0.41 | 0.41 | |

LEVEL OF SERVICE THRESHOLDS

| Level of Service | Freeways | | Highways | | State Two-Way Arterials | | Non-State Roadways | | Bicycle | Pedestrian | Bus |
|------------------|-----------|----------|----------|-----------|-------------------------|----------|--------------------|----------|----------|------------|-----|
| | Class III | Class IV | Two-Lane | Multilane | Class I | Class II | Class III | Class IV | | | |
| A | < 0.29 | < 11 | < 0.17 | < 11 | > 12 mph | > 12 mph | > 30 mph | > 25 mph | < 1.5 | < 1.5 | > 6 |
| B | 0.32 | 18 | 0.183 | 18 | > 24 mph | > 24 mph | > 24 mph | > 20 mph | < 2.5 | < 2.5 | > 4 |
| C | 0.47 | 26 | 0.27 | 26 | > 18 mph | > 18 mph | > 18 mph | > 15 mph | < 3.5 | < 3.5 | > 3 |
| D | 0.68 | 35 | 0.40 | 35 | > 15 mph | > 15 mph | > 15 mph | > 12 mph | < 5.5 | < 5.5 | > 2 |
| E | 0.90 | 45 | 0.55 | 45 | > 12 mph | > 12 mph | > 12 mph | > 10 mph | < 8.5 | < 8.5 | > 1 |
| F | 1.10 | 55 | 0.70 | 55 | > 10 mph | > 10 mph | > 10 mph | > 8 mph | < 13 mph | < 13 mph | > 1 |
| G | 1.40 | 70 | 0.90 | 70 | > 8 mph | > 8 mph | > 8 mph | > 6 mph | < 20 mph | < 20 mph | > 1 |

**TABLE 4 - 4
GENERALIZED PEAK HOUR TWO-WAY VOLUMES FOR FLORIDA'S
URBANIZED AREAS***

| UNINTERRUPTED FLOW HIGHWAYS | | | | | | FREEWAYS | | | | | |
|---|-------|-------|-------|-------|--------|--|-------|--------|--------|--------|--------|
| Level of Service | | | | | | Interchange spacing ≥ 2 mi. apart | | | | | |
| Lanes Divided | A | B | C | D | E | Lanes | A | B | C | D | E |
| 2 Undivided | 180 | 620 | 1,210 | 1,720 | 2,370 | 4 | 2,310 | 3,840 | 5,350 | 6,510 | 7,240 |
| 4 Divided | 1,940 | 3,140 | 4,540 | 5,870 | 6,670 | 6 | 3,580 | 5,930 | 8,270 | 10,050 | 11,180 |
| 6 Divided | 2,900 | 4,700 | 6,800 | 8,810 | 10,010 | 8 | 4,840 | 8,020 | 11,180 | 13,600 | 15,130 |
| STATE TWO-WAY ARTERIALS | | | | | | Interchange spacing < 2 mi. apart | | | | | |
| Class I (>0.00 to 1.99 signalized intersections per mile) | | | | | | Level of Service | | | | | |
| Lanes Divided | A | B | C | D | E | Lanes | A | B | C | D | E |
| 2 Undivided | ** | 400 | 1,310 | 1,560 | 1,610 | 4 | 2,050 | 3,350 | 4,840 | 6,250 | 7,110 |
| 4 Divided | ** | 460 | 2,780 | 3,300 | 3,390 | 6 | 3,240 | 5,250 | 7,600 | 9,840 | 11,180 |
| 6 Divided | ** | 700 | 4,240 | 4,950 | 5,080 | 8 | 4,420 | 7,160 | 10,360 | 13,420 | 15,240 |
| 8 Divided | ** | 890 | 5,510 | 6,280 | 6,440 | 10 | 5,600 | 9,070 | 13,130 | 16,980 | 19,310 |
| Class II (2.00 to 4.50 signalized intersections per mile) | | | | | | Level of Service | | | | | |
| Lanes Divided | A | B | C | D | E | 12 | 6,780 | 10,980 | 15,890 | 20,560 | 23,360 |
| 2 Undivided | ** | 180 | 1,070 | 1,460 | 1,550 | BICYCLE MODE | | | | | |
| 4 Divided | ** | 390 | 2,470 | 3,110 | 3,270 | (Note: Level of service for the bicycle mode in this table is based on roadway geometrics at 40 mph posted speed and traffic conditions, not number of bicyclists using the facility.) (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.) | | | | | |
| 6 Divided | ** | 620 | 3,830 | 4,680 | 4,920 | Paved Shoulder Bicycle Lane Coverage | | | | | |
| 8 Divided | ** | 800 | 5,060 | 6,060 | 6,360 | Level of Service | | | | | |
| Class III (more than 4.5 signalized intersections per mile and not within primary city central business district of an urbanized area over 750,000) | | | | | | A B C D E | | | | | |
| Lanes Divided | A | B | C | D | E | 0-49% ** ** 310 1,310 >1,310 | | | | | |
| 2 Undivided | ** | ** | 500 | 1,200 | 1,470 | 50-84% ** 240 390 >390 *** | | | | | |
| 4 Divided | ** | ** | 1,180 | 2,750 | 3,120 | 85-100% 300 680 >680 *** | | | | | |
| 6 Divided | ** | ** | 1,850 | 4,240 | 4,690 | PEDESTRIAN MODE | | | | | |
| 8 Divided | ** | ** | 2,450 | 5,580 | 6,060 | (Note: Level of service for the pedestrian mode in this table is based on roadway geometrics at 40 mph posted speed and traffic conditions, not number of pedestrians using the facility.) (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.) | | | | | |
| Class IV (more than 4.5 signalized intersections per mile and within primary city central business district of an urbanized area over 750,000) | | | | | | Sidewalk Coverage | | | | | |
| Lanes Divided | A | B | C | D | E | Level of Service | | | | | |
| 2 Undivided | ** | ** | 490 | 1,310 | 1,420 | A B C D E | | | | | |
| 4 Divided | ** | ** | 1,170 | 2,880 | 3,010 | 0-49% ** ** 600 1,480 | | | | | |
| 6 Divided | ** | ** | 1,810 | 4,350 | 4,520 | 50-84% ** ** 940 1,800 | | | | | |
| 8 Divided | ** | ** | 2,460 | 5,690 | 5,910 | 85-100% ** 210 1,080 >1,080 *** | | | | | |
| NON-STATE ROADWAYS | | | | | | BUS MODE (Scheduled Fixed Route) | | | | | |
| Major City/County Roadways | | | | | | (Buses per hour) | | | | | |
| Level of Service | | | | | | (Note: Buses per hour shown are only for the peak hour in the single direction of higher traffic flow.) | | | | | |
| Lanes Divided | A | B | C | D | E | Level of Service | | | | | |
| 2 Undivided | ** | ** | 870 | 1,390 | 1,480 | Sidewalk Coverage | | | | | |
| 4 Divided | ** | ** | 2,030 | 2,950 | 3,120 | A B C D E | | | | | |
| 6 Divided | ** | ** | 3,170 | 4,450 | 4,690 | 0-84% ** >5 ≥4 ≥3 ≥2 | | | | | |
| Other Signalized Roadways (signalized intersection analysis) | | | | | | 85-100% >6 >4 ≥3 ≥2 ≥1 | | | | | |
| Level of Service | | | | | | ARTERIAL/NON-STATE ROADWAY ADJUSTMENTS | | | | | |
| Lanes Divided | A | B | C | D | E | DIVIDED/UNDIVIDED | | | | | |
| 2 Undivided | ** | ** | 450 | 950 | 1,200 | (alter corresponding volume by the indicated percent) | | | | | |
| 4 Divided | ** | ** | 1,050 | 2,070 | 2,400 | Lanes Median Left Turns Lanes Adjustment Factors | | | | | |
| Source: Florida Department of Transportation 02/22/02 | | | | | | 2 Divided Yes +5% | | | | | |
| Systems Planning Office | | | | | | 2 Undivided No -20% | | | | | |
| 605 Suwannee Street, MS 19 | | | | | | Multi Undivided Yes -5% | | | | | |
| Tallahassee, FL 32399-0450 | | | | | | Multi Undivided No -25% | | | | | |
| http://www11.myflorida.com/planning/systems/sm/los/default.htm | | | | | | ONE-WAY FACILITIES | | | | | |
| *This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Values shown are hourly two-way volumes for levels of service and are for the automobile/truck modes unless specifically stated. Level of service letter grade thresholds are probably not comparable across modes and, therefore, cross modal comparisons should be made with caution. Furthermore, combining levels of service of different modes into one overall roadway level of service is not recommended. To convert to annual average daily traffic volumes, these volumes must be divided by an appropriate K factor. The table's input value defaults and level of service criteria appear on the following page. Calculations are based on planning applications of the Highway Capacity Manual, Bicycle LOS Model, Pedestrian LOS Model and Transit Capacity and Quality of Service Manual, respectively for the automobile/truck, bicycle, pedestrian and bus modes. | | | | | | Decrease corresponding two-directional volumes in this table by 40% to obtain the equivalent one directional volume for one-way facilities. | | | | | |
| **Cannot be achieved using table input value defaults. | | | | | | | | | | | |
| ***Not applicable for that level of service letter grade. For automobile/truck modes, volumes greater than level of service D become F because intersection capacities have been reached. For bicycle and pedestrian modes, the level of service letter grade (including F) is not achievable, because there is no maximum vehicle volume threshold using table input value defaults. | | | | | | | | | | | |

**TABLE 4 - 7
GENERALIZED PEAK HOUR DIRECTIONAL VOLUMES FOR FLORIDA'S
URBANIZED AREAS***

| UNINTERRUPTED FLOW HIGHWAYS | | | | | | FREEWAYS | | | | | | |
|--|-------|-------|-------|-------|-------|--|------------------|------------|----------|--------------------|----------|--|
| Level of Service | | | | | | Interchange spacing \geq 2 mi. apart | | | | | | |
| Lanes Divided | A | B | C | D | E | Lanes | A | B | C | D | E | |
| 1 Undivided | 100 | 340 | 670 | 950 | 1,300 | 2 | 1,270 | 2,110 | 2,940 | 3,580 | 3,980 | |
| 2 Divided | 1,060 | 1,720 | 2,500 | 3,230 | 3,670 | 3 | 1,970 | 3,260 | 4,550 | 5,530 | 6,150 | |
| 3 Divided | 1,600 | 2,590 | 3,740 | 4,840 | 5,500 | 4 | 2,660 | 4,410 | 6,150 | 7,480 | 8,320 | |
| STATE TWO-WAY ARTERIALS | | | | | | Interchange spacing < 2 mi. apart | | | | | | |
| Class I (>0.00 to 1.99 signalized intersections per mile) | | | | | | Level of Service | | | | | | |
| Lanes Divided | A | B | C | D | E | Lanes | A | B | C | D | E | |
| 1 Undivided | ** | 220 | 720 | 860 | 890 | 2 | 1,130 | 1,840 | 2,660 | 3,440 | 3,910 | |
| 2 Divided | 250 | 1,530 | 1,810 | 1,860 | *** | 3 | 1,780 | 2,890 | 4,180 | 5,410 | 6,150 | |
| 3 Divided | 380 | 2,330 | 2,720 | 2,790 | *** | 4 | 2,340 | 3,940 | 5,700 | 7,380 | 8,380 | |
| 4 Divided | 490 | 3,030 | 3,460 | 3,540 | *** | 5 | 3,080 | 4,990 | 7,220 | 9,340 | 10,620 | |
| Class II (2.00 to 4.50 signalized intersections per mile) | | | | | | Level of Service | | | | | | |
| Lanes Divided | A | B | C | D | E | 6 | 3,730 | 6,040 | 8,740 | 11,310 | 12,850 | |
| 1 Undivided | ** | 100 | 590 | 810 | 850 | BICYCLE MODE | | | | | | |
| 2 Divided | ** | 220 | 1,360 | 1,710 | 1,800 | (Note: Level of service for the bicycle mode in this table is based on roadway geometries at 40 mph posted speed and traffic conditions, not number of bicyclists using the facility.) (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine maximum service volumes.) | | | | | | |
| 3 Divided | ** | 340 | 2,110 | 2,570 | 2,710 | Paved Shoulder/ Bicycle Lane | Level of Service | | | | | |
| 4 Divided | ** | 440 | 2,790 | 3,330 | 3,500 | Coverage | A | B | C | D | E | |
| Class III (more than 4.5 signalized intersections per mile and not within primary city central business district of an urbanized area over 750,000) | | | | | | 0-49% | ** | ** | 170 | 720 | >720 | |
| Lanes Divided | A | B | C | D | E | 50-84% | ** | 130 | 210 | >210 | *** | |
| 1 Undivided | ** | ** | 280 | 660 | 810 | 85-100% | 160 | 380 | >380 | *** | *** | |
| 2 Divided | ** | ** | 650 | 1,510 | 1,720 | PEDESTRIAN MODE | | | | | | |
| 3 Divided | ** | ** | 1,020 | 2,330 | 2,580 | (Note: Level of service for the pedestrian mode in this table is based on roadway geometries at 40 mph posted speed and traffic conditions, not the number of pedestrians using the facility.) (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine maximum service volumes.) | | | | | | |
| 4 Divided | ** | ** | 1,350 | 3,070 | 3,330 | Sidewalk Coverage | Level of Service | | | | | |
| Class IV (more than 4.5 signalized intersections per mile and within primary city central business district of an urbanized area over 750,000) | | | | | | 0-49% | ** | ** | ** | 330 | 810 | |
| Lanes Divided | A | B | C | D | E | 50-84% | ** | ** | ** | 520 | 990 | |
| 1 Undivided | ** | ** | 270 | 720 | 780 | 85-100% | ** | 120 | 590 | >590 | *** | |
| 2 Divided | ** | ** | 650 | 1,580 | 1,660 | BUS MODE (Scheduled Fixed Route) | | | | | | |
| 3 Divided | ** | ** | 1,000 | 2,390 | 2,490 | (Buses per hour) | | | | | | |
| 4 Divided | ** | ** | 1,350 | 3,130 | 3,250 | Level of Service | | | | | | |
| NON-STATE ROADWAYS | | | | | | Sidewalk Coverage | Level of Service | | | | | |
| Major City/County Roadways | | | | | | 0-84% | ** | >5 | \geq 4 | \geq 3 | \geq 2 | |
| Lanes Divided | A | B | C | D | E | 85-100% | >6 | >4 | \geq 3 | \geq 2 | \geq 1 | |
| 1 Undivided | ** | ** | 480 | 760 | 810 | ARTERIAL/NON-STATE ROADWAY ADJUSTMENTS | | | | | | |
| 2 Divided | ** | ** | 1,120 | 1,620 | 1,720 | DIVIDED/UNDIVIDED | | | | | | |
| 3 Divided | ** | ** | 1,740 | 2,450 | 2,580 | (alter corresponding volumes by the indicated percent) | | | | | | |
| Other Signalized Roadways | | | | | | Lanes | Median | Left Turns | Lanes | Adjustment Factors | | |
| (signalized intersection analysis) | | | | | | 1 | Divided | Yes | | +5% | | |
| Lanes Divided | A | B | C | D | E | 1 | Undivided | No | | -20% | | |
| 1 Undivided | ** | ** | 250 | 530 | 660 | Multi | Undivided | Yes | | -5% | | |
| 2 Divided | ** | ** | 580 | 1,140 | 1,320 | Multi | Undivided | No | | -25% | | |
| Source: Florida Department of Transportation Systems Planning Office 605 Suwannee Street, MS 19 Tallahassee, FL 32399-0450 http://www11.myflorida.com/planning/systems/sm/los/default.htm 02/22/02 | | | | | | ONE WAY FACILITIES Increase corresponding volume 20% | | | | | | |
| *This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Values shown are hourly directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. Level of service letter grade thresholds are probably not comparable across modes and, therefore, cross modal comparisons should be made with caution. Furthermore, combining levels of service of different modes into one overall roadway level of service is not recommended. To convert to annual average daily traffic volumes, these volumes must be divided by appropriate D and K factors. The table's input value defaults and level of service criteria appear on the following page. Calculations are based on planning applications of the Highway Capacity Manual, Bicycle LOS Model, Pedestrian LOS Model and Transit Capacity and Quality of Service Manual, respectively for the automobile/truck, bicycle, pedestrian and bus modes. **Cannot be achieved using table input value defaults. ***Not applicable for that level of service letter grade. For automobile/truck modes, volumes greater than level of service D become F because intersection capacities have been reached. For bicycle and pedestrian modes, the level of service letter grade (including F) is not achievable, because there is no maximum vehicle volume threshold using table input value defaults. | | | | | | | | | | | | |

TABLE 4 - 7 (CONTINUED)
GENERALIZED PEAK HOUR DIRECTIONAL VOLUMES FOR FLORIDA'S
URBANIZED AREAS
INPUT VALUE ASSUMPTIONS

| ROADWAY CHARACTERISTICS | Freeways | | | | Highways | | | |
|-------------------------------------|-----------|----------|---------|----------|-----------|----------|---------|----------|
| | Class III | Class IV | Class I | Class II | Class III | Class IV | Class I | Class II |
| Number of directional through lanes | 2+3 | 2+3 | 1 | 2-3 | 1 | 2-3 | 1 | 2-3 |
| Free flow speed (mph) | 55 | 55 | 50 | 55 | 55 | 50 | 50 | 50 |
| Free flow speed (mph) | 70 | 60 | 55 | 55 | 55 | 55 | 55 | 55 |
| Base segment length (mi) | 1.5 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| Interchange spacing (per mile) | 2.5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Median (ft) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Left turn lanes (ft) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Terrain (ft) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| % no passing zones | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Passing lanes (ft) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| TRAFFIC CHARACTERISTICS | | | | | | | | |
| Planning analysis hour factor (A) | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Peak hour factor (B) | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Peak hour factor (C) | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Peak hour factor (D) | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Base segment length (mi) | 1.5 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| Base segment length (mi) | 1.5 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| Heavy vehicle percent | 6.0 | 4.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Local adjustment factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

| ROADWAY CHARACTERISTICS | INTERRUPTED FLOW FACILITIES | | | | | | | | | | | | | |
|-------------------------------------|-----------------------------|------|------|-------------------|------|------|------------------|------|------|---------|------|------|------------|------|
| | State Arterials | | | Major City/County | | | Other Signalized | | | Bicycle | | | Pedestrian | |
| Number of directional through lanes | 1 | 2-3 | 4 | 1 | 2-3 | 4 | 1 | 2-3 | 4 | 1 | 2-3 | 4 | 1 | 2-3 |
| Free flow speed (mph) | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 |
| Free flow speed (mph) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Base segment length (mi) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Median (ft) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Left turn lanes (ft) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Terrain (ft) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| % no passing zones | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Passing lanes (ft) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| TRAFFIC CHARACTERISTICS | | | | | | | | | | | | | | |
| Planning analysis hour factor (A) | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Peak hour factor (B) | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Peak hour factor (C) | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Peak hour factor (D) | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Base segment length (mi) | 1.5 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Base segment length (mi) | 1.5 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Heavy vehicle percent | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Local adjustment factor | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| % turns from exclusive turn lanes | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Bus stop of service | | | | | | | | | | | | | | |
| CONTROL CHARACTERISTICS | | | | | | | | | | | | | | |
| Signalized intersections per mile | 1.5 | 1.0 | 1.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Signal type (E/F) | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Signal height (ft) | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Effective green time (sec) | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 |

LEVEL OF SERVICE THRESHOLDS

| Level of Service | Freeway | | | Highways | | | State Two-Way Arterials | | | Major City/County | | | Other Signalized | | | Bicycle | | | Pedestrian | | | Bus | | | | |
|------------------|-----------|----------|--------|-----------|----------|--------|-------------------------|----------|-----------|-------------------|--------|---------|------------------|-----------|----------|---------|---------|----------|------------|----------|--------|---------|----------|-----------|----------|--------|
| | Class III | Class IV | Denote | Class III | Class IV | Denote | Class I | Class II | Class III | Class IV | Denote | Class I | Class II | Class III | Class IV | Denote | Class I | Class II | Class III | Class IV | Denote | Class I | Class II | Class III | Class IV | Denote |
| A | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 |
| B | < 0.53 | < 0.53 | < 0.53 | < 0.53 | < 0.53 | < 0.53 | < 0.53 | < 0.53 | < 0.53 | < 0.53 | < 0.53 | < 0.53 | < 0.53 | < 0.53 | < 0.53 | < 0.53 | < 0.53 | < 0.53 | < 0.53 | < 0.53 | < 0.53 | < 0.53 | < 0.53 | < 0.53 | < 0.53 | < 0.53 |
| C | < 0.54 | < 0.54 | < 0.54 | < 0.54 | < 0.54 | < 0.54 | < 0.54 | < 0.54 | < 0.54 | < 0.54 | < 0.54 | < 0.54 | < 0.54 | < 0.54 | < 0.54 | < 0.54 | < 0.54 | < 0.54 | < 0.54 | < 0.54 | < 0.54 | < 0.54 | < 0.54 | < 0.54 | < 0.54 | < 0.54 |
| D | < 0.90 | < 0.90 | < 0.90 | < 0.90 | < 0.90 | < 0.90 | < 0.90 | < 0.90 | < 0.90 | < 0.90 | < 0.90 | < 0.90 | < 0.90 | < 0.90 | < 0.90 | < 0.90 | < 0.90 | < 0.90 | < 0.90 | < 0.90 | < 0.90 | < 0.90 | < 0.90 | < 0.90 | < 0.90 | < 0.90 |
| E | < 1.00 | < 1.00 | < 1.00 | < 1.00 | < 1.00 | < 1.00 | < 1.00 | < 1.00 | < 1.00 | < 1.00 | < 1.00 | < 1.00 | < 1.00 | < 1.00 | < 1.00 | < 1.00 | < 1.00 | < 1.00 | < 1.00 | < 1.00 | < 1.00 | < 1.00 | < 1.00 | < 1.00 | < 1.00 | < 1.00 |
| F | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 | > 1.00 |

v/c = Demand to Capacity Ratio

% FFS = Percent Free Flow Speed

ATS = Average Travel Speed

10/29/02