

City of Plantation

Traffic Engineering Review Methodology Outline

The purpose of this document is to present a clear traffic engineering methodology for City of Plantation. This document should be utilized for new and redevelopment projects within the City’s boundary. City of Plantation reserves the right to make changes to this methodology or require additional analysis on a case by case basis.

1. A Traffic Study should be submitted at time of site plan review. The scope of the traffic study will be dependent on a number of factors documented in this report.
2. The applicant should provide a trip generation analysis to determine if a Traffic Statement or a full-blown Traffic Impact Analysis will be required.
 - a. The applicant should utilize the latest Institute of Transportation Engineers (ITE) trip generation manual for the appropriate land use.
 - b. Pass-by trips and internal capture vehicle reductions may be utilized when appropriate. The use of the reductions and applicable rates should be consistent with the ITE trip generation manual.
3. A traffic statement documenting the net trip generation and site access will be required for projects that generate 20 net external peak hour trips or less.
4. The traffic statement should be a short summary report assessing the trip generation analysis and proposed site access. The Traffic Statement should be signed and sealed by a registered state of Florida professional engineer.
5. The applicant shall be required to submit a detailed Traffic Impact Analysis for any proposed development or redevelopment that will generate more than 20 net external peak hour vehicle trips.
6. The radius of influence for a project should be consistent with the Broward County Land Development Code. Typically, the radius of influence will range between 1 and 3 miles. If the proposed development or redevelopment does not fall into any of the proposed uses identified in the Broward County Land Development Code, the radius of influence shall be determined by the city engineer.

Net External Peak hour		Two-Way Trip Generation	Radius
1	through	20	Directly Accessed Link(s)
21	through	50	0.5 miles
51	through	100	1 mile
101	through	500	2 miles
501	through	1,000	3 miles
1,001	through	2,000	4 miles
2,001	and	Up	5 miles

7. Trip distribution and assignment should be completed using one of two methodologies:
 - a. Florida Standard Urban Transportation Model Structure (FSUTMS) Southeast Florida Regional Planning Model (SERPM).
 - b. Engineering judgment by using nearby FDOT traffic data online from nearby count stations with trip assignments consistent with existing travel patterns and turning movement counts.
8. All arterials, collectors, and affected local roads within the radius of influence should be evaluated. The roadway service volume thresholds from the latest FDOT generalized Level of Service tables should be utilized. The project impact relative to the transportation concurrency district should be addressed at this step.
 - a. The total traffic utilized in the analysis should be the summation of the existing traffic, background traffic, committed traffic, and project traffic. The background traffic should be determined by a review of historical traffic data. If minimal or negative growth is determined from the review of historical traffic data, a minimum of a 0.5% compound growth rate should be used from the existing year to the buildout year.
 - b. Project traffic will be considered significant if it totals 3% or more of the total capacity of a roadway segment.
9. If the project traffic is significant and the total traffic volumes at buildout exceed the roadway link thresholds, then further analysis will be required for these failing links. An intersection operational analysis will be required at each end of a failing link.
 - a. All intersection analysis shall conform to HCM methodologies. Additional input data is described below:
 - i. Heavy Vehicle (HV) percentage – The existing HV% should be utilized if it is able to be determined through existing traffic data. A default HV% of 2.0 should be used in the absence of existing data.
 - ii. Peak Hour Factor (PHF) – The existing PHF determined from intersection counts should be utilized. A default PHF value of 0.92 should be used in the absence of existing data. A PHF greater than 0.95 can be utilized for existing conditions if verified through existing traffic data. However, all future scenarios should have a PHF of 0.95 or less.
 - iii. Signal Timing – The existing signal timing should be utilized for intersection analysis. For future conditions scenarios, signal timing splits may be optimized. The signal cycle length should remain the same as existing conditions. In some circumstances, the cycle length

of isolated traffic signals may be optimized if approved by the city engineer.

b. All required intersection analysis shall analyze at a minimum three scenarios for both the AM and PM peak hours.

- i. Existing Conditions
- ii. Buildout Conditions without project traffic
- iii. Buildout Conditions with project traffic (Total Traffic)

10. The overall intersection Level of Service should meet the requirements of the latest FDOT generalized Level of Service tables.
11. If the intersections are operating at an acceptable Level of Service, then no further analysis is required for the roadway segment.
12. If an intersection does not meet acceptable Level of Service thresholds, then the applicant must propose and fund sufficient mitigation.
13. The signalized intersections in each direction nearest to the point at which the project's traffic enters each project accessed link should be analyzed. In some instances, major stop-controlled intersections may be analyzed in lieu of signalized intersections at the city engineer's discretion. A more detailed description of the intersection operation analysis is included in Steps 9a and 9b.
14. The traffic impact analysis shall address site access including auxiliary turn lanes and all multimodal aspect of the site. The requirements of turn lanes and minimum design standards shall adhere to FDOT standards.
15. The traffic impact analysis should be documented in a report format and address the provisions of this methodology. All supporting documentation including but not limited to existing traffic data, site plan, and Trafficware's SYNCHRO 11 software printouts shall be included in an appendix. A queuing analysis may be required if applicable for the proposed use.
16. Parking and stacking analysis including the implementation of Eclectic Vehicles (EV) per city code of ordinance shall be addressed in the study report