

RESOLUTION 2010- 58

A RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF NASSAU COUNTY, FLORIDA ADOPTING REVISIONS TO THE TRAFFIC IMPACT STUDY METHODOLOGY AND PROCEDURES IN ACCORDANCE WITH SECTION 2.06(A) OF THE LAND DEVELOPMENT CODE; PROVIDING AN EFFECTIVE DATE.

WHEREAS, on January 25, 1999 Nassau County adopted Ordinance 99-06 establishing a concurrency management system for transportation, parks and recreation, water, wastewater, solid waste and drainage; and

WHEREAS, on January 25, 1999 Nassau County adopted a Traffic Impact Study Methodology and Procedures appendix to the concurrency management system to guide the preparation and review of traffic studies required pursuant to the concurrency management system; and

WHEREAS, Nassau County proposes to bring the Methodology into conformity with the standards of Chapter 163, F.S., the present County organizational structure, and the technological advances in transportation modeling; and

WHEREAS, on February 2, 2010 the Planning and Zoning Board conducted a public hearing and voted to recommend approval of this action; and

WHEREAS, Nassau County proposes to establish traffic study areas proportionate to the impacts of development and accepted procedural standards of the region of which we are a part.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF NASSAU COUNTY, FLORIDA:

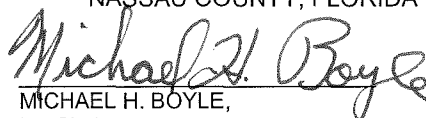
SECTION 1

The Board of County Commissioners hereby adopts the amendments to the *Traffic Impact Study methodology and Procedures* appended hereto as Exhibit A.

SECTION 2

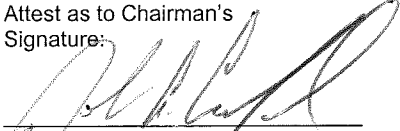
This Resolution shall become effective immediately upon its passage.

BOARD OF COUNTY COMMISSIONERS
NASSAU COUNTY, FLORIDA



MICHAEL H. BOYLE,
Its: Chairman
(Approved 2/22/10)

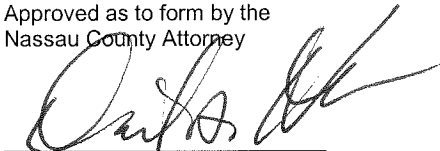
Attest as to Chairman's
Signature:



JOHN A. CRAWFORD
Its: Ex-Officio Clerk

ESK 7/26/10

Approved as to form by the
Nassau County Attorney



DAVID A. HALLMAN, County Attorney

APPENDIX A
NASSAU COUNTY TRAFFIC IMPACT STUDY
METHODOLOGY AND PROCEDURES

1. Purpose

The purpose of a traffic impact study is to identify the potential impacts of new development on the Nassau County transportation system and to provide information that will allow a concurrency determination to be made on each impacted segment. The traffic impact study will identify development traffic volumes on each impacted segment, identify those segments on which the adopted level of service cannot be maintained, include link and intersection analysis, and recommend potential solutions for those segments and intersections on which the adopted level of service is not being met.

2. Intent

- (a) The intent of this document is to define the requirements, procedures and methodology for the submission of a traffic impact study in Nassau County and to provide an equitable, consistent and systematic means of determining the future impact of proposed developments while maintaining the adopted service levels on all roadways.
- (b) Nothing contained in this document shall waive any requirement contained elsewhere in the Nassau County code.
- (c) Where a development agreement, comprehensive plan policy or other effective development order establishes capital improvements, study methodology or limiting conditions in conflict with this document, the former shall prevail.

3. Definitions

- (a) Average Daily Traffic Volume - Seasonally adjusted average number of vehicles that pass a point on a roadway segment on a daily basis.
- (b) Backlogged Segments - Backlogged Segments means those roadways operating below the Adopted Level of Service which do not have prohibitive financial or environmental constraints, but which are not scheduled to major capacity improvement within the first three years of the adopted Florida Department of Transportation's Five-Year Work Program or the County's Five-Year Schedule of Capital improvements.
- (c) Background Traffic - Existing traffic plus traffic from vested and reserved development that is estimated to travel on segments of the Major Road Network.

- (d) Concurrency Review Process - The procedures, review time frames, and appeals process defined by the Nassau County Land Development Code.
- (e) Constrained Facility - A roadway segment on the Major Road network that cannot feasibly be widened by at least two through lanes due to physical, environmental, or policy reasons.
- (f) Critical Transportation Location - Any location where the existing or projected peak hour traffic volume (existing traffic plus vested development traffic plus reserved development traffic plus project traffic) exceeds 90 percent of the maximum service volume of the adopted level of service standard.
- (g) Department - The County Growth Management Department.
- (h) Directly Accessed Segment - The first road segment on the Major Road Network on which traffic from the project's site is expected to travel. If a development has more than one access point, it may be possible for two or more Directly Accessed Segments to exist.
- (i) Generalized Planning Maximum Service Volumes - The generalized daily, peak hour or peak hour/peak directional service volumes as defined in the Florida Department of Transportation publication entitled Florida's Level of Service Standards and Guidelines Manual for Planning, as updated from time to time, and/or as supplemented by Nassau County by Resolution.
- (j) Impacted Segment - Any segment on the Major Road Network on which peak hour traffic generated by a development contributes one percent or more of the maximum service volume of the adopted level of service standard for any such roadway up to a maximum radius of two miles from the project site boundaries. The two-mile radius may be extended based upon data provided by the Growth Management Department. The data may include market analysis. However, developments proposed to directly connect to segments included on the Strategic Intermodal System (SIS) or on a designated Hurricane Evacuation Route are subject to the de minimis standard of Sec. 163.3180(6), F.S.
- (k) Internal Capture - Trips generated by a mixed-use project which travel to another on-site land use.
- (l) Intersection Analysis - A mathematical analysis of two intersecting roadways to determine its vehicular capacity and level of service.
- (m) Land Development Traffic Assessment - A traffic impact study that is required for all major developments generating more than 400 average daily vehicle trip ends.

The Land Development traffic Assessment summarizes existing conditions in the development's impact area; estimates the traffic that will be generated by the proposed development; projects the future traffic conditions with the proposed development traffic; and outlines roadway improvements which are needed to maintain the adopted level of service standards on the Major Road Network.

- (n) Level of Service - A qualitative measure describing the operational conditions within a traffic stream, and their perception by motorists and/or passengers. This qualitative description describes the roadway operating conditions in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, delay, comfort, convenience, and safety. The six levels of service are defined for each type of facility with letter designations "A" through "F". Level of Service "A" represents the best operating conditions and Level of Service "F" the worst operating conditions. These level of services may be further defined by a specific volume to capacity ratio, or measures of delay, density, or travel speed.
- (o) Link - A portion of a roadway segment located on the Major Road Network, defined by two consecutive intersecting roadways.
- (p) Link Improvement - A change in the physical or operating characteristics of a portion of a roadway segment that results in increased capacity and/or improvements to the general quality, level of service and safety characteristics of the link.
- (q) Major Intersection - The location at which two roadway segments located on the Major Road Network crosses or intersect each other.
- (r) Major Road Network - A listing of all existing and planned roadway segments within Nassau County that comprise the roadway network to be used when evaluating the traffic impacts of proposed development.
- (s) Major Road Network Map - A map illustrating all existing and planned roadway segments within Nassau County that comprise the roadway network to be used when evaluating the traffic impacts of proposed development.
- (t) Origin/Destination Survey - The collection of data at a land use resulting from an on-site interview to determine characteristics about travel to and from the land use.
- (u) Pass-by Trips - Trips that enter and exit a site that would have been traveling on the street adjacent to the site regardless of whether they enter or exit the site.
- (v) Peak Hour Volume - The number of vehicles that pass a point on a roadway segment during the highest one hour of traffic volume on a typical day in the peak season.

- (w) Percent New Trips Factor - A factor by which the trip rate is multiplied in order to calculate only those new trips that are added to the roadway by new development. This factor is calculated by the formula $[1 - (\text{pass-by trips} / \text{total trips generated by the land use})]$. Factors for each land use are contained in the Nassau County Trip Rate and Percent New Trips Data Table.
- (x) Pre-Application Conference - A meeting between the applicant and/or its engineer and the concurrency planner that occurs prior to conducting a traffic impact study for the purpose of identifying key issues, unique considerations, review of assumptions and procedures to be used in a traffic impact study.
- (y) Reserved Development - All development projects approved after the effective date of the Concurrency Management Ordinance for which a Certificate of Concurrency has been issued.
- (z) Segment - A series of sequential links identified on the major Road Network in which the beginning and ending points are defined by the Department using criteria that includes changes in roadway operating characteristics, locations of signalized intersections and municipal boundaries.
- (aa) Traffic Analysis Zone - A geographic sub-area of the County used to tabulate socio-economic and trip characteristic information used in transportation modeling and traffic impact studies.
- (bb) Traffic Assignment - The procedure of estimating the extent to which trips to a specific segment on the Major Road Network as travel occurs from a proposed development to other locations.
- (cc) Traffic Count Station - A location established by the Department where periodic traffic counts are recorded by the Florida Department of Transportation, Nassau County, or local jurisdiction; and where additional traffic counts may be required as part of the submission requirements of a traffic impact study.
- (dd) Trip Generation - The number of vehicular trip ends generated by a proposed development. This is found by utilizing guidance from the most recent edition of the Institute of Transportation Engineers, Trip Generation Manual, site specific data collected according to the procedures in Section (11), or other professionally accepted methodology.
- (ee) Turning Movement Count - The collection of data at an intersection which determines the volume and direction of vehicles entering and exiting the intersection during the peak periods of 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m., or as otherwise specified by the Department.

- (ff) Vested Development - Development projects which are exempt pursuant to the provisions of the Land Development Code.

4. Applicability

- (a) The requirements, procedures, and methodology for a traffic impact study contained in this section shall apply to all development orders in unincorporated areas of Nassau County. In all cases, it will be the responsibility of the applicant to demonstrate that a proposed development will not unduly impact the road system.
- (b) A traffic impact study for a multi-phase project shall be submitted in conjunction with the first Application for Concurrency Determination for the project and shall include all future development phases. The traffic study shall remain valid and in effect for a two year period. Subsequent development phases seeking a Final Concurrency Determination shall be required to update the traffic impact study with current data if the Application for Concurrency Determination for said development phases is submitted more than two years from the project's original Application for Concurrency Determination. All applications for development phases seeking a Final Concurrency Determination shall be required to submit intersection and segment capacity analyses prescribed under Sections (15) and (16) notwithstanding the time limits specified above.

5. Types of Traffic Impact Studies

(a) Small Projects

Developments generating less than 50 gross average daily vehicle trip ends or 5 average weekday p.m. peak hour trips will be considered to have a negligible impact on the Major Road Network. However, developments proposed to directly connect (*directly accessed*) to segments included on the Strategic Intermodal System (SIS) or on a designated Hurricane Evacuation Route are subject to the de minimis standard of Sec. 163.3180(6), F.S.

(b) Minor Traffic Review

1. Developments generating 50 or more gross average daily vehicle trip ends, or 5 or more average weekday p.m. peak hour trips, but less than or equal to 400 average vehicle trip ends will be required to submit a Minor Traffic Review.
2. The Minor Traffic Review will include: a description and location of the project, land use category and number of units from the Trip Rate and Percent New Trips Data Table, an estimate of the number of daily and p.m. peak hour trips generated, the number of net external trips that will impact the public road

system (e.g. after internal capture and/or adjacent street capture is considered), the existing vested and reserved (committed) traffic peak hour volumes on each Directly Accessed Segment, the Generalized Planning Maximum Service Volume of the Directly Accessed Segment, and identification of any improvements to Directly Accessed Segments and their schedule. If the project does not access a Directly Accessed Segment, then the impact of the project traffic on the first directly Accessed Segment on the Major Road Network minimum, shall be evaluated relative to its adopted level of service. Based upon this information, a determination shall be made whether or not the road facilities are adequate to maintain adopted service levels upon build-out of the proposed development. A Certificate of Concurrency or Deferral Determination may then be issued according to the procedures identified in the Concurrency Management Ordinance.

A site access plan for the proposed development shall be submitted by the applicant. The site access plan is subject to review and approval by the County.

3. If the information submitted pursuant to Section (5)(b)2, above indicates the level of service will fall below the adopted standard, then the applicant may undertake a more detailed evaluation of future roadway operating conditions to demonstrate acceptable operating conditions, or, the applicant may propose roadway improvements to restore acceptable conditions.
4. The appeal process for a Minor Traffic Review shall be governed by the procedure set forth in the Land Development Code.

(c) Land Development Traffic Assessment (LDTA)

1. A Land Development Traffic Assessment shall be required for all developments generating more than 400 average gross daily vehicle trip ends.
2. Submission of a Land Development Traffic Assessment is required for a Determination of Application Completeness in the Concurrency Review Process.
3. The applicant and/or his engineer is required to attend a pre-application conference to discuss the traffic study requirements, and report outline as it pertains to his specific development prior to conduct of the study.
4. Each Land Development Traffic Assessment must meet the following submission requirements in order to receive a Determination of Application Completeness.

- a. Three copies of the completed Land Development Traffic Assessment must be submitted to the Department at the time of the submittal of the Concurrency Determination Application.
 - b. The format of the Land Development Traffic Assessment must follow the outline identified in Section 8. Format of Land Development Traffic Assessment.
 - c. A Land Development Traffic Assessment which indicates total daily traffic less than or equal to 1000 trip ends must be submitted by an individual with an engineering or planning degree with responsible transportation planning experience, acting as the designated representative of the owner. A Land Development Traffic Assessment which indicates total daily traffic greater than 1000 trips must be signed and sealed by a registered professional engineer, whose area of practice is transportation engineering, acting as the designated representative of the Owner.
5. The concurrency planner shall determine if all required data has been submitted and is acceptable. This determination, as well as the determination that additional data is necessary, will be made according to the procedures and timeframes identified in the Land Development Code.
 6. The appeals process for a Land Development Traffic Assessment shall be governed by the procedure set forth in the Land Development Code.
 7. Site access for a proposed development shall be consistent with the requirements identified in the Nassau County Code and Comprehensive Plan. The applicant or his/her engineer is required to provide a site access plan at the pre-application conference. The site access plan is subject to review and approval by the County. This review will be made according to currently accepted traffic engineering principles.
 8. Format of Land Development Traffic Assessment Each Land Development Traffic Assessment will be required to follow the outline below. Further, definition and clarification of the items listed in the outline may be found in subsequent sections. Figures, tables and maps are to be used to the maximum extent possible.
 - a. Letter of transmittal
 - b. Title page
 - c. Table of Contents

- List of Figures
 - List of Tables
- d. Introduction (includes description and location of project, current and proposed zoning, both address and map format, size of the project, summary of methodologies agreed to in pre-application conference and statement of types of approval sought)
 - e. Area of influence (determination of impacted road segments to be included on study network, based on criteria (8) (a))
 - f. Inventory of existing conditions (includes listing of all segments within the study areas, existing traffic volumes and identification of roadway characteristics)
 - g. Trip generation estimate (from Trip Rate and Percent New Trips Data Table, the most recent edition of the Institute of Transportation Engineers, Trip Generation manual, or other professionally accepted methodology)
 - h. Percent new trips and internal capture estimates (from Trip Rate and Percent New Trips Data Table and Section (14))
 - i. Traffic distribution and assignment methodology
 - j. Existing plus reserved (committed) plus vested traffic volumes within the study area as indicated on the latest publication of the Transportation Analysis Spreadsheet.
 - k. Intersection analysis (required when the peak hour traffic volume on one or more links forming a leg of a major intersection exceed 90% of the maximum service volume of the adopted level of service standard)
 - l. Roadway needs (identification of proposed improvements and cost)
 - m. Internal site circulation and access needs
 - n. Appendix (as applicable to the specific traffic impact study)
 - Traffic count data
 - Trip generation, internal and adjacent street capture worksheets
 - Trip distribution and assignment worksheets
 - Intersection capacity analysis worksheets using the 1985 Highway Capacity Manual or latest edition

- Link capacity analyses
 - Computerized modeling documentation (if performed)
 - Other analysis worksheets
- (d) Developments of Regional Impact/Florida Quality Developments - For Developments of Regional Impact or Florida Quality Developments, the analysis is required by Nassau County for the purposes of determining concurrency and level of service compliance shall be the methodology agreed on for preparing the application of development approval required by 380.06(10), Florida Statutes.
- (e) Reallocation of reserved development capacity. Where a property that has received a Certificate of Concurrency is divided by sale, the parties to the conveyance shall complete the *Application for Intra-Parcel Reallocation of Transportation Concurrency*.

5. Pre-Application Conference

- (a) The purpose of the mandatory pre-application conference for a Land Development Traffic Assessment is to provide guidance and direction to the applicant or its engineer concerning the conduct of the study. For a Minor Traffic Review, it is strongly recommended that the applicant or its representative request a pre-application conference to discuss submission requirements.
- (b) The applicant shall request a pre-application conference, and shall transmit a general description of the proposed development and study methodologies to the concurrency planner at least five working days prior to the meeting.
- (c) At a minimum, the following topics will be discussed and approved from the concurrency planner at the pre-application conference.
1. The applicant or its engineer will provide a site access and internal circulation plan.
 2. Review of the format of a traffic impact study.
 3. Vested developments in the vicinity of the proposed development will be identified and procedures to estimate their associated traffic volumes shall be identified.
 4. The Major Road Network form will be provided to the applicant or its engineer.
 5. Procedure to track the project's traffic will be defined.

6. Availability and use of county and FDOT data.
7. Procedures for traffic counts, the location of current traffic count stations, and the identification of possible additional locations.
8. Source of trip generation for project traffic.
9. Selection of origin-destination survey sites for determination of percent new trips factor.
10. Traffic distribution and assignment technique.
11. Justification of an internal capture factor if different than those presented in Section (14) (b).
12. Methodology and approach for intersection analysis.
13. Methodology and approach for segment analysis.

(d) Failure by the applicant or its engineer to discuss and obtain resolution to the above topics may result in disapproval of the traffic impact study or a request for additional information.

(e) The methodologies and assumptions agreed upon at the pre-application conference will be valid for a period of 90 days from the date of the pre-application conference. If the Concurrency Determination Application is not submitted to the Department within 90 days of the pre-application conference, the applicant or its engineer must obtain approval from the County for the continued use of these methodologies and assumptions, or revise the methodologies and assumptions as necessary with updated information.

7. Level of Service Standards

(a) The level of service used for concurrency determination shall be consistent with the Nassau County Traffic Circulation Element.

(b) When two roads of differing classification or performance standards intersect and an intersection analysis is required, the higher level of service performance standard shall govern the intersection.

(c) Notwithstanding the above, if the road segment is determined to operate at an acceptable level of service, then it is permissible for individual intersections to operate one-letter grade worse than the overall road segment.

8. Traffic Impact Area

(a) The following procedures will be used to determine the extent of the road network to be studied:

1.
 - a. Small Projects and Minor Traffic Reviews: Peak hour traffic attributable to the development will be assigned to directly accessed segments on the Major Road Network that are impacted to a level equal to or greater than one percent of the maximum service volume of the adopted level of service standard for any such roadways. The one percent significance level is subject to the de minimis standard of Sec. 163.3180(6)F.S. for segments included on the Strategic Intermodal System (SIS).
 - b. Land Development Traffic Assessment: Peak hour traffic attributable to the development will be assigned on all segments of the Major Road Network that are impacted to a level equal to or greater than one percent of the maximum service volume of the adopted level of service standard for any such roadways up to a maximum radius of two miles from the project site boundaries.
2. Phased Projects will be required to perform a traffic study which analyzes both the impact of the phase(s) seeking a Certificate of Concurrency and the ultimate build out of the entire project. The analysis of the total build out of the project will be performed as part of the concurrency application for the first phase of the project in order to assess the ultimate transportation needs of the entire project, but shall not be used as a basis for a determination of transportation concurrency or for issuance of a Certificate of Concurrency. The methodology for performing the analysis shall be based on the following:
 - a. The Study Area of the total build out of the project will be determined by the extent of all impacted segments for the total project, including future phases and phases which have previously received a Certificate of Concurrency or Concurrency Exemption. The phase(s) of the project seeking a Certificate of Concurrency will be evaluated for transportation concurrency based on the Traffic Impact Area using the criteria contained in Section (8)(a), above for the phase(s) seeking the Certificate of Concurrency and shall include the development for which a Certificate of Concurrency is being sought and the cumulative development within the project for which a Certificate of Concurrency has been issued.
 - b. Projects that consist of an expansion or an addition to existing development will be

analyzed based upon the cumulative impact of all development for which a Concurrency Determination has been issued.

3. When a project's impacts are such that no roadways are impacted at the threshold defined in Section (8), then the impact of the project traffic on the first Directly Accessed Roadway Segments shall be evaluated for ensuring the maintenance of the adopted level of service standard on those roadways.
4. For the purposes of the LDTA project traffic will be assigned only to those roadways and future roadways:
 - a. shown on the Major Roadway Network;
 - b. proposed for inclusion as part of the Major Road Network and scheduled for initiation of construction within the first three years of the FDOT, Nassau County, or other responsible jurisdiction's financially feasible adopted five-year work program, or
 - c. scheduled for completion prior to the initial date of project impact on the roadway, if such roadway or improvement is to be completed pursuant to a local government development agreement or binding contract and proposed for inclusion as part of the Major Road Network.
5. Where an improvement based on a local government development agreement or order is relied upon to achieve the acceptable levels of service, default on any such agreement by any party other than Nassau County shall be identified as a basis for reconsideration and, if necessary, invalidation of the development order and certificate of concurrency.

9. County Data

- (a) The Nassau County Growth Management Department shall maintain and update several types of data. These types of data are described below:
 1. Traffic Count Data - Nassau County maintains traffic count data on all segments of the Major Road Network. New traffic counts as well as traffic count data from approved traffic impact analyses will be used to update the traffic counts in the concurrency management database on an annual basis. The applicant or engineer may be required to supplement the traffic count data where needed, such as locations where data is not currently available, or counts conducted on weekends, holidays, or other time periods in which the project's peak trip generation does not coincide with the average weekday peak hour.

2. Trip Rate and Percent New Trips Data Table - A Trip Rate and Percent New Trips Data Table shall be available for use in traffic impact studies. This table will be updated periodically with trip rate and percent new trips information from traffic studies as approved by the Department and from information contained in the most recent edition of the ITE Trip Generation Manual.
3. Development Size Data Table - A Development Size Data Table will be maintained by the Department. This table will provide examples of the maximum size of development by land use category for Small Projects, and for those which a Minor Traffic Review is required. Development sizes greater than those indicated by land use category for a Minor Traffic Review will be required to submit a Land Development Traffic Assessment.
4. Roadway Characteristics Inventory - A Roadway Characteristics Inventory will be maintained on each link in the transportation links database. The inventory will include road link identification (name of street, state or county road number and termini), existing road and group type, jurisdictional responsibility, performance standard, length, right-of-way type and width, date of traffic count, counted volume, adjusted average daily volume, average peak hour volume, vested development volume, existing maximum service volume, future maximum service volume, and the link specific available capacity. This inventory will be updated with new information as approved by the Department on a semi-annual basis.
5. Major Road Network Map - A Major Road Network Map will be maintained by the Department that illustrates all roads on the Nassau County traffic impact study network. This Map will include road improvements scheduled for completion within the first three years of the FDOT, Nassau County, and local jurisdictions five year capital improvement programs, and those roads scheduled for completion within three years that will be built pursuant to a local government development agreement. All future roads added to the map must be approved by the Department. Additionally, the map will illustrate those segments that are backlogged and/or constrained as well as those critical transportation segments in which the peak hour traffic volume exceeds 90 percent of the maximum service volume of the adopted level of service standard.
6. Traffic Impact Study File - The Department shall maintain a file of approved Minor Traffic Reviews, LDTA's and DRI/FQD reports. The County shall provide information and data, when available, in order to prevent duplication of efforts and unnecessary costs.

It will be the responsibility of the County to approve the use of a prior study.

10. Procedures for Traffic Counts

- (a) The Concurrency Management Database will contain an inventory of all current traffic count locations and the most recent peak hour traffic count.
- (b) The applicant or engineer may use available traffic count information for all impacted segments from the concurrency management database. If traffic count information is more than 2 years old on an impacted segment, the applicant or engineer may elect to conduct a current traffic count according to the procedures identified in Section (10)(c) and (d)..
- (c) The applicant or his engineer will provide segment traffic counts by direction for at least 48 consecutive hours between 12:01 a.m. Tuesday and 11:59p.m. Thursday. Legal holidays or other days as specified by the Department shall be excluded. Friday, weekend, or holiday counts may be required for land uses active on weekends, as determined by the County. The data will include a summary of traffic volumes by direction in 15 minute increments. The a.m., p.m., and other peak hours should be identified as well as the peak hour to daily traffic ratio and peak hour directional split. The average daily traffic counts will be adjusted to Annual Average Daily Traffic (AADT) using appropriate FDOT seasonal adjustment factors and truck axle adjustment factors. The peak hour segment volume will be determined by applying the approved K-factor for that segment to the AADT volume. All data will be subject to review and acceptance by the County.
- (d) The applicant or his engineer will provide intersection turning movement counts as required by the County. These turning movement counts shall be made on one typical weekday from 7:00 a.m. to 9:00 a.m., and 4:00 p.m. to 6:00 p.m., excluding the Monday a.m. and Friday p.m. time periods, or as otherwise specified by the County . Legal holidays or other days as specified by the Department shall be excluded. Friday, weekend, or holiday turning movement counts may be required for development proposals for land uses active on weekends, as determined by the County. The data will include a summary of traffic volume in 15 minute increments, with a.m., p.m., and other peak hours being identified. All data will be subject to review and acceptance by the County.

11. Trip Generation

- (a) Each traffic impact study will list all land uses, applicable ITE land use code, size and/or dwelling units.
- (b) Allowable sources for trip generation rates for each land use listed in (a) above are identified below:

1. The trip general equations contained in the most recent version of the ITE Trip Generation manual as approved for use by the County.
2. A site specific trip generation study of the same type or similar land use approved by the NEFRC Staff at the pre-application conference. Such site specific study will be conducted at three separate sites. The survey data will be collected for at least the continuous 72 hour period between Tuesday 6:00 a.m. to Thursday 6:00 p.m. or as otherwise determined by the County. Legal holidays or other days specified by the Department will be excluded. Selection of other trip generation study times will be made when it is determined that collection of the data between the above times will not result in a reasonable estimation of the trip generating characteristics of the studied land use. The data will include a summary of traffic count data by 15 minute increments, average daily volume, volume during the a.m. and p.m. peak hours of the adjacent street, and peak hour of the generator, if different from the a.m. and p.m. peak hours of the adjacent street. The accuracy of the traffic counts will be verified by performing manual counts and comparing them to machine count volumes twice daily; once in the a.m. and once in the p.m. for each different day of the traffic counts. All data will be subject to review and acceptance by the NEFRC Staff. This review will be based on currently accepted traffic engineering principles.

12. Percent New Trips

- (a) The percent new trips factor represents the percent by which the trip rate is multiplied in order to obtain only those new trips that are added to the roadway by new development. Thus, those trips going to a new development that would have been on the roadway anyway and must be deducted from the total trips.
- (b) Each traffic impact study will list all land uses, applicable ITE land use code, size, and/or number of dwelling units.
- (c) Allowable sources for the percent new trips factor for each land use identified in (b) above are listed below.
 1. Percent New Trips is found after determining Internal Capture and Pas-By trips. Pass-By trips are determined using Institute of Transportation Engineer's methods. SIS facilities require limits consistent with the latest version of the FDOT Site Impact Handbook. Internal capture is determined using ITE methods with a maximum as determined at the

methodology meeting based on the internal circulation provided in the site plan. SIS facilities require limits consistent with the latest version of the FDOT Site Impact Handbook.

2. A site specific origin/destination survey of an identical or similar land use as approved by the County.
3. The origin/destination survey shall collect, at a minimum, the following information:

- Date
- Location
- Time of interview
- From where did the interviewee trip begin immediately prior to arriving? (1) home (2) work (3) retail (4) other
- The city, area or zip code where the trip began
- The nearest intersecting streets closest to the location of where the trip began
- Transportation mode - (1) car (2) walk or bike (3) bus (4) taxi drop off
- Where the interviewee trip will end immediately upon leaving (1) home (2) work (3) retail (4) other
- The nearest intersecting streets closest to final destination

a. The location of each origin and destination will be plotted graphically on a map and the trip lengths calculated. To determine whether the trip is to be considered a new trip, a rectangle will be drawn on the map in such a manner so as to locate the origin of the trip in one corner and the destination of the trip in the opposite corner. If the interview location is outside the rectangle, the trip is considered to be a new trip and if the interview site is inside the rectangle, then the trip is not classified as a new trip. The percent new trips are computed by dividing the number of new trips by the total number of trips generated by the site.

b. Copies of the original survey and maps indicating trip ends will be submitted as part of the study. All data will be subject to review and acceptance by the County. This review will be based on currently accepted traffic engineering principles.

13. Traffic Distribution and Assignment

- (a) The distribution and assignment of project traffic shall be made in accordance with the following procedures and in conformity with accepted traffic engineering principles.
 - 1. Use of Northeast Regional Planning Model (NERPM) as approved by the Department.
 - 2. Observations of similar developments in the vicinity of the proposed development.
- (b) The Department will make available a summary listing of previously approved traffic impact studies within the Planning Area of the project.
- (c) The traffic distribution and assignment technique must be presented by the applicant or engineer at the pre-application conference, and reviewed and approved by the NEFRC Staff. This review will be based on currently accepted traffic engineering principles.

14. Internal Capture

- (a) The use of an internal capture factor will be allowed for certain types and sizes of mixed use developments as approved by Nassau County. These may be based upon ITE, FDOT and NERPM.

15. Intersection Analysis

- (a) An intersection must be performed on each major intersection, currently signalized and those proposed to be signalized, where the total peak hour traffic volume on one or more links forming a leg of the intersection is projected to exceed 90% of the maximum service volume of the adopted level of service standard for any phase of the project for which a Final Concurrency Determination is being sought.
- (b) The procedure for performing an intersection analysis will be based upon the methodology contained in the Highway Capacity Manual, most recent edition, or other professionally accepted methodologies. Any questions, issues or methodology other than that referenced in the above publication must be submitted at the pre-application conference and will be subject to the review and approval of the County.
- (c) For each intersection at which the total traffic results in a level of service below the acceptable adopted level of service, the applicant and/or engineer will identify improvements to the intersection that will restore the intersection to an acceptable level of service. Alternative timing of the existing signal is only acceptable when

intersection geometric changes are proposed such as adding of turn lanes or auxiliary lanes.

- (d) The applicant and/or engineer will be required to provide the following information relative to each intersection analysis:
 - 1. Printouts and worksheets for all highway capacity analysis performed on the intersections of roadway links.
 - 2. Copies of any traffic counts performed or used in the analysis, including the source of count data.
 - 3. Documentation of any assumptions used in the analysis including trip generation data, if not already specified for the analysis.
 - 4. Turning movement volumes and documentation of methodology used to project existing, prior vested and project traffic.
 - 5. Any other applicable data or information.
- (e) At each development access location, a turn lane analysis will be conducted by the applicant's engineer to determine access requirements for turning vehicles.

16. Segment Analysis

- (a) If the peak hour traffic on an impacted segment is projected to exceed the maximum service volume of the adopted level of service standard for any phase of the project for which a Final Concurrency Determination is being sought, a transportation analysis must be performed to determine if the actual roadway segment operating characteristics are such that additional capacity is available.
 - 1. The applicant or engineer will submit in writing the methodology and approach of each segment analysis prior to conducting the analysis, and will be subject to review and approval by the County. This review will be based on currently accepted traffic engineering principles.
- (b) A segment capacity analysis may be performed to review signal spacing and timing, as well as signal coordination. Such segment analysis shall be performed in accordance with accepted traffic engineering principles and techniques as approved by Growth Management.
- (c) A travel time study may be performed to determine the operating speed and corresponding level of service at which the roadway is operating. All data and analyses from each travel time study must be submitted as part of the report. The methodology for conducting a travel time study,

including the number of sample runs, time periods, and length of the relevant section of roadway, must be submitted in writing and receive approval by the Growth Management and the maintaining agency prior to conducting the study.

PASSED AND ADOPTED this TWENTY SECOND day of FEBRUARY, 2010.