

NOTICE

Issued by:

Department of Public Works

Notice #:

DPW-24-03

Release Date:

9/10/24

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Design and Construction Standards Update

The Department of Public Works (DPW) is updating the Design and Construction Standards per the attached memo.



Karen Henry
Director



MEMORANDUM

TO: Anne Arundel County Design Manual Users

FROM: Beth O'Connell, P.E., Deputy Director, Bureau of Engineering,
Department of Public Works

SUBJECT: Design and Construction Standards Update
Design Manual

DATE: August 9, 2024

DS
A blue ink signature of Beth O'Connell, Deputy Director, Bureau of Engineering, Department of Public Works. The signature is written in a cursive style and is enclosed in a blue rectangular box with rounded corners.

The 2024 Anne Arundel County Design and Construction Standards was published with an incorrect version of Chapter III, Appendix D (*Guidelines for Traffic Impact Studies*). The correct version dated "04/24" is attached.

BO/dcb

Attachment

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APPENDIX N**ANNE ARUNDEL COUNTY****GUIDELINES FOR TRAFFIC IMPACT STUDIES**

1. When is a traffic impact study required?

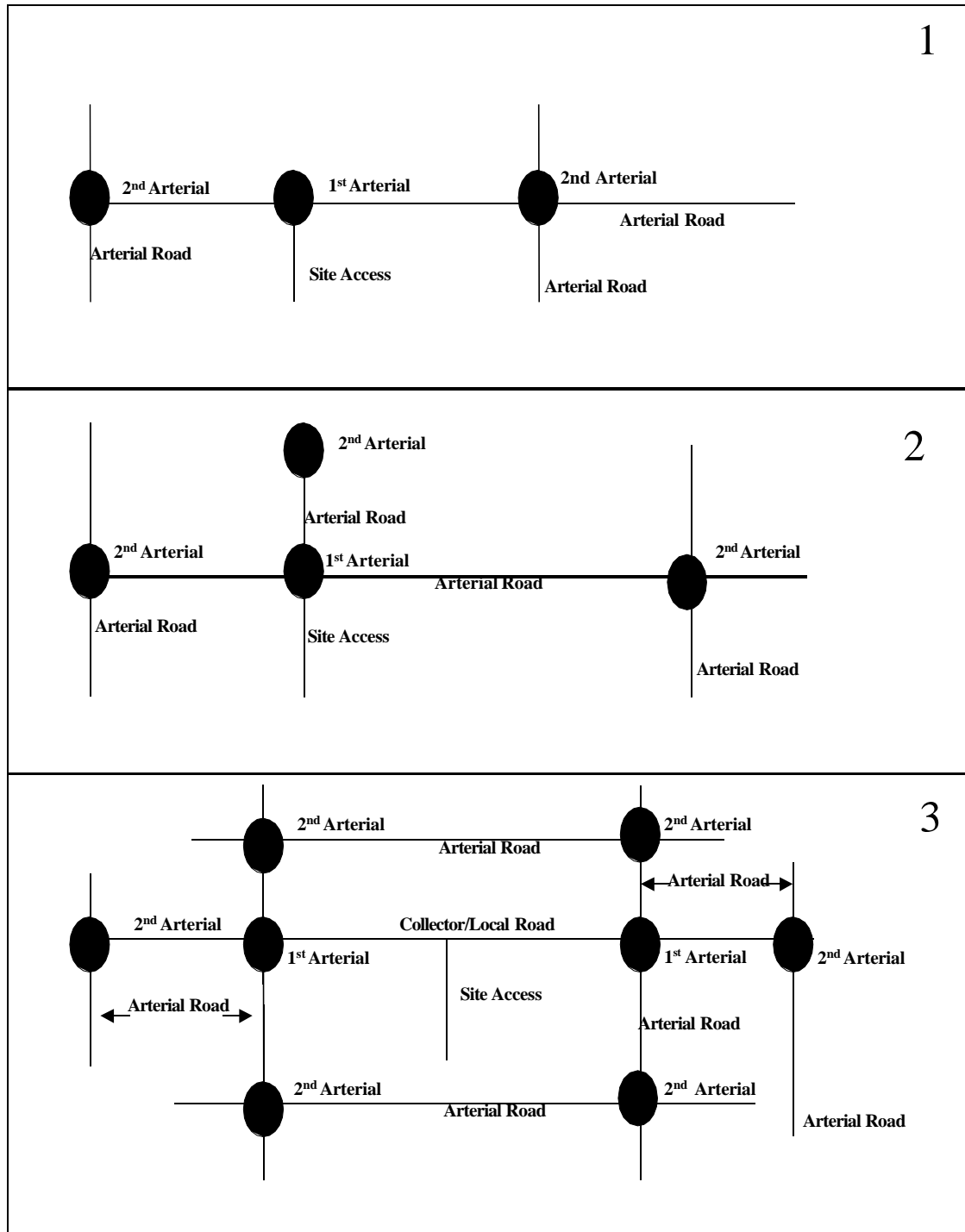
- At sketch stage for any major subdivision.
- At site development plan review stage for building permits.

Note: A scoping meeting with the County and State may be required for major projects.

2. What roads and intersections must be studied?

- In Town Center Growth Management Areas:
 - Each intersection from site access point to and including the first intersection with an arterial or higher classification road in each direction.
 - Key intersections as identified by the County during the information concept plan review.
- Elsewhere in the County:
 - Each intersection from site access point to and including the first intersection with an arterial or higher classification road in each direction to and including the second intersection with an arterial road in each direction.
 - The study shall analyze any intervening intersections designated by the County or State.
- Special Requirements Along Certain Peninsulas
 - The impact area shall be extended through the second intersecting arterial road and along that arterial road to the third arterial intersection in all direction if the development is located along MD 173 (east of MD 607), MD 177 (east of Woods Road), Bay Ridge Avenue (east of Bay Ridge Road) or MD 214 (east of MD 468).
 - The study shall analyze any intervening intersections designated by the County or State.

TRAFFIC STUDY IMPACT LIMITS



- Notes:
 - If a site enters directly on an arterial, this is considered as the first arterial intersection.
 - Analyses need not be carried past the County's exterior boundary, into the City of Annapolis (except on County maintained roadways, such as Forest Drive) or outside of town center limits.
 - Arterial roadways built within a subdivision will be considered as internal subdivision streets, not as the first arterial to be studied.
 - A continuous arterial route consisting of more than one road name (New Cut Road to Gambrills Road, for example) shall be considered as one arterial if so shown on the County's road network and classification plan.

3. What traffic must be included in the study?

- For all developments:
 - Existing Traffic;
 - Traffic to be generated by:
 - a. Building Permits that have been issued and are expected to generate more than 50 vehicle trips per day;
 - b. Pending Building Permits expected to generate more than 50 vehicle trips per day; and
 - c. Subdivisions that have sketch plan approval.
 - Traffic projected to be generated from the proposed development.
- Traffic from other proposed developments must be considered if it can reasonably be expected to impact the roads and intersections under study. At a minimum, this will include all other developments whose traffic impact study area would overlap or abut the proposed development's traffic impact study area. It may also include other development further away.

4. How should the study be organized and presented?

- In an organized, logical, and neat fashion.
- With the project name and number clearly identified on the cover.
- With all assumptions clearly stated and documented.
- With all backup material provided.

- Required form:
 - Description of existing conditions along with a condition diagram of all intersections under review, roads, and traffic volumes
 - Location map
 - Description of proposed developments: scope, size, type of development, schematic map
 - Other nearby developments
 - Traffic generated by other development (amount, distribution, splits)
 - Traffic generated by the proposed development (amount, distribution, splits)
 - Total traffic volumes (Note: It is necessary to provide a series of maps/diagrams showing (a) existing traffic, (b) other development traffic, (c) total background (a+b) traffic, (d) site traffic (if the development under review is for a mixed use project, then the total site traffic generation should be included), (e) total (c+d) traffic for both am, pm and other peaks as identified by the County).
 - Required analyses:
 - a. Critical lane volume analysis.
 - b. Latest version of the Highway Capacity Manual (HCM) intersection analysis for any intersection with a total critical volume (see paragraph a above) of 1300 or more.
 - c. Signalization studies for intersections designated by the County. Such studies shall compare projected traffic volumes to signalization warrants contained in the Manual on Uniform Traffic Control Devices.
 - d. Synchro system analysis if required by the County or State.
- For developments not within a Town Center Growth Management Area, the following analyses will also be undertaken.
- e. HCM capacity analysis for all roadway segments (must use HCM worksheets or FHWA software) for State roads.
 - f. A County Road Rating analysis for all roadway segments.
- Analyses will normally be required for morning and evening peak hours (based on the adjacent roadway peak). Where the development's peak occurs at significantly different times than the adjacent roadways', other analysis may be required (mid-day, weekend, etc.).
- Acceptable assumptions

- The County will generally accept trip generation rates found in the latest edition of the Institute of Transportation Engineers Trip Generation Report. This report provides three methods to determine average trip generation for proposed developments: a weighted trip generation rate, a plot of actual trip ends versus an independent variable, and a regression equation. Consultants will be required to use whichever method provides the best fit for the data. For example, if the regression equation for a particular use has a high correlation factor and the averaged trip rate for that use has a large standard deviation, the regression equation should be used. This will require a careful analysis of data for each use. Again, the Consultant should determine which method provides the best fit for the type and size of the proposed development. Questions of interpretation should be directed to the Development Division, which will make the final determination of what method will be used.
- Other sources for trip generation rates may be considered if sufficient documentation is provided. This will generally apply only to uses not covered by the ITE report.
- Trip distributions for new traffic should be based on the proximity of trip generators and attractions and on existing travel patterns.
- Existing traffic volumes should be based on current count information. Three to seven day machine counts should be used to determine daily and peak volumes along roadway segments, and peak hour turning movement counts should be used to determine peak intersection volumes. Counts from one to three years old must be increased by 4% per year unless historical data is available. Counts older than three years may not be used. (See also Question 7, “What information is available to assist in the preparation of a traffic impact study?”).
- The County will allow the consideration of intercepted pass-by trips based on information in the ITE Trip Generation Handbook. If intercepted pass-by trips are assumed, care must be taken to properly route all trips through all affected intersections and roadways. Please note that the County will allow consideration only of intercepted pass-by trips, that is, trips that would already be on the adjacent roadway(s). Trips that would be diverted from other roadways must be considered as new trips.
- Calculations for multi-use trip reductions may be considered by the County for multi-use developments when the ITE Trip Generation Handbook calculations are included in the study.
- These guidelines may be altered (by the County) for specific sites.

5. What standards will apply?

- Intersections must operate at LOS D or better as determined by the critical lane method (critical lane volume of 1450 or less). Intersections with a total critical lane volume of more than 1300 must also be analyzed using the latest version of the Highway Capacity Manual. This analysis is to determine if any approaches have individual unacceptable levels of service (E or F). If an approach does fail, the study must address what the development's impact is and what actions are required to improve the service level to D or mitigate the impact of the traffic generated by the development. The County will review these analyses regarding what improvements, if any, should be required of the developer.

With the approval of the Planning and Zoning Officer, intersections in the core of the Town Center Growth Management area may operate with a critical lane volume of less than 1600 at the discretion of the Planning and Zoning Officer.

- For developments not within a Town Center Growth Management area, the following standards will also apply:
 - Maryland State Highway Administration roadway segments must operate at a V/C ratio of .90 or better as determined by the latest version of the Highway Capacity Manual.
 - Roadway segments must have a County road rating system score of 70 or greater.

6. When should the traffic impact study be submitted?

- The traffic study must be submitted with the sketch or site development plan submittal, whichever is submitted first.

7. What information is available to assist in the preparation of a traffic impact study?

- Developers should contact the Office of Planning and Zoning to review the subdivision activity map. This will identify other nearby subdivisions that may need to be included in the study. It is up to the traffic engineer to determine the distribution of traffic included in the study based on traffic patterns in the area. The Development Division traffic reviewer may be contacted to determine if the background traffic information is available from recently reviewed studies.
- Developers may request information from the Development Division which will provide copies of available turning movement and volume counts, as well as information from other approved traffic studies. Every effort will be made to respond within two weeks. Developers and consultants should not expect that they will be able to pick up information from the Development Division without advance notice.