PUBLIC NOTICE

Amendment to Standards and Regulations for Subdivision Streets and State Highway Access

Background

The Delaware Department of Transportation, through its Division of Planning, seeks to adopt amendments to its existing regulations regarding subdivision streets and state highway access, with respect to the current provisions concerning Traffic Impact Studies and Traffic Operational Analyses. Changes are proposed several areas of Chapter 2, Traffic Impact Studies and several sections from Chapter 3, Site Plan Design, are proposed for movement to Chapter 2.

As detailed in the current Manual, the Department has broad statutory authority to regulate the process of determining whether and under what conditions property developers may gain access to the state highway system. These authorities include Sections 131, 141, 146, 507, and 508 of Title 17, Delaware Code; Chapter 41 of Title 21, Delaware Code; Section 6103 of Title 29, Delaware Code; and certain provisions in Title 9 of the Delaware Code.

The Department previously entered into agreements with county governments regarding traffic impact studies and traffic operational analyses. For New Castle County, for example, the agreement calls for the Department, as part of its scoping of the study areas for TIS work, to assure that the study looks at a minimum number of intersections from the proposed site entrance(s). However, what is considered an intersection for this purpose may be subject to differing interpretations, and may risk unduly limiting or unduly expanding the TIS study area.

The draft regulations are intended to provide sufficient guidance to the state, local governments, the development community, and those interested in development matters in this regard. The Department wishes to assure that the study areas selected match well with what intersections the Department reasonably expects to be significantly affected by the traffic from the subject property, given its proposed uses.

The proposed changes also include a new section on Transportation Improvement Districts, which were previously discussed in much less detail. The Department seeks to promote the creation of such districts as a superior approach to assessing the transportation impacts of development relative to Traffic Impact Studies for individual developments.

Other proposed changes include the addition of rules for the requirement of Traffic Operational Analyses, previous published as informal guidelines, and the changes to how contributions to the Traffic Signal Revolving Fund should be calculated.

Public Comment Period

The Department will take written comments on the proposed Amendment to its **Standards and Regulations for Subdivision Streets and State Highway Access** from August 1, 2012 through October 20, 2012. The proposed Regulations appear below.

Any requests for copies of the proposed Regulations, or any questions or comments regarding this document should be directed to:

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NOTE: New material is underscored; material to be deleted is ~~struck-through~~.

1.5 DEFINITIONS [ONLY ONE DEFINITION SHOWN HERE]

Traffic Operational Analysis - An evaluation or series of evaluations conducted during the ~~TIS and site entrance reviews that is used to determine the ability of a proposed development project to operate safely and with adequate access. Analyses conducted under the heading of "Traffic Operational Analysis"~~ review of subdivision, land development and entrance plans primarily intended to determine site entrance location and movements to be allowed at the site entrance. These evaluations may include Queuing Analysis, Highway Capacity Manual ~~Analyses~~ Analysis and ~~Accident Analyses~~ Crash Analysis.

CHAPTER 2 TRAFFIC IMPACT STUDIES

2.1 PURPOSE

In order to accommodate a proposed development access, traffic must operate safely and at satisfactory levels of service (LOS).
The purpose of this Chapter is to provide for a clear process for determining transportation impacts associated with new development so that the impacts can be mitigated and system capacity can be preserved.

The content and extent of a Traffic Impact Study (TIS) depends on the location and size of the proposed development, and the traffic conditions found or expected to occur in the surrounding areas. More extensive analysis is needed for large-scale developments, especially those proposed for intensely developed areas or areas with limited infrastructure. Smaller site proposals may need far less analysis of the impact on local traffic.

A study area that is too large may be needlessly costly to the developer and those reviewing it, as well as presenting a dilemma whereby it is not possible to ascertain whether a given development has a demonstrable impact upon elements of the local transportation network.

At a minimum, any TIS should include analysis of all site access points and the first major intersection on each street serving the site. TIS analysis beyond those points should be determined based on local and/or site-specific issues, known congested locations, development size, and policy considerations, such as whether the proposed development is a re-development of existing uses, or if it is proposed for areas suggested for more intensive development than other areas.

For the purposes of Chapter 2, an intersection shall be defined as a place where two publicly maintained roads or streets intersect; an access drive shall be mean where a privately maintained road, street or driveway intersects a publicly maintained road or street, and a "major" intersection or access drive shall be defined as one where the side street likely carries more than 500 vehicle trips per day or more than 50 vehicle trips per hour.

The work of scoping the TIS area limits, using the meeting process detailed in Section 2.5.2, provides the best opportunity to tailor the study's analysis to the appropriate locations.

To focus transportation improvement resources consistent with state objectives, this Chapter has identified two sets of level of service standards, one for developed, developing and planned development areas and one for all other areas, which typically are rural areas.

A ~~Traffic Impact Study (~~TIS~~)~~ may be initiated by DelDOT, the applicable land use agency, or by the Applicant in anticipation of submission of a subdivision proposal for review.

Depending on the size of and expected trip distribution for a project, a TIS scope may include, but is not limited to, the following types of operational analyses:

a. Highway Capacity Manual/LOS Analysis – This analysis may be required to determine whether the approaches at the site entrance(s) and approaches of nearby intersections operate within acceptable LOS.

b. Queuing Analysis – This analysis may be required to determine whether existing and proposed left-turn storage at the site entrance(s) and nearby intersections is adequate, to assess U-turn lane storage adequacy, or to determine that lane queuing does not block access to turn lanes or spill back into upstream intersections.

c. Safety Analysis – This analysis may consist of a number of factors including review of adequacy of sight distance, ~~accident~~ crash data, and *Manual on Uniform Traffic Devices* (MUTCD) and DelDOT *Road Design Manual* compliance. More specifically:

   An Applicant may be asked to evaluate the sight distance at the entrance driveway(s), at intersections within the study area, and at proposed intersections within the subdivision to be constructed.

   ~~An accident~~ A crash analysis may be required if locations within the proposed study area are known or alleged to be high ~~accident~~ crash locations. The analysis will be used to determine whether a problem exists, and if so, how the proposed project relates to the problem, and what modifications or improvements need to be made to ensure safe access on the State-maintained roadway system and safe operation on adjacent roadways and intersections.

   An analysis to provide for an evaluation of roads near the site relative to MUTCD and *Road Design Manual* standards may be requested. This analysis would be requested to identify deficiencies in signing, striping, cross-section or geometry that represent or would represent an unsafe condition.

d. Bicycle, Pedestrian and Transit Facility Analysis - The analysis may be required to identify and evaluate related impacts and need for enhancements to bicycle, pedestrian, and transit access, circulation, and facilities within the study area.

2.2.5 REQUIREMENT~~S~~ OF A NEW TIS OR TOA

If a TIS or Traffic Operational Analysis (TOA) is prepared for a proposed development and DelDOT finds that existing or projected future conditions in the study area have changed significantly after the completion of the TIS or TOA, DelDOT may require a new, revised, or updated TIS or TOA at its sole discretion before issuing a Letter of No Objection or, where a DelDOT Letter of No Objection is not required, before approving entrance plans. DelDOT will take reasonable measures in scoping the study to avoid the need for additional work once the study is complete. However, it is the Applicant's responsibility to obtain plan approvals while their TIS or TOA is still valid and to demonstrate that validity as necessary.

Once DelDOT has issued a Letter of No Objection or, where a DelDOT Letter of No Objection is not required, has approved entrance plans, DelDOT may require a new, revised or updated TIS only if the development changes in a way that necessitates a new record plan. However, in the review of the entrance plans for that development, DelDOT may require ~~an Operational Analysis~~ a TOA, which may result in new or different requirements for improvement of the entrances and adjacent intersections.

2.3.4 ~~WAIVERS OF TIS DUE TO LOCATION~~ DEVELOPMENT WITHIN A TRANSPORTATION IMPROVEMENT DISTRICT (TID)

The land use and transportation planning process involved in the creation of a TID is necessarily more comprehensive than that involved in a TIS for a specific development. See Section 2.13 regarding required and recommended elements of a TID.

If a development is proposed within a TID and is consistent with the current Land Use and Transportation Plan (LUTP) for that TID, DelDOT may require participation in the TID in lieu of conducting a TIS and making improvements based on the TIS ~~does not meet the criteria of Section 2.3.2 or 2.3.3, DelDOT, at its sole discretion, may waive its requirement for a TIS~~ if all of the following conditions apply:

1. All of the development entrances are located within the boundaries of ~~a~~ the TID ~~Transportation Improvement District~~.

2. The TID has been created:

    a. By virtue of
        i. An act of the General Assembly; or
        ii. An action of the Council of a Metropolitan Planning Organization; or
        iii. A Memorandum of Agreement between DelDOT and the relevant local government(s); and

    b. For purposes that include the implementation of transportation improvements that are based on forecast traffic volumes; and

    c. In conformance with the circulation element of a comprehensive plan or a related master plan;

3. The traffic forecasts used in the ~~creation of~~ current LUTP for the TID are for a year no sooner than the expected completion date of the subject development, as determined under Section 2.9.10 and one of two conditions apply:

        a. The subject development (or another land use of equivalent or lower peak hour trip generation) was explicitly accounted for in the traffic forecasts used in the ~~creation of~~ current LUTP for the TID; or

        b. The traffic entering and exiting the subject development would not result in an increase of more than five percent in the forecast traffic volume on the adjacent road at any of the development entrances.

4. A specific set of transportation system improvements has been identified as necessary within the TID based on forecast traffic and other relevant factors, such as safety or structural adequacy.

5. The Applicant has agreed in writing to contribute toward the cost of the identified transportation improvements and that contribution is based on a formula defined in the TID agreement or, if no formula is defined, on the subject development's percentage contribution to the increase in the peak hour traffic passing through the facility to be improved, with the said increase being measured from the base year to the forecast year.

~~The completion of a TIS and the subsequent agreement of a developer to comply with requirements resulting from the study process shall be considered to meet requirements 2.a.iii and 5 above if DelDOT finds that the TIS included all facilities that would have been included in the TIS for which a waiver is sought.~~

DelDOT reserves the right to require a bond or similar security as a means of guaranteeing that the pledged funds will be available when needed and/or that any required work will be completed on time and to the satisfaction of DelDOT.

One premise of this section is that sufficient Level of Service (LOS) analysis was done in developing the LUTP for the TID, such that additional analysis is unnecessary. Where DelDOT or local government regulations require the determination of LOS at the development entrance(s) or immediately adjacent facilities, this work may be done through the preparation of a Traffic Operational Analysis, in accordance with Section 2.14. Where more extensive LOS information, not available from the LUTP, is needed, a TIS shall be required.

2.5 SCOPE OF WORK DETERMINATION AND CONFIRMATION

2.5.1 LETTER TO REQUEST SCOPING MEETING

An Applicant considering submission of a subdivision or site plan development application shall request in writing, using the Scoping Meeting Request Form found in Appendix O, a Scoping Meeting with DelDOT to discuss elements of the project and project analysis assumptions.
The Scoping Meeting Request Information Form found in Appendix O includes the following information:

a. Project name;

b. Name and address of the applicant;

c. Contact information for scheduling meeting;

d. Location of project;

e. Copy of tax map showing block number, lot number, parcel number and lot lines;

f. Total acreage of the project site;

g. Current and proposed zoning of the project site;

h. Proposed land use;

i. Proposed number and location of site access points;

j. Proposed build-out year, or if project is to be phased, phase-in dates;

k. Indication as to whether a land use application has been submitted to the local government land use department for review;

l. Indication as to whether a subdivision or land development plan has been submitted to DelDOT‟s Subdivision Section for review, and, if one has been submitted, a copy of the plan;

m. Indication as to whether a site plan for the project has been prepared, and, if one has been prepared, a copy of the plan;

n. Any other analysis assumptions the Applicant proposes using for the study;

o. Evidence that the Applicant and the current property owner were notified of the request for the meeting; and

p. Names and titles of people anticipated to attend the Scoping Meeting;

One copy of the request for Scoping Meeting letter shall be sent to the applicable local land use agency concurrent with the submission of the letter to DelDOT. The Applicant ~~may~~ shall be requested to demonstrate to DelDOT that it has provided a copy of the letter to the land use agency. Failure to provide a concurrent copy of the request for Scoping Meeting letter to the local agency may result in the delay or postponement of the Scoping Meeting.

2.5.2 SCOPING MEETING

2.5.2.1 GENERAL

DelDOT will schedule the Scoping Meeting. At the Scoping Meeting, the following TIS topics shall be discussed:

a. Intersections and roadway segments to be studied. See Section 2.5.2.2.

b. The impact of any significant committed developments within a two-mile radius of the exterior boundaries of the project on the project study area;

c. The availability of accident data within the proposed study area and the requirements for analysis based on that data;

d. Method to be used to project traffic growth;

e. Traffic count locations and proposed schedule for manual and Automatic Traffic Recorder (ATR) counts;

f. Times and days of analysis;

g. Any anticipated seasonal variations of use;

h. Methods to be used to generate, distribute and assign trips;

i. When appropriate for use in the TIS analysis, pass-by and internal trip capture assumptions;

j. Other information and assumptions to be used in the analysis for the report.

Within 20 business days DelDOT will supply a Memorandum of the Scoping Meeting Minutes and, if requested by the Applicant, an estimate for Option B. The cost estimate for Option B proposal will expire after 40 business days.

2.5.2.2 INTERSECTIONS AND ROADWAY SEGMENTS TO BE STUDIED

In considering the study area limits, DelDOT shall consider the area of influence of the proposed development on the surrounding roadway network. The area of influence shall be defined as the area beyond a development site entrance including any intersection or roadway segment that would carry projected site traffic of at least 50 vehicles per hour (during any peak hour) as determined by DelDOT using a travel demand model, up to and including the third State-maintained road having a three-digit maintenance number. Within that area, the intersections to be analyzed shall include any signalized access drives and any Type III subdivision streets.

DelDOT will also consider local requirements for area of influence when determining the study area limits.

The above-described area of influence notwithstanding, the following study area limits shall also apply:

a. Where the development would access a local or collector road, the study area should extend to follow any assignment of at least 50 vehicles per hour to the nearest arterial road.
b. Where the development would have access on two intersecting roads, their intersection shall be included.
c. Where two roads intersect in a grade-separation, such that through traffic movements do not intersect and some or all turning movements made by means of ramps, DelDOT shall specify in the scoping meeting what elements need to be studied.
d. Where one of the roads in the area of influence is an expressway, the study area may extend beyond the intersection with that road but it shall not extend along the expressway.

Further guidance on the minimum study area is provided in Section 2.1.

DelDOT may consider a smaller study area in central business districts and similar urban locations. Factors to consider in reducing the study area on this basis include the existence of a grid street pattern, physical constraints on road widening such as buildings adjoining the right-of-way, and posted speed limits of 30 miles per hour or less.

DelDOT may also consider a smaller study area in rural areas. Factors to consider in reducing the study area on this basis include location of the development in a Level 4 Investment Area relative to the Strategies for State Policies and Spending, Annual Average Daily Traffic volumes on most roads less than 1,000 vehicles per day, and little development other than farms and single-family detached houses (isolated or in strip developments).

Example 1: 250 single-family houses on the Judge Morris Estate, located on Polly Drummond Hill Road (N328).

1) Begin with the site entrance on Polly Drummond Hill Road.
2) To the north, follow the extent of 50 p.m. peak hour site trips to Old Coach Road (N316). Include that intersection but stop there as less than 50 p.m. peak hour site trips are on either road beyond there.

3) To the south, follow the extent of 50 p.m. peak hour site trips to Kirkwood Highway (N011). Include that intersection but do not continue south on Red Mill Road (N352) as less than 50 p.m. peak hour site trips are on that road.

4) Looking east on Kirkwood Highway, follow the extent of 50 p.m. peak hour site trips to Harmony Road (N355). Include that intersection. East of there, there are less than 50 p.m. peak hour site trips so look no further on Kirkwood Highway.

5) Continue following the extent of 50 p.m. peak hour site trips along Harmony Road to Ruthar Drive (N065). Stop there as it is the third intersection from the site.

6) Returning to the intersection of Kirkwood Highway and Polly Drummond Hill Road, follow the extent of 50 p.m. peak hour site trips west to Old Possum Park Road (N303). Include this intersection do not continue north on Old Possum Park Road as less than 50 p.m. peak hour site trips are on that road.

7) Continue following the extent of 50 p.m. peak hour site trips along Kirkwood Highway to Possum Park Road (N314). Stop there as it is the third intersection from the site.

8) Add in intervening Type III subdivision streets and signalized access drives.

Resulting list of intersections to be analyzed:

1) Site Entrance / Polly Drummond Hill Road
2) Polly Drummond Hill Road / Old Coach Road
3) Kirkwood Highway / Polly Drummond Hill Road

4) Kirkwood Highway / Brewster Drive
5) Kirkwood Highway / Darwin Drive
6) Kirkwood Highway / Harmony Road
7) Harmony Road / Ruthar Drive
8) Kirkwood Highway / Delaplane Avenue / Melrose Place Drive
9) Kirkwood Highway / Old Possum Park Road
10) Kirkwood Highway / Possum Park Road

Example 2: 100,000 square foot shopping center on the Judge Morris Estate, located on Polly Drummond Hill Road (N328).

1) Begin with the site entrance on Polly Drummond Hill Road.

2) To the north, follow the extent of 50 p.m. peak hour site trips to Old Coach Road (N316).

3) From Old Coach Road, continue following extent of 50 p.m. peak hour site trips east to South Upper Pike Creek Road (N295). Stop there as it is the third intersection from the site.

4) Returning to the intersection of Polly Drummond Hill Road / Old Coach Road, continue following extent of 50 p.m. peak hour site trips north to New Linden Hill Road (N321). Include that intersection but stop there as there are less than 50 p.m. peak hour site trips north along Polly Drummond Hill Road.

5) From Polly Drummond Hill Road, continue following extent of 50 p.m. peak hour site trips east along New Linden Hill Road to North Upper Pike Creek Road (N295). Stop there as it is the third intersection from the site.

6) Returning to the site entrance on Polly Drummond Hill Road, follow the extent of 50 p.m. peak hour site trips south to Kirkwood Highway (N011).

7) From Kirkwood Highway, continue following extent of 50 p.m. peak hour site trips south to Ruthar Drive (N065). Include that intersection but stop there as less than 50 p.m. peak hour site trips are on either road beyond there.

8) Returning to the intersection of Kirkwood Highway / Polly Drummond Hill Road, continue following extent of 50 p.m. peak hour site trips east along Kirkwood Highway to Harmony Road (N355).

9) From Harmony Road, continue following extent of 50 p.m. peak hour site trips east to South Upper Pike Creek Road. Stop there as it is the third intersection from the site.

10) Returning to the intersection of Kirkwood Highway / Harmony Road, continue following extent of 50 p.m. peak hour site trips south to Ruthar Drive. Stop there as it is the third intersection from the site.

11) Returning to the intersection of Kirkwood Highway / Polly Drummond Hill Road, continue following extent of 50 p.m. peak hour site trips west along Kirkwood Highway to Possum Park Road (N314). Stop there as it is the third intersection from the site.

12) Add in intervening Type III subdivision streets and signalized access drives.

Resulting list of intersections to be analyzed:

1) Site Entrance / Polly Drummond Hill Road
2) Polly Drummond Hill Road / Old Coach Road
3) Old Coach Road / North Upper Pike Creek Road
4) Old Coach Road / South Upper Pike Creek Road
5) Polly Drummond Hill Road / New Linden Hill Road
6) New Linden Hill Road / North Upper Pike Creek Road
7) Kirkwood Highway / Polly Drummond Hill Road
8) Red Mill Road / Ruthar Drive
9) Kirkwood Highway / Brewster Drive
10) Kirkwood Highway / Darwin Drive
11) Kirkwood Highway / Harmony Road
12) Kirkwood Highway / South Upper Pike Creek Road
13) Harmony Road / Ruthar Drive
14) Kirkwood Highway / Delaplane Avenue / Melrose Place Drive
15) Kirkwood Highway / Old Possum Park Road
16) Kirkwood Highway / Possum Park Road

2.5.3 CONFIRMATION OF SCOPE OF WORK FOR THE TIS

If after the receipt of the Scoping Meeting Memorandum the Applicant decides to proceed with the project, the Applicant's engineer shall provide DelDOT with confirmation that they agree with the Scoping Meeting Memorandum or with any changes they find necessary. At this time they shall also identify if they want to proceed with Option A or Option B.

If ~~after~~ the Applicant chooses Option A, their confirmation of the Scoping Meeting Memorandum shall be accompanied by a fee in the amount of $5000, in the form of a check made payable to the Department of Transportation. An estimated time for review of a TIS under Option A after the Applicant's engineer has submitted the Final TIS is 20 business days. Completion of a draft TIS review letter in a form suitable for discussion

with the Applicant can be expected approximately 20 business days after that date, for a total of 40 business days.

If the Applicant chooses Option B, their confirmation of the Scoping Meeting Memorandum shall be accompanied by a check made payable to the Department of Transportation in the full amount of the estimate for Option B. After receipt of payment, DelDOT will issue its Traffic Engineer a Notice to Proceed (NTP) with the Final TIS preparation. An estimated time for a draft Final TIS and comment letter in a form suitable for discussion with the Applicant under Option B is approximately 40 business days with final TIS and comment letter completion approximately 20 business days after that date. DelDOT may revise a scope of work if the TIS is not submitted within a 12-month period from the date of the Scope Confirmation Letter, or within a time period earlier than 12 months should conditions in the study area change. A revised scope of work may require a restart of the TIS process, including a requirement for a new processing fee.

2.13 TRANSPORTATION IMPROVEMENT DISTRICTS

2.13.1 INTRODUCTION

Essential to the creation of a Transportation Improvement District (TID) is the development of a comprehensive and specific plan for land use and transportation within the geographic area of the District. The existence of such a plan allows DelDOT and the local land use agency(ies) to assess developers building in accordance with the plan for the cost of needed transportation improvements in a more comprehensive way than a TIS specific to one development affords. See also Section 2.3.4 regarding the relationship between TIDs and TIS.

It is to be expected that there will be significant differences between TIDs in the terms of their land use and transportation characteristics. Because DelDOT creates TIDs in partnership with local governments there will necessarily be differences in their administration as well. The purpose of Section 2.13 is to set forth DelDOT's requirements and recommendations for the elements of a TID.

A TID may include lands under the jurisdiction of more than one local government. Particularly near municipal boundaries, this condition is to be expected.

2.13.2 REQUIRED ELEMENTS

2.13.2.1 Land Use and Transportation Plan (LUTP). An LUTP should be completed for the TID based upon the forecast described in Section 2.13.2.5 below, identifying the improvements needed to bring all roads and other transportation facilities in the TID up to applicable State or local standards, including the service standards described in Section 2.13.2.6 below.

2.13.2.2 TID Agreement. DelDOT and the local government(s) in whose jurisdiction(s) the TID is located should enter a written agreement regarding it and addressing the following subjects:

1) the initial boundaries and target horizon year for the TID and procedures for amending them;
2) roles and responsibilities with regard to creation of the LUTP;
3) service standards to be used in developing the LUTP (See also Section 2.13.2.6); and
4) implementation of the improvements identified in the LUTP (See also Section 2.13.2.8).

2.13.2.3 Boundaries. A TID must have distinct boundaries such that one can determine what parcels are in the TID and what parcels are not. Where possible those boundaries should follow geographic features that are easily identified, are rarely altered and generally do not cross parcel lines, such as railroad lines and major drainage courses. An exception to this rule is that roads are not desirable boundaries. Absent a good reason to the contrary, TID boundaries should follow Traffic Analysis Zone (TAZ) boundaries for ease in working with population and employment projections (See Section 2.13.2.5 below.).

2.13.2.4 Target Horizon Year. A TID must have a target horizon year for which population and employment is forecast in creating the TID. Usually, but not always, this year should be 20 years from the last Census. As the LUTP for the TID is revised (See Section 2.13.2.7 below.) the target horizon year may be adjusted.

2.13.2.5 Land Use Forecast. The LUTP for the TID must include a quantitative, parcel-specific forecast of land use in the TID. The forecast can be either in terms of population and jobs (classified by employment type) or in terms of numbers of dwelling units and floor areas of non-residential uses, such that DelDOT can calculate population and jobs. The forecast must have the following components:

1) Existing land use as of a specific date.
2) Development approved and/or recorded but not yet built as of that date.
3) Development expected or in the land development process but not approved as of that date.

4) Development not yet proposed but projected by the target horizon year, based on population and employment forecasts, and the current Comprehensive Plan(s) and zoning map(s).

2.13.2.6 Service Standards. Service standards must be established for the TID, in the creation of the LUTP, to specify what is considered adequate transportation infrastructure. Service standards may include Levels of Service but should also include desired typical sections for local, collector and arterial streets, and standards for the presence and frequency of transit service. Typically one standard will apply throughout the TID but there may be locations where a different standard is specified. The standards should be set collaboratively by DelDOT and the local governments involved, with some measure of public involvement.

2.13.2.7 Adoption in the local governments' Comprehensive Plan(s). The Comprehensive Plan(s) should list and map any TIDs, and incorporate by reference any completed LUTPs and TID agreements. When a local government updates their Comprehensive Plan, they should also initiate an update of the LUTPs and TID agreements for those TIDs.

2.13.2.8 Infrastructure Fee Program. Where possible the TID Agreement should monetize the improvements contemplated in the LUTP and apportion the cost of those improvements such that developers seeking plan approvals must either make improvements identified in the LUTP or contribute toward improvements to be made by others, and developers doing more than their share of improvements can be compensated. The program should allow developer contributions to take the form of cash payments, construction, land needed for rights-of-way (in excess of those needed for the development streets and dedications addressed in Section 3.6.5) or a combination of the three. Administration of the program should be specific to the TID with which it is associated. For each TID the funds received from developers should be held by DelDOT, or a participating local government, in a fund dedicated to transportation improvements within that TID alone.

2.13.2.9 Transitional Rules for Certain Pre-existing TIDs. The terms of the Memorandum of Agreement or other mechanism used to create and implement TIDS or their functional equivalent in existence as of January 2012 may conflict with the Required Elements described in Section 2.13.2 hereof. In such cases, the adoption of these Required Elements in lieu of existing provisions may be negotiated and agreed as between the Department and the

participating local governments. Otherwise, the existing terms will continue in force and effect.

2.13.3 RECOMMENDED ELEMENTS

2.13.3.1 Master Plan. Where possible, creation of a TID should be part of the development of a master plan for the area encompassed by the TID. A broad and holistic approach, such as outlined in the *Guide for Master Planning in Delaware* will necessarily yield a better land use forecast and an LUTP with greater public acceptance and support than will a planning effort conducted solely by local land use agency and DelDOT staff.

2.13.3.2 Monitoring Program. It may be appropriate to make transportation improvements gradually over time. In such situations the TID Agreement should include a program for monitoring conditions in the TID to determine when design and construction of the next level of improvements should be started. Such a program may involve tracking land development, transportation improvements and the need for transportation improvements in the TID and may provide information necessary for updates of the LUTP. Administration of the program should be specific to the TID with which it is associated. A surcharge may be added to the infrastructure fee described in Section 2.13.2.8 to fund the monitoring program.

2.13.3.3 MPO Participation. Where one exists, a Metropolitan Planning Organization (MPO) can provide assistance in the development and monitoring of an LUTP. An MPO can be of particular value in coordinating land use information where multiple local governments are involved. It may be appropriate to include the local MPO as a party to a TID agreement.

2.13.3.4 Build-out Analysis. While it is possible to create a TID considering only a target horizon year (See Section 2.13.2.4), examination of conditions when all land in the TID is considered to be fully developed can often be useful in the planning process. If build-out analysis is to be done, the TID Agreement should specify what degree of development is considered to be build-out, and what use is to be made of the results of the analysis.

~~3.9~~ 2.14 TRAFFIC OPERATIONAL ANALYSIS

2.14.1 INTRODUCTION

To ensure safe access to all proposed land development plans, the developer may be required to prepare an operational analysis for review by DelDOT. This operational analysis may consist of but is not limited to one or more of the following evaluations:

1. *Queuing Analysis* – This analysis may be required to determine whether existing and proposed left-turn lane at the site entrance and nearby intersections is adequate. The 95th percentile (98th percentile at signalized intersections) maximum queue shall be used for the purpose of this analysis.

2. *Highway Capacity Manual Analysis* – This analysis may be required to determine whether the operation of the site entrance and nearby intersections is adequate.

3. *Accident Analysis* – This analysis may be required if the entrance is proposed at a known or alleged high accident location to determine whether a problem exists, and if so, how the entrance might relate to the problem, and what remedies might be possible.

This information shall be used to determine what modifications or improvements need to be made to ensure safe access to the State-maintained roadway system.

2.14.2 RULES FOR REQUIREMENT OF A TOA

A TOA may be required for any development project that is expected to generate 200 or more vehicle trips per day and for which a TIS was not completed.

If a development project's scope changes DelDOT and the Applicant have agreed upon the initial scope of study, DelDOT may revisit the scope of a TOA that is being prepared, or require a new TOA or a Traffic Impact Study (TIS).

The requirement for a TOA may be waived if the project developer agrees to make traffic improvements determined by both the Subdivision Engineer and the Chief Traffic Engineer, or designee to adequately address the concerns that prompted the initial requirement of a TOA.

Projects that do not generate 200 or more vehicle trips per day will not be required to complete a TOA.

The TOA, if required, must be reviewed and accepted by DelDOT prior to the issuance of a Letter of No Objection.

Other traffic analyses that may be required in the review of land development plans include traffic signal warrant analysis, and the development of a Transportation Management Plan (TMP). A traffic signal warrant analysis will likely be required to be performed by the developer if it is desired or expected that a new traffic signal will need to be installed concurrent with or soon after the opening of a new development. A TMP may be required for large projects, or projects that impact roadways on the National Highway System (NHS). Refer to [URL] for DelDOT's TMP guidelines.

~~3.10~~ 2.15 AGREEMENTS

~~3.10.1~~ 2.15.1 SIGNALS

The need for installation of new traffic control signals and/or the modification of existing traffic control signals to accommodate traffic from commercial establishments or subdivisions shall be determined by DelDOT in accordance with the warrants prescribed by the *Manual on Uniform Traffic Control Devices* (Delaware MUTCD). All costs, basic or incidental, to the construction, operation, or maintenance of the signal shall be borne by the applicant. Furthermore, the cost of modifications to the system which may be required in the future in order to provide for traffic to or from the roadside development shall be paid for by the applicant.

When DelDOT, in its sole discretion, determines that a traffic control signal may be required in the future, the developer shall either enter into a signal agreement with DelDOT in accordance with this section or shall contribute to the Traffic Signal Revolving Fund in accordance with Section 3.10.4. The developer shall either enter the agreement or contribute to the Fund prior to obtaining a permit to construct the entrance approval. The agreement shall be kept on file by the DelDOT Traffic Section and used to assess costs when DelDOT finds it necessary to install or modify a signal at the location addressed in the agreement.

The following information must be supplied to the DelDOT Traffic Section for the preparation of the agreement. See Appendix I for a sample Traffic Signal Agreement Letter.

1. Name and address of the company or developer entering into the agreement.

2. Name and address of the development or subdivision.

3. Name of all intersections and/or streets affected (location of signal).

4. Name and title of the person who shall be signing the agreement.

Recording fees associated with signal agreements are to be paid by the developer. This fee shall be submitted to DelDOT with the executed agreement.

~~3.10.2~~ 2.15.2 OFF-SITE IMPROVEMENT AGREEMENT

During the land development process, DelDOT may determine the need for road improvements beyond the entrance to the site. These improvements shall be required as part of the entrance approval. The developer shall enter into an agreement with DelDOT outlining the implementation of the improvements. This may be for the actual design, right-of-way acquisition, construction, and inspection of the improvements, or monetary contribution for the actual construction of the improvements. This agreement shall be executed prior to entrance plan approval. See Appendix B for regulations

regarding improvements requiring new rights-of-way and Appendix H for public road construction applications, forms and agreements.

~~3.10.3~~ 2.15.3 TRAFFIC MITIGATION AGREEMENTS (TMAs)

Land use agencies may have adopted specific level of service or adequate facilities requirements. If these requirements cannot be met, the applicant may, through the local land use agency's process, seek a waiver from such level of service requirements. As a condition of such a waiver, a Traffic Mitigation Agreement between the applicant and DelDOT shall be executed. DelDOT's participation in such agreements shall not be unreasonably withheld.

~~3.10.4~~ 2.15.4 TRAFFIC SIGNAL REVOLVING FUND

Under certain circumstances, described below, a developer has the option of voluntarily contributing to a Traffic Signal Revolving Fund (the Fund) in lieu of entering into a signal agreement. Advantages for the developer include knowing at the outset the amount they will need to pay and when that amount will be due. Advantages for DelDOT include the certainty that the payment will in fact be made and there will be funds available that are derived from a dedicated source of revenue.

DelDOT reserves the right to determine the appropriate location, configuration and implementation of all new and modified traffic signals paid for through use of this Fund.

~~3.10.4.1~~ 2.15.4.1 IMPROVEMENTS QUALIFYING FOR USE OF THE FUND

1. The Fund may be used for school entrances without a contribution from the school district but only when the signal cost was not included in the school district's budget for the project, due to oversight or unforeseen conditions.

2. The Fund may be used to provide a fully functional traffic signal at a specific location. Appropriate uses include signal equipment, pedestrian signals, crosswalks, curb ramps, short sections of sidewalk, conduit, junction wells, cameras, interconnection, signing, striping, engineering and right-of-way needed for the signal installation.

~~3.10.4.2~~ 2.15.4.2 IMPROVEMENTS NOT QUALIFYING FOR USE OF THE FUND

1. If a development directly impacts existing signal equipment, e.g. development of a corner property, the developer must pay immediately for the repair, relocation or upgrade of the equipment. Use of the Fund is not applicable or intended for this purpose.

2. The Fund shall not be used for turning lanes, realignments, or other geometric improvements.

~~3.10.4.3~~ 2.15.4.3 PAYMENTS INTO THE FUND

1. Any development that has been determined to be contributing to the need to modify or install a traffic signal, at a location other than at the access to the development, will be given the option to contribute to the Fund in lieu of executing a signal agreement that will require future payment.

2. Any development for which it has been determined that a signal will be required at the access, when the development opens or in the near future, will either be required to contribute to the fund, or must execute a signal agreement.

3. The Development Coordination Section, shall be responsible for informing developers of their need to pay into the Fund, for determining the amount of their contribution in accordance with Section 3.10.4.5 below, and for ensuring that the funds are received.

4. The developer will be informed that once they have paid into the Fund to address the impact of their development on a specific intersection, they have no further obligations associated with that development to fund existing or future traffic signals at that intersection. They will also be informed that there is no guarantee a signal will be installed when and where they may want it.

~~3.10.4.4~~ 2.15.4.4 FUND ADMINISTRATION

1. The Fund shall be administered by the Department's Division of Finance in two accounts, one for State funds and one for developer contributions.

2. The Chief Traffic Engineer and the Assistant Director of Planning, Development Coordination, consistent with the provisions of Section 3.10.4.1, shall both have signature authority for Fund withdrawals. Whenever a Fund withdrawal is authorized, written notification to the other person with such authority shall be made. In authorizing a fund withdrawal, the authorizing person shall direct the Division of Finance as to the amount to be withdrawn from the State fund account and the amount to be withdrawn from the developer contribution account.

3. As signals are programmed for construction, separate accounts shall be created for each signal construction project for tracking purposes.

4. When the design for a traffic signal is complete and a final cost estimate has been established, funding from any account created for this traffic signal shall

be used first. If the estimate is greater than the funds in this account, then the balance of the funds shall be transferred from the State account to the project specific account. If the project specific account has excess funds, then the excess shall be transferred to the traffic signal maintenance operating budget.

~~3.10.4.5~~ 2.15.4.5 COSTS AND COST ALLOCATION

1. The current cost of installing a signal or upgrading to a new signal, for purposes of contribution to the Fund, is $200,000. This cost will be updated periodically in the future, as costs change. If a design has proceeded such that the actual cost is available, this cost will be adjusted.

2. The cost of maintaining a signal is highly variable. For purposes of contribution to the Fund, the amount is five percent of the amount contributed. This five percent represents an anticipated expense of $1,000 per year for ten years for a new signal costing $200,000. The Department will assume maintenance costs that exceed the five percent. Once collected, these funds will be transferred to the signal maintenance operating budget. The Department will not separately track these maintenance funds, and may use these funds for any signal maintenance purpose, statewide.

3. If a developer must modify an existing signal, the Traffic Section shall prepare a cost estimate specific to the work to be done. The developer will not be required to pay costs related to maintenance when an existing signal is modified.

4. A developer seeking access on a State-maintained road with no access opposite them shall pay into the Fund at ~~100~~105 percent of the current established signal cost (includes five percent for signal maintenance).

5. If costs are to be allocated based upon proportional share, traffic on all existing movements should be counted. Where possible, existing counts should be used rather than obtaining new ones. Counts done for studies associated with the subject development shall generally be considered sufficiently recent. The Development Coordination Section shall determine whether previous counts can be used.

   If costs are to be allocated based upon proportional share, the calculations shall be done using weekday evening peak hour volumes unless the Development Coordination Section determines that another analysis period is more appropriate to the specific situation.

   If costs are to be allocated based upon proportional share, and it is necessary to project volumes to and from committed and proposed developments, the projected volumes shall be calculated using the Institute of Transportation Engineers' (ITE) Trip Generation report where applicable. The Development Coordination Section shall determine applicability and will rule on any

alternative methods of trip generation. The Development Coordination Section shall also develop or review and approve all trip distribution calculations and network assignments.

6. A developer seeking access on a State-maintained road, with a street or another existing or committed unsignalized access opposite them, shall be required to enter into a signal agreement or to pay into the Fund. Payment into the Fund shall be a proportion of the cost based on the traffic generated by the proposed access and the traffic on the street or access opposite the proposed access.

   Example:
   Through traffic on road where property has frontage: not to be considered.
   Total traffic in and out of existing street, existing access or committed access: 160 vehicles per hour.
   Total traffic in and out of proposed access: 240 vehicles per hour.

   Developer pays ~~$120,000~~ $126,000 into the Fund, i.e. ~~60~~ 63 percent ~~(240/(160+240))~~ (1.05 x (240/(160+240))) of the cost ($200,000) of a signal.

7. For intersections beyond the site access, where the need for a future signal or a modification of an existing signal, has been identified, the developer must enter a signal agreement or pay into the Fund. Payment into the Fund shall be based on the developer's share of the existing background traffic plus committed and proposed development traffic.

   Example:

Approach	Move-ment	Existing Traffic (vehicles per hour)	Com-mitted Develop-ment Traffic (vehicles per hour)	Existing + Com-mitted (vehicles per hour)	Proposed Develop-ment Traffic (vehicles per hour)
Northbound	Left	50		50	56
	Through	25	25	50	6
	Right	75		75	38
Southbound	Left	50	28	78	
	Through	25	3	28	50
	Right	75	19	94	
Eastbound	Left	50	175	225	
	Through	1,500		1,500	
	Right	75		75	350

Westbound	Left	75		75	500
	Through	1,500		1,500	
	Right	50	250	300	
Total		3,550	500	4,050	1,000

For a new signal, the developer would pay ~~$39,600~~ $41,580 into the Fund, i.e. ~~19.8~~ 20.79 percent ~~(1,000/(1,000+4,050))~~ (1.05 x (1,000/(1,000+4,050))) of the cost ($200,000) of a signal. For a modification of an existing signal, the percentage would be the same but the base cost would be reduced to reflect the smaller construction cost.
Note: The term "committed" shall be interpreted as defined in Section 1.5 Definitions. The Development Coordination Section shall determine which developments to include as committed in the calculations for a specific intersection and proposed development.

8. Where a development depends on a nearby intersection for access, e.g. a corner parcel that has full access on a minor road and limited or no access on a major road, that intersection shall be treated, for purposes of cost allocation, as a site access, i.e, parts 4 and 6 above apply rather than part 7.