



CITY OF DOVER

TRANSPORTATION ADVISORY COMMISSION AGENDA

Meeting Type: **Regular Meeting**
Meeting Location: **Finance Conference Room, City Hall**
Meeting Date: **Monday, November 23, 2009**
Meeting Time: **7:00 pm**

1. ROLL CALL

2. OLD BUSINESS

- A. Review/Approval of meeting minutes from September 21, 2009 meeting
- B. Neighborhood Design Principles – (Commissioner Scruton request)
- C. Fourth Street parking concern (area of Frances Drive)
- D. Shaws Lane / Garrison School parking/traffic (staff update)

4. NEW BUSINESS

- A. Traffic calming strategies – request from Dover Housing Authority re: Pleasant View Circle, Mineral Park Drive, Hampshire Circle
- B. Stop sign request – Morningside Drive / Riverdale Avenue intersection
- C. Discussion on Transportation-related Land Use Regulations – Planning Department request

5. MEMBER COMMENTS

6. SCHEDULE NEXT MEETING (tentatively December 28, 2009)

7. ADJOURN

11/26/07

Policy for Traffic Impact Studies

City of Dover

Planning Department

POLICY

This policy is to provide for consistency in the preparation of traffic impact studies using certain established criteria and for the fair assessment of traffic study required application surcharge fees. It has been prepared for the purpose of assisting City staff, consultants, developers and others interested in evaluating traffic impacts within the City of Dover. Consultants are invited to discuss proposed projects with the Planning staff prior to beginning an analysis and/or submitting a development application. Doing so will provide an opportunity to discuss and determine parameters to be used and open a communication link between City staff and the developer/consultant. This communication will help in creating land uses with traffic characteristics that are in the best interest of the entire community.

TRAFFIC CHARACTERISTICS

Peak Hour Traffic = 12% of daily traffic for non-site traffic.

Directional Split = 60/40 if local data not available for non-site traffic.

Pedestrian Times = 4'/second plus 7 second Walk (minimum).

Maximum Cycle length = 120 seconds.

Annual Traffic Growth = 0.5%/yr. (subject to revision) (not applicable in growth "hot spots")

Assumed design hour = weekday afternoon peak hour

TRAFFIC REPORTS

All traffic reports shall contain, as a minimum, the following information:

1. A summary table listing each type of land use, the units involved, the trip rates used (daily as well as peak periods), the resultant trip generation.
2. A site map that shows the location within the site of each land use listed above.
3. Traffic graphics should show:
 - A. A.M. peak hour site traffic.
 - B. P.M. peak hour site traffic.
 - C. A.M. peak hour total traffic.

- D. P.M. peak hour total traffic.
- E. Total daily traffic (site traffic shown in parenthesis).

4. A capacity analysis should be conducted for all streets and driveways that intersect collector or major streets and at all major to major intersections within one half mile of the site or as directed by the Traffic Planner. The consultant shall test both of the peak hours to determine the critical movements.

Appropriate clearance intervals shall be provided for each exclusive movement. Pedestrian movements must be provided for each cycle. Maximum pedestrian walking speeds shall be four feet per second with a minimum "WALK" time of seven seconds. Intersection pavement widths shall not exceed that required to provide adequate through lanes in each direction, any required left-turn lane(s) and a right-turn lane.

Traffic progression will be of paramount importance. Consequently, all potential signalized intersections will have a minimum spacing of one-quarter mile on major arterial streets. Major driveways that could require signalization should not be placed between the one-quarter mile points. Through-put efficiency of major corridors in the City shall also be of paramount importance with regard to signal timing and design.

Level of service (LOS) "C" shall be the design objective, however, LOS "D" will be considered as a design objective subject to the approval of the Traffic Planner. Under no circumstances will less than LOS "D" be accepted for site and non-site traffic. If LOS "E" is the result of the study, then alternatives (developer funded mitigation efforts) for providing LOS "D" shall be analyzed and included as part of the study.

Generally, the design years will be opening year and ten (10) years following construction. Specifically, opening year for design purposes and 10 years for long term impact awareness purposes. The base volume for non-site traffic shall be the latest forecasts available from either the City of Dover or the Strafford Regional Planning Commission. State of New Hampshire DOT counts shall not be used unless they are generated by an automatic traffic recorder (ATR).

The source for trip generation rates shall be "Trip Generation" published by the Institute of Transportation Engineers (ITE), most recent edition, unless otherwise approved by the Traffic Planner. On-site trip interaction shall not exceed 15%. Pass-by "Capture" rates shall be documented and specific references shall be identified and noted for rates used.

The source for trip assignment values shall be from data collected from an identical land use or from data collected from the site's adjacent roadway network by competent authority.

All final submittals for traffic studies and/or reports shall be signed and sealed by an New Hampshire Registered Civil and/or Professional Engineer, preferably with traffic engineering certifications.

TDM Plan Standards for New Development: Final DRAFT 10-23-08

Proposed for inclusion in the Technical and Design Standards and Guidelines Supplement or site review regs.

1. OBJECTIVES

The objective of the Transportation Demand Management (TDM) Ordinance is to reduce project-related vehicle traffic and parking by providing better transportation choice for the residents, tenants, employees, and customers of new development in all commercial, industrial, office and ETP zoning districts in the City. TDM plans will be most effective when they use incentive based motivations to change travel behavior of development users. The TDM plans typically employ elements such as public transit incentives, parking cash-out, car sharing, car and van pooling incentives, provision of bicycle and pedestrian commuting accommodations, guaranteed ride home programs, employee surveys, newsletters and alternative transportation information sharing, telecommuting, flexible work schedules, and other such strategies that reduce single occupancy vehicle trips to and from the development.

Vehicle trips are generated by both occupants of development (such as residents, commercial tenants, and employees) and visitors (such as retail customers, office clientele, and commercial associates.) While many vehicle trip reduction strategies will be targeted toward development occupants, TDM plan effectiveness will be evaluated against the total impact of traffic generated by the development.

The objective of these standards is to provide a framework whereby developers and tenants achieve a tool for managing the transportation needs and impacts for their projects and businesses. The level of detail and effort expected in the production and administration of TDM plans should be proportional to the size of a given project and its associated transportation impacts. The envisioned end product for each TDM plan is to be an increment in a larger transportation system for each district or neighborhood. The TDM plan is the tool that describes and informs how a specific project fits within and contributes to this system.

As a tool, the TDM plan provides developers, tenants and residents with opportunities to reduce transportation related construction and operating costs. For the community, project specific TDM plans provide opportunities to build toward an integrated transportation system for the district or neighborhood - a system consistent with the goals of *transit oriented development* as stated in the City's Transportation Master Plan.

2. DEVELOPER INCENTIVES

When developments reduce vehicle trips generated by their projects, they provide opportunities to reduce development costs in traffic infrastructure, parking construction,

and parking management. A development’s TDM plan is the document that describes how these reductions can be achieved and how they will be monitored over time

A. Parking and Infrastructure Contribution Reductions.

As an integrated part of the Site Plan review process, TDM can be used to reduce development costs and through reduced need for parking, traffic-related improvements, and off-site infrastructure contributions. Planning review processes may incorporate the anticipated reduction in vehicle trips into:

- Reduced parking requirements (from analysis generated demand projection)
- Reduced on and off-site traffic infrastructure improvements (based on estimated reductions in projected vehicle trips)
- Reduced infrastructure contributions (prorated for projected trip reduction)
- Potential to avoid triggering a Traffic Movement Permit (assuming a trip reduction below the 100 trip per peak hour threshold.)

B. Performance Guarantees

Developments that use TDM Plans as the basis for reductions in on-site or off-site traffic infrastructure, fee-in-lieu of parking and/or off-site traffic infrastructure contribution shall provide a financial Performance Guarantee to ensure compliance. The TDM Performance Guarantee shall be provided prior to issuance of any Certificate of Occupancy. The guarantee shall be in the form of funds to be held in escrow or letter of credit with the value of the funds being equal to the fee in lieu of parking established herein, and/or marginal value of the required traffic infrastructure improvement, and/or contribution.

The fee-in-lieu of parking is calculated as the difference between the total parking demand, as determined by analysis, minus the parking supplied, times the parking-in-lieu-fee of **[\$1,000]** per space. The fee is due for payment prior to Certificate of Occupancy.

The marginal value of infrastructure requirements and/or contributions will be calculated, using total ITE vehicle trip generation figures as basis, minus the assumed trip generation figure with the TDM plan in place. Alternatively, project specific trip generation projections may be used in place of ITE standards, if estimated by a licensed professional engineer and approved by the City. (See Section 5.D., Set Parking and Trip Reduction Target, below.) The Planning Director shall establish requirements for traffic infrastructure and/or off-site contributions based on the approved trip generation projection.

The Performance Guarantee will be held for a period of not less than two (2) years after occupancy, during which time the developer shall conduct periodic traffic and parking monitoring to determine the efficacy of the TDM plan and the amount of actual parking and trip reductions. The traffic and parking monitoring shall be conducted by a qualified professional according to the methodology established in the TDM plan and a report of compliance shall be provided to the City for review and approval by the Planning Director. (See Section 5.F., Monitoring, below.)

If the development achieves the targeted vehicle trip reductions within 2 years, the Performance Guarantee funds shall be released to the developer. If the actual trip reductions are less than the targets assumed in the TDM plan (and used as the basis for parking, traffic infrastructure, and traffic contribution reductions) then the developer has an opportunity to revise the TDM plan to meet the projected trip reduction targets, after which the monitoring is repeated. If the targets are achieved, the associated funds are refunded to the developer.

To the extent that the targets are not achieved, the TDM plan revisions and monitoring are administered according to the following provisions.

1. Opportunity to Revise the TDM Plan:

Modify the TDM to attempt to achieve the original *Parking and Trip Reduction Targets*. The developer will have no more than 2 additional years, and no more than 4 years from the date of occupancy of the project to demonstrate through monitoring achievement of these goals. TDM plan amendments shall be submitted for review and approval by the Planning Board and Transportation Advisory Commission.

The TDM will be held during this second monitoring period, but may be proportionally reduced to reflect actual measured progress toward reaching the trip reduction target; however, the balance of the Performance Guarantee held must be sufficient to mitigate against the measured parking demand (as the basis for in-lieu fees) and traffic impacts, as determined by the Planning Director.

2. Forfeiture of Parking-in-lieu fee, traffic improvements contribution, and /or implementation of required traffic improvements:

In the case of non-performance in achieving TDM targets within 4 years of the issuance of the Certificate of Occupancy, the developer shall provide a plan to comply with the *traffic requirements* as previously established by the Planning Director. Revised traffic requirements will be established to reflect the observed traffic impacts as determined by monitoring. These requirements may include augmented on-site or off-site

infrastructure, and/or contributions toward off-site infrastructure improvements. Amended plans for compliance with the new requirements shall be submitted for review and approval by the Planning Board and Transportation Advisory Commission. Any required traffic improvements included in the amended plan shall be implemented within 1 year of submission of the revised plan.

In the event that the traffic reduction targets are not met within the maximum four-year performance monitoring period, the developer will forfeit the proportion of parking-in-lieu fees or contributions associated with the unmet trip/parking reduction target.

Parking-in-lieu fees retained by the City will be utilized to provide or assist in the financing of public transit, bicycle or pedestrian improvements, or public parking in the Bayside zone area.

Traffic improvement contributions retained by the City will be utilized for the planned traffic improvements on which the contributions were based. The City will have up to six years from the date of forfeiture to complete the improvements, or the funds may be refunded to the developer.

The TDM Performance Guarantee will be released upon verification of completion of the amended plan for new parking and traffic improvements and/or payment of contributions and fees-in-lieu of parking.

3. RESPONSIBLE PARTIES

F. Plan Development

Project developers are responsible for producing monitoring and maintaining the TDM plan for as long as they hold an ownership interest in the development.

F. Plan Transference

The TDM plan requirement runs with the development as a condition of the site plan approval and the requirement shall run with the property. Individual tenant leases and condominium documents within the development must contain requirements for the participation in and/or administration of the TDM plan. The requirement of the TDM plan, but not the plan itself, shall be registered with the County Registry of Deeds to notify prospective buyers of the requirement and need for TDM plan adherence, monitoring and maintenance.

F. Plan Administration

The project developers, or their occupant tenants as appropriate, shall assign a TDM Coordinator to administer the plan.

Note: For smaller developments, the TDM coordinator may be the owner or manager of a property or business. As the number of employees in a development increases, the human resources director or assignee may be employed or the function may be contracted to a professional services company or agency. Only in the largest organizations would staff be expected to be assigned as a dedicated TDM coordinator as a primary responsibility. Such a development would typically have a facilities management and human resource responsibilities engaged with employee transportation, safety, and parking. Many, if not all, of the activities included in a typical TDM plan are already performed by organizations large and small. The framework of TDM plans established here promotes common survey formats, information sharing, and coordinated monitoring that allow these activities to be shared and coordinated for common efficiency and efficacy.

4. TDM PLAN AMENDMENTS

E. Changes of tenancy and/or change of use

Changes of tenancy and/or change of use that do not result in a site plan amendment are required to adhere to the TDM plan as filed with the Planning Board. Changes of tenancy and/or use, or physical changes to the project site that require Minor Site Plan amendment shall submit an updated TDM plan for the review and approval of the Planning Board. Major Site Plan Amendments shall include an update for the TDM Plan for review and approval of the Planning Board.

E. Amendments

Development owners may at any time apply to amend a TDM plan to meet specific circumstances that may arise during the administration of the Plan as a means to more effectively or efficiently reduce vehicle trips and meet the intent of Site Plan regulations regarding traffic impact mitigation. All amendment proposals shall apply for a site plan amendment for review and approval by the Planning Board.

5. GENERAL STANDARDS

All TDM Plans shall include specific provisions for the following:

A. Transportation Narrative

Every TDM plan shall describe how the project fits within the multi-modal transportation system serving the Urban Core of the City. The narrative should address the specifics of the use, occupants, visitors, and location of the development and how it is anticipated to relate to its transportation context.

B. Identify a TDM Coordinator to administer the TDM plan.

Every TDM Plan needs to identify the plan administrator and establish the roles and responsibilities of the administrator.

C. Employee and Customer Survey

The TDM plan shall develop and use an employee and/or customer survey format that:

- i. Is specifically designed to reflect the use mix within the development.
- ii. Is electronically tabulated.
- iii. Produces comparable data from year to year
- iv. Allows for compilation of data from multiple employers by third party.
- v. Allows for data use by employees to foster car pooling and ride sharing.
- vi. Identifies barriers to or best practices in public transit, bicycle, and pedestrian transportation.
- vii. Can be conducted periodically (typically annually) and can be used to monitor program effectiveness and provide the basis for periodic plan adjustment. See Monitoring section below.)

D. Set Parking and Trip Reduction Target

The TDM plan shall use ITE trip generation and parking demand projections as the basis to establish a projected transportation demand and/or impact of the development. Alternatively, project-specific parking and trip generation projections may be used in place of ITE standards, if estimated by a licensed professional engineer and approved by the City. A project specific demand analysis may be advantageous to projects that can

demonstrate reduced parking demand and trip generation based on approved assumptions in their TDM and Site Plan.

Note: In the zone, parking requirements are established by project specific demand for all projects.

The TDM plan must use the specific use, location, local alternative transportation opportunities, and initial survey results (see above) to establish an achievable percentage reduction in transportation demand for the project. The TDM plan will utilize the stated parking and trip reduction targets as the basis for reduced infrastructure and contribution requirements for the Planning Board’s evaluation (see Section 2, Developer incentives, above.)

D. Customize Parking and Trip Reduction Strategies to Use Mix

Every TDM plan must be customized to reflect the specific mix of use proposed for the development. A residential development will utilize a very different approach to reducing project generated parking and trips than an office building. Likewise, the administration of the TDM plan and the role of the TDM coordinator will need to respond to the scale of the development, the uses in the development, as well as the ownership framework and management of the facility.

E. Education

The TDM plan shall include provisions for all project occupants to have access to the following information:

- i. Transit maps and schedules shall be posted and updated
- ii. Access to transportation provider and guaranteed ride home services such as: car pooling list serves, Van Pool providers, Seacoast Commuter Options.
- iii. Internal information sharing such as posting a “Ride Board” or employee email list-serve to facilitate car pooling and to share the results of employee and customer surveys.
- iv. Educational and promotional material that describes and identifies the advantages and cost savings to employees of using alternative transportation, including specific incentives offered by the employer.
- v. Recognition of employees who reduce the traffic impact of the development through newsletter, email, bulletin board, or other announcements.
- vi. Information on bicycling (routes, racks, etc.)

F. Monitoring

All TDM plans must include provisions for monitoring program effectiveness over time to establish whether trip reduction targets are being met.

i. Responsibility

TDM Coordinators and/or plan administrators are responsible for monitoring the efficacy of the TDM plan periodically over time and making adjustments to the plan needed to achieve Trip Reduction Targets (See 5.C., above.)

ii. Methods

The methods and scheduling of monitoring shall be outlined in the TDM plan and shall follow accepted practice in the field of transportation engineering. Monitoring methods will typically involve use of the periodic survey results (See 5.B., above) combined with direct observation as needed.

iii. Reporting

TDM plan monitoring shall be compiled into a report that compares the results to Trip Reduction Targets and parking demand projections. The monitoring results shall be provided to the Planning Board according to the monitoring schedule established in the TDM plan (typically, annually.)

5. PROJECT SPECIFIC STANDARDS

Individual TDM Plans shall assess the following topics on a site-by-site basis tailored to the transportation needs of the specific project.

A. Infrastructure

On-site and off-site infrastructure improvements may be needed to achieve Trip Reduction Targets. These improvements shall be incorporated into the development Site Plan and covered by a Site Plan Development Agreement to ensure their installation according to Planning Board approval.

i. Public Transit Access

The TDM plan shall identify how occupants and/or visitors will access public transit. Pedestrian links to bus routes and or other transit links shall be identified and their usability assessed for sidewalk condition, ADA accessibility, street lighting, cross walk facilities, wayfinding, and general safety and attractiveness. The nearest sheltered bus stop shall be identified. Deficiencies in the links to public transit that constitute barriers to use shall be addressed in the TDM plan and in the development Site Plan.

ii. Bicycle parking

Minimum bicycle parking is a site plan requirement (to do?). The TDM plan may incorporate additional bicycle parking, bicycle wayfinding, and/or covered parking to further encourage bicycle use.

iii. On-site showers

TDM plan may incorporate access to showers and locker facilities to encourage human powered transportation.

iv. TDM bulletin board/kiosk

TDM plans shall identify where information and educational material will be provided within the development through the location of a visible and convenient facility such as a transportation bulletin board and/or kiosk. In multi-tenanted facilities, transportation information shall be posted in the lobby of the structure or other such location that is accessible and frequented by a significant majority of occupants and visitors to the facility. The TDM coordinator shall keep material current and available as needed.

B. Incentives

1. Parking “Cash Out”

TDM plans may include “parking cash out” incentives where employees have the choice of receiving monetary payments in lieu of provided parking. The efficacy of these programs will need to be carefully assessed and the method of monitoring described in the TDM plan (see 5.A.ii, above.)

2. Public Transit Passes/Van Pool vouchers

Free or reduced price bus passes or van pool vouchers may be used as an incentive in the TDM plan. The use of transit options should be incorporated into the employee/customer survey and incorporated into the plan monitoring program. Transit payment options may be combined with parking cash out incentives (see 5.B.i, above.)

3. Preferred parking for car pool

Car pooling employees shall be provided with more convenient and attractive parking, if available. If this option is incorporated into the TDM plan, the location of preferred parking shall be identified on the site plan and signed accordingly.

4. Car sharing (to reduce the need for employee vehicle trips during the work day.)

Residential developments may incorporate shared car services or jointly owned vehicles into the TDM plan. Commercial development TDM plans may identify use of a shared vehicle for use by employees for either commercial or personal trips through the work day as a means to encourage alternative commuting to work.

5. Telecommuting, flex time, and other flexible work scheduling mechanisms that promote fewer employee trips to work or promote alternative transportation travel.

6. Other incentives and methods as may be appropriate to the development over time.

(1) Traffic Impact Assessment

(a) Purpose: To document existing traffic conditions in the vicinity of the proposed project, to describe the volume and effect of projected traffic generated by the proposed project, and to identify measures proposed to mitigate any adverse impacts on traffic.

(b) Format and Scope:

(i) Existing traffic conditions: average daily and peak hour volumes, average and peak speeds, sight distances, accident data, and levels of service (LOS) of intersections and streets likely to be affected by the proposed development. Generally, such data shall be presented for all streets and intersections adjacent to or within 1000 feet of the project boundaries, and shall be no more than 12 months old at the date of application, unless other data are specifically approved by the Planning Board. Where a proposed development will have an impact on a critical intersection or intersections beyond 1,000 feet of the project boundary, particularly intersections of arterial and collector roadways which are integral to the circulation of the proposed development, the Planning Board may require that such intersections beyond 1,000 feet of the project boundary be included in the analysis of traffic conditions.

(ii) Projected traffic conditions for design year of occupancy: statement of design year of occupancy, background traffic growth on an annual average basis, impacts of proposed developments which have already been approved in part or in whole by the City.

(iii) Projected impact of proposed development: projected peak hour and daily traffic generated by the development on roads and ways in the vicinity of the development; sight lines at the intersections of the proposed driveways and streets; existing and proposed traffic controls in the vicinity of the proposed development; and projected post-development traffic volumes and levels of service of intersections and streets likely to be affected by the proposed development (as defined in (i) above).

Development Impact Standards

The following standards shall be used in evaluating projected impacts of proposed developments; provided, however, that an application for site plan review and approval shall be evaluated using only the standards contained in the sections below. New building construction or other site alteration shall be designed, to the extent feasible, and after considering the qualities of the specific location, the proposed land use, the design of building form, grading, egress points, and other aspects of the development, so as to comply with the following standards:

a. Traffic Impact Standards

(1) The "level of service" (LOS) of all impacted intersections and streets shall be adequate following project development, or the total value of off-site traffic improvements required or approved by the Planning Board as a condition of approval in any location within the City affected by the proposed project shall be equal to a minimum

of three per cent (3%) of the total development cost of the proposed project. For purposes of this standard:

(i) "Level of service" (LOS) shall be determined according to criteria set forth by the Transportation Research Board of the National Research Council;

(ii) "impacted" means intersections projected to receive at least five per cent (5%) of the expected traffic generated by the proposed development, either based upon the total anticipated peak hour traffic generated by the proposed project, or based upon the total anticipated average daily traffic counts generated by the proposed project;

(iii) "adequate" shall mean a level of service of "B" or better for rural, scenic and residential streets and for all new streets and intersections to be created in connection with the project; and "D" or better for all other streets and intersections; and

(iv) "total development cost" shall mean the total of the cost or value of land and all development-related improvements, and shall be determined on the basis of standard building or construction costs, such as published in the Engineering News Record or other source acceptable to the Planning Board, for the relevant type of structure and use.

(2) The proposed site plan shall minimize points of traffic conflict, both pedestrian and vehicular. The following guidelines shall be used to achieve this standard:

(i) Entrance and exit driveways shall be so located and designed as to achieve maximum practicable distance from existing and proposed access connections from adjacent properties.

(ii) Where possible, driveways shall be located opposite similar driveways.

(iii) Sharing of access driveways by adjoining properties and uses is encouraged.

(iv) Left-hand turns and other turning movements shall be minimized.

(v) Driveways shall be so located and designed as to discourage the routing of vehicular traffic to and through residential streets.

(vi) Pedestrian and bicycle circulation shall be separated from motor vehicle circulation as far as practicable.

Conditions, Limitations and Safeguards

In granting approval of an application the Planning Board may impose conditions, limitations and safeguards which shall be in writing and shall be a part of such approval.

Such conditions may include, among other matters and subjects:

a. Controls on the location and type of access to the site;

- b. Controls on the number of vehicles that arrive or depart during the morning and/or evening peak hours (including controls on the maximum number of vehicles which may use the off-street parking areas during said periods);
- c. Requirements for off-site improvements up to a maximum value of six per cent (6%) of the total development cost of the proposed project to improve the capacity and safety of roads, intersections, pedestrian ways, water, sewer, drainage, and other public facilities which are likely to be affected by the proposed development;
- d. Requirements for donation and/or dedication of land for right-of-way to provide for future roadway and/or intersection widening or improvements;
- e. Requirements for securing the performance of all proposed work, including proposed off-site improvements, by either or both of the following methods: (1) a performance bond, a deposit of money, negotiable securities, letter of credit, or bank passbook in an amount determined by the Planning Board to be sufficient to cover the cost of all or any part of the improvements required as conditions of approval; (2) a covenant running with the land, executed and duly recorded by the owner of record, whereby the required improvements shall be completed before the property may be conveyed by other than a mortgage deed.
- f. Conditions to minimize off-site impacts on traffic and environmental quality during construction.
- g. Requirements for reductions in the scale of the proposed development, including reductions in height, floor area, or lot coverage, provided, however, that any such reduction be limited to that which is reasonably necessary to reduce the level of impact of the proposed development to a level that will permit the Board to make the written findings required under Section IV.I.7.(a) herein.
- h. requirements for screening parking facilities from adjoining premises or from the street by walls, fences, plantings, or other devices to mitigate adverse impacts;
- i. conditions to mitigate adverse impacts to the neighborhood and abutters, including but not limited to adverse impacts caused by noise, dust, fumes, odors, lighting, headlight glare, hours of operation, or snow storage.

The applicant, when other than the owner(s), and the owner(s) of land will be responsible for mitigation measures or conditions which are required as part of a favorable decision for issuance of site plan approval.

Traffic Impact Analysis

1. Traffic Impact Analysis: All proposed non-residential and multi-family

development proposals shall be reviewed by the Board to ascertain that adequate provisions have been made by the owner of his/her agent for traffic safety. To facilitate this review, the applicant may be required to provide a traffic impact analysis when deemed necessary by the Board due to the size, location or any other traffic-generating characteristic of the development. Traffic impact studies shall address each of the following items:

- a. Traffic circulation, access and egress, adequacy of adjacent streets and intersections, entrances and exits, traffic flow, sight distances, accident statistics, curb cuts, turning lanes, and existing or recommended traffic signalization.
- b. Pedestrian safety, circulation, access and egress.
- c. Off-street parking and loading.
- d. Emergency vehicle access.
- e. Off-site improvements necessitated by the development.

2. The Planning Board may use in-house Transportation Planner and engineering staff or retain the services of a consultant qualified in traffic planning to review the traffic impact analysis and to ensure that adequate provisions are made in the development plan to reduce or eliminate those impacts. The Board may further require, pursuant to RSA 676:4 I(g), that the developer reimburse the City for reasonable costs of this review. These costs shall be captured either as a consultant fee or as a predetermined traffic analysis application surcharge fee. No plan shall be approved until such fees, if applicable, are paid in full.

Traffic Impact Analysis Requirements

a. Submittals: All projects must provide a report meeting the requirements outlined for a “short” traffic impact analysis. If any of the following conditions apply, then a “full” traffic impact analysis must be completed:

1. Trip generation exceeding 1,000 average daily trips or 100 peak hour trips. Peak hour is defined as any of the following:
 - i. AM peak hour (7-9 AM);
 - ii. PM peak hour (4-6 PM);
 - iii. Saturday midday peak hour (11AM-1PM); and
 - iv. peak hour generator for certain land uses (e.g., school, movie theater) if it falls outside the three previously listed periods. Analysis of Saturday midday peak only applies to retail uses.
2. The Planning Department may require a “Full” analysis because of special circumstances.

b. Required for Short Analyses:

The “Short” analysis has two primary objectives: First, to justify that a “Full” analysis is not required, and, second, to determine the appropriate impact fee exaction imposed on the developer. At a minimum, the “Short” analysis must include the following:

1. Description of Site: A brief narrative of the character of the site and adjacent properties, including land uses and other pertinent facts.
2. Description of Roadways: A brief narrative of the study area roadway facilities, including the number of lanes, speed limit, major intersections, and locations of existing driveways. A description of pedestrian amenities such as sidewalks, crosswalks, and handicap ramps should also be completed.
3. Sight Distance: Measurements shall be provided for each driveway. A comparison of the available sight distance at each study intersection with City of Dover standards shall be included.
4. Trip Generation: In all cases, the analysis shall include trip generation based upon the ITE Trip Generation Handbook - latest edition. Where the applicant feels the ITE trip generation is not representative of the proposed development, justification must be provided for alternative trip generation methodology. If counts are performed to determine trip generation rates, the applicant must conduct two separate counts and provide full details of the count locations, including the size of the facility, percent occupancy, location, adjacent road Average Daily Traffic (ADT), time, and date of count.
5. Trip Distribution: At the "Short" analysis level, trip distribution shall be described in a report that demonstrates knowledge of area-wide land uses, roadway facilities, and predominant traffic flows by time of day. The analysis shall contain a percentage distribution of trips (by direction) to the adjacent roadway facilities and any relevant assumptions. All assumptions made shall be outlined, with justification, in the report.
6. The report shall be stamped by a professional engineer.

c. Required for Full Analyses:

1. The applicant shall meet with the Planning Department to confirm the study area and study area requirements.
2. General Requirements: All information described in the "Short" analysis must also be contained in the "Full" analysis.
3. Existing Traffic Counts: In no case shall existing traffic counts used in the analysis be more than two years old (from date of count to date of analysis submittal). If a significant change (e.g., new roadway or development) has occurred within the last two years, the Planning Department and/or City Engineer can, at their discretion, require that new counts be conducted. Traffic counts shall include information on date, time, day of week, and name of the firm or individual who performed the counts. Traffic counts shall be seasonally adjusted to average and peak conditions.
4. Design Year Traffic Projection:
 - i. Design Year: The design year for traffic projections shall be 10 years from the current year.
 - ii. The applicant shall obtain a list from the City of Dover containing all proposed developments permitted to date within the study area. The traffic generated by these projects shall be added to the no-build and build analyses. Additionally, the background growth rate should be determined based upon information obtained from the City or the Strafford Regional Planning Commission. The calculated background growth rate should be completely documented and included in the study for review.
 - iii. Trip Generation: Traffic projection for trip generation growth is described in the "Short" analysis section.

iv. Trip Distribution: The applicant shall provide justification for the assumed trip distribution. The trip distribution methodology should be representative of the type of development. Data may be obtained from employee zip code analysis, studies of similar sites, analysis of ADT on adjacent roadways, US Census journey to work and home-based work/non-work trips, or other sources. Graphic presentation shall be provided showing 1) peak hour trips added by the development, and 2) study area peak hour traffic volumes under each of the following scenarios:

- a. Existing conditions;
- b. Existing conditions with proposed development;
- c. No build for design year, and;
- d. Build for design year.

3) Peak Hour Capacity Analysis: Capacity analysis is to be performed at all study intersections (including driveways) using the most current Highway Capacity Manual Level of Service methodology for signalized and unsignalized intersections. Each of the four scenarios listed above must be analyzed at a minimum. A gap acceptance analysis should be provided in the case of adjustment to the default critical gap in the capacity analysis.

4) Safety Analysis: Accident data for the roadways and intersections included in the study area shall be obtained from the Dover Police Department. Accident history for the three most recent years available shall be summarized and compared to the Statewide or national rates established for the corresponding facility type (e.g., rural two-lane highway, urban arterial, etc.).

i. The minimum all season sight distance shall be three-hundred sixty-five (365) feet in all directions meeting the requirements for roadway intersections and Section X of the Dover Subdivision Regulations.

5) Trucks: The location of loading docks and/or delivery drop-off areas shall be given in the analysis. The estimated frequency of trucks by time of day shall be provided when the number of daily truck trips exceeds 30 percent of the ADT on any roadway in the study area.

6) Parking: There should be a defined correlation between estimated trip generation and parking space requirements. The proposal shall contain a comparison of daily and peak hour trip generation estimates to the number of proposed parking spaces on site.

7) Narrative: Discussion of the following shall be provided:

i. Travel safety characteristics of any streets substantially impacted by allowing the build” alternative, considering such things as sight distance limitations, width limitations, horizontal or vertical alignment deficiencies, and surface conditions;

ii. Streetside safety of any streets substantially impacted, considering such things as the amount and type of development along such streets, presence of sidewalks, vehicle speeds, and any outstanding limitations in sight distance or road configuration;

iii. Impact on pedestrian safety and convenience;

iv. Noise impacts on residential premises.

8) Mitigation: Any mitigating measures proposed shall be described in detail and included in the analysis. It is imperative that the applicant identify improvements to intersections even if they don't fund them fully. Transportation Demand Management (TDM), non-vehicular transportation and mass transit should be strongly considered as mitigating strategies.

d. Standards

1. If not more severely limited under other provisions of other laws or regulations, the absolute increase in calculated intersection delay, under “build” conditions, shall be no more than 10-20 seconds.
2. Average daily traffic volumes shall not be increased by more than one-third above the “no-build” level on any street.

e. Procedure

1. Applicants shall contact the Planning Department early in the project design regarding the scoping of any traffic studies, including consideration of the study area boundary, the definition of “alternative” where involved, and the type of mitigation, if any, which are likely to prove appropriate.
2. Impact studies shall be submitted at the time of application for site plan review, to allow review prior to the public hearing or meeting at which the project will be presented to the Planning Board.