ARTICLE XIV

Rules and Regulations for Traffic

[Amended 5-6-1996 STM by Art. 16]

§ 135-1401. Purpose.

The purpose of this article is to manage traffic so as to:

(1) Provide for the orderly movement of traffic, reduce accidents, allow adequate emergency response and maintain adequate and safe streets;

(2) Discourage the use of neighborhood streets as shortcuts by promoting the use of arterial and collector streets;

(3) Encourage the use of traffic engineering design standards appropriate for a residential suburban community;

(4) Encourage private sector participation in managing traffic;

(5) Create and maintain safe and convenient pedestrian access and bike paths;

(6) Encourage the use of public transit, car pools and van pools;

(7) Promote clean air by reducing exhaust emissions.

§ 135-1402. Definitions.

For the purposes of this article the following terms shall have the following meanings:

ADEQUATE CAPACITY — Level of Service (LOS) D or better on every major approach for arterial and collector streets; LOS C or better for residential and subcollector streets.

AVERAGE DAILY TRAFFIC (ADT) — The number of vehicles passing a point on a street during a twenty-four-hour period on a typical day.

CAPACITY OF AN INTERSECTION — The maximum number of vehicles which can reasonably be expected to be processed through an intersection or street segment during a one-hour peak time period.

DESIGN YEAR — The fifth year after a development is scheduled to be completed.

EXCEPTIONAL PEAK PERIOD — An exceptional hourly, daily or seasonal period of trip generation (i.e., the December holiday).

IMPACTED STREET — A residential or subcollector street or intersection receiving 25 or more peak hour trips from a development; a collector arterial street or intersection receiving 50 or more peak hour trips from a development.

LEVEL OF SERVICE (LOS) — A measure of the operating conditions of an intersection or street segment ranked on a scale from LOS A (optimum) to LOS F (failing) as defined in the Highway Capacity Manual, latest edition, Transportation Research Board.

PASS-BY TRIPS — The number of trips captured by a land use from existing traffic on an adjacent street.

PEAK PERIOD, EVENING — 3:00 p.m. to 6:00 p.m.

PEAK PERIOD, MORNING — 7:00 a.m. to 9:00 a.m.

PEAK PERIOD, SATURDAY — 12:00 noon to 4:00 p.m.

SIGNAL PHASE — That part of a traffic signal's time cycle allocated to a traffic movement or a combination of movements (including exclusive pedestrian movements) receiving the right-of-way simultaneously.

STREET:

ARTERIAL — An interregional street with an ADT of more than 5,000 conveying traffic between centers.

COLLECTOR — A street carrying large volumes of traffic (maximum ADT of 5,000) between arterial streets and residential and subcollector streets and having limited direct access to lots.

SUBCOLLECTOR — A street with a maximum ADT of 1,000 to 2,000 which provides access to lots and carries residential traffic to collector and arterial streets.

RESIDENTIAL — A street with low traffic volume (maximum ADT of 1,000) which provides frontage for access to lots and carries traffic with destination or origin on the street itself.

STUDY AREA — An area which encompasses all impacted streets.

TRIP — A single or one-directional vehicle movement.

TRIP ASSIGNMENT — Assignment of development generated and through trips to municipal streets and a development's driveways.

TRIP RATE — The number of trips per unit of independent variable (e.g., trips per dwelling unit, employee or square footage).

§ 135-1403. Applicability.

Article XIV shall apply to every application for a special permit (SP) or site plan review (SPR).

§ 135-1404. Traffic study.

A. A traffic study, prepared by a professional engineer registered in Massachusetts or other appropriate professional specializing in traffic planning, shall be submitted with each application for a SP or SPR in which the proposed activity will generate 50 or more new trips during the peak hour of the development. If no streets are impacted by a development, the SPGA may determine that a traffic study is not required. The applicant, at his discretion, may consult with the SPGA or its designees prior to the submission of a SP or SPR in order to identify the intersections to be studied and the appropriate elements to include in the study.

B. Trip rates may be based on Institute of Transportation Engineers Trip Generation, latest edition (ITE), or data from similar developments in similar settings in Massachusetts.

(1) If ITE is used, the land use code, number of studies, weighted average trip rate, trip generation equation standard deviation and coefficient for each land use used shall be provided. Use of the weighted average trip rate or trip generation equation to predict trips for each land use shall be based on the procedures set forth in ITE.

(2) If local trip rates are used, the methodology used and the applicability of the data shall be provided.

(3) It data is available from ITE and local sources, the applicant may demonstrate why the ITE data is not accurate and should not be used. The SPGA shall determine which data source will be used.

C. All traffic counts including turning movements shall have been taken within 12 months of the date of submission and shall be adjusted for seasonal variation with an explanation as to how the adjustment was made.

D. Projections of ADT's, turning movements and capacity analyses shall be adjusted for (where appropriate):

(1) Background traffic with an explanation as to how said adjustment was made;

(2) Truck traffic and buses;

(3) Vacant space in existing buildings in the study area;

(4) Trips generated by the proposed development on full occupancy; and

(5) Trips generated by developments in the study area that are under review or approved by a municipal agency or in the MEPA process.

E. If an exceptional peak period is likely to occur, the SPGA may require analysis or traffic for said period.

F. Trips from an existing land use that are being replaced by a new land use may be subtracted as follows:

(1) If trip generation and distribution for the new land use have the same characteristics as the land use being replaced, trips generated by the new land use may be reduced by an amount to exceed the trips generated by the land use being replaced.

(2) If trip generation and distribution for the new land use do not have the same characteristics as the land use being replaced, trips generated by the existing land use may be subtracted from the street system.

G. Where a project accesses or impacts a state highway, evidence of consultation with MHD shall be provided.

H. The traffic study shall have the following elements (when applicable):

(1) Executive summary with:

(a) Scope of work to include location of the project locus map and site plan, description of type and intensity of existing and proposed development and description of study area;

(b) Schedule for project development;

(c) Summary of existing and future traffic conditions including deficiencies in the street system;

(d) Summary of traffic impacts and proposed mitigation;

(e) Listing of all permits required by the project and a summary of the status of permitting process for each required permit.

(2) Review of traffic studies undertaken within the study area in the prior five years on file in the municipalities within the study area.

(3) Description of roadway characteristics for all impacted streets to include:

(a) Inventory of land uses within 500 feet of the development and on each impacted street;

(b) Identification of all curb cuts and driveways within 500 feet of the development;

(c) Physical characteristics including number of travel lanes; widths of right-of-way, travel lanes, sidewalks and shoulders; conditions of pavement, sidewalk and curbing; and roadway geometry and grades;

(d) Inventory of traffic control devices including regulatory parking and warning signs, traffic signal permits, control units and description of signal phasing;

(e) Sight distances and obstructions to sight lines;

(f) Location and type of streetlighting;

(g) Actual and posted traffic speeds;

(h) Number, type and location of accidents by year for the most recent three years;

(i) Description or transit system serving the study area including mode, frequency, schedule, routes, stop location and patronage;

(j) Time and peak volume of parking for the development;

(k) Location of pedestrian and bicycle routes;

(l) Location of churches, schools, parks and similar public or civic uses within the study area.

(4) Description of traffic improvements to be completed in the study area prior to the design year with a schedule of implementation and identification of the parties responsible for implementing the improvements.

(5) ADT's on all impacted streets for the current year and the no-build and build conditions of the design year (no-build and build conditions). Current ADT's shall be counted for a forty-eight-hour period on a typical weekday.

(6) Existing site generated trips with a trip assignment.

(7) Identification of the peak hours (a.m., p.m., and Saturday) of the development and for adjacent streets with an explanation as to how the peak hours were selected.

(8) Development generated trips for the peak hours of the development and for adjacent streets and a trip assignment with an explanation as to how the assignment was made. If projected trips are adjusted for pass-by or diverted trips, an explanation as to how the adjustment was made shall be provided. Adjustment for pass-by trips shall be limited to 25% of site generated trips and 5% of the volume the traffic on the street serving the site.

(9) Peak hour(s) turning movement counts on all impacted intersections for the current year and the no-build and build conditions.

(10) Capacity analysis for the current year and the no-build and build conditions on all impacted streets and street segments. Said analysis shall be based on the Highway Capacity Manual Transportation Research Board, latest edition (where applicable), and shall include a queue analysis and critical volumes by signal phase or turning movement for each intersection studied.

(11) Gap analysis for unsignalized intersections and site driveways which experience excessive delay or are approaching capacity.

(12) Measures to mitigate traffic impacts to include:

(a) The process through which the mitigation will be authorized, financed, designed and implemented.

(b) Capacity analysis on all impacted streets and intersections based on the mitigation proposed.

(c) Review of potential impact to utilities, wetlands, archaeological/historical sites, etc.

(d) Implementation schedule. If the development or the mitigation is phased, the study shall show how the mitigation will be implemented and function for each phase.

(e) If site design and geometric changes are proposed, said changes shall be based on current engineering standards for turn pocket transition tapers, lane widths, sight distance, multiple lane configuration, and right-of-way widths. A description of said changes shall include:

[1] Scaled plan(s) (one inch equals 40 feet preferred) showing:

[a] Existing and proposed layout lines, building footprint(s), parking lot areas and driveways;

[b] The relationship of the site layout to existing rights-of-way with sight distances;

[c] Proposed geometric changes and widening (driveways, storage lanes, acceleration and deceleration lanes, turning lanes, etc.).

[2] A traffic management plan to maintain traffic flow on impacted street(s) and allow access to abutting properties by vehicles, pedestrians, and handicap persons during construction.

[3] Measures to mitigate traffic-generated noise and dust pollution.

(f) If traffic signalization is proposed, a signal warrant analysis based on Manual on Uniform Traffic Control Devices (FHWA, latest edition).

(g) Program to monitor the effects of the mitigation for a period of three years after implementation.

(h) If signalization of an unsignalized intersection is proposed as mitigation, the applicant shall also provide alternative mitigation for the intersection. **[Amended 5-4-1999 STM by Art. 26]**

§ 135-1405. Traffic capacity.

A. Prior to granting a SP or SPR, the SPGA shall determine there will be adequate capacity on all impacted streets for the build condition.

(1) If adequate capacity is projected on any impacted street for the no-build condition and a development causes a decease in LOS the SPGA may require implementation of mitigative measures to restore the LOS to the no-build condition.

(2) If any impacted street does not have adequate capacity for the build condition, the SPGA shall take one of the following measures:

(a) The SPGA may require the implementation of mitigative measures to achieve adequate capacity.

(b) The SPGA may deny the application.

B. Prior to granting a special permit or site plan review, the SPGA shall determine if any impacted street will be the receptor of excessive traffic. If the special permit granting authority finds that there will be an increase in projected traffic (any peak hour or ADT) between "No Build" and "Build" condition of the design year greater than that indicated in Figure 1 below, the special permit granting authority shall take one of the following measures:

(1) The special permit granting authority may require the implementation of mitigative measures to reduce the volume of traffic.

(2) The special permit granting authority may deny the application.

Figure 1

ADT	Allowable Increase In % of Traffic
1 to 2,000	30%
2,001 to 5,000	20%
5,001 to 10,000	15%
10,000+	10%

C. The SPGA may condition its approval on:

(1) Completion of mitigation prior to issuing any occupancy permit.

(2) Posting surety to guarantee implementation of mitigation.

(3) Implementing measures to reduce trips generated by development including use of:

(a) Employer-subsidized passes for public transit;

(b) Car pools and van pools;

(c) Flex time or staggered work hours;

(d) Preferential parking for high occupancy vehicles;

(e) Restricting access to or egress from off-street parking areas during peak hours;

(f) Measures to promote pedestrian access;

(g) Measures to encourage bicycle commuting such as secured bike racks and locker and shower facilities. The SPGA may require the submission of periodic reports on the effectiveness of the trip reduction programs as part of the monitoring required under § 135-1404H(12)(g).

(4) Reducing of the size or intensity of the project.

(5) Phasing the development of the project.

(6) Obtaining all other permits where applicable.

§ 135-1406. Intermunicipal coordination.

A. If a development impacts streets in another municipality, the traffic study shall be submitted to the municipality for review and comment concurrently with the filing. The SPGA shall not take final action on a SP or SPR until it has received comments from the municipality or until 35 days have elapsed from the transmittal of the traffic study.

B. The SPGA may require the study and mitigation of impacted streets in an abutting municipality provided that the abutting municipality has adopted this article and the development is not being independently permitted by the municipality. An abutting municipality(ies) shall approve any mitigation proposed for any street in its jurisdiction.

§ 135-1407. Compliance.

If the SPGA determines that its conditions on traffic are not being met, the SPGA shall require the applicant to bring the development into compliance.

§ 135-1408. Waiver of the regulations.

If the SPGA finds that any section or provision of this article does not apply, it may be waived by vote of the SPGA.

§ 135-1409. Separation.

Should any section or provision of this article be declared to be invalid, said section or provision shall not invalidate any other section or provision of this article.