

7.37: MB High Occupancy Vehicle Lanes

(1) Definitions. As used in 310 CMR 7.37:

BASELINE ROADWAY CONDITIONS means the average weekday peak hour trip time in minutes for each roadway segment based on monitoring of traffic and recording of trip times during the 12 month period from April 1, 1992 to April 1, 1993.

FEASIBILITY STUDY means a study which analyzes the environmental, operational, engineering, right-of-way, construction, and financial issues affecting the implementation of high occupancy vehicle lanes on each roadway segment described in 310 CMR 7.37(3). The analysis of environmental issues shall include the impacts of HOV lanes on all mobile source emissions of CO, VOC and NOX as well as the impacts of such lanes on general purpose traffic flow. Operational issues may include enforcement and public safety issues. Notwithstanding the foregoing, in cases in which feasibility studies submitted to the Department on or before November 1, 1994 have not included an analysis of the impact of HOV lanes on NOx emissions, an analysis of such impacts will be submitted to the Department for inclusion in the Transportation Improvement Program for the metropolitan Boston area, as required by 23 CFR 450.

FINANCIAL as used in 310 CMR 7.37(1) and 7.37(8)(a) means the availability of funds from any federal, state or local sources for the design and construction of a high occupancy vehicle lane or facility.

PERFORMANCE STANDARDS means a level of roadway performance that at a minimum: 1. is equal to or better than a Level of Service C, and 2. will result in average HOV trip times that are at least one minute per mile less than average trip times on adjacent general purpose traffic lanes during peak hours of travel, as defined in 310 CMR 7.37(6)(b)2. Either the MHD or the MTA may propose substitute roadway performance standards which attempt to maximize: travel time savings, reductions in emissions of ozone precursors, operational efficiency, and person throughput, and which require vehicle throughput of no less than 400 HOVs per hour for a high occupancy vehicle lane provided that such standard provides for greater improvement in air quality for VOC, CO and NOX in the area where the HOV lane is targeted, in both the short and long term. The Department shall review any proposed substitute roadway performance standard, and shall either reject or accept it within 60 days after it has been submitted to the Department.

ROADWAY THRESHOLD STANDARDS means Baseline Roadway Conditions increased by 35%.

(2) Applicability. 310 CMR 7.37 applies where indicated, to the Executive Office of Transportation and Construction (EOTC), the Massachusetts Highway Department (MHD), and the Massachusetts Turnpike Authority (MTA).

(3) Feasibility Studies.

(a) By December 31, 1992, the MHD shall submit to the Department a study of the feasibility of establishing high occupancy vehicle lanes for the following roadways:

1. The northward extension of the existing southbound high occupancy vehicle lane on Interstate-93, north of the southern bank of the Charles River to I-95;
2. Interstate-93 northbound between the Charles River Crossing and Interstate-95; and
3. Interstate-93 northbound and southbound between Interstate-90 and Route 3 in Braintree.

(b) As part of the environmental review on the Charles River portion of the Central Artery/Tunnel project, the MHD shall complete a study of the feasibility of establishing high occupancy vehicle lanes for the Charles River Crossing. Said study shall be completed within 30 days from the date of the Federal Highway Administration issuance of a Record of Decision in connection with said review.

(c) By June 30, 1994, the MTA shall submit to the Department a study of the feasibility of establishing high occupancy vehicle lanes for Interstate-90 eastbound and westbound between Interstate-93 and Interstate-95. Said study shall include analyses of the feasibility of:

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1. Implementing full-scale high occupancy vehicle lanes;
2. Implementing a program of special high occupancy vehicle toll booths and full head-of-queue privileges including consideration of establishing specially demarcated lanes leading to high occupancy vehicle toll booths wherever found practical at appropriate turnpike interchanges; and
3. Installing electronic identification systems to facilitate high occupancy vehicle flow through turnpike toll booths.

(4) Implementation of Certain High Occupancy Vehicle Lanes.

(a) If the northward extension of the existing southbound high occupancy vehicle lane on Interstate-93 north of the Charles River is found to be feasible pursuant to the feasibility study to be completed in accordance with 310 CMR 7.37(3)(a), the MHD shall establish the high occupancy vehicle lane and make it available for public use according to a reasonable schedule, as defined in 310 CMR 7.37(4)(d), agreed upon between the Department and the MHD, but in no event later than November 1, 1994. The extension shall be subject to the following conditions:

1. The extension of the high occupancy vehicle lane shall not be accomplished by the addition of a new lane or lanes to Interstate-93.
2. Prior to the lane opening, MHD shall submit to the Department information relating to the length of the lane including a demonstration that the lane has been extended northward to the most appropriate geographical location.

(b) The final design of the Charles River Crossing portion of the Central Artery/Tunnel project on Interstate-93 shall include a high occupancy vehicle lane that shall be made available for public use at the time the Charles River Crossing of the Central Artery/Tunnel project is opened for public use. The high occupancy vehicle facility shall be located southbound on the I-93 mainline between the northernmost point appropriate to maximize use of the lane, and the Charles River crossing bridge. The northernmost terminus of the HOV lane shall be located at a point just south of the Mystic Avenue exit ramp in Medford.

(c) If high occupancy vehicle lanes northbound and southbound on Interstate-93 beginning at the intersection of Interstate-93 with Interstate-90 and extending to Route 3 in Braintree are found to be feasible pursuant to the feasibility study performed in accordance with 310 CMR 7.37(3), said high occupancy vehicle lanes shall be implemented and made available for public use according to a reasonable schedule, as defined in 310 CMR 7.37(4)(d), to be agreed upon by the Department and the MHD, but in no event later than November 15, 1995.

(d) A reasonable schedule for implementing a high occupancy vehicle lane shall include starting dates and ending dates of the following:

1. Public review of the feasibility study;
2. Environmental review, including any approvals required under the Massachusetts Environmental Policy Act, M.G.L. c. 30, § 61 *et seq.* or the National Environmental Policy Act, 42 U.S.C. section 4321 *et seq.*;
3. Final design approval;
4. Acquisition of required right of way; and
5. Construction of the high occupancy vehicle lane.

(5) Roadway Threshold Monitoring and Baseline Roadway Conditions.

(a) Beginning April 1, 1992, the MHD and the MTA shall monitor traffic volumes and trip times on the roadway segments identified for the MHD in 310 CMR 7.37(3)(a) and (b) and for the MTA in 310 CMR 7.37(3)(c) on a monthly basis. All records and data shall be maintained for a period of five years and shall be readily available for Department inspection.

(b) By May 1, 1993 the MHD shall complete collection of the information necessary to identify and document Baseline Roadway Conditions for the roadway segments identified in 310 CMR 7.37(3)(a) and (b), and the MTA shall complete collection of such information for the roadway segments identified in 310 CMR 7.37(3)(c).

(c) By July 1, 1993, the MHD shall submit to the Department a report that documents the Baseline Roadway Conditions for the roadway segments identified in 310 CMR 7.37(3)(a) and (b), and the MTA shall submit such a report for the roadway segments identified in 310 CMR 7.37(3)(c). The report shall contain appropriate traffic monitoring data and trip time records to support the Baseline Roadway Conditions documented in the report. Within

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60 days of receipt of a complete report, the Department shall review the report and take such action as it may deem appropriate. Any action taken on the report shall be in writing. Within 90 days of receipt of a complete report, the Department shall file a copy of the report and of any Department action taken, with the U.S. EPA, Region I and with the agency that filed the report.

(6) Addition of High Occupancy Vehicle Lanes.

(a) Should the Roadway Threshold Standards as defined in 310 CMR 7.37(1) be exceeded for three consecutive months, the MHD, for roadway segments identified in 310 CMR 7.37(3)(a) and the MTA for roadway segments identified in 310 CMR 7.37(3)(c), shall:

1. Notify the Department of the exceedance. The notice shall identify the roadway segment that has exceeded Roadway Threshold Standards and set out a reasonable schedule for implementing high occupancy vehicle lanes on the applicable roadway segment, and
2. Implement a high occupancy vehicle lane on the respective roadway segment according to a reasonable schedule as defined in 310 CMR 7.37(4)(d).

(b) The addition of high occupancy vehicle lanes pursuant to 310 CMR 7.37 shall be subject to the following conditions:

1. Additions of high occupancy vehicle lanes on Interstate-93 northbound and southbound between Interstate-90 and Route 3 in Braintree shall extend onto Route 3 if found feasible through the study conducted pursuant to 310 CMR 7.37(3)(a).
3. All high occupancy vehicle lanes shall be dedicated for exclusive high occupancy vehicle use during peak periods of travel. Peak periods of travel shall:
  - a. include at a minimum, three hours between the hours of 6:00 A.M. and 10:00 A.M. on the following:
    - i. the roadway segment described in 310 CMR 7.37(3)(a)1.;
    - ii northbound lanes of traffic on I-93 between I-90 and a Route 3 in Braintree, and
    - iii. eastbound lanes of traffic on I-90; and
  - b. shall also include at a minimum the hours of 3:00 P.M. to 7:00 P.M. on high occupancy vehicle lanes on the following:
    - i the roadway segment described in 310 CMR 7.37(3)(a)2.,
    - ii southbound lanes of traffic on I-93 between I-90 and Route 3, and
    - iii westbound lanes of traffic on I-90 demand forecasts.
3. Incorporation of additional high occupancy vehicle lanes shall not be accomplished by the addition of a new lane or lanes to Interstate-93 northbound beginning at the Charles River Crossing and extending north towards Interstate-95.
4. Incorporation of additional high occupancy vehicle lanes shall not be accomplished by the addition of a new lane or lanes to Interstate-90.

(c) Beginning January 1, 1994, the MHD and the MTA shall provide the Department with an annual assessment of the potential for exceedances of the Roadway Threshold Standards. The assessment shall be based on monitoring information collected and traffic projections using a method which has been agreed to in advance through consultation with the Department. The annual assessment shall, at a minimum, forecast when Roadway Threshold Standards will be exceeded on the roadway segments identified for the MHD in 310 CMR 7.37(3)(a) and (b) and for the MTA in 310 CMR 7.37(3)(c). If the Roadway Threshold Standards have already been exceeded as of one month prior to the date of submission of the annual assessment, the annual assessment shall also identify the time of day and travel conditions that were evident when Roadway Threshold Standards were exceeded.

(7) Attainment of Performance Standards.

(a) At the time that a new high occupancy vehicle lane or facility opens for public use, and at the time that any existing high occupancy vehicle lane is expanded, the MHD with respect to the roadway segments identified in 310 CMR 7.37(3)(a), and the MTA with respect to the roadway segments identified in 310 CMR 7.37(3)(c), shall monitor the high occupancy vehicle lane or facility performance, as measured by trip times, during peak periods of travel, to ensure that high occupancy vehicle performance standards are being met. Trip times shall

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be measured at least monthly and during at least five sample days each month. Measurements shall be taken on at least one Monday, Tuesday, Wednesday, Thursday and Friday during each month. On each of the sample days, a minimum of two time runs shall be made during peak hours of travel in each direction for each high occupancy vehicle lane roadway segment.

(b) The MHD and the MTA shall use all appropriate and feasible measures to maintain compliance with the high occupancy vehicle lane performance standards.

(c) Should high occupancy vehicle lane or facility performance standards for a given roadway segment be violated for 75% of the time runs in a particular month, the agency responsible for the operation of the lane shall file a written report describing the violations with the Department within ten days following the end of the month in which the violation was detected. This report shall describe the violations and shall describe a commitment by the responsible agency to take whatever measures are feasible and necessary to return the high occupancy vehicle lane to compliance with the performance standards, including but not limited to changes in high occupancy vehicle eligibility or high occupancy vehicle facility metering, and measures to increase the use of buses, car-pools and van-pools.

(d) Such reports shall be submitted to the Department for a period of two years following the opening of each HOV lane or facility. Thereafter the MHD and the MTA shall continue to monitor high occupancy vehicle lane and facility performance, to measure trip times as required by 310 CMR 7.37(7)(a), and to maintain records of such monitoring and measurements, and upon written request shall send reports to the Department containing the information and commitments described in 310 CMR 7.37(7)(c), provided however that trip times shall be measured at least quarterly and during at least five sample days each quarter, and provided further that compliance with performance standards during this later period shall be determined on a quarterly basis.

(8) Substitute High Occupancy Vehicle Projects.

(a) Based on the feasibility studies conducted pursuant to 310 CMR 7.37(3), if the MHD or the MTA can demonstrate to the Department that a specific HOV lane listed in 310 CMR 7.37(3) is not feasible due to adverse environmental impacts or associated engineering and financial issues, an alternative project shall be substituted in the following manner:

1. The MHD with respect to the roadway segments identified in 310 CMR 7.37(3)(a) and (b), and the MTA with respect to the roadway segments identified in 310 CMR 7.37(3)(c), must petition the Department to accept a substitute project. All such petitions shall be approved by EOTC prior to submission to the Department. All such petitions shall include a demonstration that the substitute project achieves equal or greater emission reductions of VOC, CO and NO<sub>x</sub> from mobile sources, than the installation of an HOV lane, and that said substitute project provides for greater improvement in air quality for VOC, CO and NO<sub>x</sub> in the area where the required high occupancy vehicle lane is targeted, in both the short and long terms. Park and ride facilities may be proposed as substitutes for the requirements for HOV lanes pursuant to the substitution provisions of 310 CMR 7.37(8). Any park and ride facilities which have been built to fulfill the requirements of, or are required to be built pursuant to 310 CMR 7.36(2), or are proposed and accepted as substitute projects pursuant to 310 CMR 7.36, cannot also be proposed as substitute projects pursuant to, 310 CMR 7.37(8).

2. Within 30 days of receipt of a petition and demonstration for project substitution, the Department shall make a determination whether all information necessary for review of said petition has been submitted, and shall notify the project proponent. The Department shall review the petition and shall, after notice and public hearing, accept or reject said petition in writing no later than 90 days after the Department determines that all information necessary to review the petition and demonstration has been submitted.

3. Within 30 days after the Department accepts or rejects such a petition and demonstration for project substitution, the Department shall file a copy of said petition and supporting documentation and a copy of the Department action with U.S. EPA, Region I.

(9) High Occupancy Vehicle Enforcement and Promotion.

(a) By January 31, 1993, the MHD and the MTA shall each prepare and submit to the Department a plan describing the general program for enforcement of the high occupancy

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vehicle lane system. These program submittals shall include a commitment to implementation of the enforcement program as defined therein. Within 30 days of receiving the enforcement program plans, the Department shall review and make recommendations regarding the plans. Said recommendations shall be incorporated by the MHD and the MTA into the final enforcement program plan for each agency. Specific enforcement measures applicable to a particular high occupancy vehicle lane shall be identified in the final design phase of the high occupancy vehicle system.

(b) By May 31, 1992, the MHD and the MTA shall prepare and submit to the Department a plan for a general program designed to promote high occupancy vehicle use. Said plan shall be based on a comprehensive review of techniques used to manage or promote high occupancy vehicle use in other locations throughout the United States and Canada. The MHD and the MTA shall, in said program, commit to implementation of selected measures to promote the use of the high occupancy vehicle system of each agency. A specific promotional plan for each roadway segment shall be prepared in conjunction with the final design for each high occupancy vehicle facility.

(10) High Occupancy Vehicle Expansion to the Local Roadway Network.

(a) EOTC and MHD shall encourage the City of Boston to incorporate high occupancy vehicle lanes and non-lane based incentives or mechanisms which promote the use of high occupancy vehicles.

(b) EOTC shall work with the Massachusetts Port Authority to conduct studies of high occupancy vehicle needs at Logan Airport.

(11) Reports Regarding Effects on Air Quality. Within two years from the opening for public use of each HOV lane or substitute project on any of the roadway segments described in 310 CMR 7.37(3), the MHD, for roadway segments described in 310 CMR 7.37(3)(a) and (b), and the MTA for roadway segments described in 310 CMR 7.37(3)(c) shall submit a report to the Department documenting the quantitative effects of such HOV lanes or projects on levels of VOC, CO and NOX in the areas affected. The method of determining the quantitative effects of such HOV lanes or substitute project on air quality shall be determined in consultation with the Department.

(12) HOV Lanes and Substitute Projects Permanent. All HOV lanes built pursuant to 310 CMR 7.37(1) through (7) and all substitute projects implemented pursuant to 310 CMR 7.37(8) shall be permanently operated and maintained by the MHD for all HOV lanes and projects built and implemented by it and by the MTA for all HOV lanes and projects built and implemented by it. Either transportation agency may petition the Department to either reduce or terminate the operation, maintenance or implementation of any HOV lane or substitute project built or implemented by it, by petitioning the Department to build another HOV lane, extend an existing HOV lane, or implement a substitute project by demonstrating that such lane or project will achieve equal or greater emission reductions of VOC, CO and NOX from mobile sources and will provide for greater improvement in air quality for VOC, CO and NOX in both the short and long term. The Department shall act upon such petitions as provided in 310 CMR 7.37(8)(a)2. and 3.

~~7.38: Certification of Tunnel Ventilation Systems in the Metropolitan Boston Air Pollution Control District~~

~~(1) Applicability.~~

~~(a) The requirements of 310 CMR 7.38 shall apply to the construction and operation of any tunnel ventilation system for highway projects proposed to be built in the Metropolitan Boston Air Pollution Control District, construction of which begins on or after January 1, 1991, including, but not limited to, the Central Artery/Third Harbor Tunnel project. The requirements of 310 CMR 7.38 apply in addition to requirements to implement guidelines of the Department to ensure comprehensive and systematic air quality analysis of highway projects, and all other review procedures applicable to highway projects pursuant to the State Implementation Plan (SIP), the purpose of said review to ensure the consistency of such projects with the requirements of the SIP. Tunnel ventilation systems subject to 310 CMR 7.38 are not subject to the requirements of 310 CMR 7.02.~~

~~(b) Any tunnel ventilation system which, when constructed, is subject to a federal New Source Performance Standard or National Emission Standard for Hazardous Air Pollutants, shall be subject to such standard and shall operate in compliance with such standard.~~

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