

City of Cambridge

#8

MASSACHUSETTS

In City Council

10/26

1992

Report to Transportation + Traffic

Committee

YEA	NAY	ABSENT	PRESENT	
				Mr. Ed Cyr
✓				Mr. Francis H. Duehay
✓				Mr. Jonathan S. Myers
✓				Mrs. Sheila T. Russell
✓	✓			Mr. Walter J. Sullivan
✓	✓			Mr. Timothy J. Toomey, Jr.
✓	✓			Mr. William H. Walsh
✓				Ms. Alice K. Wolf
✓				Mayor Kenneth E. Reeves

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CITY OF CAMBRIDGE

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EXECUTIVE DEPARTMENT

ROBERT W. HEALY

City Manager

RICHARD C. ROSSI

Deputy City Manager

October 15, 1992

BY HAND

Chairman Taylor
Metropolitan Planning Organization
Executive Office of Transportation and Construction
10 Park Plaza, 3rd Floor
Boston, Massachusetts 02116

Commissioner Greenbaum
Department of Environmental Protection
1 Winter Street, 3rd Floor
Boston, Massachusetts 02108

Gentlemen:

I am very pleased to be submitting today the City of Cambridge's Proposal for Amendment of the State Implementation Plan. I am also enclosing the supporting Technical Appendix prepared by Cambridge Systematics Inc. and a City Council Order adopted April 27th of this year, which reflects the Council's strong support for a regional approach to implementation of the Clean Air Act of 1990.

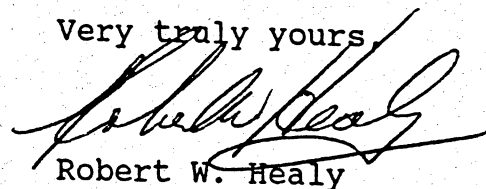
The centerpiece of the submission is the Vehicle Trip Reduction Ordinance adopted by the City Council in June of this year. As you know, no one community can alone solve the region's air quality problems, and our proposal recognizes the need for both local programs and a region-wide solution. Accordingly, the City's Proposal includes a comprehensive local program of local transportation control measures applicable now in Cambridge by means of the Ordinance as well as a regional program of proposed measures, including an employer-based regional trip reduction program aimed at reducing the number of commuters who travel to work by single-occupant vehicles.

We are confident that your agencies will work cooperatively with us to promptly bring our proposal forward for public review and submittal to the Environmental Protection Agency.

The City believes that it is providing you with an excellent program of both local and regional initiatives that if adopted will

lead to significant improvement in the region's ambient air quality. We look forward to working with you over the next few months in the review process.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Robert W. Healy", written in dark ink over the typed name.

Robert W. Healy

cc: Thomas B. Powers, Deputy Commissioner, DEP
Barbara A. Kwetz, Deputy Director, DEP
Christine Kirby, Regional Planner, DEP
Douglas Shallcross, Deputy General Counsel, DEP
Robert Baum, Undersecretary/General Counsel, EOTC
William G. Constable, Assistant Secretary/
Staff Counsel, EOTC
Sonia W. Hamel, Director of Air Policy, EOE
Donald A. Drisdell, Deputy City Solicitor
Ellen Semonoff, Project Assistant

**PROPOSAL OF THE CITY OF CAMBRIDGE
FOR AMENDMENT OF THE STATE IMPLEMENTATION PLAN
AND RESCISSION OF 40 C.F.R. §§ 52.1128(a)(4)
AND 52.1135 AS THEY APPLY TO CAMBRIDGE**

OCTOBER 15, 1992

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ATTACHMENTS

Table Summary of Program Impacts

Sample Automobile Efficiency Rate Calculation Sheets

City Council Order Adopted April 27, 1992

Cambridge Vehicle Trip Reduction Ordinance
(Chapter 10.17 of the Cambridge Municipal Codes)

Technical Appendix Prepared by Cambridge
Systematics, Inc.

OCTOBER 15, 1992

**PROPOSAL OF THE CITY OF CAMBRIDGE
FOR AMENDMENT OF THE STATE IMPLEMENTATION PLAN
AND RESCISSION OF 40 C.F.R. §§ 52.1128(a)(4)
AND 52.1135 AS THEY APPLY TO CAMBRIDGE**

**ACTIONS REQUESTED FROM THE METROPOLITAN PLANNING
ORGANIZATION AND THE DEPARTMENT OF ENVIRONMENTAL PROTECTION**

This submittal constitutes the proposal of Cambridge for an amendment of the State Implementation Plan (the "Proposal"). This Proposal recognizes that clean air cannot be attained without a combination of local and regional strategies. The Proposal is therefore comprised of two components: (1) recommendations for several regional actions to reduce vehicle miles travelled and (2) a local program of seventeen transportation control measures applicable in Cambridge, codified at Chapter 10.17 of the Cambridge Municipal Code as the Cambridge Vehicle Trip Reduction Ordinance (the "Cambridge Ordinance") (copy attached). This Proposal is supported by the attached Technical Appendix prepared by Cambridge Systematics, Inc.

As demonstrated in the Technical Appendix (see especially Section 4 thereof), this proposed Amendment of the State Implementation Plan ("SIP") is a better transportation control instrument for changing driving behavior and achieving air quality benefits than is a parking freeze. Significant impacts can be achieved from each component of the proposed SIP Amendment promptly after its enactment. Each component of the proposed SIP Amendment would achieve results starting in the first year of implementation, regardless of whether any new development occurs. By contrast, a parking freeze will not achieve any air quality benefits, absent substantial and sustained future development in Cambridge. Continued implementation of a parking freeze in Cambridge could cause future development and associated traffic to locate in other cities instead, thereby causing a potential increase in the number of vehicle miles travelled in the region and a concomitant deterioration of air quality. Moreover, achieving consensus in support of transportation control measures is an important factor in the success of those measures. The public process in Cambridge surrounding the development of this Proposal underscored a serious divisiveness generated by the parking freeze.

Implementation of either component of this Proposal as a SIP Amendment would achieve air quality results that are superior to the commercial parking freeze regulation contained in 40 C.F.R. §§ 52.1128(a)(4) and 52.1135 as they apply to Cambridge. Accordingly, the City requests (1) that the MPO and DEP take immediate action to approve, adopt, and seek EPA's prompt approval of an amendment of the SIP to include the Cambridge Vehicle Trip Reduction Ordinance to replace and rescind 40 C.F.R. §§ 52.1128(a)(4) and 52.1135 as they apply to Cambridge and any incorporation of a Cambridge parking freeze in the current SIP and (2) that the MPO and DEP take immediate action to approve, adopt, and seek EPA's approval of a SIP amendment that includes the program of transportation control measures and recommendations described herein for regional application. The statutory authority for amendment of the current SIP, adoption of this Proposal, and replacement of 40 C.F.R. §§ 52.1128(a)(4) and 52.1135 as they apply to Cambridge is at Sections 110(a), 110(L), and 193 of the Clean Air Act, as amended, 42 U.S.C. §§ 7410(a), 7410(L), and 7515; 40 C.F.R. Part 51, Subpart F; and 310 C.M.R. Part 2.00.

I.
EXECUTIVE SUMMARY

The objective of the City of Cambridge (the "City") in proposing an amendment to the State Implementation Plan ("SIP") as described herein is to promote the attainment and maintenance of national ambient air quality standards for protection of human health. This Proposal, if adopted as a SIP amendment, will accomplish that objective by reducing the number of vehicle trips currently travelled within the Commonwealth and reducing the associated emissions of air pollutants. The Proposal will also constrain future growth of vehicle trips and associated air pollution.

This Proposal recognizes that clean air cannot be attained without a combination of regional and local initiatives. Thus, at the regional level, for example, the Proposal provides for an employer-based vehicle trip reduction program aimed at reducing the number of commuters who travel to work by single-occupant vehicles. To maximize the effects of such a program, there must also be a commitment to improving public transit, favoring high occupancy vehicles, and modifying tax policy. Each of these can play a critical role in changing driving behaviors. Each of these requires state and regional commitment.

A number of programs can effectively be initiated and enforced at the local level. These include, for example, improved enforcement of the statutory prohibition against idling busses, trucks, and taxis, efforts to improve bicycle and pedestrian mobility, and reconsideration of zoning provisions in light of clean air objectives. Each of these is included in the Cambridge Ordinance and this Proposal.

Cambridge is the only City in the Commonwealth with a full-time, City-funded Commuter Mobility Coordinator and program for facilitating and coordinating voluntary measures by employers to reduce vehicle trips. The Cambridge Ordinance will substantially expand this program. By means of a systematic and comprehensive package of measures involving all segments of the City's government, business, institutional, and residential populations the Cambridge Ordinance will advance the goals of the Clean Air Act.

Specifically, the Ordinance contains several measures targeted at work-related trips and designed to reduce the vehicle miles travelled ("VMT") and associated emissions of air pollutants. These include measures to reduce journey to work trips made by municipal employees and to restrict access to currently unrestricted parking spaces to discourage their use by commuters. Other measures commit substantial funds to reduce vehicle trips and VMT by facilitating opportunities for residents to find jobs in the City, studying a potential intra-City jitney or shuttle

service, and creating a Bicycle and Pedestrian Mobility Program.

In addition, the Ordinance provides for promotion of clean fuels in fleets in the City, improved coordination with the MBTA, development of traffic policy, and re-evaluation of zoning requirements concerning parking and reducing vehicle trips associated with new development projects. Together, these measures are expected to eliminate more than 98,050 daily VMT during the initial years of implementation. This translates into a reduction of approximately 3% of Cambridge-based current daily VMT. This is a significant achievement in view of the data which indicate an annual growth in VMT of 3% in the Region.

Although Cambridge is committed to being a leader in this movement, it cannot, singlehandedly improve the Region's air quality. Approximately 33% of all traffic on Cambridge streets is attributable to "throughtrips," trips that neither originate nor end in Cambridge. Cambridge has virtually no control over these trips. The program of measures contained in the Cambridge Ordinance must therefore be supplemented and complemented by a transportation control program of regional applicability. The scientific literature and data are clear: the degradation of air quality is a regional problem that requires global and regional solutions. This is particularly the case with ozone. Every community must contribute to the solution.

Toward that end, this Proposal identifies regional measures necessary to supplement and complement the Citywide measures in the Ordinance. One example is a regional, employer-based vehicle trip reduction program aimed at diverting commuters from single-occupant vehicles to more efficient, less polluting commuting options. The impact of such a program would be substantial. Analysis of the potential impact on current Cambridge commuters could be to reduce daily VMT by 24,000 miles by the second year of implementation. The impact on future Cambridge commuters would be to decrease such VMT by 35,000 miles daily. Application of this measure region-wide would produce substantially higher results.

Absent a comprehensive regional program of transportation control measures, the Commonwealth will not achieve the air quality standards set out in the 1990 Clean Air Act. Moreover, absent a regional program, the City's Ordinance could put the City at a competitive disadvantage in the region, cause an increase in the number of vehicle miles travelled in the surrounding cities and towns, and/or cause the relocation of businesses or institutions to other areas. Genzyme's choice to locate in Allston rather than in Cambridge is a concrete example of the need for a regional plan. Such a result is inconsistent with the Clean Air Act and results in no net gains for air quality.

II. TECHNICAL BACKGROUND

A. Contribution of Mobile Sources to Regional Air Quality Problems

Motor vehicles are the dominant source of several air pollutants which cause significant damage to the environment and human health. As shown in the attached figure, 54.3 percent of the volatile organic compounds (VOCs), 42.6 percent of the Oxides of Nitrogen (NOx), and between 66.1 percent (winter) and 75.8 (summer) percent of the Carbon Monoxide (CO) emitted into the atmosphere in Massachusetts in 1987 were produced by transportation sources. A large share of the total emissions of these pollutants that are released in the State -- 23 percent of the VOCs, 14 percent of the NOx, and 21 to 22 percent of the CO -- are attributable to Middlesex County.

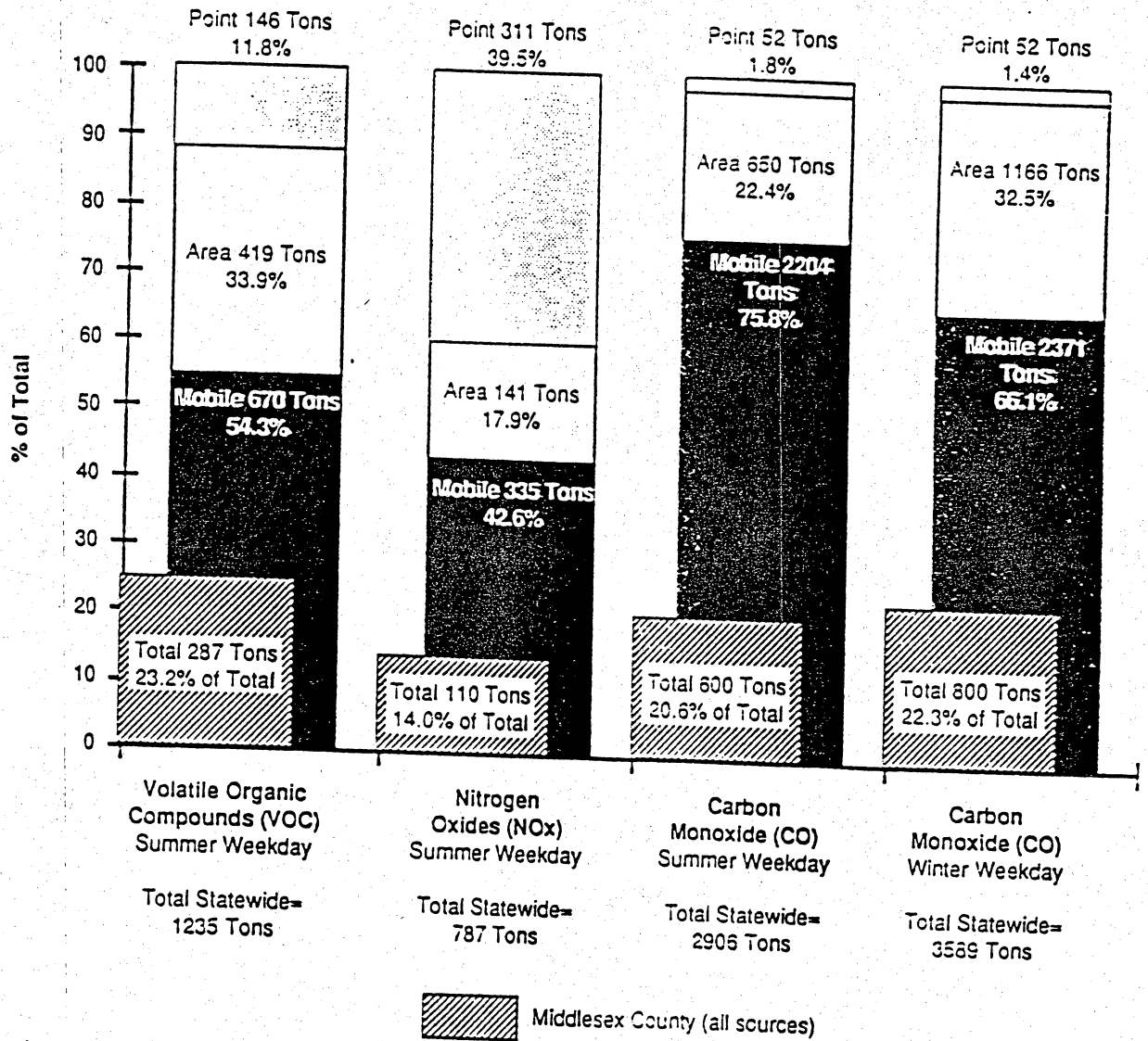
Volatile organic compounds (VOCs) are compounds of carbon and hydrogen. VOCs are primarily unburned fuel which escapes through motor vehicle exhaust and fuel evaporation. Oxides of Nitrogen (NOx) represent a number of compounds produced during the combustion process. NOx is a pulmonary irritant and short exposures may increase susceptibility to acute respiratory diseases. NOx in combination with VOCs, through a reaction with sunlight, forms Ozone (O₃). Because the chemical process of ozone formation is, in large part, dependent upon available sunlight, ambient ozone levels are highest during warm weather periods. Ozone forms naturally in the stratosphere and helps filter infrared rays of sunlight. However, in the atmosphere, ozone and related "photochemical oxidants," is referred to as "smog." Ozone is a strong pulmonary irritant which can affect lung functions. These effects are not limited to individuals with pre-existing respiratory problems, but also affect people in good health by producing measurable reductions in normal lung functions. Ozone also causes eye irritation, is toxic to plants, and damages nonliving materials as well.

Carbon monoxide (CO) is a colorless, odorless gas produced through the incomplete combustion of organic fuels. Due to the effect of cold weather operating conditions on engine combustion characteristics, CO levels are highest during cold weather. CO combines with the hemoglobin in the blood, reducing the ability of blood to carry oxygen. At high concentrations, CO can be fatal to humans. At lower concentrations, CO can aggravate cardiovascular diseases and impair mental functions.

B. Vehicle Trips and Miles of Travel

Passenger cars represent a large fraction of the total motor vehicle fleet, representing over 90 percent of the total vehicle trips made in the Boston metropolitan area. As such, they are

Summary of Massachusetts 1987 Base Year Emissions Inventory by Source Category and Middlesex County Share



Source: Massachusetts 1987 Base Year Emissions Inventory, Department of Environmental Protection, Division of Air Quality Control

also large contributors to ozone precursor and carbon monoxide emissions.

For example, in 1987, Cambridge generated nearly 3.3 million vehicle miles of travel per day, which represented 8.2 percent of the total vehicle miles traveled in the Boston Metropolitan Region. Work-related trips represent the largest share of total travel in Cambridge, comprising over 57 percent of the total travel market. This share includes both Cambridge residents working inside or outside Cambridge and non-Cambridge residents who commute to Cambridge to work. Other non-work related trips that are based from the home represent the next largest travel share at 27 percent. Non-home based related travel represents the other 16 percent share of travel in Cambridge. Cambridge's importance as a significant regional employment center is reflected in its relatively high share of work-trip based travel as compared to the regional average for work related travel.

The vehicle travel in Cambridge includes a large proportion of very short trips as shown on the figure. The overall average trip length for work trips is 6.4 miles and 5.1 miles for non-work related trips. Included in these averages is a large number of vehicle trips of 2 to 4 miles in length.

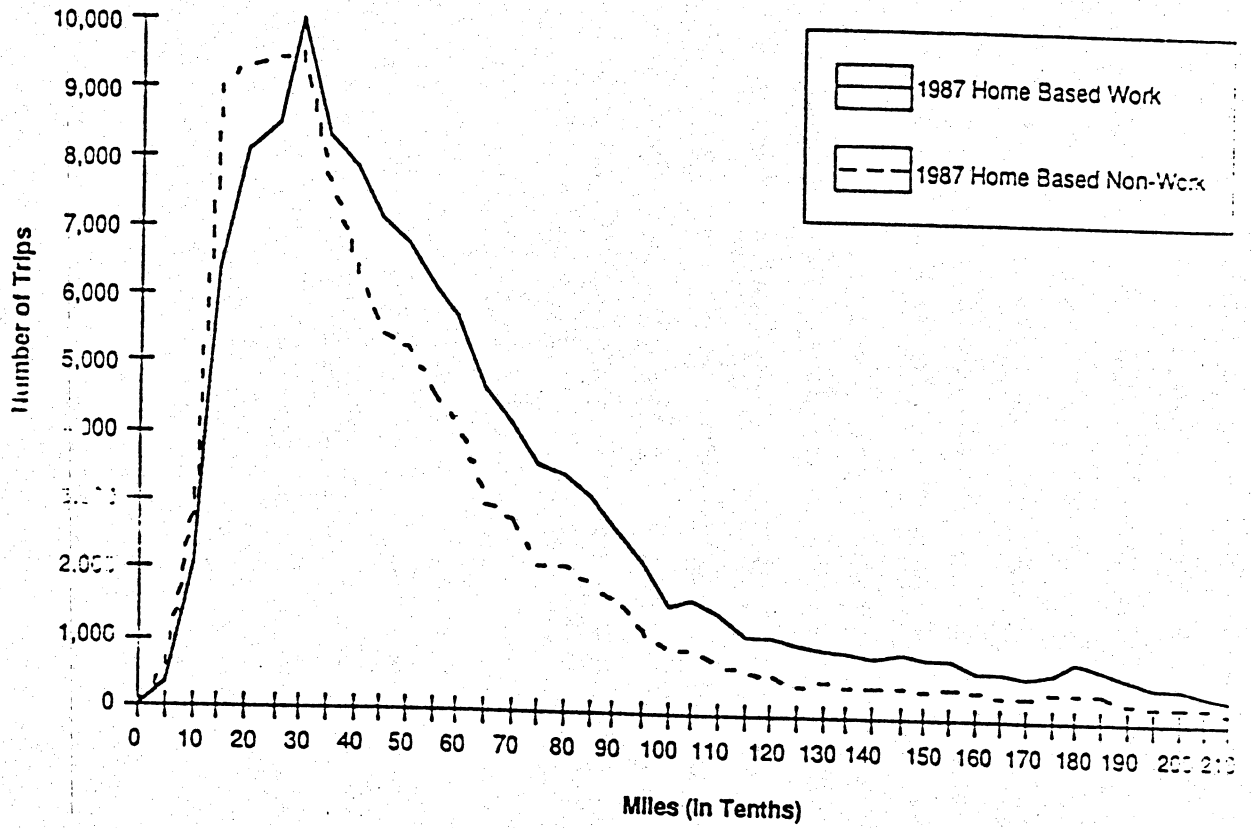
Not reflected in any of these totals of vehicle miles of travel are vehicles which pass through the City without stopping. Travel data provided by the Central Transportation Planning Staff for several major and minor arterials in Cambridge indicate that about 33 percent of the total daily traffic on these roadways are throughtrips which have no point of origin or destination in Cambridge.

C. The Need for Better Management of Traffic and Vehicle Miles of Travel

Although significant emission reductions have been achieved in recent years as a result of requirements for emissions control equipment on cars, trucks, and other vehicles, it has not been sufficient to eliminate motor vehicle emissions as a problem. Even if existing and potential new emissions control devices operate at maximum effectiveness, national trends show that the growing number of vehicles in use and increases in VMT will result in a net increase in auto pollutant emissions. In short, growth in VMT and resulting emissions are expected to overtake the benefits of emission control technology and the reductions in emissions it has produced.

Control strategies aimed at transportation-related emissions are intended to reduce the growth of vehicle trips and VMT. These strategies are called transportation control measures or TCMs. The objective of TCMs is to reduce emissions from on-road motor vehicles by reducing the use of motor vehicles, by making the

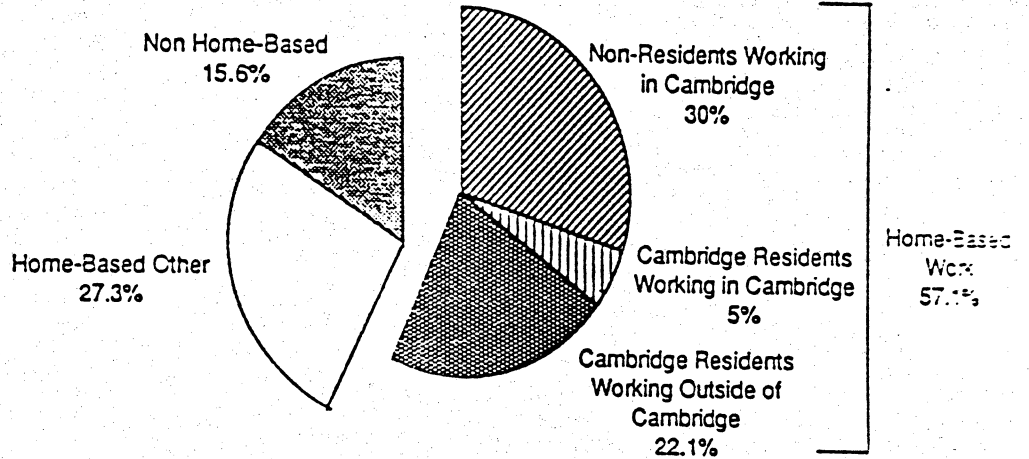
Cambridge Related Vehicle Trip Length by Purpose



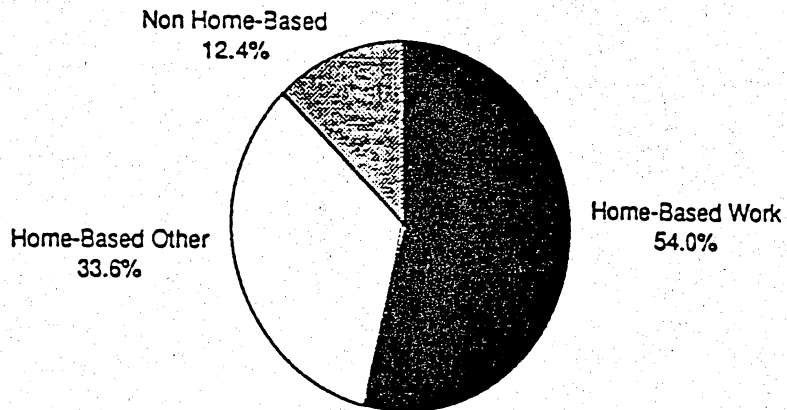
Source: Central Transportation Planning Staff

Vehicle Miles of Travel by Trip Purpose (1987)

Cambridge



Eastern Massachusetts



Trip Purpose	Cambridge		Eastern Massachusetts	
	VMT	% of Total	VMT	% of Total
Home-Based Work	1,874,680	57.1%	34,562,384	54.0%
Home-Based Other	896,947	27.3%	21,507,019	33.6%
Non Home-Based	513,447	15.6%	7,912,970	12.4%
Total	3,285,074	100.0%	63,982,373	100.0%

Source: Central Transportation Planning Staff

road system operate more efficiently, and by switching to motor fuels that produce comparatively less emissions.

Experience has shown that it is not easy to change automobile travel behavior. Surveys show that most people understand that automobiles significantly contribute to air pollution. Yet automobile use continues to grow. For a program of TCMs to succeed, it must consist of a balance of incentives and disincentives to encourage use of alternative travel modes. To substantially change travel behavior, a TCM program must also include measures to promote alternative means of travel that are improvements or, at a minimum, are comparable in cost and convenience to the single-occupant automobile. It is also imperative that these TCM programs are applied area-wide and have regional applicability. The following Proposal is designed to help meet these criteria.

III.
PROPOSAL FOR SIP AMENDMENT: REGIONAL MEASURES

The MPO and DEP should take action promptly to approve, adopt, and submit to EPA a regional program of transportation control measures as an element of the Commonwealth's plan for attaining a fifteen percent (15%) total reduction in VOC emissions by 1999, as required by the 1990 Clean Air Act Amendments. This program should contain the following provisions:

A. Regional, Employer-Based Vehicle Trip Reduction Program

Given that many communities -- including Cambridge -- serve as a throughway to other employment centers, employer-based measures are most effective when adopted and enforced on a region-wide basis. Trip reduction measures that are applied on a region-wide basis will assist the Commonwealth to achieve attainment of the Clean Air Act air quality standards. Furthermore, only a regional program will:

- Assure that Cambridge is not placed at a competitive disadvantage with other communities in the region as a result of its ordained program of transportation control measures;
- Prevent the diversion of traffic currently oriented toward Cambridge origins and/or destinations to other areas in the region which have more limited public transit availability, thereby increasing regional vehicle miles of travel, a result inconsistent with the 1990 Clean Air Act Amendments;
- Reduce the high volumes of through traffic on Cambridge roadways which are beyond the ability of the Cambridge Vehicle Trip Reduction Ordinance to control.

An effective employer-based vehicle trip reduction program has two key elements. To begin, there must be an annual survey of employee commuting characteristics to develop reliable, baseline information. Then, depending on the results of that survey and the target for improving the automobile efficiency rate (i.e., reducing the number of commuters who commute by single-occupant vehicles), some or all employers would be required to implement vehicle trip reduction plans at their worksites. A model drawn from the experience of cities such as Los Angeles and Phoenix, and under continuing discussion in Cambridge,¹ is proposed for

¹ As yet, consensus has not been reached in Cambridge about specific parameters for this measure. A Steering Committee is being formed to work with the City's Commuter Mobility Staff to continue the discussion, perform a pilot survey, and forward

state action. This model would require an annual survey to be conducted by all employers of 50 or more employees at a single worksite (including government departments) to determine the number of employees per worksite, their commuting characteristics, modes of travel, places of origin, work schedules, trip volumes, and progress toward meeting a specified Automobile Efficiency Rate ("AER") Goal.

Each employer's AER is calculated through the Annual Employer Survey for each worksite and updated annually. The AER is calculated by dividing the number of employees who report to the worksite between 6:00 a.m. and 10:00 a.m. (inclusive Monday through Friday) by the number of vehicles used by these employees. As the AER increases, use of single-occupant vehicles for commuting is reduced. The AER calculation requires that a five consecutive weekday average be used. Vehicles counted exclude bicycles, public transit vehicles, and approved clean fuel vehicles. Motorcycles and light trucks would be counted as automobiles. An example form (subject to modification) and sample calculation of AER, is shown in Attachment 1.

Each employer required to submit an Annual Employer Survey Response would be required to calculate its own AER (on a calculation sheet provided by DEP or its designee) and compare its rate to the AER Goal (also to be specified on the calculation sheet). Employers whose AER is below the AER Goal for a given year would be required to develop and implement a Vehicle Trip Reduction Plan which provides strategies and incentives intended to reduce vehicle trips and achieve the AER Goal. An employer who demonstrates through the Annual Employer Survey and certifies that the worksite is in compliance with the AER Goal as of the submittal date of the Survey Response would not be required to submit a Vehicle Trip Reduction Plan for that year.

The AER Goal should be designed to provide for progressive, annual reductions in single occupant vehicle use compared to baseline travel characteristics. As a result, employers who may be exempted from a requirement to file a Vehicle Trip Reduction Plan in the first year of this program may be required to do so in subsequent years as the AER Goal is increased.

The strategies and incentives specified in an individual employer's Vehicle Trip Reduction Plan would be based on the difference between the AER Goal and the employer's AER as computed on the calculation sheets. Appropriate trip reductions for an individual employer will be determined as a function of the employer's AER in the employer's first Annual Employer Survey Response and Vehicle Trip Reduction Plan. Employers with an AER substantially below the target will be expected to develop a

information to interested state and local agencies.

Vehicle Trip Reduction Plan which identifies a more extensive program of strategies and incentives than employers with smaller AER deficits. Subsequent submittals of the Annual Employer Survey Response and Vehicle Trip Reduction Plan will certify progress toward meeting the AER target and also upgrade the Vehicle Trip Reduction Plan as needed to achieve vehicle trip reductions.

A variety of measures and incentives may be implemented to assist in achieving the target AER, including, but not limited to:

- Providing information on available transit service - posting in a conspicuous place or places the schedules, rates, and routes of transit services in the immediate vicinity of the facility.
- Employee transit-pass programs - advertising and making available to all employees any pass program offered by the area transit authority, including but not limited to, making all administrative arrangements for commuters to purchase the pass and encouraging commuters to participate by publicizing the availability and cost advantages of the pass program.
- Incentives to commute by bicycle - including but not limited to, providing secure bicycle storage facilities and shower/changing facilities.
- Employer-sponsored rideshare programs.
- Preferential parking for carpools and vanpools.
- Transportation allowance programs.
- Alternative work schedules - including 4-day work weeks and flexible schedules which would facilitate rideshare arrangements.
- Elimination or reduction of employee parking subsidies.
- Elimination or reduction of employee parking spaces.
- Provision of shuttle vans to public transportation services.

The adequacy of a Vehicle Trip Reduction Plan to meet the necessary trip reduction goals for a specific worksite will initially be determined by DEP or its designees. If a Plan is found to be insufficient to achieve the required vehicle trip reductions, DEP or its designee may disapprove a plan and require its resubmittal within thirty days. If, on resubmittal, the Plan is again rejected, penalties would be assessed. A mechanism for

appeal should be provided.

The Vehicle Trip Reduction Plan is to be submitted as part of the Annual Employer Survey Response. Failure to submit an acceptable Plan (where the Plan is required) will render the Survey Response incomplete and subject the employer to penalties consistent with the penalties for non-submittal of a complete and certified Annual Employer Survey Response. Failure to implement the provisions of a Vehicle Trip Reduction Plan will subject the employer to daily fines until found to be in compliance.

A processing fee, based on the number of employees at a given worksite, would be submitted to the DEP or its designee each year with the completed Annual Employer Survey Response. Proposed fees are:

\$500 for employers with 500 or more employees
\$300 for employers with 100 to 499 employees
\$100 for employers with 50 to 99 employees

An employer's failure to submit a completed and properly certified Annual Employer Survey Response on the scheduled date would result in a daily fine to be levied until the required Survey Response is submitted. Knowingly submitting false information would result in a daily fine to be levied until a corrected, certified Survey Response is submitted and accepted. The survey would be performed annually to monitor progress toward meeting the AER Goal and to provide the basis for amendments to an employer's Vehicle Trip Reduction Plan.

Impact:

This measure will achieve substantial reductions in single-occupant work-related vehicle trips. To illustrate the significance of the potential impact of such a measure, an analysis of its application to existing Cambridge employers was performed. The impact of this program applied regionally would be far greater. It is estimated that there are approximately 240 firms within the City of Cambridge that employ 50 or more employees. As a result, this program is estimated to apply to approximately 65,000 employees based on 1990 employment records.

Based on a 2.5 percent annual improvement in AER compared to current Cambridge travel characteristics (based on available information), total daily Cambridge-based vehicle miles of travel associated with current Cambridge employment could be reduced by an estimated 0.3 percent or 12,000 daily VMT in the first year and by 0.7 percent or 24,000 by the second year.

(An analysis of program impacts if applied to firms of 25 or more employees was also conducted to determine what the potential for additional effectiveness would be if program coverage was

expanded. An additional 270 firms would be covered by the Ordinance if applied to firms with between 25 and 49 employees. However, in Cambridge, these firms employ an estimated total of only 9450 employees. As a result, although the number of firms covered would increase by 112 percent, the number of employees covered would increase by only 15 percent, causing a disproportionate administrative burden and expense.)

B. Development-Based Transportation Management Plan

To assist in constraining future vehicle trips associated with future development projects, a Transportation Management Plan should be required for all new developments of 50,000 square feet or greater, regardless of use, or 50 or more residential units. The Transportation Management Plan could be required to include:

- a processing fee of \$1,500;
- a traffic analysis that demonstrates that for affected locations with existing traffic level of service (LOS) of D or worse, reasonable traffic mitigation measures will be implemented to improve traffic operations to the extent feasible and for affected locations with existing LOS of C or better, the project will not degrade such location below a LOS of C.

For all new mixed-use or non-residential development subject to the requirements of this measure, the Transportation Management Plan should also include:

- a description of development design elements and vehicle trip reduction measures to be implemented by the developer in order to assist non-residential tenants in the development, collectively, to achieve the AER Goal.
- a monitoring program to demonstrate annual plan compliance and calculate the annual AER associated with non-residential tenants of the development. The monitoring program must account for all non-residential site-generated traffic between the hours of 6:00 a.m. and 10:00 a.m. Where tenants include employers of 50 or more employees at the worksite, the monitoring program may utilize data from a tenant's certified Annual Employer Survey Response.
- a commitment to update and supplement the Transportation Management Plan if, based on the monitoring program, it is determined that the non-residential tenants of the development, collectively, are not achieving the AER Goal.

- a commitment to future compliance with Transportation Management Plan requirements following transfer of property from developer to other parties.

Developments which have already been issued building permits or which are already subject to locally-approved traffic mitigation or trip management plans would be exempt from these requirements.

The requirements applicable to new developments would not exempt individual employers from compliance with the employer-based vehicle trip reduction measure. Employers of 50 or more employees at a worksite located within a development subject to a required Transportation Management Plan would be required to submit the Annual Employer Survey Response, and, if applicable, a Vehicle Trip Reduction Plan. The Vehicle Trip Reduction Plan will complement and contribute toward attainment of the AER Goal for the development site.

Measures to be considered for inclusion in the Transportation Management Plan include without limitation the following:

- Hiring a Transportation Management Coordinator responsible for distribution of information and coordination of traffic management programs within the new development.
- Discouraging or restricting use of parking spaces by commuters in single-occupant vehicles.
- Funding a local or area-wide shuttle van to public transit stations and/or shopping centers.
- Encouragement of staggered or flexible work hours for employees of all tenants.
- Promotion of the use of public transportation by providing transit information and participation in the MBTA commuter pass program.
- Operation of a computer-based ridesharing information bank or coordination of ridesharing promotional programs with any existing commuter mobility program.
- Reserving spaces at preferential locations for carpool and vanpool parking on the site.
- Establishing reduced parking fees or providing subsidies for carpool and vanpool parking.
- Encouragement of local employment opportunities by tenants of the new development.

- Providing safe, convenient, sheltered bicycle storage facilities and/or shower facilities for bicycle commuters.

Annual certification of plan compliance would be required. Failure to implement provisions of the Transportation Management Plan or to provide the annual certification would subject the developer or subsequent property management firm or owner to daily fines until found to be in compliance.

Impact:

This measure will reduce the growth in vehicle trips and miles of travel generated by new development projects of 50,000 square feet or 50 or more residential units. The measure will also provide reasonable mitigation in an effort to prevent degradation in traffic LOS as a result of new project development.

To illustrate the potential impact of this measure, an analysis was performed to determine the impact of this measure on commuters associated with potential future non-residential development in Cambridge. For the purpose of this analysis, it was assumed that 7 million square feet of potential new development would be subject to this measure. The data shows that this measure could reduce future Cambridge-based vehicle miles of travel by an estimated 35,000 daily VMT compared to the VMT that would otherwise be generated by such new development in the absence of this measure. This is equivalent to a 1.06 percent reduction in VMT that would otherwise be generated by potential future employment and development in Cambridge. A regional application of this measure would achieve substantially greater reductions in the growth of regional VMT.

C. Improved Mass Transit

Critical to any attempt to shift drivers from their cars to public transit is an improved public transit system. Although Cambridge is currently served by local MBTA buses and the Red Line, review of commuting characteristics of employees in the City reveals that large numbers of commuters (particularly those who live to the west and north of Cambridge) do not have ready access to public transit which would bring them into Cambridge. Accordingly, specific recommendations for improvements to the public transit infrastructure serving Cambridge include:

- Circumferential Transit. This project would provide direct transit service connecting Cambridge to the Orange Line North and Green Line's Riverside Branch to the West. The large number of people commuting to Cambridge from the I-93 corridor and the Mass. Turnpike corridor would then have an excellent transit option to travel to Cambridge. Since construction of the

Circumferential Transit Line is probably many years away, express bus service into Cambridge should be provided in the I-93 and Mass. Turnpike corridors in the interim (for example, a bus link between the Green Line at Riverside and points in Cambridge). Such service is currently provided into Boston.

- Express Buses and Other Local Service. The MBTA should rearrange local bus services, both within Cambridge and into Cambridge from nearby communities, to provide through service to Cambridge destinations without a transfer, for the largest number of users, wherever feasible.
- General Operational Improvements. The City and the MBTA should undertake cooperative efforts to actively promote bus ridership within and into the City - including, but not limited to:
 - installation of MBTA-endorsed or recognized bus stop signs
 - relocating bus stops to locations which will facilitate transfers between buses, or between buses and the subway (especially in Harvard and Porter Squares)
 - preferential treatment for buses on City streets, where feasible
 - changes where necessary in street patterns or curb cuts, including possible bus-only lanes, to facilitate bus access to transit stations (such as at Kendall Square)
 - community workshops to receive input from transit users on potential bus route improvements and changes
 - establishment of new or extended bus routes as necessary
 - installation of bus shelters
- Relocated Lechmere Station. By relocating this facility to the north side of Msgr. O'Brien Highway, First Street can be extended to Msgr. O'Brien Highway and the roadway constraining columns supporting the existing Green Line can be eliminated. This will help ease traffic flow in the Lechmere Square area.
- Additional Transit Improvements. Additional transit

improvements to facilitate increased transit usage in Cambridge and the Boston Metropolitan area include:

- proposed improvements at North Station Green Line to facilitate transfers between commuter rail and the Green Line to Lechmere
- additional local circumferential bus service
- extension of trackless trolley from Watertown to Newton Corner
- a bus to link North Station to Kendall Square/Kendall Square Station

Notably, on September 11, 1992, the Executive Office of Transportation and Construction and the Massachusetts Highway Department agreed with the City of Cambridge in the City of Cambridge Services Agreement to begin study during 1993 of several of these measures, including provision of express bus service, evaluation of Cambridge bus routes and transit line extension, relocation of the Lechmere MBTA station, and a green-line circumferential feasibility study. The Services Agreement also provides for the participation of Cambridge in review of the scope and design for each such study and for review and comment by the City on the findings of these studies.

D. Fringe Parking

In addition to improving the public transit system within and around Cambridge, it is also imperative that long-distance commuters have ample parking at the fringe of the public transit system. These facilities should be charging prices which encourage and favor high occupancy vehicle travel to and from the parking facility. In addition, fringe parking facilities served by public transit should provide ample, convenient, and safe storage for bicycles to encourage bicyclists to ride from home to the public transit system.

E. Tax Policy

To achieve the objectives set by the Clean Air Act, the Commonwealth should not rely on transportation control measures alone. It must also change certain taxing and pricing policies. Given that many transportation control measures depend upon changes (some radical) in driving behaviors, a key first step is to force drivers to recognize and bear the costs of their driving patterns. This can be accomplished in several ways through changes in tax policies. The Commonwealth could either assume direct responsibility for levying and collecting the tax or it could enact enabling legislation to allow individual municipalities to enact local taxes.

Taxes applied to automobile use are an effective demand management tool which can encourage drivers to switch to alternative modes of travel while at the same time raising new revenues to support these alternative modes. Some approaches to be considered include:

- Increase in the gasoline tax.
- Changes in tax policy to eliminate the favored treatment accorded to subsidies of employee single occupant vehicle parking and to favor increased employer subsidies of other, cleaner travel modes. This could include treating a parking subsidy as income and treating financial incentives for alternative travel modes as a deductible business expense and/or as non-reportable income.
- Provision of tax incentives to encourage conversion of vehicles (fleets and otherwise) to cleaner fuels, such as accelerated depreciation.
- Adjustment of the sales tax applied to automobiles to favor the purchase of clean fuel vehicles and disfavor the purchase of gas guzzlers.
- Taxing drivers at particularly congested locations or roadways.

F. Clean Fuels

To demonstrate a genuine commitment to improvements in air quality, the Commonwealth should commit to an immediate study of alternative (cleaner) fuels and implement a clean fuels program in connection with public fleets, including MBTA buses.

IV.
PROPOSAL FOR SIP AMENDMENT: CAMBRIDGE MEASURES

It is hereby proposed that the MPO and DEP take immediate action to approve and adopt, and forward to EPA, the Cambridge Vehicle Trip Reduction Ordinance, codified at Chapter 10.17 of the Cambridge Municipal Code (the "Cambridge Ordinance") (copy attached), for approval to amend the SIP and replace the commercial parking freeze regulation contained in 40 C.F.R. §§ 52.1128(a)(4) and 52.1135 as they apply to Cambridge and are incorporated in the current SIP.

The Cambridge Ordinance includes 17 strategies for reducing vehicle miles travelled. These measures include, for example, programs and funding to improve bicycle and pedestrian mobility, provisions to reduce the current supply of unregulated on-street parking, expansion and funding of programs to promote local employment opportunities, expansion and funding of current commuter mobility programs, and a commitment promptly to study revisions to the City's current zoning ordinance, including its application to minimum and maximum parking space requirements with a view toward reducing vehicle trips, congestion, and VMT associated with future development. As is demonstrated and explained in the attached Technical Appendix, the Cambridge Ordinance achieves superior air quality benefits to a parking freeze. The Ordinance represents a better transportation control instrument for changing driving behavior and achieving reductions in VMT and improvements in air quality.

The Ordinance will generate immediate and progressively greater reductions in vehicle travel over time. As demonstrated in the Technical Appendix, daily reductions of 30,000 VMT are expected to be achieved by year one. Daily reductions of 66,000 VMT are expected to be achieved by year two, and daily reductions of 104,000 VMT are expected to be achieved by year ten, exclusive of the benefits of the regional measures proposed in this SIP Amendment to supplement the Cambridge Ordinance. A parking freeze will not achieve any air quality benefits, absent substantial and sustained future development in Cambridge. A parking freeze in Cambridge could cause future development and associated traffic to locate in other cities instead, thereby causing a potential increase in regional VMT and deterioration of air quality.

A. Trends and Attributes Affecting Cambridge-Generated Travel

The population of Cambridge has remained relatively stable over the past twenty years, with a 1970 population of 100,000 and 1990 population of 96,000. While the City's population has changed little, other factors have contributed to a large increase in vehicle travel. These factors have included higher employment, rapidly increasing household formation and automobile ownership

per household. In 1980, Cambridge employed 92,000 people. By 1990 employment had risen to over 102,000 people or 11 percent in 10 years, and had undergone a considerable transformation from an industrial base to a service sector oriented market that attracts employees from throughout the region.

Automobile ownership has also undergone great change in Cambridge and throughout the nation, with a clear pattern of rapidly rising rates of auto ownership per household. From 1980 to 1987, the number of cars registered in Cambridge rose by nearly 40 percent, despite relatively little change in population and a major investment in expanding and improving the region's transit system. Traffic data available from the Massachusetts Department of Public Works indicate that use of the automobile has risen considerably during the 1980's, and that the City and Boston Metropolitan Region have experienced a considerable growth in vehicle miles traveled averaging about 3 percent per year.

To be successful, a program of transportation control measures for the City of Cambridge must take into account the unique characteristics of the City. These key attributes include:

Land Use:

- High residential densities distributed throughout City.
- Close geographic proximity to downtown Boston which results in a large proportion of trips that pass through Cambridge without stopping.
- Clusters of high density office development concentrated at limited number of locations (East Cambridge/Kendall Square, Alewife, University Park); additional office development dispersed at lower densities primarily along Massachusetts Avenue corridor between Harvard Square and Central Square.
- Two large educational institutions serving a primarily non-commuter population (Harvard University, Massachusetts Institute of Technology); various other smaller educational institutions; some commuting by faculty and non-resident students.
- Retail/commercial activity dispersed throughout City with few locations of high concentrations (Cambridge Galleria, Harvard Square, Central Square, Porter Square, Fresh Pond Shopping Center, Massachusetts Avenue corridor).
- Two major hospitals (Mount Auburn and Cambridge) which are located in predominantly residential areas with limited parking availability.

- Cambridge is second to Boston in number of jobs provided in the region. During the 1980's, employment increased by over 10,000 jobs, an increase of 11%.
- Between January 1980 and March 1990, approximately 8 million square feet of office, retail, and industrial space, nearly 2,000 new housing units, and nearly 1,000 new hotel rooms were constructed in Cambridge. This development has generated about 16,000 additional person trips daily in Cambridge with about 56 percent of the total, or about 9,000 trips, using an automobile to make the trip. As demonstrated in Section 5 of the Technical Appendix, the strong growth in employment and development that occurred during the 1980s in Cambridge was unprecedented in the City's history and is not likely to persist into the 1990s. Since March 1990, an additional 1 million square feet of office and retail space has been constructed or has begun construction. Although an additional 7 million square feet of non-residential development has been proposed, due to economic conditions and other circumstances, it is not expected that this development will be constructed during the 1990s.
- Although the population has remained constant in Cambridge since 1980, the rate of auto ownership has increased. Data available from 1970 to 1986 show a 40 percent increase in the number of passenger vehicle registrations in Cambridge. From 1982 to 1986, a period of only four years, registrations increased by over 12 percent.
- Given current and projected trends, along with the current downturn in the regional economy, Cambridge employment and development is expected to stabilize for the foreseeable future.

Transportation:

- Served by several major arterials and highways which are not subject to controls by the City of Cambridge (Alewife Parkway, Fresh Pond Parkway, Memorial Drive, and McGrath Highway). These roadways handle a high proportion of through-trips to Boston and other communities, as well as work trips to Cambridge employers and non-work trips to Cambridge retail and entertainment facilities.
- Provided transit service by MBTA via local buses and the Red Line and some limited service via the Green Line and commuter rail. The radial nature of the MBTA system, which is oriented to downtown Boston, results

in considerably more opportunities to use transit to access Cambridge from the south (downtown Boston) than from either the north or west.

- Congestion is experienced at various intersections/roadways and is anticipated to continue at a number of locations into the future; however no measured violations of CO standards currently or projected for future (based on limited available data).
- Extensive supply of primarily privately developed off-street parking serving employees (41% of supply) and commercial (19% of supply).
- Current transit use within the City is relatively high compared with national averages, with nearly 20% of daily home-based work trips to Cambridge destinations being made by transit; use of non-motorized transportation for worktrip travel is much higher than national averages, with nearly 17% of daily home-based work trips made by bicycle or walking (according to Central Transportation Planning Staff data).

Management:

- The City has a history of action to downzone residential and non-residential areas by reducing the allowable Floor Area Ratio ("FAR"), resulting in a reduction in the potential size of development compared to what would have been allowed under prior zoning regulations.
- A one-zone residential permit parking program is in place, affecting supply/utilization of on-street parking.
- The Citywide commuter mobility program is staffed by a full-time, City-funded, Commuter Mobility Coordinator who provides transportation management services to major employers and developers.
- Many of the City's employers already provide alternative work hour programs as an employee benefit, thereby reducing peak hour traffic.
- The City and several major institutions and private employers historically have implemented a variety of Transportation Control Measure programs including parking restrictions, carpool programs, and traffic flow improvements, in addition to supporting programs such as privately-sponsored shuttle bus services and mass transit improvements by the MBTA.

B. Cambridge Vehicle Trip Reduction Ordinance

Taking into account travel trends and attributes of Cambridge, the following program of local transportation control measures is proposed as an amendment to the SIP and replacement of 40 C.F.R. §§ 52.1128(a)(4) and 52.1135 as they apply to Cambridge and are incorporated in the current SIP. This program will be enforced by the City of Cambridge and has been codified at Chapter 10.17 of the Cambridge Municipal Code as the Cambridge Vehicle Trip Reduction Ordinance (the "Ordinance").

As demonstrated in Section 4 of the Technical Appendix, under most development scenarios this program will achieve superior air quality results (i.e., greater reductions in VMT) over the next ten years than would the commercial parking freeze regulation at 40 C.F.R. §§ 52.1128(a)(4) and 52.1135 as applied to Cambridge and incorporated in the current SIP. Combined with at least one of the regional measures described in this SIP Amendment proposal, the results for air quality are substantially better under this SIP Amendment than under 40 C.F.R. §§ 52.1128(a)(4) and 52.1135 as applied to Cambridge.

The measures in the Ordinance are listed and described below.

1. Expanded Commuter Mobility Program

Cambridge currently has one full-time commuter mobility staff person. Funding, staff, and programs will be expanded under this provision to discourage commuters from single-occupant vehicle travel. Various programs and activities to be funded by the City and implemented through the Commuter Mobility Program include, but are not limited to:

- A bicycle commuter program, in conjunction with the Cambridge Traffic and Parking Department and the Bicycle Advisory Committee, involving consultation with Cambridge residents and businesses.
- A program to assist employers in identifying and implementing incentives to encourage employees to commute by bicycle.
- A feasibility study of the potential use of an in-City paratransit system of jitney services or shuttles to transit locations, areas of major employment, and major commercial/retail destinations.
- A program for publicizing successes achieved by businesses and institutions in decreasing the number of single-occupancy vehicle commuters to their establishments.

- An education program, including newspaper articles, cable television programs, and public meetings, to inform residents and employees of the need for, and the benefits to be realized from, changes in commuting behavior.
- A commuter ride-share program.
- A program to encourage commercial establishments in Cambridge to offer discounts to patrons who have an MBTA transit pass.

Impact:

Dependent upon extent of participation. Based on a voluntary and area-wide application of commuter mobility measures, including community education programs on alternative modes of travel and implementation of shuttle services linking the MBTA and major employment centers, Cambridge-based vehicle miles of travel could be reduced by an estimated 0.71 percent or 23,500 daily VMT.

Implementation Responsibility:

Commuter Mobility Coordinator, Cambridge Community Development Department²

2. Citywide Bicycle and Pedestrian Mobility Program

The position of Bicycle and Pedestrian Coordinator is created within the Cambridge Traffic and Parking Department to develop a program to encourage and facilitate bicycle and pedestrian mobility. The Bicycle and Pedestrian Coordinator will work with the Commuter Mobility Coordinator and the City's Bicycle Advisory Committee and will devote at least 50 percent of his/her time to developing and implementing this program. The initial, annual budget of \$25,000 allocated to this program will be in addition to, and not applied toward, the salary of the Bicycle and Pedestrian Coordinator. The program will include the following:

- Development of a Cambridge Bicycle Master Plan.
- Development of a Cambridge Pedestrian Master Plan.

² The City is presently considering a restructuring of certain governmental functions that pertain to environmental management issues. Many of the responsibilities currently ascribed by City Ordinance to the Cambridge Community Development Department and the Traffic and Parking Department may be reassigned to the Cambridge Environmental Program, which would report to and operate under the supervision of the City Manager.

- Development and evaluation of recommendations for a regional network of bicycle paths and bicycle priority streets favoring both bicycles and pedestrians.
- Consultation with Cambridge residents, businesses, and institutions, and property owners.
- Funding of improved bicycle amenities and storage facilities.
- Funding of improved pedestrian amenities.
- Provision of bicycles for use by City police and Traffic and Parking Department Staff.

Impact:

Increased bicycle use as an alternative to other travel modes, primarily for short-distance/local trips during the peak ozone season (warmer weather period). Tests indicate that Cambridge VMT could be reduced by about 4,500 daily VMT or 0.14 percent.

Implementation Responsibility:

Cambridge Traffic and Parking Department, with assistance from the Commuter Mobility Coordinator.

3. Restrictions On Use Of Official Visitor Passes

The City of Cambridge will substitute stickers for the Citywide official visitor passes currently used by authorized individuals. The existing passes will be invalid thirty (30) days after the effective date of the Ordinance. Each sticker shall display the vehicle registration number of the vehicle to which it is assigned and an expiration date. No official City visitor sticker shall be valid for longer than one year. These stickers will be distinct in appearance from residential parking permit stickers. A list of all recipients of Citywide visitor stickers shall be maintained by the Traffic and Parking Department and shall be made available on request.

Impact:

Unspecified. This measure is designed to curb unauthorized use of official visitor passes. As such, the measure is expected to reduce VMT associated with unauthorized use of the passes, particularly for commuting purposes.

Implementation Responsibility:

Cambridge Traffic and Parking Department

4. Residential Visitor Passes

Beginning on the January first following the effective date of the Ordinance, each residential pass issued by the Traffic and Parking Department shall be designed to display a calendar for the year during which it is valid. Upon issuing a pass, the Traffic and Parking Department shall write the resident's address on the front of the pass. To be valid on a given date, the pass must be displayed in the windshield and the date of use must be circled.

Impact:

Unspecified

Implementation Responsibility:

Cambridge Traffic and Parking Department

5. Progressive Fee Schedule for Residential Parking Stickers

The fee charged for residential parking stickers will be adjusted to raise the fees charged to households with multiple vehicle ownership. Fees will be charged as follows:

1st Sticker per Household	\$ 8.00
2nd Sticker per Household	\$ 12.00
3rd and additional Stickers per Household	\$ 25.00 ³

For the purpose of this measure, all vehicles registered to the same address or unit shall constitute the vehicles registered to a household. Reductions and waivers available under current law to elderly and handicapped residents shall remain in effect.

One hundred (100%) percent of all revenues raised through the Residential Parking Sticker program would be used to implement the Ordinance.

Impact:

The measure would act to discourage marginal vehicle ownership, particularly households with three or more vehicles per household. Funding generated by this measure would be used to support other programs under the Vehicle Trip Reduction Ordinance.

³ The fee schedule contained in Section 10.17.070 of the Ordinance was modified as to the fourth and additional stickers by action of the City Council on October 5, 1992.

Approximately 36,000 parking stickers were issued by the Cambridge Traffic and Parking Department in 1991, generating approximately \$140,000 in revenue. Based on data provided by the Cambridge Traffic and Parking Department, derived from a sample of households and used to determine approximate distribution of single versus multi-sticker households, approximately 3 percent of Cambridge households (that have resident parking stickers) have 3 or more vehicles registered to their household. Estimated revenue from the revised schedule, based on the number of stickers issued in 1991 would increase by approximately \$138,000 per year. (Waivers or reductions for handicapped or elderly would reduce this amount somewhat.)

Implementation Responsibility:

City of Cambridge Traffic and Parking Department

6. Study of Zoning Revisions

The Cambridge Planning Board (the "Board") will consider revisions to the Cambridge Zoning Ordinance to promote reductions of VMT and traffic congestion and to encourage the increased use of commuting alternatives other than by single-occupant vehicles. The Board will, at a minimum, consider (i) reducing the allowed densities to achieve the goal of reduced vehicle miles travelled; (ii) eliminating the exclusion of parking in the calculation of gross floor area; (iii) reducing minimum and maximum parking requirements; (iv) including special provisions for carpools and vanpools; and (v) encouraging mixed-use developments. The Board will invite testimony from residents, businesses, institutions, and property owners and will publicly report its recommendations within one year.

Impact:

Modifications in zoning requirements could reduce rate of new parking development, resulting in change in ratio between vehicle trips and parking availability.

7. Improved Coordination with MBTA

The City Manager will initiate meetings with the General Manager of the MBTA to map out a strategy, and establish a working joint committee, for close cooperation between the City and the MBTA on increasing public transportation services to and within the City. The management of the MBTA will be asked to work to improve existing services and to look into ways in which the MBTA can be of assistance to the City in exploring development of a local paratransit system.

The Commuter Mobility Staff will undertake a survey of residents and commuters to identify barriers to their use of the MBTA. The

Commuter Mobility Staff will also conduct widely-advertised public forums in neighborhoods throughout the City. Based on the surveys and the results of the public meetings, the Commuter Mobility Staff will make specific recommendations for improving MBTA service. The recommendations will be available to the public for comment. The Commuter Mobility Staff will request that the MBTA hold one or more public meetings to discuss the recommendations.

The Department of Traffic and Parking and the Commuter Mobility Staff will work with the MBTA to (i) improve public transportation schedules and routes; (ii) to improve bus stop signage; and (iii) to review placement of bus stops.

Meetings with representatives of the MBTA will also focus on conversion of busses to clean fuels.

Impact:

Dependent upon extent of improvements by the MBTA.

Implementation Responsibility:

City Manager, Department of Traffic and Parking, and Commuter Mobility Staff.

8. Regulation of Idling Busses, Trucks, Taxis, and Automobiles

The Police Department shall promptly review and improve its enforcement of the statutory prohibitions against idling busses, trucks, taxis, and automobiles set forth at M.G.L. ch. 90. section 16A. Within two (2) months of the effective date of the Ordinance, the Commissioner of the Police Department shall report to the City Manager on the Department's implementation of this provision.

Impact:

Unspecified.

Implementation Responsibility:

Cambridge Police Department.

9. Taxicab Improvements

The Cambridge License Commission, through the Taxicab Advisory Committee, will consult with the taxicab industry, residents, and commercial establishments in the City and prepare recommendations:

- To make taxicabs more accessible for use by multiple passengers with different destinations. The object of this recommendation shall be to decrease single-occupant use of taxicabs by providing monetary incentives for the taxicab drivers and reducing the cost for passengers.
- About the potential role of taxicabs in a paratransit system for the City.
- About conversion of taxi fleets to clean fuels.
- For new or relocated taxi stands.
- For policies or actions that would encourage Cambridge residents to use taxicabs that are licensed in Cambridge instead of taxicabs from other cities.

Impact:

Unspecified.

Implementation Responsibility:

Cambridge License Commission.

10. Alewife Station and Garage

The Assistant City Manager for Community Development or his designee shall consult with Alewife neighborhood groups, employers, and other interested persons concerning the demand for (i) a commuter rail station at Alewife; (ii) an expansion of the Alewife garage; and (iii) shuttle bus or van service between Alewife station and nearby employment sites and stores. The Assistant City Manager shall report his findings to the City Council within one year.

11. Pilot Survey of Commuting Characteristics

a. The City, in consultation with the Selected Employer Steering Committee, will develop an Employer Survey Kit designed to elicit commuting data from all City employees and employees of Selected Employers to permit calculation of an actual AER for each Selected Employer and City Department and provide the statistical basis for determining such other characteristics of commuting patterns as may be useful in designing measures to achieve the goals of the Clean Air Act.

The Employer Survey Kit will be prepared and distributed to City Departments and Selected Employers within six (6) months. Each City Department and Selected Employer will endeavor to collect completed forms from seventy-five (75%) percent of its employees.

Each City Department and Selected Employer will, no later than three (3) months from the date the Employer Survey Kit is distributed, submit to the Assistant City Manager for Community Development all completed Employee Survey Forms, provided that, any Selected Employer may instead submit a report of the results of the employee survey on a standard AER calculation sheet, signed and certified as to its accuracy by an officer of the company. A Selected Employer that does not submit the Employee Survey Forms shall retain such forms for a minimum of three (3) years. These forms shall be made available to the Assistant City Manager for Community Development or its designee, upon request.

b. The Selected Employer Steering Committee will:

- Participate with the City in the design of the Pilot Survey.
- Assist in educating and encouraging participation in the Selected Employer Group.
- Review with the City the results of the Pilot Survey.
- Participate in the design of any Citywide employer based vehicle trip reduction program.

c. Each City Department and Selected Employer shall cooperate with the Assistant City Manager for Community Development and the Commuter Mobility Staff in providing information about plans and programs being utilized to encourage commuter travel modes other than by single-occupancy vehicles. At such time as the City implements or enforces an employer-based vehicle trip reduction program on a Citywide basis, each City Department and Selected Employer which has cooperated with the Community Development Department and Commuter Mobility Staff and which has complied with paragraph "a" shall be entitled to use the AER reflected in its initial Employer Survey Response as its baseline AER regardless of the extent of improvements in its AER produced as a result of its cooperation with the Community Development Department or its own commuter mobility initiatives.

d. The Assistant City Manager for Community Development will make arrangements with the Commuter Mobility Staff to coordinate: (i) participation of the Selected Employers; (ii) preparation and distribution of the Employer Survey Kits; (iii) calculation of the Base AER; (iv) review and tabulation of the Pilot Employer Survey Responses; and (v) recalculation of the Base AER based on review and analysis of the Pilot Employer Survey Responses. The Assistant City Manager for Community Development shall have the authority to engage the services of technical consultants to assist with these tasks.

e. The phrase Automobile Efficiency Rate ("AER") shall mean the figure calculated by dividing the number of employees who report to a worksite within the City of Cambridge between 6:00 a.m. and 10:00 a.m. (inclusive Monday through Friday to achieve a five consecutive weekday average) by the number of vehicles used by those employees to reach the worksite during those hours. Bicycles, public transit vehicles, and approved clean fuel vehicles shall be excluded from the vehicles counted. Motorcycles and light trucks shall be included in the vehicle counted.

f. The City shall define and make calculations of a Base AER for the City of Cambridge as a whole. Such Base AER shall initially be derived from the 1990 Census modal share data and travel statistics, the results of the Pilot Survey of Selected Employers, and such other data as may be relevant. Subsequently, the City may develop other AERs for categories such as geographical areas of the City, employer types, employer size, and the like, as may be determined through the consultative process. The City may also, through the same consultative process, periodically recalculate the Base AER or such other AERs to reflect additional data or changes in data as may become available.

g. The term carpool shall mean a private motor vehicle occupied by two to six employees travelling together for at least 75% of their commute trip distance.

h. The term commute alternatives shall mean carpooling, vanpooling, private bus service, use of public transit, bicycling, and/or walking.

i. The term employee shall mean any person hired by a public or private employer, including part-time and seasonal employees, who reports to work at least two (2) days a week during five (5) or more months of the year.

j. The term worksite shall mean a building or grouping of buildings which are located within the City of Cambridge and are on physically contiguous parcels of land or on parcels separated solely by private or public roadways or rights-of-ways and which are owned, operated, or leased by the same employer.

12. Municipal Vehicle Trip Reduction Plan

Based on its review of the employee survey forms collected, the Commuter Mobility Staff will prepare a vehicle trip reduction plan for implementation by City Departments. The plan shall contain a program of measures designed to reduce vehicle trips and VMTs generated by municipal employees and thereby improve the City's AER, as computed on the annual AER calculation sheets. The plan may include a variety of measures including, but not

limited to:

- Dissemination and periodic updating of information on all available transit service to and from the worksite.
- Advertising, promoting, and making available for purchase on the worksite, any pass program offered by transit authorities.
- Recommendations to individual employees of employee-specific travel options to reduce VMT.
- Incentives and assistance for bicycle commuting including secure parking facilities, shower/changing facilities, and education and training programs.
- Coordinating, facilitating and providing subsidies for employer-sponsored rideshare programs.
- Preferential parking for carpools and vanpools.
- Transportation allowances.
- Expanding opportunities for alternative work schedules including 4-day weeks and flexible schedules to facilitate ridesharing.
- Elimination or reduction of parking subsidies for single-occupant vehicles.
- Shuttle service to transit stops.
- Elimination of employees parking spaces.

After consultation with the Assistant City Manager for Community Development and the City Manager about the plan, the Commuter Mobility Staff shall promptly distribute it to the City Departments for implementation. The Commuter Mobility Staff shall assist City Departments with implementation of the plan.

Impact:

This measure will achieve reductions in single-occupant work-related vehicle trips by municipal employees. Currently, there are approximately 4,900 municipal employees. Based on a 2.5 percent annual improvement in AER compared to current Cambridge travel characteristics (based on available information), total daily Cambridge-based vehicle miles of travel could be reduced by an estimated 0.02 percent or 770 daily VMT in the first year and by 7,600 daily VMT by the tenth year.

13. Consultation with Employers and Residents About
Employer Vehicle Trip Reduction Programs

The Assistant City Manager for Community Development or its designee will consult with Cambridge businesses, institutions, City Departments, the Selected Employer Steering Committee, and residents to evaluate recommendations for a regional employer-based vehicle trip reduction program. During this consultation process, issues to be considered shall include:

- Whether different areas of the City should be subject to different AER goals, depending on their proximity to public transit.
- What the annual rate of improvement in an AER goal should be.
- Which, if any of the vehicle trip reduction plan elements identified in paragraph 12 should be required to be implemented by all employers in the City.
- The definition of Base AER and the potential appropriateness and definition of AER for categories such as geographical area of the City, employer types, employer sizes, and the like.
- Ways to recognize the uniqueness of employers and their differing needs for employee mobility.
- Appropriate AER or other references to be used in setting goals for Cambridge employers within a Regional Vehicle Trip Reduction Program.
- Whether employers should be required to achieve a Base or other AER goal within a specified time period or whether penalties should only be imposed for an employer's failure to implement its plan.
- Identification and development of mechanisms for transferring and/or sharing use of parking spaces as demand for parking spaces decreases at a given worksite.
- Evaluation of potential impacts on employment and economic impacts on affected employers and on the City of any proposed measures.
- Whether any categories of employers should be exempt.

The City will continue to update the MPO and DEP about the outcome of this consultative process.

14. Expansion of Local Employment Opportunities

To increase the number of Cambridge residents employed by Cambridge businesses and reduce vehicle miles associated with work commutes, the annual budget for expansion of local employment opportunities shall be increased to \$230,000. That budget shall be applied as follows:

- To continue and expand the Cambridge Employment Program within the Community Development Department.
- To sponsor an annual job fair to inform residents of local employment opportunities.
- To sponsor and coordinate educational partnerships between Cambridge employees and schools in Cambridge.
- To develop a Local Employment Opportunity Plan.

These functions shall be coordinated and carried out by the Community Development Department in conjunction with the Department of Human Services and under the supervision of the Assistant City Manager for Community Development. The Local Employment Opportunity Plan shall be developed within one year of the effective date of this provision.

Impact:

Potential increase in share of Cambridge residents employed by Cambridge employers, resulting in reduced work-trip commute distances and reduced vehicle miles of travel. As of 1989, Cambridge employers provided jobs for over 102,000 employees, accounting for nearly 6 percent of the total employment in the Boston metropolitan area. Approximately 28 percent of Cambridge's employment base is composed of Cambridge residents. The employment base of other major job centers such as Waltham, Bedford, Framingham and Lynn is composed of 35 percent or more local residents. The City of Boston has a 40 percent local resident employee population.

Given unique characteristics of Cambridge, such as its large student population, and uncertainties about expansion of job opportunities due to the current economy, it may not be feasible to increase the residential-employee base to the Boston level.

However, based on local employment rates at other major employment centers (as indicated above), an increase in the rate of local employment in Cambridge appears feasible. An analysis was performed which assumed a growth in Cambridge-based job share to 31 percent of total employment to evaluate the potential effectiveness of this measure. The results of this analysis indicated that Cambridge home-based work vehicle miles of travel

could be reduced by an estimated 3.4 percent or 33,000 daily VMT. This would produce an estimated 1.0 percent reduction in total Cambridge-based vehicle miles of travel.

Implementation Responsibility:

Cambridge Community Development Department in conjunction with the Cambridge Department of Human Services.

15. Implementation of Parking Restrictions on Currently Unregulated Streets

The Cambridge Traffic and Parking Department has prepared an inventory of all currently unrestricted on-street parking spaces throughout the City. After consultation with Cambridge residents, businesses, and the City Manager, the Traffic and Parking Department will recommend and implement the most appropriate form of regulation, by location, to discourage use of these spaces for long-term commuter parking. Approximately 4,300 on-street parking spaces in Cambridge are currently unrestricted. Regulation will be in the form of an absolute prohibition against parking, parking meters, time restrictions, residential permit requirements, or the like.

Impact:

Reduction in long-term, commuter-related work trips. For the purpose of analysis, it was assumed that this measure would apply to the entire supply of currently unregulated on-street spaces and that restrictions would be applied in the form of residential parking permit requirements. At this time, there is limited information available concerning the usage of these unregulated spaces. Therefore, two scenarios were tested to determine the potential impact of this measure. For the first scenario tested, it was assumed that all available spaces are currently used for long term commuter parking (or would be used for long-term parking as a result of other measures in the Ordinance). In this case, this measure could reduce Cambridge-based vehicle miles of travel by an estimated 2.43 percent or 79,800 daily VMT. For the second scenario tested, it was assumed that 60 percent of the currently unregulated spaces are used for long-term commuter parking and that, as a result of the new restrictions, 33 percent of these commuters would continue to drive but would find alternative parking. In this case, Cambridge-based vehicle miles of travel would be reduced by 0.97 percent or 32,000 daily VMT.

Implementation Responsibility:

Cambridge Traffic and Parking Department

16. Increase Off-Street Municipal Parking Fees

In order to discourage the use of City-owned parking facilities for parking by single-occupant vehicle users, the rates for daily and monthly parking at all municipal off-street parking garages will be increased by 25 percent over currently charged rates.

Impact:

The City of Cambridge currently operates two off-street parking garages. The Green Street garage in Central Square provides 290 spaces and the East Cambridge garage (55 First St.) provides 1110 spaces. An analysis of a 25 percent increase in the cost of longterm parking at these facilities was conducted which assumed that the rates at non-municipal facilities in the vicinity of these garages would be unchanged and that any spaces made available at these facilities as a result of the rate increases would not be subsequently filled as a result of latent demand. Based on these assumptions, this strategy would result in an estimated 0.13 percent reduction in the current daily total Cambridge-based vehicle miles of travel, equal to 4,300 daily vehicle miles of travel (VMT).

Implementation Responsibility:

Cambridge Traffic and Parking Department

17. Exclusive Residential Parking Near MBTA Stations

The Traffic and Parking Department, in consultation with neighborhood groups, residents, commercial establishments, and the City Manager, shall prepare a proposal for establishing exclusive residential parking zones on primarily residential streets located near MBTA stations. The object of the proposal will be to limit residential parking on targeted streets close to MBTA stations to residents of those neighborhoods by means of appropriate signage and special resident stickers and thereby discourage use of these spaces by commuters. The Traffic and Parking Department will convene a public meeting on its proposal within four (4) months of the effective date of this provision. Within one (1) month after such public meeting, and after consultation with the City Manager, the Director of Traffic and Parking shall cause the proposal to be implemented.

Impact:

Unspecified.

Implementation Responsibility:

Cambridge Traffic and Parking Department.

18. Promotion of Clean Fuels

The Department of Public Works shall study, promote, encourage, and identify incentives for the use of clean fuel in fleets of vehicles operating within the City. The study shall include an evaluation of the use of such fuels as methanol, compressed natural gas, and reformulated gasoline based on characteristics of fleets in Cambridge and implementation costs. The study shall also identify reasonably available incentives which could be offered by the City, such as tax credits, to encourage use of clean fuels in fleets of vehicles. The sum of \$15,000 will be appropriated for this program.

Impact:

The study would promote the use of Clean Fuels and provide information to fleet operators concerning potential benefits of Clean Fuels for fleet operations. Air quality improvements will result if and when fleets are converted to Clean Fuel operation.

Implementation Responsibility:

Cambridge Department of Public Works

19. Development of Traffic Policy

The Assistant City Manager for Community Development and the Director of Traffic and Parking Department, or their designees, shall within one year of the effective date of this provision, conduct a study of major highways, city through streets, streets with schools, different types of residential streets, and streets at the borders of the City. Based on that study, they shall prepare a written recommendation of:

- Appropriate speeds and volumes for Cambridge streets.
- Means of encouraging travel and traffic patterns that reduce VMTs.

This written recommendation shall be submitted to the City Council for review and appropriate action.

V.
SUMMARY OF PROGRAM IMPACTS

The attached table summarizes the various measures included in this SIP Amendment Proposal and lists their potential to reduce vehicle miles of travel and emissions of VOCs, CO, and NOx. As indicated, some measures do not directly result in measurable reductions in VMT or emissions of pollutants. Some of these measures support other strategies which do result in measurable improvements. An example would be the Pilot Survey of Commuter Characteristics (B.11) which is a necessary step in the development of the Municipal Vehicle Trip Reduction Plan (B.12). Other measures, such as the zoning study (B.6) and the promotion of clean fuels (B.18) involve a commitment to define and implement programs to promote future improvements in air quality. Until the details of these programs are defined, it is not practical to quantify their beneficial impacts.

Based on the programs that have been measured, the strategy to encourage local employment opportunities (B.14) has the potential to have a significant impact. The measure assumes a three percent (3%) change in the resident composition of Cambridge's employee population with a resulting reduction of 33,000 daily VMT. This objective could be facilitated and/or achieved through other strategies, such as land-use mixing and housing-jobs balances. Another program shown to have a significant potential impact in reducing daily VMT is the proposed expansion of the Cambridge commuter mobility program (B.1). Tests indicate that this measure could achieve a reduction in daily VMT of 23,500.

Yet another program shown to have a significant impact, despite varying assumptions for the analysis, is the application of parking restrictions to currently unregulated on-street spaces. The analysis of this measure assumes, through examination of two scenarios, that these spaces are currently used for long-term parking and that this use would be eliminated by the application of resident parking restrictions. If these spaces were controlled by meters or time restrictions, thereby allowing for more frequent turnover per space, impacts would be less. This measure could reduce daily VMT by between 32,000 and 79,800 miles.

The Municipal Vehicle Trip Reduction Plan (B.12) will achieve progressive impacts if the City strives for an increase in its Automobile Efficiency Rate (AER) target from year 1 to year 2 of the program. These reductions are not additive but individually represent a change in VMT and emissions from the baseline 1990 travel characteristics.

In summary, the strategies shown to have measurable VMT and emission reduction impacts can reduce total Cambridge-based vehicle miles of travel by at least 98,050 daily VMT. For the

strategies which apply to current VMT this results in a reduction of 3 percent of Cambridge-based vehicle miles of travel. This translates into a reduction of approximately .5 tons of per day of VOCs, 4 tons per day of CO, and .2 tons per day of NOx. Based on the extent of Cambridge's contribution to pollutant emissions statewide and the City's limited ability to affect change in Cambridge-based travel behavior, these reductions make a substantial contribution to overall improvements in air quality.

The City's SIP Amendment Proposal also contains several regional measures designed to reduce vehicle trips and VMT regionally. These regional measures are critical if the Commonwealth is to attain the air quality objectives of the 1990 Clean Air Act Amendments. Several illustrations of the potential impact of regional measures have been provided. Adoption of the employer-based vehicle trip reduction program described in this proposal would reduce current Cambridge employment-based VMT by 24,000 miles daily and could reduce future commuter trips to Cambridge by 35,000 daily VMT. The impact across the region would, of course, be significantly higher.

All but a few of the measures in the Cambridge Vehicle Trip Reduction Ordinance took effect as soon as codification was completed. Four measures will take effect once the Commonwealth has acted to adopt a regional program of transportation control measures. These are certain restrictions on its parking supply, promotion of clean fuels, development of a traffic policy, and a yet further expansion of its commuter mobility program. In the event that either the Commonwealth or EPA adopts a final rule or regulation that imposes transportation control measures in Cambridge which do not have an equal impact on the region, the City may elect to discontinue implementation of provisions in its Vehicle Trip Reduction Ordinance in order to prevent putting the City at a competitive disadvantage in the region.

* * * * *

CAMBRIDGE SIP AMENDMENT

SUMMARY OF PROGRAM IMPACTS

(File: 2903201\STL\SSummary)

STRATEGY	DESIGNATION	VMT IMPACTS	% CHANGE IN VMT(1)	VOCs(2) TONS/DAY	CO(3) TONS/DAY	NOx(4) TONS/DAY
Expanded Commuter Mob. Program	B.1	23,500	0.71%	0.10	0.86	0.04
Bicycle Incentive Program	B.2	4,480	0.14%	0.02	0.16	0.01
Visitor Pass Restriction	B.3	NA	—	—	—	—
Residential Visitor Passes	B.4	NA	—	—	—	—
Progressive Res. Parking Fees	B.5	NA	—	—	—	—
Study Zoning Revisions	B.6	NA	—	—	—	—
Improve MBTA Coordination	B.7	NA	—	—	—	—
Regulation of Vehicle Idling	B.8	NA	—	—	—	—
Taxicab Improvements	B.9	NA	—	—	—	—
Alewife Station and Garage	B.10	NA	—	—	—	—
Pilot Survey of Commuting	B.11	NA	—	—	—	—
Municipal Vehicle Reduction Program	B.12	770 to 7,600 (7)	0.23%	0.03	0.28	0.01
Consult Employers about VTR Program	B.13	NA	—	—	—	—
Local Employment Opportunities	B.14	33,000	1.00%	0.14	1.21	0.06
Park Restrictions on Unreg. Streets	B.15	32,000 to 79,800 (8)	0.97%	0.14	1.17	0.05
Increase Municipal Parking Fees	B.16	4,300	0.13%	0.02	0.16	0.01
Residential Parking At MBTA Stations	B.17	0	—	—	—	—
Promote Clean Fuels	B.18	NA	—	—	—	—
Develop Traffic Policy	B.19	NA	—	—	—	—
Regional Employer Trip Reduction Program(5)	A.1	24,000	0.73%	0.10	0.88	0.04
Baseline on Employee Commuting	A.2	NA	—	—	—	—
Regional New Development TRO Program (6)	A.3	35,000	1.06%	0.15	1.28	0.06

NOTES:

NA: No direct impacts or impacts not measurable.

(1): Percentage change based on current total (1987) VMT of 3,290,000.

(2): Assumes rate of 3.88 g. of VOCs per mile at 19.6 mph, 78.1 (F)

(3): Assumes rate of 33.27 g. of CO per mile at 19.6 mph, 30.0 (F)

(4): Assumes rate of 1.54 g. of NOx per mile at 19.6 mph, 78.1 (F)

(5): Only a portion of the impacts of this regional measure on Cambridge have been quantified for this analysis.

Shows impacts only as applied to existing employees.

(6): Only a portion of the impacts of this regional measure on Cambridge have been quantified for this analysis.

Reflects expected impacts as applied to new (future) employment in Cambridge.

(7): Lower figure reflects VMT saved in year 1, higher figure reflects VMT saved in year 10.

(8): Lower figure reflects Scenario 1, higher figure reflects Scenario 2. See Chapter 2 for definitions.

Attachment 1

Sample Auto Efficiency Rate (AER) Calculation Sheets

Los Angeles "Regulation XV"

Sample AVR Calculation, continued.

Weekly Employee/Vehicle Calculation

Section IV must be completed by employers filing both new and updated plans. This is a sample.

		TOTAL EMPLOYEE TRIPS		TOTAL VEHICLES
Mode	Column 1	Column 2	Column 3	
A Drive alone*	2680	A divided by 1	2680	
B Motorcycle	25	B divided by 1	25	
C 2 person carpool	150	C divided by 2	75	
D 3 person carpool	60	D divided by 3	20	
E 4+ person carpool	80	E divided by 4	20	
F Vanpool	120	F Total vans used	15	
G Buspool	0	G Total buses used	0	
H Public transit (bus/rail)	10			
I Walk	10			
J Bicycle	10			
K Telecommute	5			
L Report at another site	10	L divided by 1	10	
L1 No survey response	75	L1 divided by 1	75	
		S Subtotal	2920	
Compressed Work Week Credit (days off)				
M 3/36 work week	10			
N 4/40 work week	5			
O 9/80 work week x 0.5	5			
W Total employee trips	3255	T Total vehicles**	2853	
Days Off				
P Vacation	10			
Q Sick	5			
R Other	5			

* Refer to the next page for explanation of how to calculate drive alone trips.

** If clean fuel vehicles are used for commuting from home to work, use Appendix B to calculate credits.

Sample AVR, continued.

Explanation of Drive Alone Calculation

505	Employees drove alone for 5 days	2,525
5	Telecommuters drove alone 4 days	20
5	3/36 Employees drove alone 3 days	15
5	4/40 Employees drove alone 4 days	20
10	9/80 Employees drove alone 9 days	45
5	VAC/ Drove alone 3 days	15
5	Sick Leave/ Drove alone 4 days	20
5	Out of Town/ Drove alone 4 days	20
	Total Drive Alones	2,680

Sample AVR Calculation, continued

AVR Planning Form

Section IV must be completed by employers filing both new and updated plans. This is a sample.

- | | | |
|--|---|---------|
| 1. Total employee trips generated Monday through Friday between 6:00 am - 10:00 am inclusive (Column 1 (W) Form IV-3). | | 1. 3255 |
| 2. Total vehicles arriving at the worksite Monday through Friday between 6:00 am - 10:00 am. (Column 3 use (T) if claiming clean fuel vehicle credit, otherwise use (S) Form IV-3) | | 2. 2853 |
| 3. Divide line #1 by line #2 for current AVR | | 3. 1.14 |
| 4. Enter AVR target here. | | 4. 1.5 |
| 5. Divide line #1 by line #4 to compute your Regulation XV allowable vehicles. | | 5. 2170 |
| 6. Subtract line #5 from line #2. This is your necessary vehicle reduction to reach your AVR target. | | 6. 683 |
| 7. Divide line #6 by the averaging period of 5 days used to calculate necessary vehicle reduction to reach your target AVR per day. | | 7. 136 |
| 8. Current AVR | 1.14 (line 3 above) | |
| 9. Target AVR | 1.5 (line 4 above) | |
| 10. Prior year AVR | 1.12 (leave blank if filing for the first time) | |

After evaluating your survey, adopt incentives which would allow you to reduce the number of excess commute trips in order to attain your target AVR.

All calculations are rounded off to two decimal places.



City of Cambridge

24.

IN CITY COUNCIL

April 27, 1992

COUNCILLOR WOLF
VICE MAYOR CYR
COUNCILLOR RUSSELL
COUNCILLOR DUEHAY
COUNCILLOR WALSH
MAYOR REEVES

WHEREAS: The City Council, in its concern to implement the Clean Air Act of 1990 and to be master of its own plan, has before it a plan submitted by the City Manager with a number of components largely focussed on reducing the vehicle miles travelled in the City; and

WHEREAS: Residents and business people alike recognize the importance of improving air quality but feel that there must be a regional solution; and

WHEREAS: The Ordinance Committee of the City Council is considering a recommendation that it adopt some non-controversial measures to be implemented in the near future, enhance the interim ordinance to allow its continued implementation, and that it consider further the more complex and more futuristic proposals that would also be recommended for consideration in regional hearings and for a regional plan; and

WHEREAS: Committee and Council consideration of these matters is not yet complete and will continue, involving the residents and business community in a dialogue; and

WHEREAS: In keeping with extensive testimony, the City Council wishes to state its understanding of the importance of Cambridge's commitment to confirm a regional plan in order to reach the stated clean air goals and to maintain Cambridge's strong competitive edge in nurturing and attracting commercial enterprises; now therefore be it

RESOLVED: That the City Council, as a matter of public policy, go on record as supporting a regional approach to implementation of the Clean Air Act of 1990; and be it further

RESOLVED: That it is the intention of the City Council to develop and consider the options available for reducing vehicle miles travelled in a deliberative manner listening carefully to the concerns, desires, and needs of the residents and of the business community; and be it further

RESOLVED: That the City Council, as a matter of public policy, go on record as supporting additional rigorous, mandatory regulations only as such regulations are required of communities throughout the region.

In City Council April 27, 1992.
Adopted by the affirmative vote of eight members.
Attest:- Joseph E. Connarton, City Clerk.

A true copy; *Joseph E. Connarton*
ATTEST:-

Joseph E. Connarton
City Clerk

Chapter 10.17

VEHICLE TRIP REDUCTION ORDINANCE

Sections:

- 10.17.010 Time period of chapter.
- 10.17.020 Findings.
- 10.17.030 Definitions.
- 10.17.040 Expanded commuter mobility program.
- 10.17.050 Bicycle and pedestrian mobility program.
- 10.17.060 Restrictions on visitor passes.
- 10.17.070 Fees for residential parking stickers.
- 10.17.080 Study of zoning revisions.
- 10.17.090 Improved coordination with MBTA.
- 10.17.100 Regulation of idling busses, trucks, and taxis, and automobiles.
- 10.17.110 Taxicab improvements.
- 10.17.120 Alewife Station and Garage.
- 10.17.130 Annual survey of commuting characteristics of City employees and employees of selected employers.
- 10.17.140 Consultation with employers and residents about elements of regional employer vehicle trip reduction program.
- 10.17.150 Use of fees.
- 10.17.160 Recommendations for a SIP amendment applicable to all communities in the commonwealth.
- 10.17.170 Municipal vehicle trip reduction program.
- 10.17.180 Expansion of local employment opportunities.
- 10.17.190 Further expansion of commuter mobility program.

- 10.17.200 Restrictions on parking supply.
- 10.17.210 Promotion of clean fuels.
- 10.17.220 Development of traffic policy.
- 10.17.230 Sunset clause.

10.17.010 Time period of chapter.

Sections 10.17.040 through 10.17.180 of this chapter shall take effect sixty days after final approval by the City Council. The remaining provisions shall not take effect until, and shall at that time supersede and replace Chapter 10.16, sixty days after final approval by the U.S. Environmental Protection Agency ("U.S. EPA") of a SIP amendment for Massachusetts which (i) contains a program of transportation control measures that are imposed equally on all communities in the Commonwealth such as an employer-based vehicle trip reduction program; and (ii) revokes any provisions of 40 C.F.R. Section 52.1135 that are applicable to Cambridge. (Ord. 1139 (part), 1992)

10.17.020 Findings.

The City of Cambridge finds and determines that:

A. High levels of vehicle traffic and congestion add to air pollution, noise, and inconvenience and erode the quality of the living and working environment.

B. An increasing number of automobile registrations and jobs in the City has resulted in growth of traffic in and around Cambridge.

C. While the City has pursued programs to mitigate these conditions, new measures must be implemented by the City and the Commonwealth involving the participation of all sectors of the community on a local and regional bases to make more efficient use of mass transit, bicycling, walking, and other alternatives to trips by single-occupancy vehicles.

D. The Clean Air Act amendments of 1990 call for the attainment of compliance with the National Ambient Air Quality Standard for Ozone within the Commonwealth by 1999.

E. Attainment of the Ozone Standard will require increased control of vehicle-related air pollution ("transportation control measures") throughout the Commonwealth, as well as the Nation.

F. Throughtrips and other traffic over which Cambridge has no control contribute significantly to the degradation of air quality in the region. The degradation of air quality, particularly ozone, is a regional problem which requires global and regional solutions.

G. A large portion of vehicle traffic on Cambridge streets is attributable to trips that neither originate nor end in Cambridge ("throughtrips"). The City of Cambridge has virtually no control over these throughtrips. Accordingly, it is imperative that DEP amend the SIP to include transportation control measures applicable equally to all communities in the Commonwealth, including an employer-based vehicle trip reduction program, to achieve reductions in the number of vehicle trips and vehicle miles travelled throughout the region.

H. Increasing the use of commuting alternatives and reducing the number of trips by single-occupancy vehicles is beneficial for the City and the Commonwealth in reducing vehicle miles travelled, traffic and associated air pollution, fuel use, noise, and congestion.

I. Programs offered through City Departments, employers, institutions, owners of multiple-tenant buildings and complexes and other organizations to encourage the use of mass transit, bicycling, walking, and other alternatives to commuting by single-occupancy vehicles are effective and should be expanded on a citywide and regional basis.

J. The approach which includes, where consistent with employers' needs, adoption and enforcement of driving disincentives, particularly those applicable to the regular work-day commuter, and best suited to accommodate the diverse needs and capabilities of the governmental, business and institutional communities in the City, and recommended for adoption by DEP for state-wide application is a flexible approach which establishes performance goals and permits government and private employers, institutions, and automobile

owners to select from among a variety of measures designed to contribute toward reaching the goals.

K. The vehicle trip reduction program recommended for adoption by DEP on a state-wide basis should give credit to those employers which have already made substantial progress in encouraging the use of mass transit, bicycling, walking, and alternative means of commuting and in providing such alternatives.

L. Measures to discourage, and provide alternatives to, vehicle trips and trips by single-occupancy vehicles made by residents of and visitors to Cambridge are also necessary to further the goals of the Clean Air Act.

M. Some of the measures contained in this chapter will achieve immediate reductions in vehicle miles travelled; others are designed to collect information and otherwise lay the foundation for future actions to reduce vehicle miles travelled and improve air quality. To maximize air quality benefits, some types of transportation control measures must be adopted and applied on a regional basis. (Ord. 1139 (part), 1992)

10.17.030 Definitions.

A. "City" means the City of Cambridge, Massachusetts.

B. "Clean fuel" means any fuel or power source used in a vehicle that complies with the applicable standards for clean fuel vehicles contained in Sections 241-245 of the Clean Air Act, 42 U.S.C. §§ 7581—7595.

C. "Clean-fuel vehicle" means a vehicle in a class or category of vehicles which has been certified to meet the applicable clean-fuel vehicle standards as defined by and pursuant to the federal Clean Air Act Amendments of 1990.

D. "Fleet" means ten or more vehicles which are (i) owned, leased, controlled or operated by a single person or entity; or (ii) parked at the same location, excluding vehicles held for lease or rental to the general public, vehicles held for sale by dealers, vehicles used for law enforcement or emergency purposes.

E. "Ozone standard" means the National Ambient Air Quality Standard for Ozone established pursuant to Section 109 of the Clean Air Act, 42 U.S.C. § 7409.

F. "Region" means those communities east of, or through which Route 128 passes.

G. "Selected employers" means those employers in Cambridge who voluntarily agree to participate in the pilot survey of employee commuting characteristics set forth in Section 10.17.130.

H. "Throughtrips" means vehicle traffic on city of Cambridge streets attributable to trips that neither originate nor end in the City of Cambridge.

I. "Transportation control measures" are transportation control strategies aimed at reducing transportation related emissions of pollutants and controlling the growth of future vehicle trips and vehicle miles travelled.

J. "VMT" is an abbreviation for vehicle miles travelled.

K. "AER" is an abbreviation for automobile efficiency rate, a rate determined as set forth in Section 10.17.130(D).

L. "Base AER" is a term for the automobile efficiency rate for the City of Cambridge, more fully described in Section 10.17.130(E). (Ord. 1139 (part), 1992)

10.17.040 Expanded commuter mobility program.

In addition to continuing activities currently in progress, the Commuter Mobility Coordinator shall develop and submit to the Assistant City Manager for Community Development and the City Manager a schedule for implementing additional programs including, but not limited to:

A. A bicycle commuter program, in conjunction with the Cambridge Traffic and Parking Department and the Bicycle Advisory Committee involving consultation with Cambridge residents and businesses;

B. A program to assist employers in establishing bicycle commuting incentives;

C. A feasibility study of the potential use of an in-city paratransit system of jitney services or shut-

tles to transit locations, areas of major employment, and major commercial/retail destinations; and

D. A program for publicizing successes achieved by businesses and institutions in decreasing the number of single-occupancy vehicle commuters to their establishments;

E. An education program, including newspaper articles, cable television programs, and public meetings, to inform residents and employees of the need for, and the benefits to be realized from, changes in commuting behavior;

F. The beginning of a commuter ride-share program;

G. A program to encourage businesses to offer discounts on T passes.

The City will provide adequate resources to enhance the ability of the commuter mobility program to work to reduce the vehicle miles travelled in Cambridge. (Ord. 1139 (part), 1992)

10.17.050 Bicycle and pedestrian mobility program.

The position of Bicycle and Pedestrian Coordinator is created within the Cambridge Traffic and Parking Department. The City Manager shall, within one month of the effective date of this provision, designate the Bicycle and Pedestrian Coordinator. The Bicycle and Pedestrian Coordinator shall devote at least fifty percent of his/her time to carrying out the tasks required by this provision. The Bicycle and Pedestrian Coordinator shall, in conjunction with the Commuter Mobility Coordinator and the City's existing Bicycle Advisory Committee, (i) design and implement a program to encourage greater use of bicycles as alternatives to single-occupancy vehicles within the city and (ii) focus the attention of the City on the needs of pedestrians. The program will include, but is not limited to:

A. Development of a Cambridge Bicycle Master Plan;

B. Development of a Cambridge Pedestrian Master Plan;

C. Development and evaluation of recommendations for a regional network of bicycle paths and

bicycle priority streets favoring both bicycles and pedestrians;

D. Consultation with Cambridge residents, businesses, institutions and property owners;

E. Funding of bicycle amenities and storage facilities;

F. Funding for pedestrian amenities; and

G. Provision of bicycles for use by City police and Traffic and Parking Department.

The program shall be funded at an initial level of twenty-five thousand dollars annually; these funds shall be in addition to, and not utilized for, the salary of the Bicycle and Pedestrian Coordinator. (Ord. 1139 (part), 1992)

10.17.060 Restrictions on visitor passes.

A. Official City Visitor Passes. The Citywide visitor passes that have been distributed to authorized individuals will be invalid thirty days after the effective date of the ordinance codified in this provision. The Cambridge Traffic and Parking Department is authorized to issue stickers to individuals or organizations or who would be authorized to receive a City-wide visitor pass. A list of all recipients of City-wide visitor passes shall be maintained by the Cambridge Traffic and Parking Department and shall be made available for public inspection upon request. In order to be effective, a sticker must be affixed to a vehicle and must display the vehicle registration number and an expiration date. These stickers shall be easily distinguishable from the stickers issued to City residents. No Official City Visitor Sticker shall be issued that is valid for a time period longer than one year. The names of individuals and organizations shall be available to the public upon request. The list shall be updated by the Department at least quarterly.

B. Residential Visitor Passes. Beginning on the January first following the effective date of this provision, each residential visitor pass issued by the Traffic and Parking Department shall be designed to display a calendar for the year during which it is valid. Upon issuing a pass, the Traffic and Parking Department shall write the resident's

address on the front of the pass. To be valid on a given date, the pass must be displayed in the windshield and the date of use must be circled. (Ord. 1139 (part), 1992)

10.17.070 Fees for residential parking stickers.

The fees for residential parking stickers shall be as follows:

1st Sticker per Household	\$ 8.00
2nd Sticker per Household	12.00
3rd Sticker per Household	50.00
4th Sticker per Household	100.00
5th and additional Stickers per Household	200.00

For the purpose of this measure, all vehicles registered at the same residential address or unit shall constitute the vehicles registered to a household. Reductions and waivers available under current law to elderly and handicapped residents shall remain in effect. (Ord. 1139 (part), 1992)

10.17.080 Study of zoning revisions.

The Cambridge Planning Board (the "Board") shall consider revising the required parking space ratios specified in the City of Cambridge Zoning Ordinance and shall evaluate the effectiveness of such revisions in reducing VMT and traffic congestion and encouraging the increased use of commuting alternatives other than by single-occupant vehicles. The Planning Board shall evaluate the need to reduce the allowed densities to achieve the goal of reduced vehicle miles travelled and shall also consider eliminating the exclusion of parking in the calculation of gross floor area. The Board shall also consider the economic impact of such revisions. Consideration shall be given, without limitation, to such potential revisions as reduction of minimum and maximum parking requirements, special provisions for carpools and vanpools, and encouragement of mixed-use developments.

The board shall invite testimony from residents, businesses, institutions, and property owners and shall publicly report its recommendations within

one year of the effective date of this provision. (Ord. 1139 (part), 1992)

10.17.090 Improved coordination with MBTA.

The City Manager shall initiate meetings with the General Manager of the MBTA to map out a strategy for close cooperation between the City and the MBTA on increasing public transportation services to and within the City. The management of the MBTA will be asked to work to improve existing services and to look into ways in which the MBTA can be of assistance to the City in exploring possible development of a local para-transit system. There shall be a goal of establishing a working joint committee to implement the needed improvements.

The Commuter Mobility Staff shall undertake a survey of residents and commuters to identify barriers to use of the MBTA. The Commuter Mobility Staff shall also conduct widely-advertised public forums in neighborhoods throughout the City. Based on the survey and the results of the public meetings, the Commuter Mobility Staff will make recommendations for improving MBTA service. The recommendations will be available to the public for comment. The Commuter Mobility Staff will request that the MBTA hold one or more public meetings to discuss the recommendations.

The Department of Traffic and Parking and the Commuter Mobility staff shall work with MBTA to (i) improve public transportation schedules and routes; (ii) to improve bus stop signage; and (iii) to review placement of bus stops. The Cambridge Traffic and Parking Department shall also cooperate with the MBTA in an attempt to have the MBTA, at the sites selected by Cambridge, erect bus stop signs that are used in other cities and towns.

Meetings with representatives of the MBTA should also focus on conversion of buses to clean fuels. (Ord. 1139 (part), 1992)

10.17.100 Regulation of idling buses, trucks, and taxis and automobiles.

The Police Department shall promptly review and improve its enforcement of the statutory prohibitions against idling by busses, trucks and taxis and automobiles set forth at G.L., ch. 90, § 16A. Within two months of the effective date of the ordinance codified in this provision, the Commissioner of the Police Department shall report to the City Manager on the Department's implementation of this provision. (Ord. 1139 (part), 1992)

10.17.110 Taxicab improvements.

The License Commission, through the Taxicab Advisory Committee shall consult with the taxicab industry, residents, and commercial establishments in the City and prepare recommendations:

A. To make taxicabs more accessible for use by multiple passengers with different destinations. The object of this recommendation shall be to decrease single-occupant use of taxicabs by providing monetary incentives for the taxicab drivers and reducing the cost for passengers; and

B. About the potential role of taxicabs in a paratransit system for the City; and

C. About conversion of taxi fleets to clean fuels;

D. for new or relocated taxi stands; and

E. For policies or actions that would encourage Cambridge residents to use taxicabs that are licensed in Cambridge instead of taxicabs from other cities. (Ord. 1139 (part), 1992)

10.17.120 Alewife Station and Garage.

The Assistant City Manager for Community Development or his designee shall consult with Alewife neighborhood groups, employers, and other interested persons concerning the demand for (i) a commuter rail station at Alewife, (ii) an expansion of the Alewife garage, and (iii) shuttle bus or van service between Alewife Station and nearby employment sites and stores. The Assistant City Manager shall report his findings to the City Council.

cil within one year of the effective date of this provision. (Ord. 1139 (part), 1992)

10.17.130 Pilot survey of commuting characteristics of City employees and employees of selected employers.

A. The City, in consultation with the Selected Employer Steering Committee, shall develop an Employer Survey Kit which may include an Employee Survey Form, administration plan, and Automobile Efficiency Rate ("AER") (defined below) calculation sheet, designed to elicit commuting data from all City employees and employees of Selected Employers which will permit the calculation of an actual AER for each Selected Employer and City Department and will also provide the statistical basis for determining such other characteristics of commuting patterns as may be useful in designing measures to achieve the goals of the Clean Air Act. The Employer Survey Kit shall be prepared and distributed to City Departments and Selected Employers within six months of the effective date of the ordinance codified in this provision. Each City Department and Selected Employer shall distribute copies of the Employee Survey Form to, and as a goal shall endeavor to collect completed forms from, seventy-five per cent of its employees. Each City Department and Selected Employer shall, no later than three (3) months from the date the Employer Survey Kit is distributed, submit to the Assistant City Manager for Community Development all completed Employee Survey Forms, provided that, any Selected Employer may instead submit a report of the results of the employee survey on a standard AER calculation sheet, signed and certified as to its accuracy by an officer of the Company. A Selected Employer that does not submit the Employee Survey Forms shall retain such forms for a minimum of three years. These forms shall be made available to the Assistant City Manager for Community Development or his designee, upon request.

B. The Selected Employer Steering Committee shall:

1. Participate with the City in the design of the pilot survey;
2. Assist in educating and encouraging participation of the selected employer group;
3. Review with the City the results of the pilot survey; and
4. Participate in the design of any City-wide employer based vehicle trip reduction program.

C. Each City Department and Selected Employer shall cooperate with the Assistant City Manager for Community Development and the Commuter Mobility Staff in providing information about plans and programs being utilized to encourage commuter travel modes other than by single occupancy vehicles. At such time as the City implements or enforces an employer-based vehicle trip reduction program on a city-wide basis, each City Department and Selected Employer which has cooperated with the Community Development Department and the Commuter Mobility Staff and which has complied with paragraph "A" hereof shall be entitled to use the AER reflected in its initial Employer Survey Response as its baseline AER regardless of the extent of improvements in its AER produced as a result of its cooperation with the Community Development Department or its own commuter mobility initiatives.

D. The Assistant City Manager for Community Development shall make arrangements with the Commuter Mobility Staff to coordinate: (i) participation of the Selected Employers; (ii) preparation and distribution of the Employer Survey Kits; (iii) calculation of the base AER; (iv) review and tabulation of the pilot employer survey responses; (v) recalculation of the base AER based on review and analysis of the pilot employer survey responses. The Assistant City Manager for Community Development shall have the authority to engage the services of technical consultants to assist with these tasks.

E. The phrase Automobile Efficiency Rate ("AER") shall mean the figure calculated by dividing the number of employees who report to a worksite within the City of Cambridge between six a.m. and ten a.m. (inclusive Monday through Fri-

day to achieve a five consecutive weekday average) by the number of vehicles used by those employees to reach the worksite during those hours. Bicycles, public transit vehicles, and approved clean-fuel vehicles shall be excluded from the vehicles counted. Motorcycles and light trucks shall be included in the vehicles counted.

F. The City shall define and make calculations of a base AER for the City of Cambridge as a whole. Such base AER shall initially be derived from the 1990 Census modal share data and travel statistics, the results of the pilot survey of selected employers, and such other data as may be relevant. Subsequently, the City may develop other AERs for categories such as geographical areas of the City, employer types, employer sizes, and the like, as may be determined through the consultative process provided for in Section 10.17.140. The City may also, through the same consultative process, periodically recalculate the base AER or such other AERs to reflect additional data or changes in data as become available.

G. The term "carpool" shall mean a private motor vehicle occupied by two to six employees travelling together for at least seventy-five percent of their commute trip distances.

H. The term "commute alternatives" shall mean carpooling, vanpooling, private bus service, use of public transit, bicycling and/or walking.

I. The term "employee" shall mean any person hired by a public or private employer, including part-time and seasonal employees, who reports to work at least two days a week during five or more months of the year.

J. The term "worksite" shall mean a building or grouping of buildings which are located within the City of Cambridge and are on physically contiguous parcels of land or on parcels separated solely by private or public roadways or rights-of-ways and which are owned, operated, or leased by the same Employer. (Ord. 1139 (part), 1992)

10.17.140 Consultation with employers and residents about employer vehicle trip reduction program.

The Assistant City Manager for Community Development or his designee shall consult with Cambridge businesses, institutions, City departments, the Selected Employer Steering Committee, and residents to evaluate recommendations for a regional employer-based vehicle trip reduction program. During this consultation process, issues to be considered shall include:

A. Whether different areas of the City should be subject to different AER goals, depending on their proximity to public transit;

B. What the annual rate of improvement in the AER goal should be;

C. which, if any of the vehicle trip reduction plan elements identified in Section 10.17.170 should be required to be implemented by all employers in the City;

D. The definition of base AER and the potential appropriateness and definition of AERs for categories such as geographical areas of the city, employer types, employer sizes, and the like;

E. Ways to recognize the uniqueness of employers and their differing needs for employee mobility;

F. Appropriate AER or other references to be used in setting goals for Cambridge employers within a regional vehicle trip reduction program;

G. Whether employers should be required to achieve a base or other AER goal within a specified time period or whether penalties should only be imposed for an employer's failure to implement its plan;

H. Identification and development of mechanisms for transferring and/or sharing use of parking spaces as demand for parking spaces decreases at a given worksite;

I. Evaluation of potential impacts on employment and economic impacts on affected employers and on the City of any proposed measures; and

J. Whether any categories of employers should be exempt. (Ord. 1139 (part), 1992)

10.17.150 Use of fees.

One hundred percent of the funds raised through the sale of residential parking stickers shall be used for implementing the tasks and programs specified in this chapter. (Ord. 1139 (part), 1992)

10.17.160 Recommendations for a SIP amendment applicable to all communities in the Commonwealth.

In order to ensure that the vehicle trip reduction measures in the ordinance codified in this chapter achieve their intended effect of reducing vehicle miles traveled and enhancing air quality in the Commonwealth, the City shall include in its submittal to the Metropolitan Planning Organization ("MPO") and DEP recommendations for an amendment to the State Implementation Plan under the federal Clean Air Act applicable equally to all communities in the Commonwealth. These recommendations shall include, but not be limited to:

- A. A proposal for an employer-based vehicle trip reduction program;
- B. A proposal for measures applicable to new development projects to mitigate the traffic impacts of such projects and reduce vehicle miles travelled to and from such projects;
- C. A proposal for revising state taxing policies concerning employer-paid transportation and parking subsidies;
- D. A proposal for evaluating the utility of imposing fees on single-occupant commuter vehicles and/or commuter parking;
- E. A proposal for achieving appropriate convenient public transportation from the west and north to Cambridge, including but not limited to support of a circumferential transit system;
- F. Preventing the diversion of traffic oriented toward Cambridge to other areas with more limited transit availability;
- G. Assuring that Cambridge is not placed at a competitive disadvantage within the region or the Commonwealth;

H. Reducing the growth in volume of through-trips on Cambridge roadways which is outside the control of the City; and

I. Improved and extended use of water taxis.

Notwithstanding the foregoing, the City in its submittal shall note the absence of consensus about the vehicle trip reduction ordinance as originally proposed. The City shall engage in a further consultation process as outlined in Section 10.17.140. The City shall continue to update the State concerning that process. (Ord. 1139 (part), 1992)

10.17.170 Municipal vehicle trip reduction plans.

Based on its review of the employee survey forms collected pursuant to Section 10.17.130, the Commuter Mobility Staff shall prepare a vehicle trip reduction plan for implementation by City Departments. The plan shall contain a program of measures identical to the program developed after consultation as set forth in Section 10.17.140 which shall be designed to reduce vehicle trips and vehicle miles travelled by municipal employees and thereby improve the City's AER, as computed on the annual AER calculation sheets. The plan may include a variety of measures including, but not limited to:

- A. Dissemination and periodic updating of information on all available transit service to and from the worksite;
- B. Advertising, promoting and making available for purchase on the worksite any pass program offered by transit authorities;
- C. Recommendations to individual employees of employee-specific travel options to reduce VMT;
- D. Incentives and assistance for bicycle commuting including secure parking facilities, shower/changing facilities, and education and training programs;
- E. Coordinating, facilitating and providing subsidies for employer-sponsored rideshare programs;
- F. Preferential parking for carpools and vanpools;

G. Transportation allowances;

H. Expanding opportunities for alternative work schedules including four-day weeks and flexible schedules to facilitate ridesharing;

I. Elimination or reduction of parking subsidies for single-occupant vehicles;

J. Shuttle service to transit stops; and/or

K. Elimination of employee parking spaces.

After consultation with the Assistant City Manager for Community Development and the City Manager about the plan, the Commuter Mobility Staff shall promptly distribute it to City Departments for implementation. The Commuter Mobility Staff shall assist City Departments with implementation of the plan. (Ord. 1139 (part), 1992)

10.17.180 Expansion of local employment opportunities.

To demonstrate and further its commitment to increase the number of Cambridge residents employed by Cambridge businesses and reduce vehicle miles associated with work commutes, the annual budget for expansion of local employment opportunities shall be increased to two hundred thirty thousand dollars. That budget shall be applied as follows:

A. To continue and expand the Cambridge Employment Program within the Community Development Department;

B. To sponsor an annual job fair to inform residents of local employment opportunities;

C. To sponsor and coordinate educational partnerships between Cambridge employees and schools in Cambridge; and

D. To develop a Local Employment Opportunity Plan.

These functions shall be coordinated and carried out by the Community Development Department in conjunction with the Department of Human Services and under the supervision of the Assistant City Manager for Community Development. The Local Employment Opportunity Plan shall be developed within one year of the effective date of the ordinance codified in this provision

[THE FOLLOWING SECTIONS, 10.17.190 THROUGH 10.17.220, ONLY TAKE EFFECT AFTER STATE AND FEDERAL ACTION TO ADOPT A REGIONAL OR STATE-WIDE PROGRAM]

10.17.190 Further expansion of commuter mobility program.

The Assistant City Manager for Community Development, in consultation with the City Manager, shall have authority to hire additional staff to implement the tasks and programs specified in this Chapter. Within three months of the effective date of this provision, at least one additional Commuter Mobility Staff member shall be hired. The Commuter Mobility Coordinator shall develop and promptly implement additional programs including but not limited to:

A. A program encouraging the use and sharing of computer ride-sharing information between and among businesses and institutions in the City;

B. A program to encourage commercial and retail businesses to offer discounts to patrons with MBTA transit passes; and

C. Implementation of an in-city paratransit system, to the extent funds are available, to supplement MBTA services.

The Commuter Mobility Coordinator shall develop and recommend additional programs, including but not limited to, a residential trip reduction program for apartment and condominium complexes of fifty or more units. (Ord. 1139 (part), 1992)

10.17.200 Restrictions on parking supply.

A. Expansion of Parking Regulation. Within six months of the effective date of the ordinance codified in this provision, the Traffic and Parking Department shall submit to the City Manager an updated written inventory of all on-street parking spaces specifying the restrictions applicable to each such parking space. As to any space which has not been restricted or removed from the supply of on-street spaces pursuant to Section 10.16.071 of this title, the Traffic and Parking Department shall prepare a recommendation for restriction of each

such space to discourage its use for long-term commuter parking. These restrictions may include, without limitation, an absolute prohibition against parking, installation of parking meters, imposition of time restrictions, and/or restrictions for use by residents with permits. The Director of Traffic and Parking shall make the recommendations available for public review and shall schedule one or more public meetings, as appropriate, for public discussion of the recommendations. Within one month after the public meetings, the Traffic and Parking Department shall submit its revised recommendation to the City Manager. After consultation with the City Manager, the Traffic and Parking Department shall promptly implement the recommendations.

B. **Municipal Parking Rates.** The rates for daily and monthly parking at all City-owned off-street parking facilities shall be increased by twenty-five percent over current rates, to be effective within sixty days of the effective date of this provision.

C. **Exclusive Residential Parking Near MBTA Stations.** The Traffic and Parking Department, in consultation with neighborhood groups, residents, commercial establishments, and the City Manager, shall prepare a proposal for establishing exclusive residential parking zones on primarily residential streets located near MBTA stations. The object of the proposal shall be to limit residential parking on targeted streets close to MBTA stations to residents of those neighborhoods by means of appropriate signage and special resident stickers. The Traffic and Parking Department shall convene a public meeting on its proposal within four months of the effective date of this provision. Within one month after such public meeting, and after consultation with the City Manager, the Director of Traffic and Parking shall cause the proposal to be implemented. (Ord. 1139 (part), 1992)

10.17.210 Promotion of clean fuels.

The Department of Public Works shall study, promote, encourage, and identify incentives for the use of clean fuel in fleets of vehicles operating within the City. The study shall include an evalua-

tion of the use of such fuels as methanol, compressed natural gas, and reformulated gasoline based on characteristics of fleets in Cambridge and implementation costs. The study shall also identify reasonably available incentives which could be offered by the City, such as tax credits, to encourage use of clean fuel in fleets of vehicles. The sum of fifteen thousand dollars shall be appropriated for this program. (Ord. 1139 (part), 1992)

10.17.220 Development of traffic policy.

The Assistant City Manager for Community Development and the Director of the Traffic and Parking Department, or their designees, shall within one year of the effective date of this provision, conduct a study of major highways, city through streets, streets with schools, different types of residential streets, and streets at the borders of the City. Based on that study, they shall prepare a written recommendation of:

A. Appropriate speeds and volumes for Cambridge streets; and

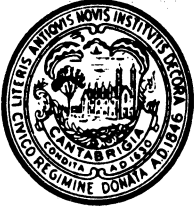
B. Means of encouraging travel and traffic patterns that reduce VMTs.

This written recommendation shall be submitted to the City Council for review and appropriate action. (Ord. 1139 (part), 1992)

10.17.230 Sunset clause.

The provisions of this chapter shall cease to be effective ninety days after the date the Department of Environmental Protection or the U.S. Environmental Protection Agency adopts a final rule or regulation that imposes transportation control measures including parking supply management measures in Cambridge which do not have an equal impact on the Region. The purpose of this sunset clause is to give the City the opportunity to decide whether to continue to implement the numerous provisions of this chapter in the event that the final rule or regulation puts the City at a competitive disadvantage in the region. (Ord. 1139 (part), 1992)

8.



CITY OF CAMBRIDGE

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EXECUTIVE DEPARTMENT
ROBERT W. HEALY
City Manager

RICHARD C. ROSSI
Deputy City Manager

October 26, 1992

To The Honorable, To The Council:

Attached is a copy of the City's proposal for the Amendment of the State Implementation Plan which was submitted last week to the Department of Environmental Protection and the Metropolitan Planning Organization. As you know, pursuant to the Vehicle Trip Reduction Ordinance, the City is required to make this submittal. There will be public hearings at the State level sometime during the winter.

Very truly yours,

Robert W. Healy

Consent Agenda # 8

5-871

City's proposal for the amendment
of the State Implementation Plan.

In City Council,

October 26, 1992

Referred to the
Traffic &
Transportation
Committee.

Copy sent to Traffic &
Transportation Committee

10/28/92 *cew*