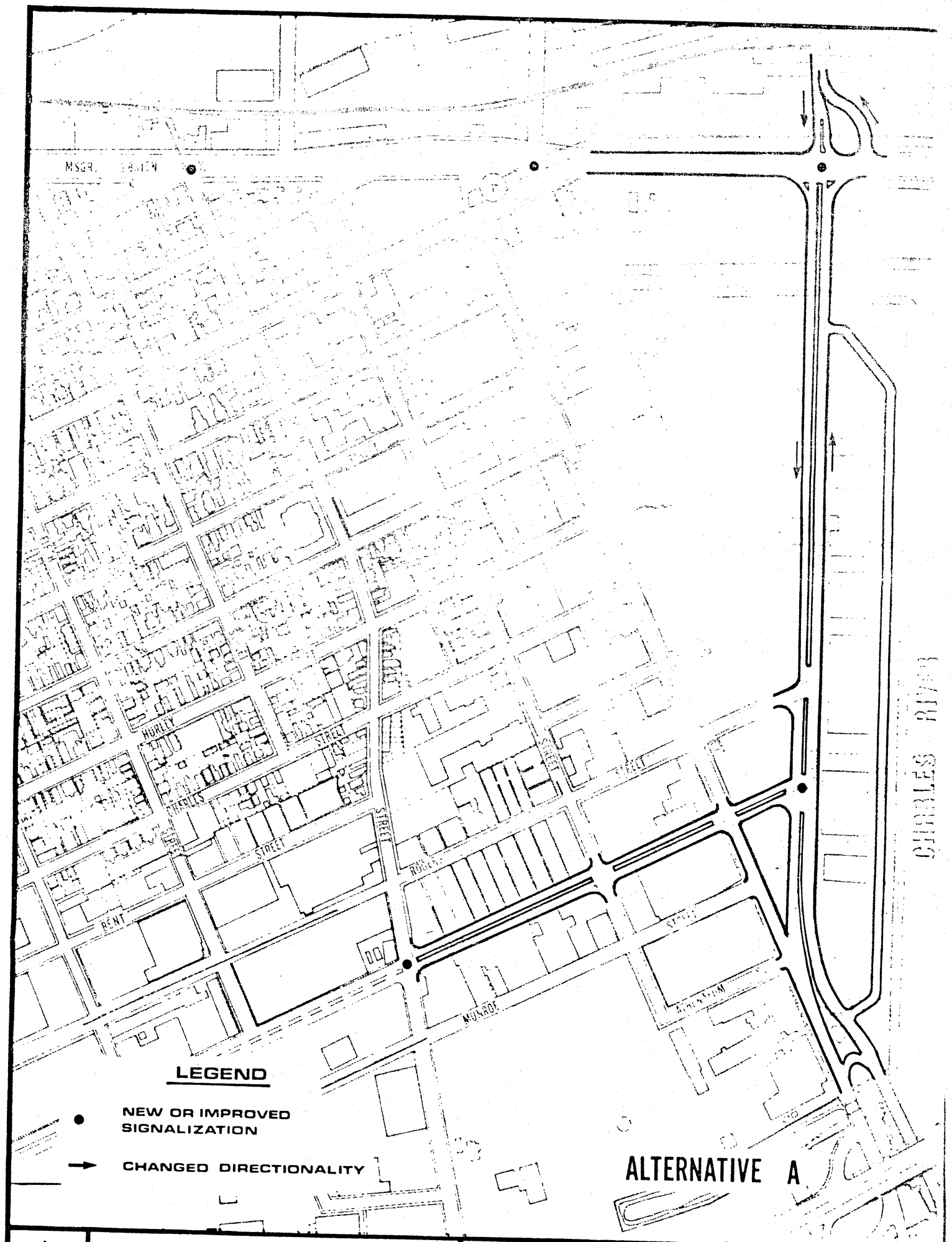


FST/WFEM, 1978

Figure 3

0 400 800

SCALE IN FEET

CAMBRIDGE
COMMUNITY DEVELOPMENT DEPARTMENT
EAST CAMBRIDGE ROADWAY
IMPROVEMENT PROJECT

FST/WFEM, 1978

Figure 4

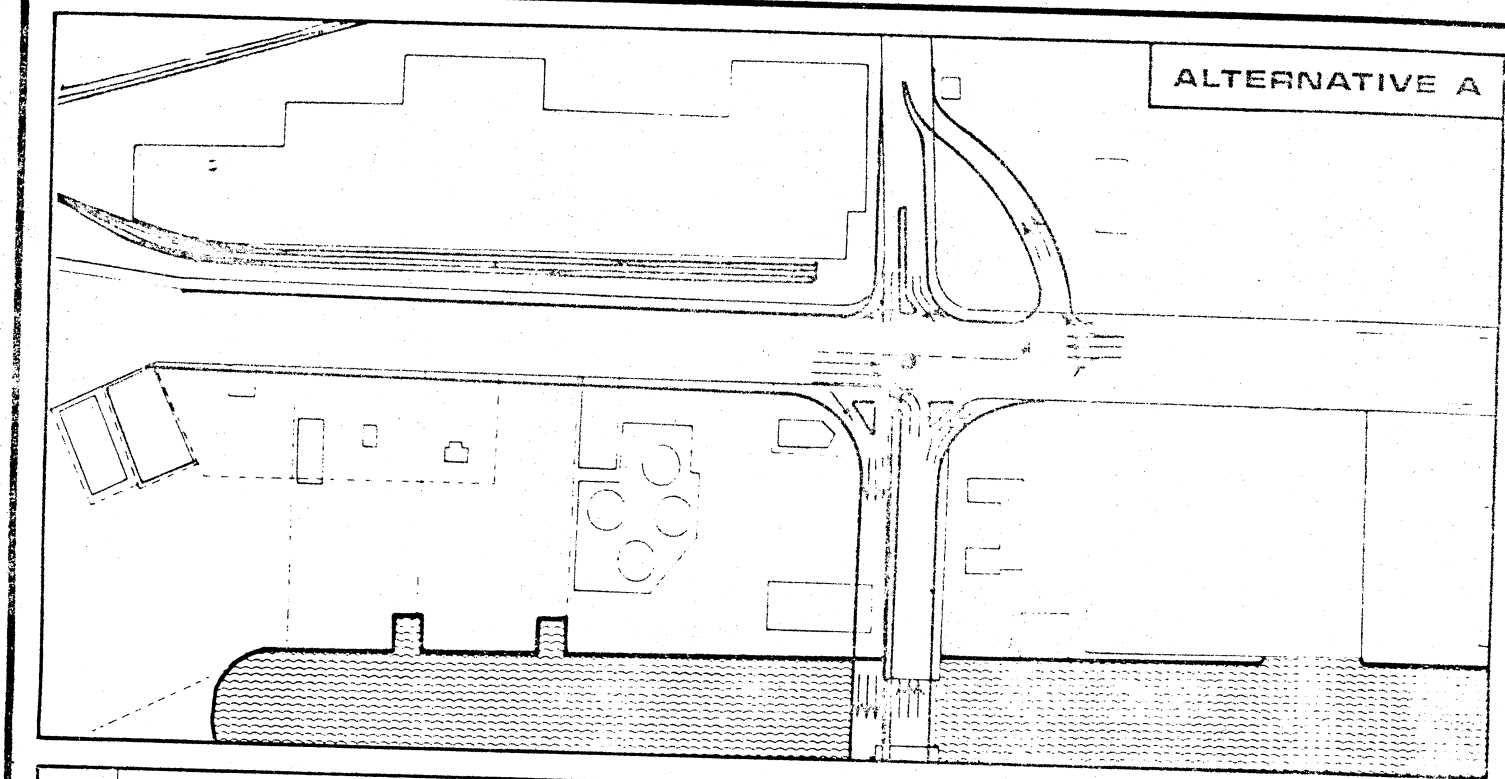
0 400 800

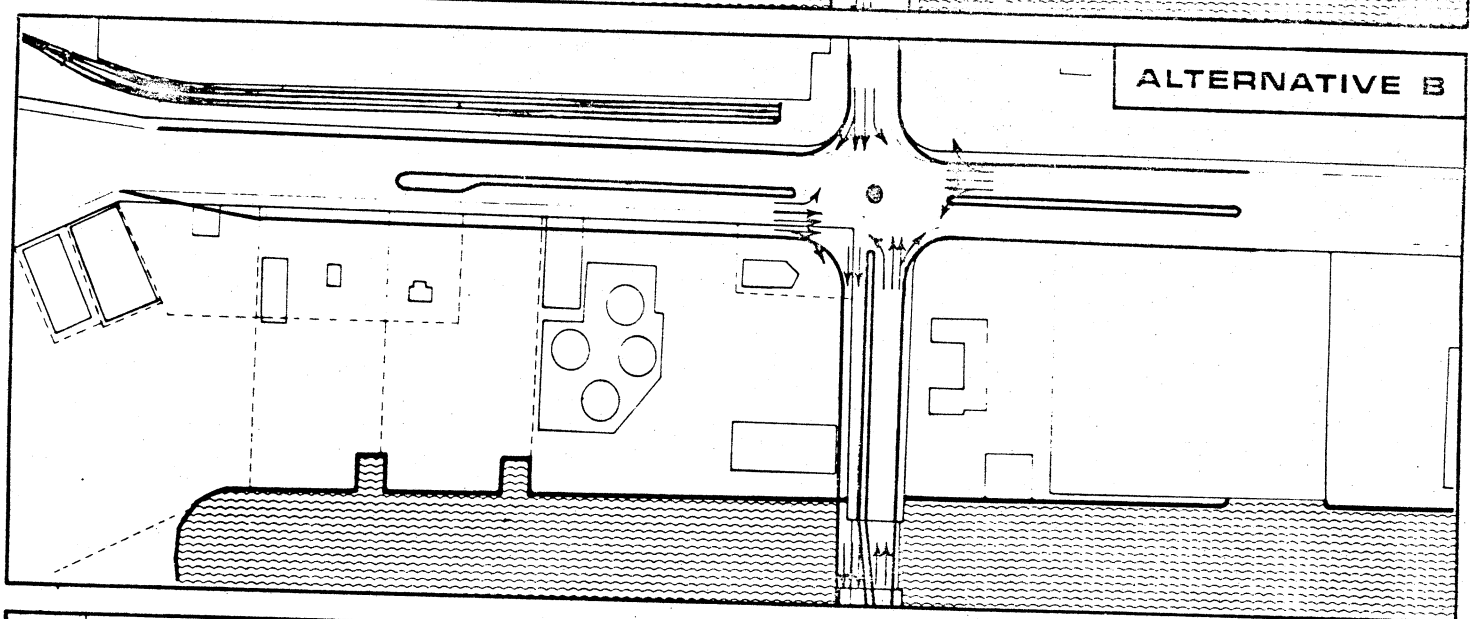
SCALE IN FEET

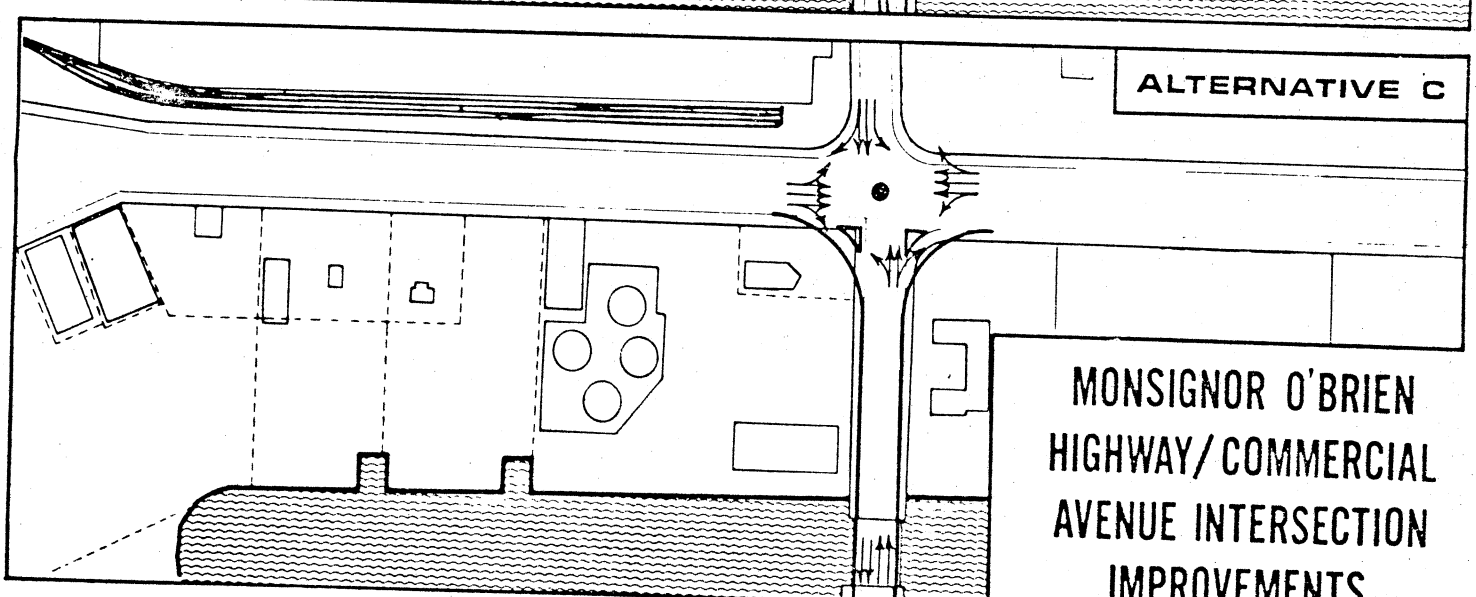
CAMBRIDGE
COMMUNITY DEVELOPMENT DEPARTMENT
EAST CAMBRIDGE ROADWAY
IMPROVEMENT PROJECT

FST/WFEM, 1978

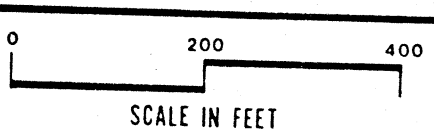
Figure 5







MONSIGNOR O'BRIEN HIGHWAY/COMMERCIAL AVENUE INTERSECTION IMPROVEMENTS



CAMBRIDGE
COMMUNITY DEVELOPMENT DEPARTMENT
EAST CAMBRIDGE ROADWAY
IMPROVEMENT PROJECT

FST/WFEM, 1978

Figure 6

EAST CAMBRIDGE ROADWAY IMPROVEMENTS

SUMMARY OF IMPACT ASSESSMENT

:	Alternative A: 2-way Binney; Close Cambridge Parkway as Arterial Route	Alternative B: Fenters/Binney Pair; Cambridge Parkway	Alternative C: Binney/Munroe Pair; Cambridge Parkway Down-grade	No Build:
Attractiveness as Truck Route	Direct	Less Direct	Less Direct	No Route: Random
Neighborhood Traffic Reduction - Year 2005				
. Third St: Total Traffic*	-3630(-19%)	-3260 (-17%)	-3260 (-17%)	No Change
Trucks	- 550(-27%)	- 180 (- 9%)	- 180 (- 9%)	No Change
. Cambridge Street (Before Lechmere Sq.):				
Total Traffic	-3630(-19%)	-3260 (-16%)	-3260 (-16%)	No Change
Trucks	- 550(-25%)	- 180 (- 8%)	- 180 (- 8%)	No Change
Accident Reduction compared to No-Build(for major streets, Year 2005)	5% or less	5% or less	5% or less	No Change
Takings: Total Affected (Partial)**				
Number of Residences	None	None	None	No Change
Number of Business Structures	9 (6)	2 (2)	2 (0)	No Change
Jobs	335 (50)	160 (10)	50 (50)	No Change
Acres, R-O-W	2.47	0.56	0.38	No Change
Tax loss from takings Maximum (partial)***	$73,000 (38,900)	$30,800 (6,000)	$27,100 (23,000)	No Change
Project Costs ($ millions) Maximum (partial)***				
Construction	$2.7 (2.8)	$1.6 (1.7)	$1.1 (1.1)	None
Land acquisition	$1.8 (1.1)	$0.8 (0.3)	$0.4 (0.4)	None
Total	$4.5 (3.9)	$2.4 (2.0)	$1.5 (1.5)	None
Construction Disruption	Moderate	Minor	Minimal	None
Neighborhood Noise (Vicinity of 3rd St.)	Minor Improvement	Minor Improvement	Minor Improvement	No Change
Air Quality	50% - 80% reduction in vehicle emissions primarily due to federal and state air quality standards.			
Water Quality, Ecology	Negligible	Negligible	Negligible	No Change
Open Space, Recreation	Potential Moderate Increase	No Change	Potential Minor Increase	No Change
Historic	No Takings	No Takings	No Takings	No Takings
Community Cohesion	Improved	Improved	Improved	Improved
Future Development Plans	Enhanced	Partially Enhanced	Partially Enhanced	Partially Limited
Urban Design Potential	Enhanced	Partially Enhanced	Partially Enhanced	Limited

*Numbers in parentheses are the per cent of total traffic (or truck traffic) which the reduction represents.

**Numbers in parentheses indicate number of total buildings and employees affected which could be subject to partial displacements.

***Where partial takings are possible.

CITY OF CAMBRIDGE

COMMUNITY DEVELOPMENT DEPARTMENT

City Hall Annex Inman & Broadway EXTENSION 344

To The Honorable, the City Council

From Richard Easler, Community Development Dept.
George Teso, Director, Traffic & Parking **Date** March 20, 1978

Subject East Cambridge Roadway Improvement Project

EAST CAMBRIDGE ROADWAY IMPROVEMENT PROJECT

Introduction

The City of Cambridge has two long standing objectives for circulation improvements in East Cambridge. One is the need to provide roadway improvements to accommodate traffic to be generated by the Kendall Square Urban Renewal Project. Added to this will be additional traffic generated by the proposed Urban Development Action Grant (UDAG) project in the Lechmere Canal area. Roadway improvements are essential if the City is to successfully market both projects and ensure that the residential portion of East Cambridge is not adversely impacted. The other objective is to find a solution to the adverse impacts resulting from heavy trucking on residential streets.

Based on these objectives, the City, through the Community Development Department, engaged a consultant team to undertake an environmental assessment of possible roadway improvements. This consultant team has spent the last five months looking at the various options and has presented a detailed evaluation of the three most likely options in a report titled, "Environmental Overview Summary - East Cambridge Roadway Improvemene Project" (EOS). Many of the components of each alternative are interchangeable so that a wide range of options are possible as a final project.

This EOS is the product of the first phase of a three-phase environmental and engineering study of roadway improvements in East Cambridge. It has been prepared in accordance with the guidelines and procedures of the Massachusetts Department of Public Works (MDPW) and the Federal Highway Administration (FHWA) for the qualification of the proposed improvements for funding under the Urban Systems Program. This document is intended to provide the MDPW and the FHWA with the necessary information from which a non-major or major action determination, on the basis of significance of impact, can be made. Following this determination, the additional environmental analysis and engineer-

ing design required to advance the proposed improvements to the construction stage will be performed in Phases 2 and 3 of this project. The City has a written commitment from the MDPW to build the project once Phase 2 and 3 have been completed.

The East Cambridge community has been involved throughout the study. In fact, 11 meetings have been held with individual residents and businessmen, one with the East Cambridge Planning Team, and three community wide public meetings were held at the Kennedy School. The outcome of these meetings has been a general endorsement of the project.

Proposed Improvements

The No-Build Alternative plus three arterial improvement alternatives have been evaluated. These alternatives are depicted on the following figures, and a brief description of each alternative follows:

No-Build Alternative. The No-Build Alternative in this study is equivalent to the existing roadway network in East Cambridge, with the addition of the roadway improvements planned as part of the Kendall Square Urban Renewal Project, which are proposed for implementation by 1985.

Alternative A. Alternative A is the most extensive improvement alternative studied in terms of scale and cost. It extends the widened Binney Street in the Kendall Square Urban Renewal project from its terminus at Third Street along a widened, four-lane, median- separated Binney Street to Commercial Avenue; includes a widened six-lane, median-separated Commercial Avenue, carrying two-way traffic, between the Broad Canal/ First Street/Cambridge Parkway area and the Monsignor O'Brien Highway, including a new bridge over the Lechmere Canal; improves capacity wise and safety wise the Commercial Avenue/Monsignor O'Brien Highway intersection and Lechmere Square; and allows for the possible elimination of the Cambridge Parkway as an arterial through route and its reuse for other purposes.

Alternative B. Alternative B constitutes a moderate improvement scheme, particularly when compared to Alternative A. It includes provision of a Rogers Street/Binney Street one-way pair of roadways, between Third Street and Commercial Avenue/Cambridge Parkway. Binney Street will be extended to the Cambridge Parkway, and will carry eastbound traffic, and Rogers Street will carry westbound traffic to Third Street. The Monsignor O'Brien Highway/Commercial Avenue intersection will also be improved for both safety and capacity, and a new Lechmere Canal bridge will also be constructed. The Lechmere Square and the Monsignor O'Brien Highway/Third Street intersections will also be signalized.

Alternative C. Alternative C represents a minimum investment improvement. It provides a Binney Street/Munroe Street one-way pair between Third Street and Commercial Avenue/Cambridge Parkway. It extends Munroe Street, which will carry eastbound traffic, to the Cambridge Parkway. Binney Street will handle westbound traffic. The Cambridge Parkway will be downgraded, removing two parking lanes, and providing potential for increased open-space or sidewalk areas. The Monsignor O O'brien Highway/Commercial Avenue intersection will receive minor improvements, and this intersection, along with the Lechmere Square and Monsignor O'Brien Highway/Third Street intersections, will receive new or improved signalization.

Other Improvements. Neighborhood traffic circulation improvements have also been evaluated in a general sense. These are improvements which can be incorporated independent of the arterial improvements, if desirable, and include several options such as alternating one-way streets, alternating stop-sign controls, truck restrictions or prohibitions, street closings or barriers, and street taperings and neckings.

Comparative Impacts of Alternatives

All three of the Build alternatives (Alternatives A, B and C) divert substantial amounts of traffic away from the East Cambridge residential area. In particular, Third Street and a portion of Cambridge Street would experience improved traffic service and would function better as local distributors. Alternative A achieves the greatest diversion of traffic away from the neighborhood (19% as compared to 17% in Alternatives B and C). This is primarily a result of the MDC's policy prohibiting trucks on the Cambridge Parkway. In Alternatives B and C northbound trucks will continue to use Third Street. All other through traffic would use the new roadways.

By diverting large volumes of traffic away from the neighborhood, all three Build alternatives enhance the residential atmosphere of the community. Pedestrian safety around Third Street and the western end of Cambridge Street is increased. The adverse impacts of large volumes of traffic, particularly truck traffic, on historic resources and community facilities include noise and vibration damage. These adverse impacts are reduced in the three Build alternatives, again Alternative A achieves the greatest reduction because of its ability to handle all through traffic, that is both auto and truck traffic.

The land and business takings required for the three Build alternatives cover a broad range. For each alternative two sets of takings have been calculated. The maximum number of takings occur in the event that entire buildings must be acquired for roadway construction. Partial takings of buildings may be possible from a structural point of view. However, they may not be possible from a business operations point of view. Thus, maximum and partial takings

define the range of takings for each alternative. Alternative A requires the most land acquisition and displaces the most businesses and jobs. Alternative C requires the least amount of right-of-way acquisition and displaces the fewest businesses and jobs.

By providing improved traffic service to and around these areas, the three Build alternatives enhance future development plans and support tax base expansion in the Kendall Square Urban Renewal Project area, the Lechmere Canal and Triangle area and around Binney Street.

Alternative A provides greater roadway capacity and allows the downgrading of Cambridge Parkway. The latter possibility, together with other public and private actions contemplated in the City of Cambridge's plan for the Lechmere Canal and Triangle area, enables redevelopment of the riverfront. Alternatives B and C have somewhat lesser impact on community growth than Alternative A. They partially limit the development plans for the Lechmere Canal and Triangle area because they provide less roadway capacity and maintain traffic on the Cambridge Parkway.

The urban design potential of the area is enhanced by all three Build alternatives. By limiting heavy traffic to Commercial Avenue and Binney Street, Alternative A offers the greatest urban design potential. Alternatives B and C use one-way pairs. This system detracts from the urban design potentials of the land between the one-way pairs.

In general, the three Build alternatives provide a range of improvements and benefits over the No-Build situation.

Preferred Alternative

In the course of the analysis of the three Build Alternatives for the Environmental Overview Summary, it has become apparent that Alternative A best meets the City's objectives for East Cambridge.

Due to the level of congestion at the intersection of Monsignor O'Brien Highway and Commercial Avenue, it appears that the maximum possible level of roadway improvements in this area is warranted. From a traffic capacity point of view this means grade separation. However, the use of grade separation in this area would be opposed by the MDC which controls this section of roadway. Of the three Build Alternatives, the level of improvements in Alternative A will best accommodate the present and future traffic at this bottleneck.

A widened, two-way-six lane Commercial Avenue will allow the use of truck prohibition on Third Street and help keep trucks out of the residential neighborhood. It will also provide for the downgrading of Cambridge Parkway from an arterial roadway to a local access roadway. This will enhance the

development potential for the area, accommodate the urban design plans and provide additional open space. Both of these proposals were concurred in by those residents at the public meeting.

The only section of the project which has received any controversy has been the east-west roadway component on the Monroe/Binney/Rogers Street corridor. This has come from one land owner on the south side of Binney Street who will have his business impacted by the widening of that street. While the roadway improvements in this area in all three Build Alternatives will work, a widened, two-way, four-lane Binney Street in Alternative A best meets the City's objectives. The improvements proposed for Binney Street match the improvements planned for the Kendall Square Project and will provide a continuous and homogeneous connection between Kendall Square development and Commercial Avenue. Operationally, Binney Street will be more efficient than either one-way pair. Westbound traffic in Alternative B and eastbound traffic in Alternative C will be following a more circuitous route involving two additional turns at Third Street. This will make the roadway improvements less attractive as a bypass around the residential neighborhood, particularly for truck traffic.

For these reasons, the Community Development Department and the Traffic and Parking Department request that the City Council adopt Alternative A as the preferred alternative.

6. C-112

Comm. from Richard Eaglet, Comm. Development Dept. and George Teso, Traffic Director, re: East Cambridge Roadway Improvement Project.

In City Council,
March 20, 1978

Placed on file