



City of Cambridge

Committee Report #3A

IN CITY COUNCIL

December 16, 1996

COUNCILLOR DAVIS

ORDERED: That the issues raised in the Traffic and Transportation Committee Report on traffic calming be referred to the City Manager for referral to the appropriated City departments.

In City Council December 16, 1996

Adopted by the affirmative vote of nine members.

Attest:- D. Margaret Drury, City Clerk.

A true copy;

ATTEST:-

D. Margaret Drury
City Clerk



City of Cambridge

Committee Report #3B

IN CITY COUNCIL

December 16, 1996

COUNCILLOR DAVIS

ORDERED: That the City Council goes on record endorsing traffic calming throughout the City of Cambridge.

In City Council December 16, 1996

Adopted by the affirmative vote of nine members.

Attest:- D. Margaret Drury, City Clerk.

A true copy;

ATTEST:-

D. Margaret Drury
City Clerk

City of Cambridge

The Traffic and Transportation Committee held a public meeting on November 21, 1996, beginning at 7:20 p.m. in the Sullivan Chamber for the purpose of discussing traffic calming measures within the City.

Present at the hearing were Councillor Henrietta Davis, Chair of the Committee, Vice Mayor Kathleen L. Born, Councillor Timothy J. Toomey, Jr., Councillor Katherine Triantafillou, and City Clerk D. Margaret Drury. Also present were Deputy City Manager Richard Rossi; Elizabeth Epstein, Deputy Director of the Community Development Department; Susan Clippinger, Managing Director of Traffic, Parking and Transportation; Ralph Dunphy, Commissioner of Public Works; Steve White, Deputy Director of Public Works; Cara Seiderman, Community Development Department; Suzanne Rasmussen, Community Development Department; Sergeant John Jones, Traffic Enforcement Unit, Cambridge Police; and many other city employees and residents.

Councillor Davis convened the hearing and explained the purpose. She then introduced Deputy City Manager Richard Rossi to introduce the presentation. Mr. Rossi stated that many members of various City departments are here. Traffic issues touch many departments and all who live and work in the City. Mr. Rossi said that the presentation will be made by Susan Clippinger, Managing Director of Traffic, Parking and Transportation, Liz Epstein, Deputy Director of Community Development and Cara Seiderman, Community Development Department.

Mr. Rossi noted that this is not a budgeted program in the City at present. Many of the projects described are being done as part of road reconstruction that was already part of other capital projects. As these issues continue to arise, the City would like to look at overall planning for traffic calming because it provides an important way to deal with many neighborhood traffic issues.

Mr. Rossi then introduced Liz Epstein. Ms. Epstein noted that a package of materials describing traffic calming is available. (Attachment A). The City's proposal is to take what has been done on an informal basis, formalize it, develop criteria to evaluate projects, and implement traffic calming projects.

Ms. Epstein noted that the program will require significant staff time and funding resources. The project will need specific funding to go forward. Ms. Epstein then introduced Cara Seiderman, Community Development Department, who presented a slide show. The slides presented dramatic and graphic information about the effect of automobiles on safety. Lower speeds make an enormous difference to safety. Thus a very important question is how to effectively slow traffic. Ms. Seiderman presented slides of several approaches, in such places

as Toronto, Berkeley and Orlando. She also presented slides of projects in Cambridge, including Huron Avenue, Arsenal Square and Sparks Street. Many involve sidewalk extensions, which help pedestrians and motorists to see each other and also slow down traffic as the street is narrowed. There were also slides of Quincy Street/Massachusetts Avenue in Harvard Square, of Central Square and Berkshire and York Streets.

Susan Clippinger, Managing Director of the Traffic, Parking and Transportation made a short presentation regarding existing traffic calming projects in Cambridge. A summary of this material is set forth on page five of Attachment A. Ms. Clippinger said that the first projects were done as part of already planned construction work. The City is now trying to look beyond these projects to areas where residents have raised concerns. She noted that all of the projects listed as "Potential Future Construction 1998 and Beyond" cannot be done within the next few years. However these kinds of treatments are going to become more important to make effective changes to get speeds down to what is compatible with residential living.

Councillor Davis then invited public comment.

Mr. Andre, Cambridge, stated that the intersection of Brattle, Sparks and Craigie Streets is still a terrible intersection, and maybe even worse since the construction.

Ms. Clippinger said that the intersection is much safer, but the changes have not solved the whole problem of speed on Brattle Street, which is a long, wide street with clear views ahead.

Mr. Rossi said that there was a long neighborhood process to come up with changes to that intersection that would be acceptable to all who were involved. In addition, he said, it must be emphasized that these changes are costly. The improvements to the Berkshire Street intersection will cost \$150,000 to \$200,000.

Marjorie Gatchell, 235 Lakeview Avenue, said that Lakeview Avenue between Huron Avenue and Route 2 is an excellent location for traffic calming. It is a very wide street with a clear view all the way down to Route 2. There is definitely a need for something to slow traffic before a child gets hit. She also said that the orange barrels on Concord Avenue are effective. She recommends the same thing on Huron Avenue.

Councillor Duehay said that it sounds like Lakeview Avenue could probably use some enforcement.

Mr. Rossi stated that Lakeview Avenue is an excellent candidate for traffic calming. The City must first develop comprehensive criteria to use in evaluating and prioritizing sites, and these criteria must include geographic fairness.

Craig Kelley, 16 Gerard Terrace, spoke in support of traffic calming. However he noted that sometimes there are spillover effects. He also noted that if you can see green lights all

down the street you speed up to catch the light. He said some problems will not be solved by traffic calming and urged increased enforcement as well.

Debbie Proctor, Pentecostal Tabernacle, 77 Columbia Street, noted a problem with children crossing to go to programs at the church.

Ann Bolger, Austin Park, stated that she is delighted with the Central Square improvements. She said she had questions about the curb at River Street and Massachusetts Avenue and River Street and Prospect Street. Ms. Clippinger said that it is still under construction and that the goal is to make that turn safe for truck turns.

Councillor Davis asked when that construction will be finished. Steve White, Deputy Director, Department of Public Works, said the expectation is that the curb line and turning radius will be completed before the first of the year.

Ted Hamann, 106 Holworthy Street, submitted an article entitled "Taming the Automobile." He noted that bold striping on crosswalks is a less expensive way to slow down traffic. He stated that he likes the traffic improvements on Huron Avenue. He recommended traffic calming for Holworthy Street, another wide one-way street.

Ms. Clippinger said that a lot of streets have been made one way to prevent cut-through traffic.

Councillor Davis said that the stripes on Brookline Street, which were put down ten years ago, really worked to slow down traffic.

Cynthia Martin, 215 Grove Street, noted the problems with Grove Street because it is used as a way to escape Route 2 traffic. She commended the bike lanes on Huron Avenue as a device to slow traffic and questioned whether this could work for Grove Street.

Mr. Rossi said that Grove Street has long been a concern. Belmont owns that whole street. The City of Cambridge begins at either the sidewalk or property line. Cambridge would like to cooperate with Belmont to address this traffic problem.

Doug Willen, 183 Spring Street, spoke in support of the bike lanes. They make bicycling safer and improve traffic flow. He has travelled extensively in Northern Europe and the solutions that Cara Seiderman showed in her slides actually work quite well. He noted the problem with Binney Street, where traffic goes 50 m.p.h. He also said that East Cambridge has a lot of problems with through truck traffic. These traffic calming solutions make the streets safer for everyone. He added that his wife wanted him to mention the effectiveness of the barrels on Huron Avenue.

Ben Hill, 10 Hubbard Avenue, stated that he goes to work at 3 a.m. It is a very calm time. The lights are green; there are no bicyclists. It is important to think about motorists, as

well. Bicyclists need to ride safely.

Mr. Rossi said that the Police Department has been working on a initiative to ensure that bicyclists follow the rules of the road.

Hedwig Pocius, 2 Mt. Auburn Street, raised the issue of pedestrian lights at intersections. She noted the Mt. Auburn and Putnam Avenue intersection. Motorists cannot see the pedestrians because of the newspaper boxes. Ms. Clippinger said that in that case the boxes should be moved. She also said that turning traffic at that point should yield to pedestrians.

Councillor Davis noted that a similar problem exists crossing Pleasant Street at Massachusetts Avenue. Ms. Clippinger said that the lights have been recently been changed, and now the change will be evaluated.

Paul Schlaver, Green Street, stated that he is very pleased with what has happened to the intersection at Massachusetts Avenue and Inman Street. He noted that most people are both pedestrians and motorists, and many are also cyclists. It is important to remember this.

Ms. Epstein noted the infamous reputation of Massachusetts drivers, pedestrians and bicyclists. The City is trying very hard to educate all of these populations about their responsibilities for safety. This education is a really important part of their overall program.

Councillor Davis said that at the corner of Elliot Street and JFK Street, there is no legal way to cross the street. Sometimes the problem is the street.

Tim Sawyer, 326 Walden Street, urged improvements on Brattle Street, between Ash Street and Brattle Square. He urged allowing bicyclists to legally enter Harvard Square by this route.

Councillor Davis asked whether the City has information about pedestrians injured by cars turning right on red lights. Mr. Rossi said there is some data, but not too much.

Vice Mayor Born said that when the pedestrian crossing signs went up on Huron Avenue, she was delighted. Then the sidewalks were widened and the signs went away. Ms. Clippinger said that the signs were stolen over and over. Vice Mayor Born said that despite the sidewalk widening, that intersection is still dangerous. The sign is not very visible especially to west-bound traffic. The widened sidewalks may tend to increase double parking.

Vice Mayor Born asked about speed bumps and speed humps. Ms. Clippinger noted that the City is looking at using these techniques.

Vice Mayor Born then raised the issue of crossing Memorial Drive and urged continued lobbying for more crossings for pedestrians. She also described a very frightening

accident caused by a pedestrian who jaywalked at the intersection of Linnaean Street and Massachusetts Avenue. She had to stop to wait although she had the light. Then the light changed and her car was hit by oncoming traffic.

Vice Mayor Born emphasized the importance of bicyclists riding with the traffic. She noted a short cut down Ash Street Place where it is probably legal to ride on the sidewalk to get to Harvard Square from Ash Street and Brattle Street without riding against traffic.

Mike Halley, Cambridge, said that traffic calming presents new options for solutions to situations like the right on red issue.

Mr. Rossi stated that he hopes that the public and the City Council will support the City administration's recommendations for the traffic calming project.

Councillor Davis welcomed members of the Pedestrian Committee who came from their own meeting to this meeting. She thanked all those in attendance. The meeting was adjourned at 8:55 p.m.

For the Committee,

A handwritten signature in cursive script that reads "Henrietta Davis". To the right of the name, there are the initials "DMD" written in a smaller, more formal script.

Councillor Henrietta Davis
Chair

Traffic Calming— An Overview

by Walter Kulash, Glatting Jackson Kercher Anglin Lopez Rinehart, Inc.

Traffic Calming: A Rapidly Growing Practice

Traffic calming devices are simple street design features that cause motorists to drive with more care, to drive more slowly or perhaps via another route. The great majority of traffic calming devices make slight alterations to the street's geometry, reducing its real or perceived width, or causing the driver to negotiate curvature or pavement texture. These modifications, almost always made within the public right-of-way, are usually accompanied by extensive landscaping, and serve as neighborhood landmarks as well as traffic calming devices.

Borrowing heavily from European and Australian experience, US cities have installed hundreds, possibly thousands of traffic calming devices over the past decade. Originally seen as devices to "retrofit" existing streets, traffic calming is now also seen as a part of original street design in new communities.

Why Calm Traffic?

Traffic calming measures are proposed in response to these widely-experienced problems:

Cut-Through Traffic—Cut through traffic has neither its origin nor its destination within

the neighborhood, but rather is passing through the neighborhood on its local streets. Traffic engineers intend that through traffic use the major arterial streets, not neighborhood streets. This does not always happen, and cut-through trips seek out the local streets, sometimes because they are faster, and often because they are more pleasant and therefore seem to be faster.

Speeding—Many motorists (neighborhood residents as well as "cut throughs") drive too fast on local streets. While some speeding is by irresponsible drivers, the majority is done by normally responsible drivers who find themselves "invited" to speed by the road's design features, such as excessively wide pavement, straight sections of road and absence of vegetation. In addition to safety issues, speeding vehicles degrade the quality of the street for all other users, signaling that the street is extremely devoted to traffic, imparting a general feeling that things are "not right" in the neighborhood.

Security—Excessive traffic speeds are a threat to neighborhood security, causing residents to retreat into their homes, essentially abandoning the street to vehicles and whoever else

wants to claim it. Reducing traffic speeds and volumes through traffic calming measures are powerful ways for residents to start to reclaim their streets for their own needs.

Aesthetics—Wide expanses of pavement devoted solely to the moving of traffic have taken over much of our communities in the name of "traffic service". Traffic calming provides the opportunity to use streets not only for moving cars but also as an aesthetically pleasing focal point for the community.

Menu of Traffic Calming Devices

Although there is a seemingly endless variety of traffic calming devices, they all derive from some combination of a few basic principles:

Narrowing the street reduces the speed that most drivers find reasonable and comfortable (the "design" speed). Narrowing is done through reducing the pavement width, adding parking to the street, or adding a median. At intersections, narrowing is complemented by tight corner radii. The perception of narrowing, which can be as effective as actual narrowing, is gained with street trees along the curb, overhead tree canopy, buildings brought close to the street and

“gateways” along the street.

Deflecting the vehicle path causes the driver to slow and devote more attention to the task of driving. Deflection usually terminates long, straight (“tangent”) street views, thereby reducing their design speed. Deflection is done through curving the travel path of the automobile.

Sharing the pavement with other vehicles is a powerful way to slow traffic and raise the attention level of drivers. Long a feature of traditional local streets, shared-use can be re-introduced into other streets by selective short sections of narrow pavements, either at mid-block locations or near intersections. On-street parking can also compel shared use of the street.

Diverting the driver's route makes vehicular access more difficult, and encourages the driver to use another route. Diagonal street closures, one-way streets, median closings and turning movement restrictions are primary examples of diversion. Closing the entire street is **EMPHATICALLY NOT** an acceptable traffic calming solution.

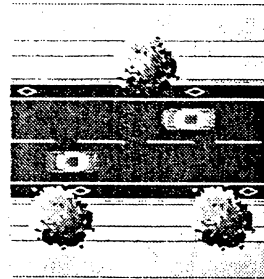
Changing the pavement surface demands attention from drivers, and reduces the comfortable driving speed (the “design” speed).

Standard traffic control devices slow traffic through regulation. STOP signs, four-way STOP signs, turn-movement prohibitions, traffic signals and posted speed limits are the devices most frequently used to

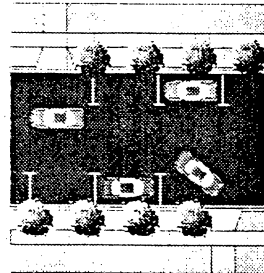
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Typical Menu of Traffic Calming Devices

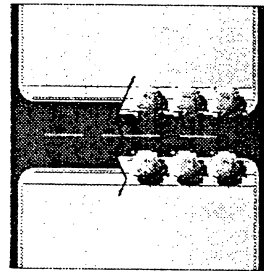
Narrowing the Street



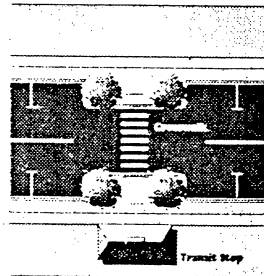
Stripe lanes



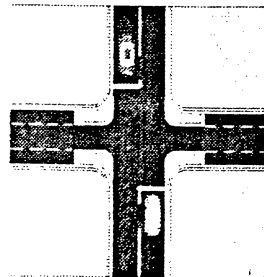
Parking



Rebuild Street

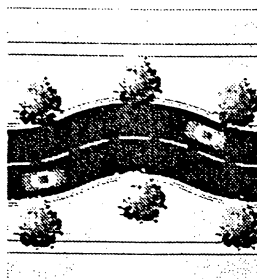


Bulbout Midblock

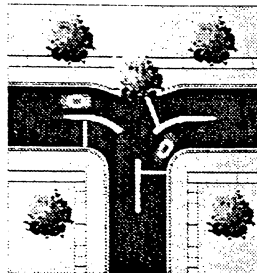


Bulbout Intersection

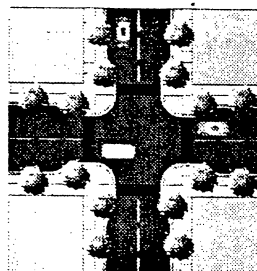
Deflecting the Vehicle Path



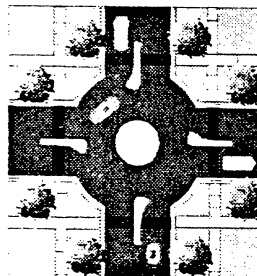
Chicane



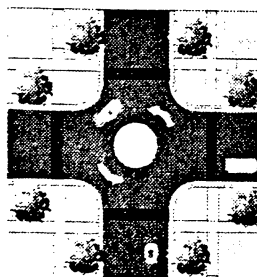
Modified Intersection



Knockdown

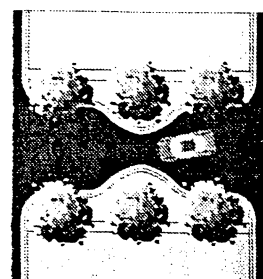


Roundabout

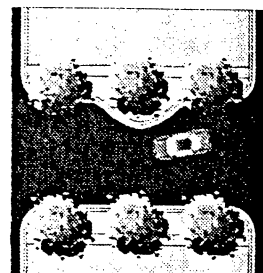


Traffic Circle

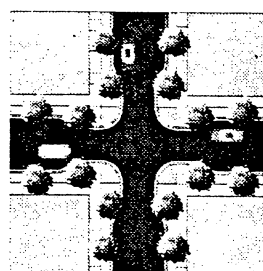
Sharing the Pavement



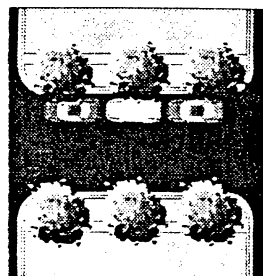
Centered Mid-block Yield Point



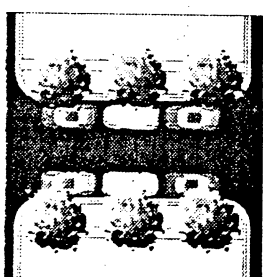
Offset Yield Point



Intersection Yield Point



On-Street Parking One Side



On-Street Parking Both Sides

CITY OF CAMBRIDGE PROPOSED TRAFFIC CALMING PROGRAM

DESCRIPTION OF PROBLEM

Speeding traffic on neighborhood streets affects the safety and quality of residents' lives. Speeding is encouraged by the very design of streets, because they are built to allow for faster travel than is safe. Traditional methods of controlling traffic speeds - signage and enforcement - are not able to manage the problem.

BACKGROUND

Over the past 25 years, engineers, planners and communities have been developing ways of retrofitting streets to make the design match the desired speed; this is what is known as "traffic calming." Originated primarily in western Europe, these new design techniques were successful and popular and spread to Australia, Canada and the United States.

One of the reasons the techniques have been quickly adopted is that many of them have been used before in roadway design, although not necessarily so comprehensively and not under this name. An example of a familiar technique is the "curb extension," which can be found in cities and towns throughout the United States as a way of slowing turning traffic and providing easier and safer pedestrian crossings. Traffic calming can also help to discourage "cut-through" traffic.

Cambridge started looking at using these techniques more systematically in 1994 with the pilot "Street Enhancement Initiative." The first comprehensive project was the redesign of Arsenal Square/Follen Street/Little Concord Avenue, the design of which was accomplished with several city departments working together with the community. Traffic calming techniques were incorporated on a more limited scale with some street reconstruction projects, such as the curb extensions on Huron Avenue. Residents around the city have expressed keen interest in and support for these type of traffic calming techniques.

This past year, the City embarked on a more comprehensive study of Berkshire and York Streets in East Cambridge, and an extensive design was developed with the neighborhood. This will be constructed in the spring of 1997, as will a project at the intersection of Cedar Street and Dudley Street in North Cambridge. Funding has been identified for these two projects, and there are others currently in the planning stages; information on the status of projects is attached.

PROPOSED PROGRAM

Neighborhood concerns about safety and speeding throughout the city have been voiced clearly and strongly. A comprehensive traffic calming program can help address these issues and problems. Below is an outline for how the program could work.

1. Identify the need for traffic calming on a particular street.

This can happen in several ways, including:

- * The street is scheduled for reconstruction or repair.
- * Residents express concern to the City about speed, volume and/or safety on specific streets.
- * The need for traffic calming is identified through larger planning processes.

2. Public meetings are held to learn about issues and problems that need to be addressed and to review with the community what traffic calming includes.
3. Collect data as needed, e.g. traffic counts, speed studies, accidents, classification counts, etc.
4. Projects will be evaluated on the basis of agreed-upon criteria.
5. Conceptual design(s) developed by technical staff.
6. City staff and residents work to arrive at a preferred design.
7. The project is constructed.
The construction schedule will depend upon the funding availability. See below.

OVERSIGHT AND STAFFING

Overall review

The City committee that oversees all transportation-related projects, including the initial traffic calming ones, is the Transportation Committee (which includes the Public Works, Traffic, Parking & Transportation, Community Development, and Water Departments).

Daily management

In order to implement a complete program, dedicated staff resources will need to be identified. The work would include design development and review, community process and engineering and construction management.

TIME SCHEDULE

- Draft Program/Document and staffing recommendations finalized winter 1997
- Staff in place beginning of FY 98
- Projects to be constructed spring 1997: Berkshire/York; Cedar/Dudley
- See attached list for anticipated schedule for upcoming projects

FUNDING

Project construction will be funded through a variety of mechanisms:

- Costs will be folded into projects involving streets that are already being reconstructed for other reasons (regular maintenance, sewer or water work).
- Some projects include consideration of traffic calming as part of the project, i.e. streets that are being reconstructed to improve multi-modal and intermodal travel (through state TIP).
- Dedicated funding is proposed for next year's capital improvement budget to carry out smaller scale projects throughout the city.

Status of Traffic Calming Projects - City of Cambridge

1994 Construction

Arsenal Square - Follen, Little Concord	new sidewalk ext., bike lanes, curb ext.	Completed.
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1995 Construction

Brattle, Sparks & Craigie	channelization, bike lanes	Completed.
Huron Ave at Vassal & at Gurney	curb extension, side- walk widening	Completed with Huron Ave reconstruction.
Huron at Cushing	sidewalk widening	Completed.
Brookline St.	curb extensions	Completed section at new housing development.
Columbus & Kimball	sidewalk widening	Completed.

1996 Construction

Foster and Sparks	curb extensions	Completed as part of DPW work in the area, summer 1996.
Craigie & Bekeley	curb extensions	Completed fall 1996.
Mass & Arrow	curb extension	Completed fall 1996.
Bow & Arrow, Bow & Mass	curb extension	Completed fall 1996.
Quincy Square	channelization, curb extensions, bike lanes.	Under construction, to be completed in 1997.
Central Square	sidewalk widenings, curb ext., bike lanes.	Under construction, to be completed in 1997.

1997 Construction

Berkshire & York	various treatments	Specs being prepared for bid and spring construction
Cedar & Dudley	speed table	Mtg with community 9/19, to be built with Berkshire & York

(Note: Some of the projects listed for 1998 and beyond may be able to be built earlier)

Potential Future Construction 1998 and Beyond

Upland Rd,- Raymond to Huron to be determined
Concord Ave, rotary to Fayerweather median slow points

Concord Ave-Alewife to Belmont to be determined

Gold Star Rd & Seven Pines Ave to be determined
Miller, Orchard, Blake to be determined

Card. Mederios & Warren to be determined

Third, Charles to Cambridge to be determined

Cambridgeport area to be determined

Line St & Cambridge curb extention

Broadway & Quincy bike lanes, and

curb changes

Oxford Street to be determined

Blanchard Road to be determined

Belmont & Cushing to be determined

Brattle - Brattle Sq to Mason to be determined

Brewer, Chapman & Gerry to be determined

Fayerweather, Saville & Granville to be determined

Elmwood sidewalk widening

Fayerweather & Field to be determined

Fulkerson at Charles curb extension

Walden & Fayerweather sidewalk widening

Mtg with community held 10/8/96.

Mtg with community will happen after conceptual design has been developed.

DPW will be redoing the street, provides opportunity to add bike lanes and pedestrian improvements.

Small mtg 9/12, field visit with resident 11/1/96.

Mtg with community held 9/12/96.

Design to be coordinated with CD's Cambridge St project

Process to start winter 1997.

Issues that come out of Cambridgeport Roadways project

To be built by the Hospital. TP&T will review Hospital's design.

Will be built as part of the sewer work in the area.

Community has prepared a summary of issues ,DPW sewer consultant will be available to assist with conceptual design. 1998 construction will be part of sewer work.

Interest in vehicular and pedestrian improvements has been raised.

Interest in vehicular and pedestrian improvements has been raised.

Potential exists to make pedestrian and bicycle improvements.

Interest in vehicular and pedestrian improvements has been raised.

Interest in vehicular and pedestrian improvements has been raised.

Replace jersey barrier with a permanent, attractive design.

Interest in vehicular and pedestrian improvements has been raised.

Reduce cars continuing on where street becomes one way.

Interest in vehicular and pedestrian improvements has been raised.

A report was received for a meeting held on November 21, 1996 for the purpose of discussing traffic calming measures within the City.

In City Council December 16, 1996

Report accepted.

Placed on bill on
motion of
Councillor Davis.

Two Orders adopted.