CORRIDOR PLANNING STUDY REPORT
ALTERNATIVE SOLUTIONS TO THE TRAFFIC PROBLEMS IN DOWNTOWN ORLEANS

AUGUST, 1977

CAPE COD PLANNING AND ECONOMIC DEVELOPMENT COMMISSION
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Orleans Conservation Commission

Orleans Planning Board

Eastham Board of Selectmen

Eastham Police Department

Brewster Police Departmnet

Bridgewater State College - Department of Earth Sciences and Geography

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SECTION 1 - INTRODUCTION

CPS 1.1 Study Background

The Orleans Business Center lies at the elbow of the Cape where three major arteries (Routes 6, 6A, & 28) serving the Mid-Cape and Lower Cape join into a single major road (Rt. 6) serving the Outer Cape (refer to Map 1A). Long a commercial center, commercial use of the natural harbors in the area has died out in favor of road serviced commerce. The Business and Commercial Center is now growing rapidly.

Data reported in the 1968 "Downes Report" (a long-range planning study done for the Orleans Planning Board) showed a summer to dead of winter population ratio of 8:1. At that time, Orleans traffic problems were clearly caused by summer tourists. Current data shows a major change in ratio to slightly more than a 2½:1 ratio of summer to dead of winter population. Even more significantly, a major portion of the population formerly staying for only 2-3 months now stay for 5-6 months. Orleans character is changing substantially to a year-round community and with the change has come increased traffic problems reported herein.

Two major studies have considered the Orleans Corridor: (1) the previously mentioned Downes Report, and (2) studies related to double barreling the Mid-Cape Highway (Rt 6) to the Orleans-Eastham Rotary. Of the latter, the Draft Environmental Impact Statement of August 1974 is particularly pertinent since it deals with many of the physical matters relating to the current study.

On several prior occasions, the Town's People of Orleans have publically discussed the general problems now being studied. On March 15, 1966, Article 39 initially approved the taking of the abandoned

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MAP IA
LOCUS MAP

railroad right of way for "Municipal Purposes". It was discussed at the time as a road bed for extending newly built Old Colony Way into Eastham and for use as a bike trail. It was further discussed in the Downes Report as a means to merge Old Colony Way into the proposed double barreled Mid-Cape (4 lane divided highway). On July 16, 1975, after lengthy and tangled negotiations, Orleans took possession of the railroad right of way.

The Orleans and the Brewster Bikeway Committees have successfully pushed through a joint State and Town project to use the right of way from Nickerson State Park to the intersection of Main Street and Old Colony Way. This project is now almost entirely funded and is awaiting action by the State Department of Environmental Management before construction. At the instigation of the Orleans Bikeway Committee, the Cape Bikeway Committee has approved long range plans to continue the bikepath along side proposed road use of the right of way into Eastham as part of a 20 mile path from Dennis to Eastham. The various Town Boards and the Orleans Town Meeting are aware of and generally approves the joint use.

In November 1975, the Orleans Board of Selectmen asked the Orleans Traffic Study Committee to examine the long delayed extension of Old Colony Way on the newly acquired railroad bed. The double barreling of the Mid-Cape Highway, essential to earlier plans for the extension of Old Colony Way, had been dropped by the State under pressure from environmental concerns and because of local resistance to double barreling until Eastham Route 6 was improved to take the increased load. The Traffic Study Committee recognized the need for a new access to Eastham and also a considerable uncertainty as to the amount of peat

underlying the rail bed. Consequently, following normal prior practice, a State engineering feasibility study and cost estimate was requested for a suggested route, now labeled Alternative F-5. The request was approved by the Cape Cod Planning and Economic Development Commission but the DPW directed that the following Corridor Planning Study be performed prior to engineering of any kind.

1.2 Purpose of a Corridor Planning Study

A Corridor Planning Study (CPS) is an issue orientated feasibility study of transportation improvement alternatives. The primary purpose of a CPS is to identify and evaluate all possible alternatives for suggested transportation improvements and to eliminate those alternatives which are clearly not feasible.

At the end of the CPS phase, one of the following basic decisions will be made:

1. The proposed project or project alternative(s) should not be pursued; or
2. There are certain reasonable alternatives which should be developed further and either Federal Environmental Impact Statement, State Environmental Impact Report or a negative assessment or the supporting analysis for a federal negative declaration should be prepared.

If the decision is the latter, those alternatives not appearing to warrant further development will be dropped. The reasons for their termination will be documented. Efforts will be concerntrated on alternatives with a possibility of being implemented.

The CPS is required before the Department can move a new project into the project development phase which leads to the design phase.

1.3 Goals and Objectives

The goal of this CPS is to identify and define the principle traffic problems of the Orleans central business district area and the immediately related area and to develop potential solutions.

The traffic problem will be developed considering accident rates and traffic volumes on the road network in the Orleans central business district.

SECTION 2 - PROBLEM ANALYSIS & DEFINITION

2.1 The Current Orleans Traffic Problem

The Orleans Traffic Study Committee conducted an analysis of 557 traffic accidents in Orleans, 336 traffic accidents in Eastham, and 187 traffic accidents in Brewster over the period 1972-1975. Over one-half of the Orleans accidents were studied individually in file as well as by usual statistical analysis. Certain Orleans commercial data, DPW traffic counts, and Statewide summaries were also used in defining the traffic problem. The problem analysis and definition follows from this data base.

2.1.1 Traffic Accident Analysis

A. Accident Rate Comparison. Comparing all roads within the study area that have higher than the average accident rates for the Corridor, an interesting comparison was made of accidents per year per mile. The results are plotted in Figure 1A. Inspecting this data plot, the following supporting facts and conclusions can be noted.

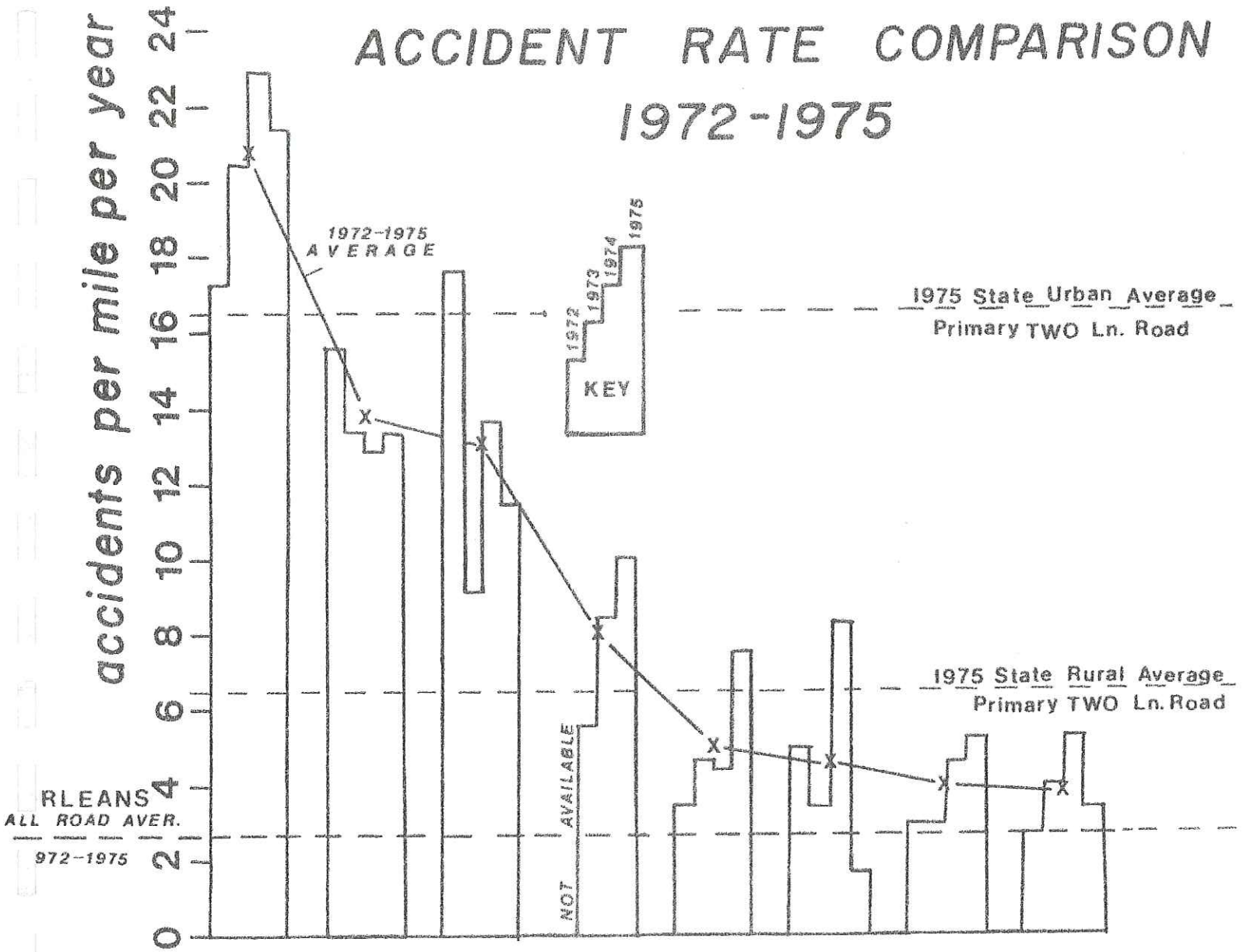
1. Orleans Rt. 6A has 8 times the Orleans average rate of accidents.
2. Orleans Rt. 6A has the highest accident rate per mile in the Orleans Corridor and in the three towns of Eastham, Orleans, and Brewster. Notably, it has:
    a. 52% more than Eastham's Rt 6 which is currently programmed for major safety improvements by the DPW.
    b. more than five times the accident rate of the Mid-Cape (Rt. 6) in Orleans. The State DPW has long pressed to double barrel the Mid-Cape in Dennis, Harwich, Brewster

FIG: IA

ORLEANS CORRIDOR

ACCIDENT RATE COMPARISON

1972-1975



	ROAD LENGTH MILES	TOTAL ACCIDENTS
ORLEANS RT 6A	1.62	133
EASTHAM RT 6	6.10	336
MAIN ST	1.75	91
BREWSTER RT 6A	7.78	187
ROUTE 28	4.92	99
OLD COLONY	0.60	11
ORLEANS RT 6	3.43	54
MONUMENT ROAD	1.50	23

and Orleans for safety reasons.

3. Orleans Rt 6A's accident rate per mile is more than three times the 1975 Rural State Average for Primary 2-Lane Roads and 27% more than the 1975 Urban State average for similar roads.

4. Rt. 6A in Orleans has an increasing accident rate except for a temporary slight fall off in '75 caused, probably, by the temporary effects of the gas shortage.

To properly evaluate relative seriousness of these facts and data, some additional data is needed not suitable for graph. An accident is defined as an incident producing death and/or injury and/or property damage in excess of $200.00. The accidents on Orleans Rt. 6A did not involve fatalities during the four years covered. Fatalities did occur in Orleans on the Mid-Cape (Rt. 6), Main Street, Rt. 28 and Monument Rd. in the reporting period. However, the injury rate on Orleans Rt. 6A (i.e. the number injuries per accident) exceeded that of the average of other roads in the area and was notably 40% higher than the Mid-Cape, a road of much safety concern by the State DPW. Hence:

5. Though Orleans Rt. 6A has not had fatal accidents in the period studied, its injury rate is notably high. Consequently, Orleans Rt. 6A's accident history is qualitatively serious.

B. Traffic Accident to Volume Comparison. During the review of a final draft of this study by DPW representatives on May 25, 1977, the representatives supplied their latest 1975 Traffic Count Statistics (Massachusetts Traffic Volumes 1975") and asked that an analysis be made of traffic accidents and traffic volumes or accidents per million vehicle-miles (MVM). This has been developed as Figure 1B for the roads for which counts were provided or available from other sources where not provided.

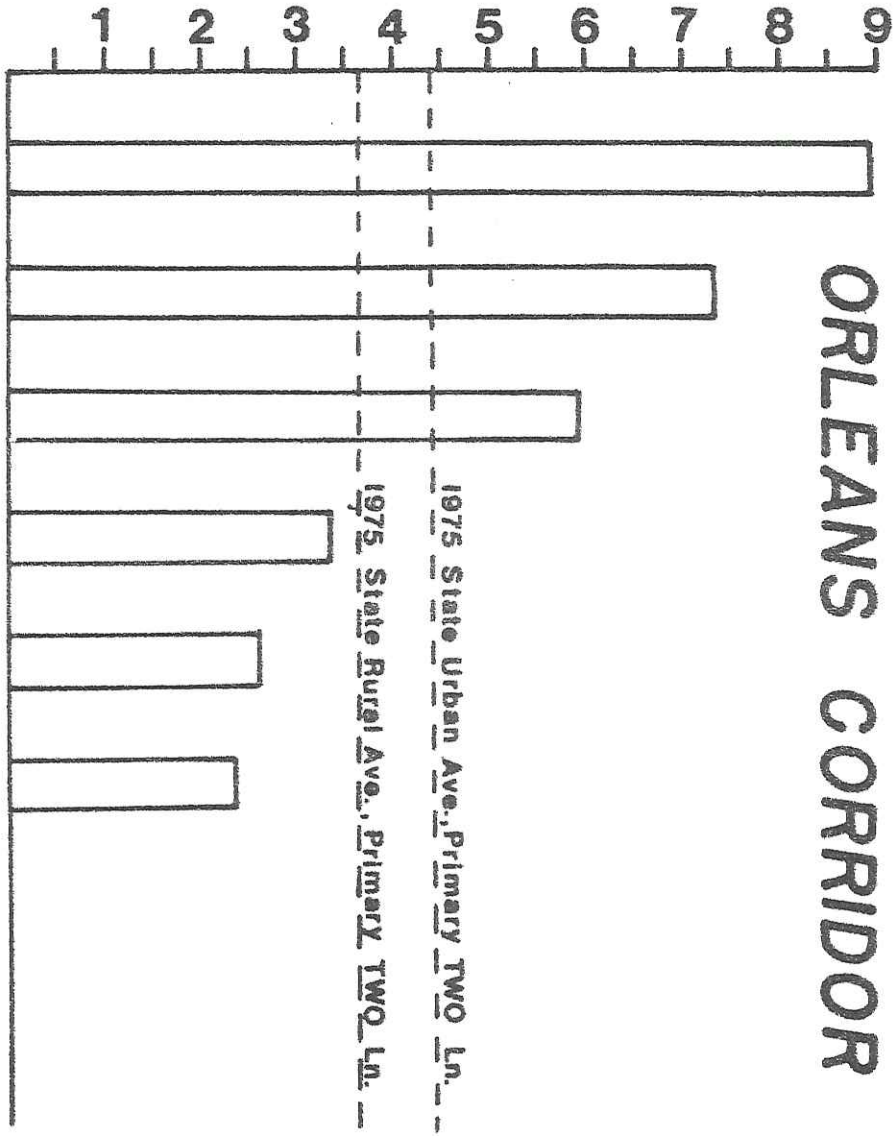
ACCIDENT-VOLUME COMPARISON

FIGURE 1B

ORLEANS CORRIDOR

1972-75 Total Accidents	Road Length Miles	1975 Traffic Count Millions	
133	1.62	.006317(3)[x]	ORLEANS RT.6A
91	1.75	.004885[z]	MAIN ST.
187[y]	7.78	.003753(2)[x]	BREWSTER RT6A
336	6.10	.011220(2)[x]	EASTHAM RT6
99	4.92	.005125(2)[x]	ORLEANS RT.28
54	3.43	.004625(2)[x]	ORLEANS RT6

ACCIDENTS PER MILLION-VEHICLE-MILES



x - NUMBER OF COUNTER LOCATIONS AVERAGED

z - 2 DAY COUNT ONLY

y - 1973-1975 TOTAL

Brewster's Rt. 6A AADT was determined by averaging the AADT's at the Brewster/Dennis Line and the Brewster/Orleans Line. Orleans Rt. 6A AADT was found by averaging the 3 AADT's taken along 6A within Orleans, making the AADT for this complex stretch fairly reliable.

The calculated results are considered accurate relative to each other but less accurate in absolute numbers based on the following rationale. The AADT's are suspect because all those used involve much less than continuous counts - most are 48 hour only. Further, the distribution curve used for calculating the AADT's is apparently based on a Cape-wide curve or one for another part of the Cape since a rough check of raw data supplied by DPW for Main Street using the very reliable curves of Figure 4 show DPW figures as much as 25% low. If all the AADT's supplied are low, the figures calculated in Figure 1B are high. Reducing or eliminating this inaccuracy, the AADT's used are all for 1975 (except for Main Street) which is the last year of the four year accident count. Since both accident and traffic trends are generally sharply up in this period, the AADT is a higher number than if an average AADT for the four year period were used, making the accidents/MVM lower than actual and canceling at least in part, the effect of the distribution curve inaccuracy.

The following contributing facts and conclusions can be noted from Figure 1B:

6. Comparing safe traffic carrying capacity of roads in the Orleans Corridor and in the three town region, Orleans Rt. 6A has by far the worst record.

7. Orleans Rt. 6A is more than twice as dangerous than Statewide

averages for like roads in both rural and urban regions.

CONCLUSION: BY ALL MEASURES OF COMPARISON, THE CURRENT TRAFFIC SAFETY PROBLEM OF ORLEANS ROUTE 6A IS EXTREMELY SERIOUS AND WARRANTS URGENT CORRECTION.

2.1.2 Road Characteristics Analysis

A. Character Comparison. By comparing available special traffic counts in 1973 or 1974 with average accident rates per mile for the period 1972-1975, some useful supporting facts and conclusions are developed from Figure 2A as follows:

1. The accident rates on Orleans 6A and Main Street seem to vary with their traffic rates, suggesting that both roads have somewhat the same character. This similarily is due to the fact that both are dominantly shopping areas broken by many curb cuts and parking spots on roadside, which are normal to a business area.
2. Route 28 and particularly the Mid-Cape (Rt. 6) have far lower accident rates compared to the large traffic flow. There are relatively few curb cuts and on-street parking on 28 and absolutely none on the Mid-Cape since it is a "limited access" highway.
3. The Mid-Cape carries about 25% more traffic than Orleans' Route 6A at 1/5 the accident rate suggesting that one solution to 6A's problem is to make it more like the Mid-Cape.

B. Accident Type Comparison. Using accident report classification data, a comparison of accidents classified as Motor Vehicles in Traffic with accidents classified as Ran Off Road and Hit Object is shown in Figure 2B. These curves show the following supporting facts and conclusions:

ORLEANS CORRIDOR 1972-1975

FIGURE 2A

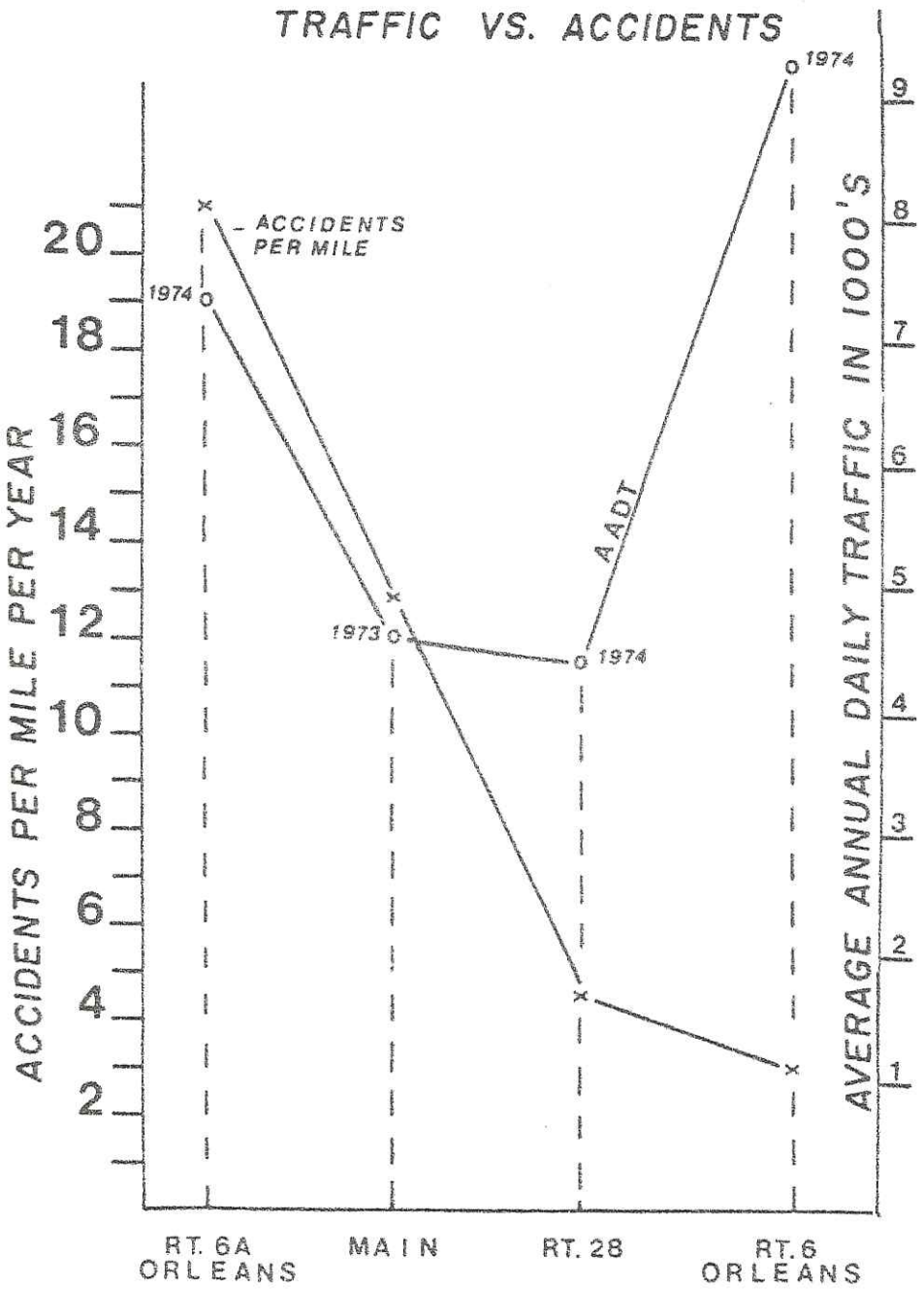
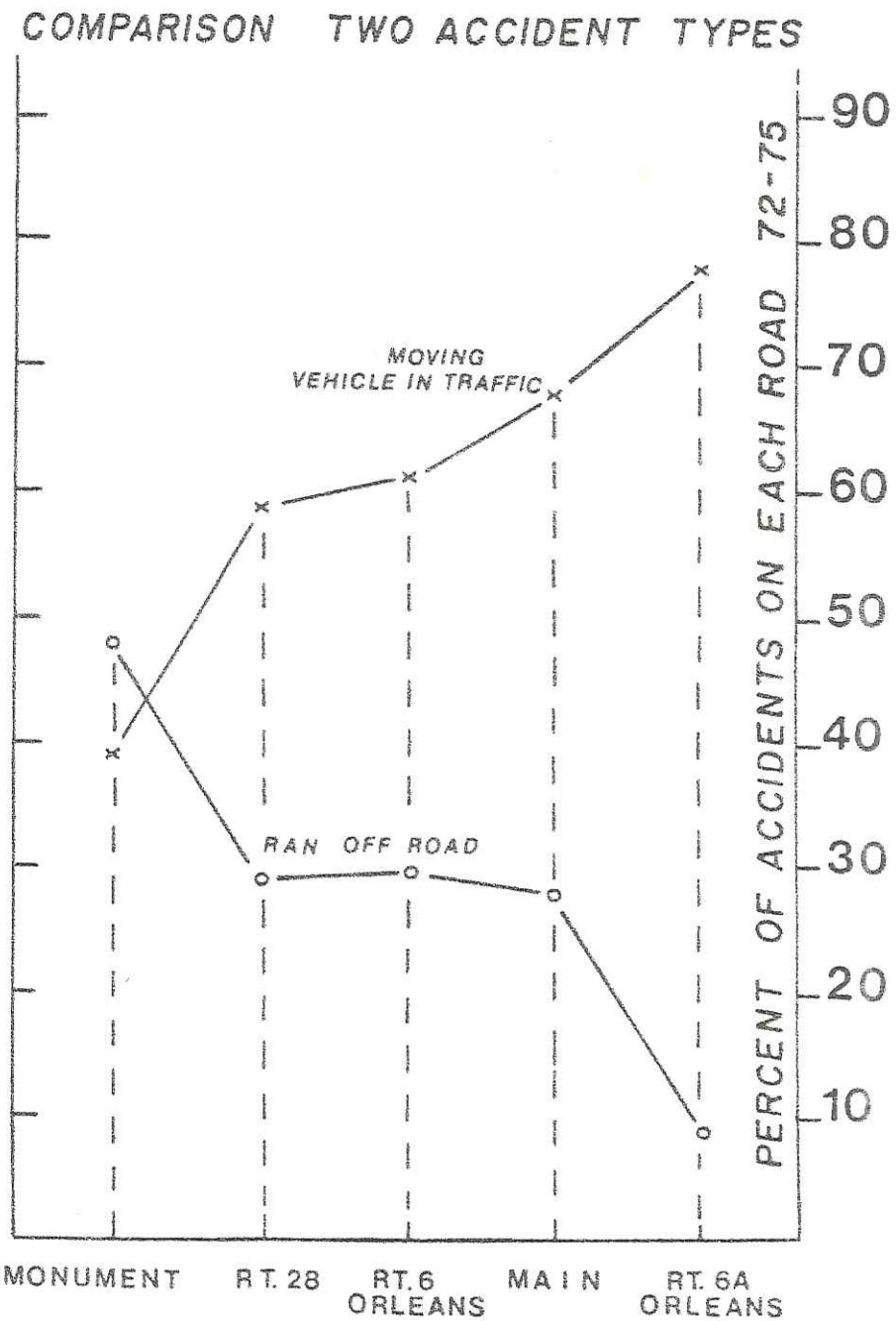


FIGURE 2B



4. Monument Road accidents are clearly of the Non-Traffic variety. Study of the details of the 23 accidents there show that most involve road defects such as trees too close, excessive curves, mailboxes too close, etc. Fatalities were caused by these road defects.

5. Route 6A Orleans accidents are dominantly the Traffic Type. Detailed analysis shows that many occur at the Main Street, West Road, and Routes 28 intersections. Others involve the many intersecting situations caused by on-street parking and multiple accesses needed by business.

6. Routes 28, 6 and Main Street have about the Town's average in both types of accident.

CONCLUSION: ORLEANS ROUTE 6A's SERIOUS TRAFFIC SAFETY PROBLEM IS CAUSED BY EXCESSIVE TRAFFIC FOR THE CURRENT CONDITION OF THE ROAD. IT MAY BE CORRECTED BY:

A. REDUCING THE TRAFFIC,

B. IMPROVING THE CURRENT CONDITION OF THE ROAD, OR

C. BOTH.

2.1.3 Accident Distribution

A data plotting technique is essential for the remaining figures. Remembering that all activity in the area increases in the summer, if a month's data is divided by the average for the year, and the data plotted, the summer data points will plot greater than one and be high while winter will be correspondingly "low". Equally important, ratios such as how

many more times "active" a summer month is than winter month can be directly read. Finally and most important, the shape of different data curves can be compared.

Comparing monthly accident rates for all Orleans roads and then for each individual road in the foregoing manner in Figure 3, the following supporting facts and conclusions are made:

A. All Orleans Roads - (Figure 3A)

1. February - snow conditions render all roads clearly dangerous.

2. July to August, very high summer traffic causes this peak, particularly Routes 6 and 6A which account for one third of Orleans accidents year-round.

3. November to December, the short day and poor light coupled with Christmas shopping on Main street and Route 6A appear to be the principle causes of unusual accident rate in this time period.

B. Route 6A in Orleans - (Figure 3B)

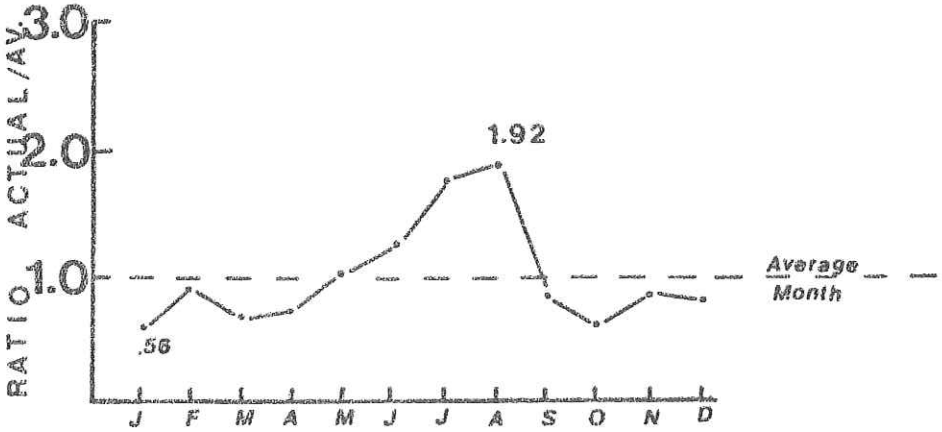
4. February - This is the lowest point in business activity and of the Town's population as shown in Figure 4A. Many stores are closed and most on a reduced basis. Consequently on-street parking is way down and car entrance from the many businesses is way down. In contrast see Figure 3D and Main Street's February activity. This appears to indicate that Main Street is like both a business street and a regular Orleans road.

5. July to August, Highest traffic accidents and highest business activity.

6. Comparison on April, May, June, September, October, November and December with July and August show that some sort of anomaly occurs for 6A which will be examined further with Figure 4.

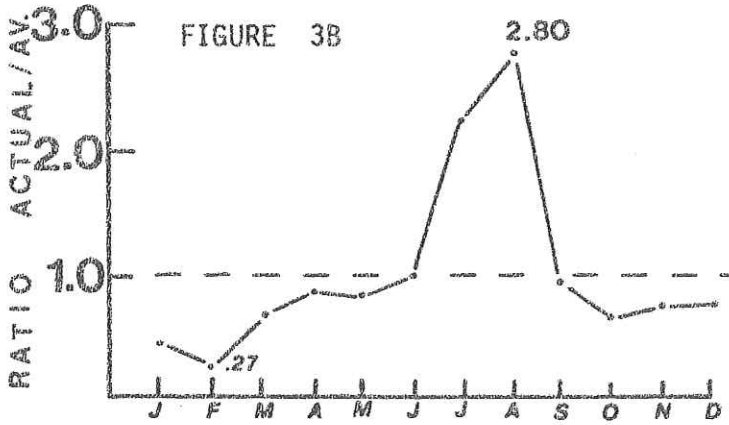
ORLEANS CORRIDOR

FIGURE 3A



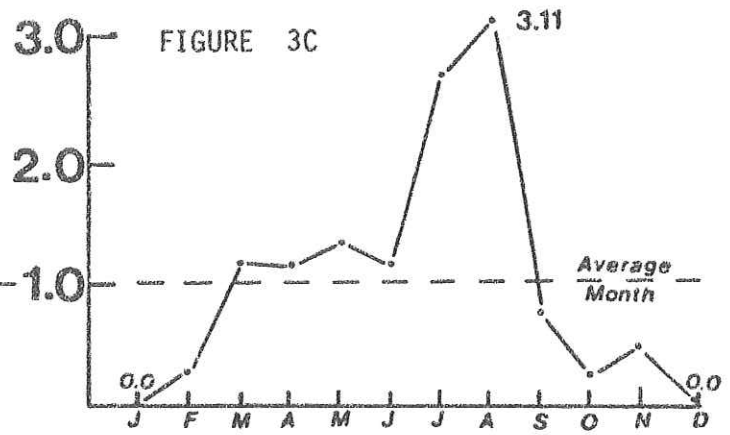
ALL ORLEANS ROADS

FIGURE 3B



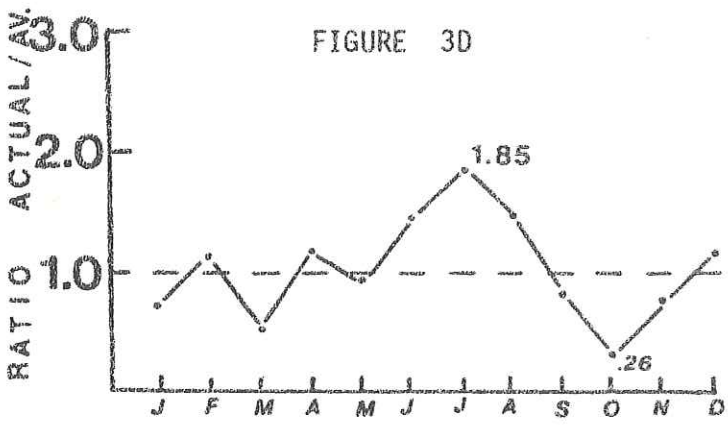
ROUTE 6A ORLEANS

FIGURE 3C



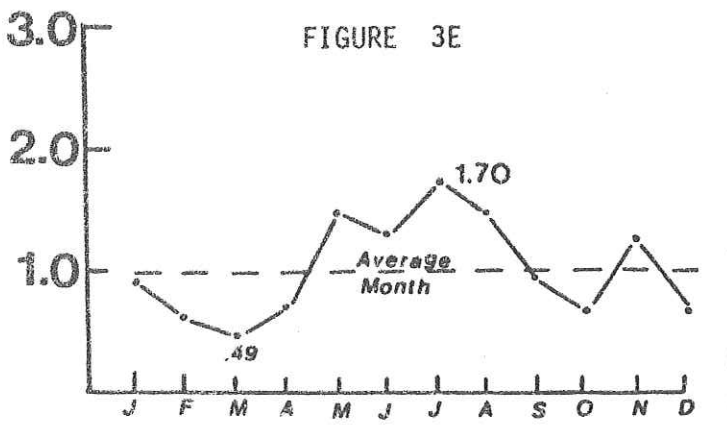
ROUTE 6 ORLEANS

FIGURE 3D



MAIN ST

FIGURE 3E



ROUTE 28

MONTHLY ACCIDENT DISTRIBUTION 1972-1975

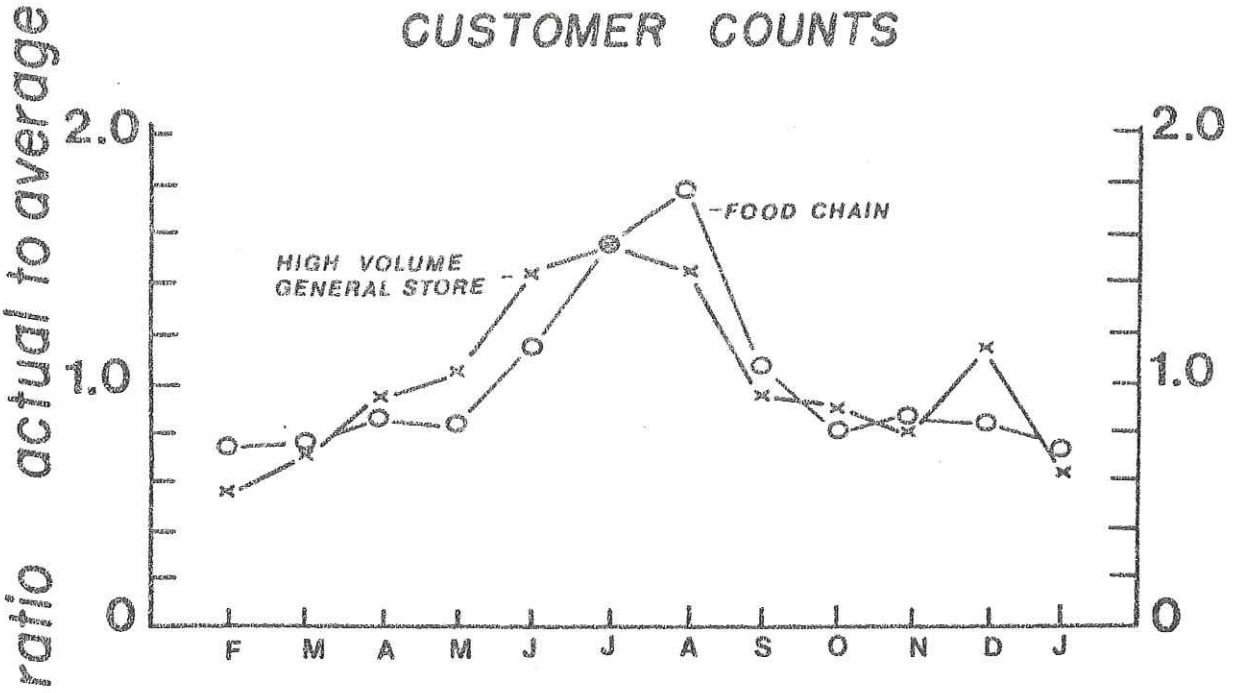
COMPARED TO AVERAGE MONTH

ORLEANS CORRIDOR STUDY

MONTHLY DISTRIBUTIONS COMPARED TO AVERAGE MONTH

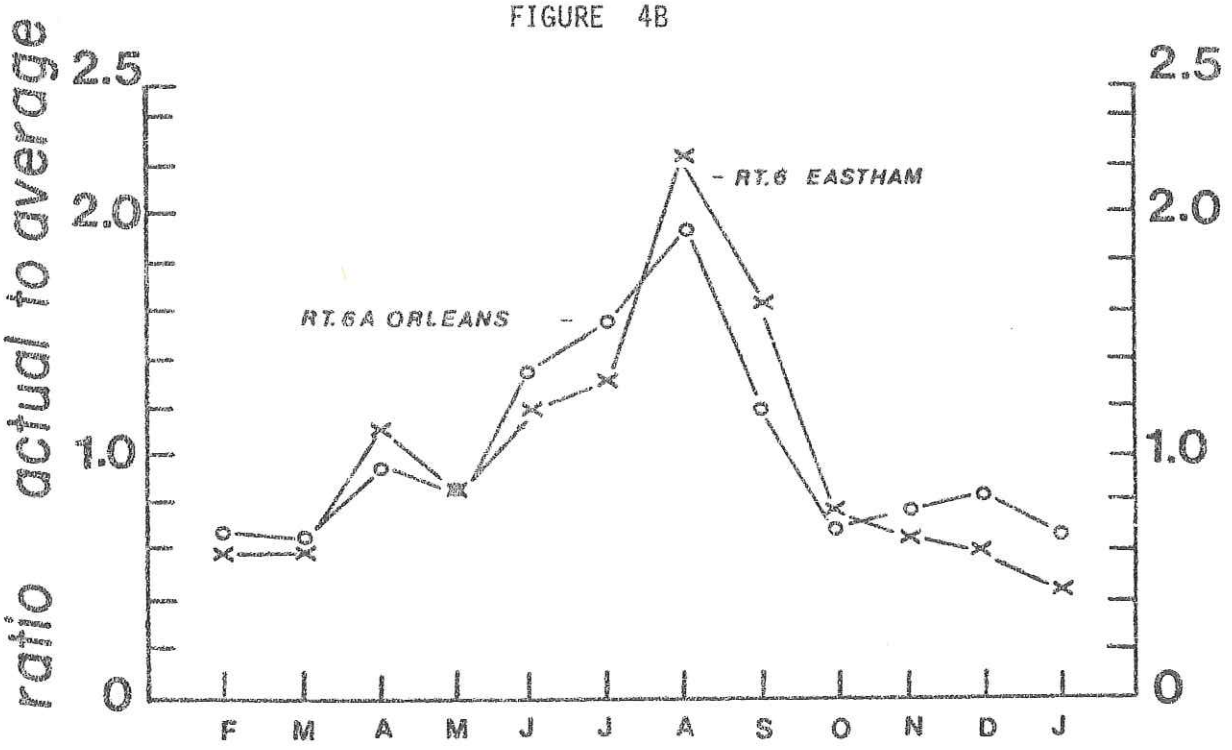
FIGURE 4A

CUSTOMER COUNTS



AVERAGE ANNUAL DAILY TRAFFIC 9/1975-8/1976

FIGURE 4B



C. Other Roads - (Figures 3C, 3D & 3E)

7. The erratic nature of these curves show that other influences besides traffic are at work, especially when compared with the population variation curve of Figure 4A.

CONCLUSION: CURRENTLY, THE ORLEANS ROUTE 6A TRAFFIC SAFETY PROBLEM IS DOMINANTLY A SUMMER PROBLEM.

2.1.4 Traffic Distribution

A. Business Customer Counts: Seasonal changes in population and their effect on traffic can be analyzed if we start with customer counts obtained from three local merchants and plotted in Figure 4A in the same manner as in Figure 3. Contributing facts and conclusions are as follows:

1. Food Chain - the basic data is that of a food chain near 6A but not on it. It is nearly the same as another chain examined for comparision but not plotted. Covering a two year period, it is an excellent measure of the actual Orleans population month by month since everyone eats and goes shopping about as often year round accepting the possibility of a few home bound individuals in winter. It also shows the likely normal traffic variation on non-business Orleans roads.

The plot for April, May, October, November and December averaged at about 0.85 is probably close to the official Orleans population of about 4329 in 1975. This suggests a high population of about 9100 in August to a low of 3670 in January. A much more reliable figure would be the counts of families at these three points, showing the need for some care in using this curve.

2. High Volume General Store - the basic data is the very high customer count of a General Store near Route 6A but not on it. It is more representative of the traffic distribution on streets in the business district. Note the effect of Christmas shopping and of the Spring-early summer shopping highs as people ready their summer homes. Some clothing stores would also no doubt show a high just before the Fall season, as people shop for their Fall clothes. Hence this curve also must be used with care.

B. Detailed Traffic Counts. Actual latest Average Annual Daily Traffic (AADT) taken near the Orleans Stop and Shop on Rt. 6A and in Eastham on Rt. 6 just north of the Rotary are plotted in Figure 4B. The counters have recently been in place year round, hence the distributions are direct for 9/75 - 8/76. The AADT for Orleans Rt. 6A is calculated from this data at 10,698 and for Eastham at 12,385 cars per day. Contributing facts and conclusions are as follows:

3. Route 6A Orleans - shows both the effects of population and of shopping that are plotted in Figure 4A. Of particular interest, the peak in August and the minimum in February is almost the same numerical value as that of the food chain. There is good agreement elsewhere except for April, May and December. The latter shows the effect of Christmas shopping. April and May may show the result of people just "getting out" after a long winter, including day trips down to the Cape to visit summer homes.

The comparison of Figures 4A and measured traffic flow on Orleans Rt. 6A in Figure 4B provides justification whereby changes can be made anywhere in the business district of Orleans using the monthly relative traffic distributions shown. For example solutions involving

one way roads only in July and August could be considered.

Comparisons of Figure 3B with the "Food Chain Curve" of Figure 4A and the "Orleans Curve" of Figure 4B show that only in July and August does Rt. 6A become saturated enough to produce a marked increase in accidents. Yet there is a steady build-up of traffic through the Spring months and a similar gradual decline through the Fall. In other words a sharp anomaly occurs in July and August which can be explained by defining a safe carrying capacity for Orleans Rt. 6A in its present configuration. This suggests that in June and September Rt. 6A was carrying its traffic safely or at a capacity of between 1.2 and 1.3 of AADT. This translates into a safe capacity of about 10,000 cars per day, using the 1974 AADT. The earlier AADT is used since it is the one comparable with the accident period.

To better understand this traffic safety anomaly, the June to July traffic change is only about a 10% increase. The accident change for June to July is about a 140% increase. The change back down from August to September is somewhat less but still spectacular. Since June and September is so close to saturation in traffic flow and since the general trend of traffic year-round is up, it suggests that in the last year the June and September accidents should be sharply up if there is indeed a safe carrying capacity of 10,000 cars per day. The increase is sharply there for those months in 1975.

The results show that any solution should either reduce daily traffic to 10,000 cars for peak periods or increase the capability of the road to carry traffic or both. Since the current peak is 20,540 cars per day and the traffic level is growing, an additional road must have at least the capacity of the present Rt. 6A.

4. Route 6 in Eastham - shows a higher summer peak but doesn't have the business district effects of Orleans suggesting that there is less interdependence between Orleans 6A and Eastham's Route 6 than might have been first thought.

CONCLUSION: THE PRESENT CONFIGURATION OF ORLEANS ROUTE 6A HAS A TRAFFIC SAFETY SATURATION LEVEL OF ABOUT 10,000 CARS PER DAY ABOVE WHICH A SHARP DECREASE IN TRAFFIC SAFETY OCCURS.

CONSLUSION: AS TRAFFIC GROWTH OCCURS, THE ORLEANS ROUTE 6A TRAFFIC SAFETY PROBLEM WILL SPREAD INTO SPRING AND FALL.

CONCLUSION: THERE ARE TWO SOLUTIONS TO THE ORLEANS ROUTE 6A PROBLEM WHICH CAN BE USED SEPARATELY OR IN COMBINATION: REDUCE 6A's TRAFFIC OR DRASTICALLY IMPROVE 6A TO CARRY MORE TRAFFIC.

2.2 Future Growth

The above accident data in the report covers 1972 - 1975

The following growth data clearly shows that the traffic problems and accidents on Rt. 6A will continue to get worse.

Information on future growth from the Orleans Planning Board which indicates that traffic flow on Rt. 6A will increase over 1975 levels includes:

- no destruction of buildings on Rt. 6A
- Arey's Pond Boat Yard will establish an outlet about 200 yards east of Bridge Rd. intersection on the North side in 1977

- Cooke's Restaurant (chain) will complete a 100 seat restaurant in 1977 at the corners of Rt. 28, 6A and Cottage St.
- The Candle Shop near the proposed site of the Arey's Pond Boat-yard outlet has completed extensive business - increasing improvements in 1976.
- two new stores of approximately 600 sq. feet each have been completed in 1976 which have traffic outlet on 6A's north side diagonally across from Cove Rd. intersection.
- Watson's on the corner of Main Street and 6A (north side) has made substantial business increasing additions in 1976.
- Nickerson's Lumber has changed the nature of it's business to a Lumber-Supermarket type operation similar to the Mid-Cape operations elsewhere. This increases traffic substantially on Main Street's intersection with 6A.

Factors identified by the Orleans Traffic Study Committee which will cause greater traffic on Rt. 6A in Orleans are:

- the rental occupancy of Hilltop Plaza has gone from about 30% to 100% in 1976. This effects 6A near the intersection of West Road.
- a major Bank is planning construction of a branch at the intersection of West Rd. and 6A north side as indicated by a sign on the property.
- Howard Johnson's plans a 40 unit motel back of its present restaurant at the Rt. 28 - 6A intersection.

CONCLUSION: PRESENT AND FUTURE BUSINESS GROWTH ON ORLEANS 6A IS RAPID. THIS GROWTH WILL AGGREVATE THE PRESENT OVER CAPACITY SITUATION BY: A. GENERATING MORE TRAFFIC AND, B. REDUCING THE SAFE TRAFFIC CAPACITY OF RT. 6A IN ORLEANS

SECTION 3 - DATA BASE

3.1 Definition of Study Area

The Transportation Corridor under study is delimited on Map 1B. As shown on the Map the major roads included in the corridor are Rt. 6, Rt. 6A, Rt. 28 (also called South Orleans Raod), Eldredge Park Way, West Road, Bridge Road and Canal Road. The area delimiting the feasible alternatives is also shown on Map 1B.

3.1 Historical and Archeological Sites

The corridor under study does not contain any know archeological sites. Map 1C identifies the location of historic sites in the Town of Orleans which are located in the corridor under study. It should be noted that none of the feasible alternatives identified in Section 5 adversely impact the physical location of the six historic sites plotted on Map 1C. Specifically, in relation to sites A and D, there is ample town owned land for potential construction of feasible alternatives.

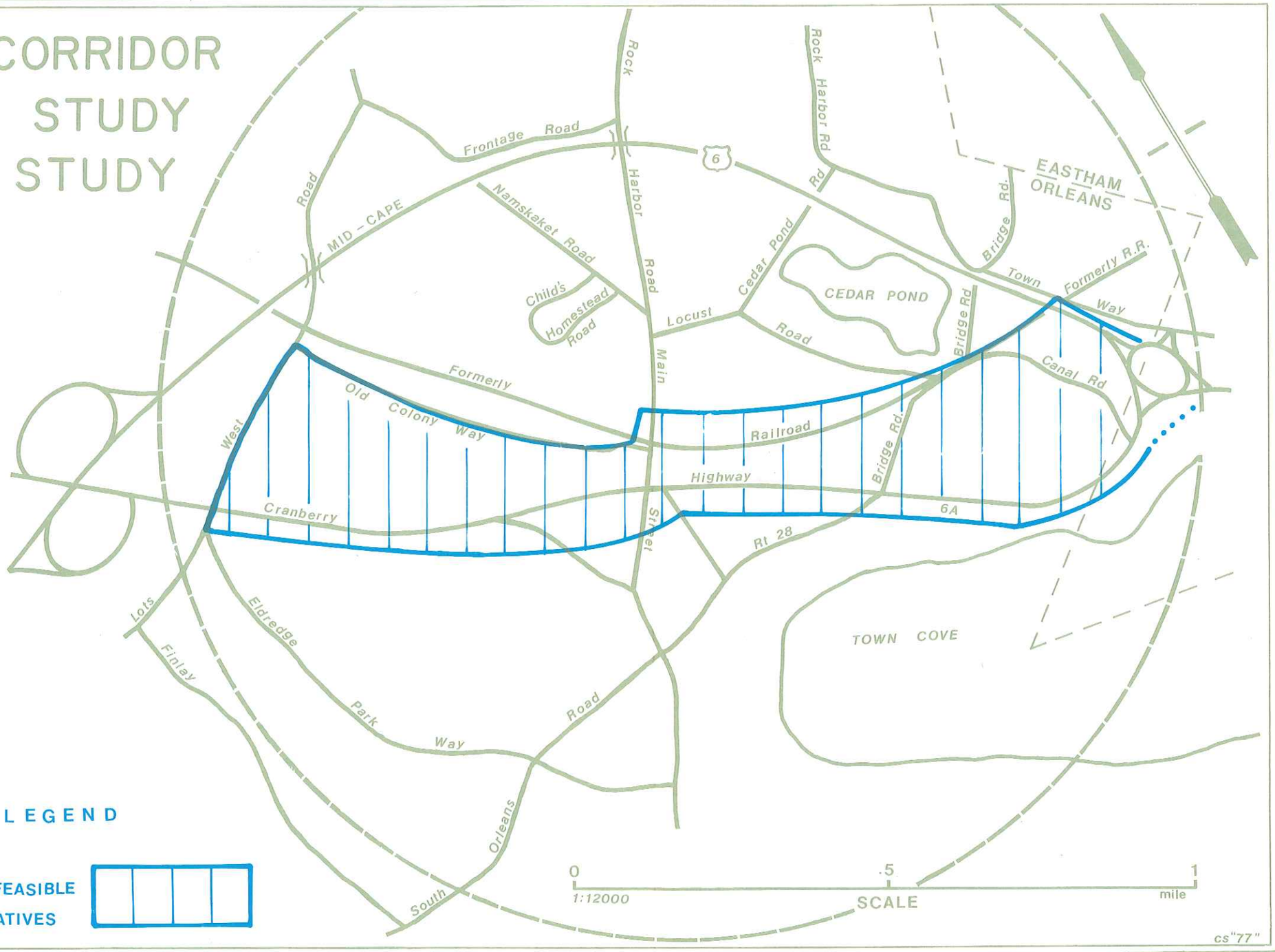
3.3 Land Use in Study Area

The existing land uses in Orleans and natural environmental features of the landscape are shown on Map 2.

The Orleans Conservation Commission through their past efforts by reviewing drafts of the Study contributed improvements to the final report. The Commission expressed strong reservations about the impact of solution F-3 on wetlands shown on Map 2 along the abandoned railroad right of way between Bridge Road and Rt. 6.

ORLEANS CORRIDOR PLANNING STUDY AREA OF STUDY

MAP IB

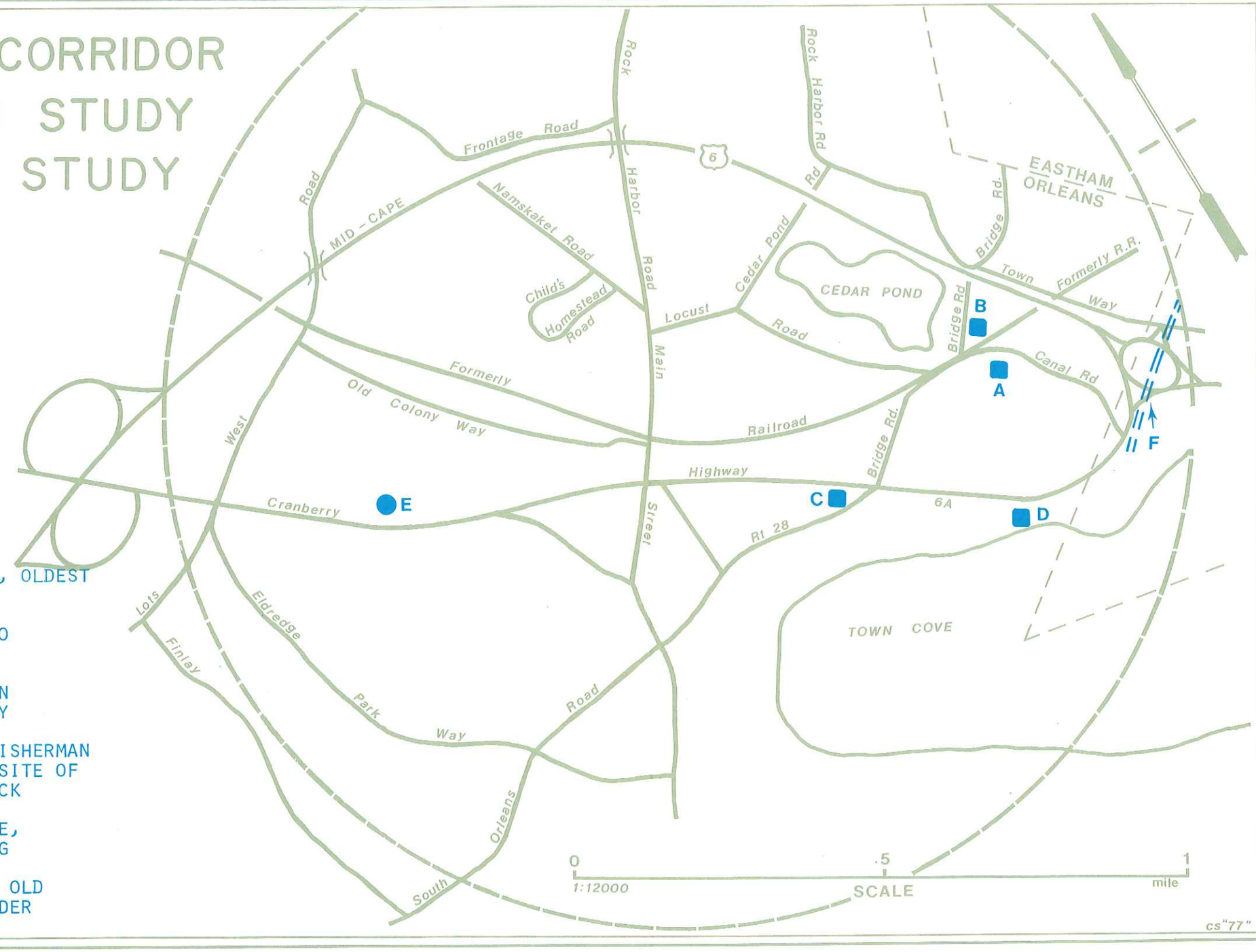


LEGEND

AREA OF FEASIBLE ALTERNATIVES

ORLEANS CORRIDOR PLANNING STUDY AREA OF STUDY

MAP IC



A. WINSLOW HOUSE, 1723, OLDEST HOUSE IN ORLEANS.

B. HOUSE BUILT PRIOR TO REVOLUTIONERY WAR

C. FIRST HOWARD JOHNSON FRANCHISE IN COUNTRY

D. INN OF THE YANKEE FISHERMAN BUILT FROM WRECK & SITE OF "NELLIE ROGER'S" DOCK

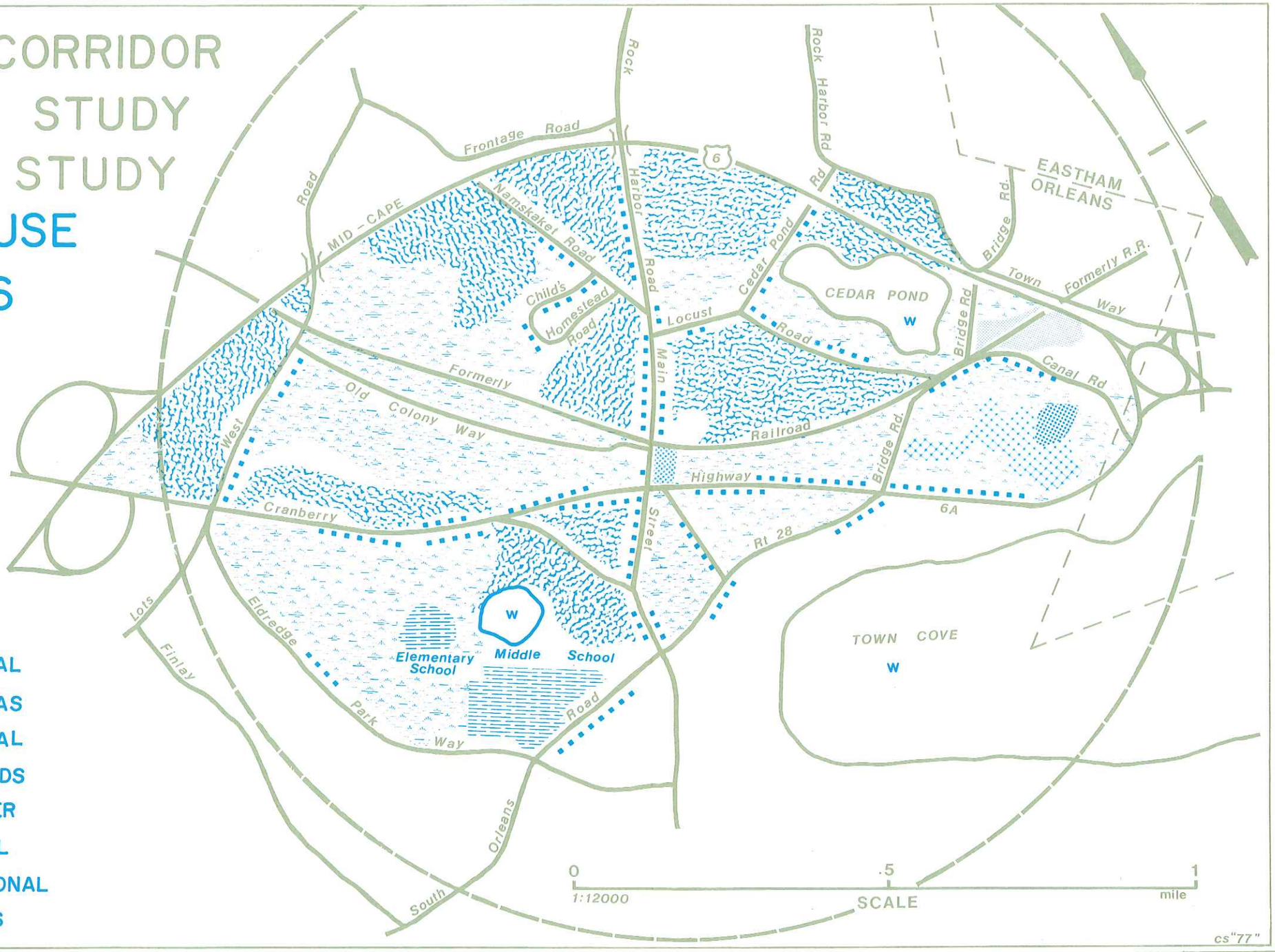
E. HIGGIN'S TAVERN SITE, PLAQUE - NO BUILDING

F. JEREMIAH'S GUTTER - OLD CANAL CROSS CAPE UNDER PRESENT ROTARY

ORLEANS CORRIDOR PLANNING STUDY AREA OF STUDY

LAND USE 1976

MAP 2



LEGEND

- RESIDENTIAL
- OPEN AREAS
- COMMERCIAL
- MIXEDWOODS
- W OPEN WATER
- INDUSTRIAL
- RECREATIONAL
- WETLANDS

SECTION 4 - DEVELOPMENT AND EVALUATION OF ALTERNATIVE SOLUTIONS

Over the past 18 months, the Orleans Traffic Study Committee has publicly examined the traffic safety problem of downtown Orleans in the context of the entire Town. Early public suggestions were received and are now a part of this report. Prior to this effort, the Orleans Planning Board gave the problem in-depth study. A notable result was the 1968 Orleans Planning Board Long Range Study popularly known as the "Downe's Report". One premise of that study was double barreling of the Mid-Cape which has now been removed from consideration. However, many good ideas from that study have been incorporated in this study. Consequently this Corridor Planning Study has been able to draw upon a rich history of study to ensure the widest practicable range of solutions.

The process of the Corridor Planning Study itself involved public exposure of three successive drafts at numerous public informational meetings in Eastham and Orleans, both large and small. These meetings are listed in Appendix B. They provided a rich, further source of solution mostly from private citizens. All have been incorporated herein. Great effort was made in this section and in sections 5, and 6 to incorporate suggestions received at meetings in succeeding drafts without "breaking faith" with prior groups. Publicity and return meetings were used to a great extent.

The problem analysis section concluded that two categories of solution existed: "separately or in combination - reduce traffic or drastically improve Rt. 6A to carry more traffic". With this objective in mind, the following solutions have been developed, organized and listed.

Evaluation of each alternative in this section is largely confined to application of the "Fatal Flaw Technique" i. e. identification of those

alternatives that have a flaw fatal to their usefulness rendering further consideration wasteful. At all public meetings, these flaws were discussed. Indeed, they were increased (see Eastham's letter page 2, Appendix A) and decreased (in the case of B-1, some support was unexpectedly received from a small part of the business community which later changed to support for newly developed solution B-2). The following evaluation of alternatives lists the "Fatal Flaws":

1. Alternative A-1 "Limited Access" (Map #3)

   a. Description of A-1

   Turn Orleans 6A into a duplicate of the Mid-Cape by closing off all curb-cuts, eliminating all on-street parking, and making all needed major route intersections right angle to 6A. Eliminate all other street intersection

   b. Evaluation of A-1

   It would destroy over half of Orleans business district, destroy the Orleans tax base, and throw large numbers of Brewster, Orleans, and Eastham people out of work. REJECT

2. Alternative A-2 "Limited Access - Modified" - (Map #3)

   a. Description of A-2

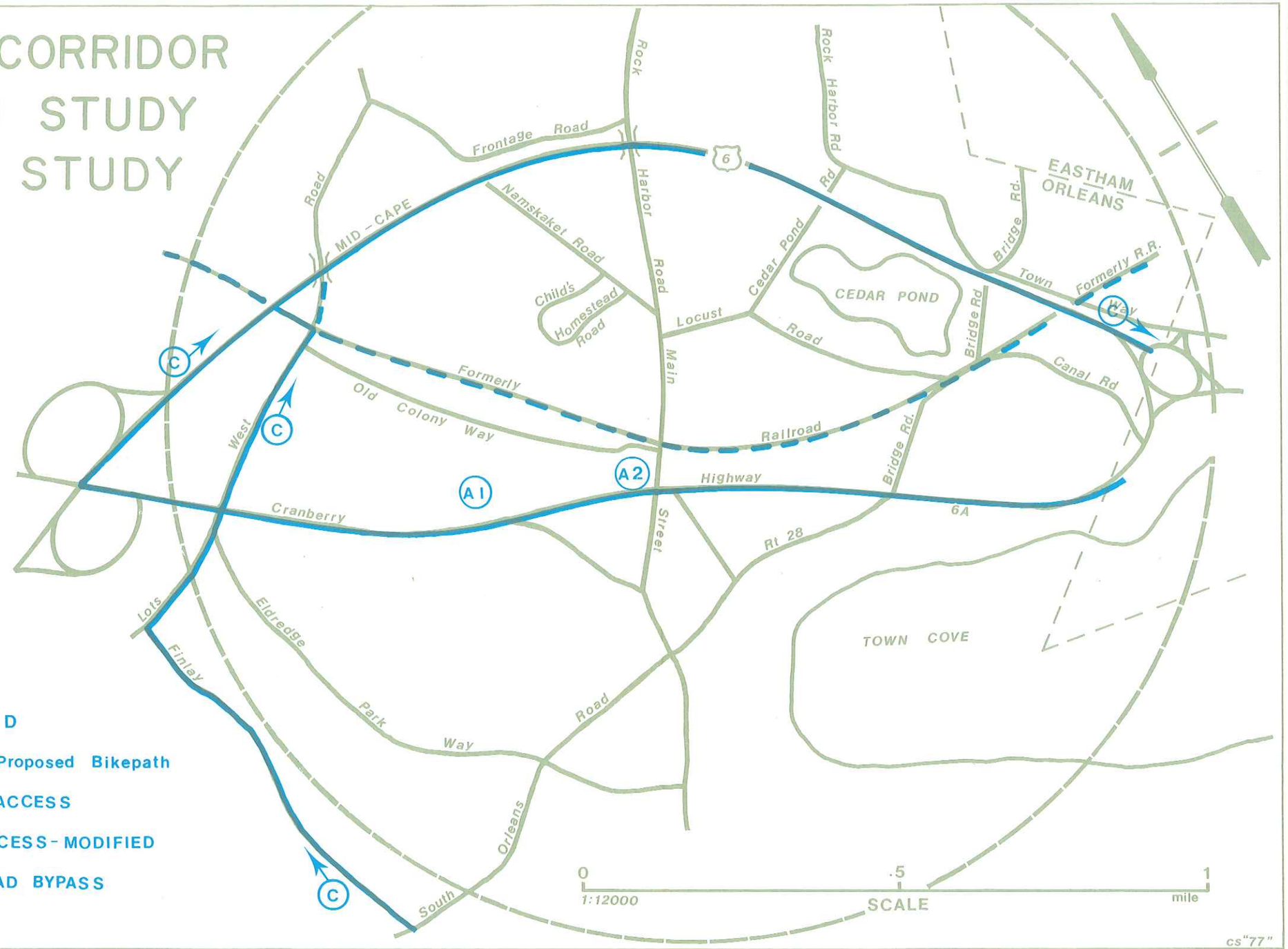
   By carefully cultivated cooperation between local business, local authorities, and State DPW, reduce curb-cuts and on-street parking on Orleans 6A. Redesign major intersections to achieve right angle intersection as practicable, as for example that with Route 28. At minor intersections, such as that with Cove Road, improve their safety with judicious use of "no left turns" or other devices in cooperation with local authorities and businesses.

   b. Evaluation of A-2

   Evaluation of A-2 made in Section 5 - Identification of Feasible Alternatives

ORLEANS CORRIDOR PLANNING STUDY AREA OF STUDY

MAP 3



LEGEND

- Proposed Bikepath
- (A1) LIMITED ACCESS
- (A2) LIMITED ACCESS - MODIFIED
- (C) FINLEY ROAD BYPASS

3. Alternative B-1 "One Way" (Map #4)

a. Description of B-1

Improve West Road from Route 6A to the intersection with Old Colony Way. Make present Old Colony Way safer for pedestrians. Adjust the eastern end of present Old Colony Way to line up with the recently Town acquired railroad right of way. Extend Old Colony Way from Main Street to Canal Road via the railroad right of way. Improve Canal Road and the Bridge Road, Locust Road, Canal Road, Old Colony Way extended intersection. Extend Route 28 via Bridge Road to Canal Road. Make 6A one way northeast from West Road to Canal Road. Make Canal Road and Old Colony Way one way to the southwest. The proposed "Through Bikepath" shown in Map #3 would be Type II, alongside but separate from Old Colony Way extended, in this and later alternatives involving Old Colony Way extended as part of the solution.

b. Evaluation of B-1

Substantially reduce business and provide a very shaky Route 28 meshing with 6A. The fatal flaw is the business effect. However, it should be reserved as a very long term future possibility and other solutions reviewed in light of its possibility ten to twenty years hence. REJECT for now.

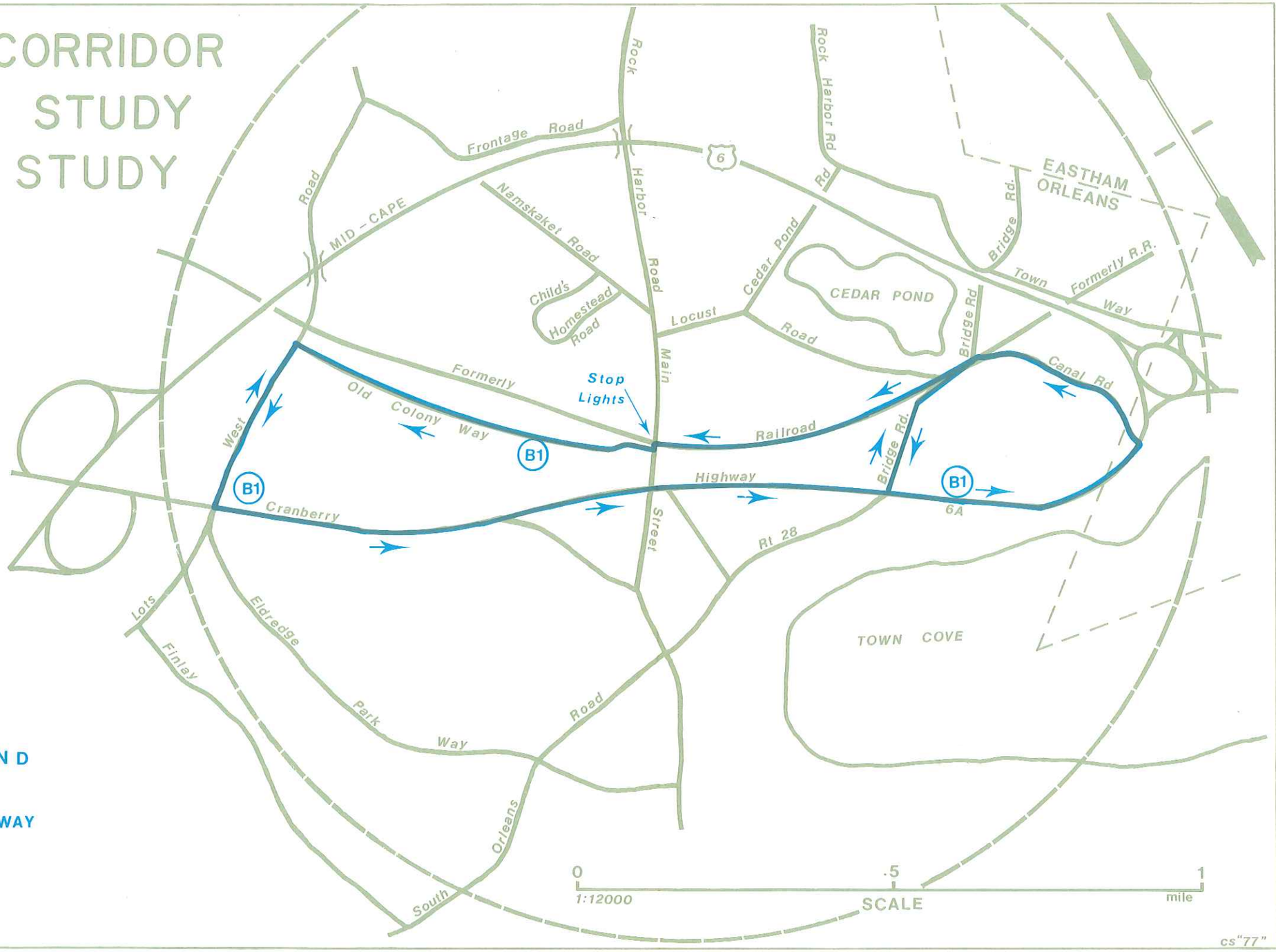
4. Alternative B-2 "Signed Routes" (Map #5)

a. Description of B-2

Same as "B-1" exept that Route 28 need not be extended. The traffic sharing of B-1 is accomplished by signing present 6A as "Route 6A East" only between its intersections with West Road and

ORLEANS CORRIDOR PLANNING STUDY AREA OF STUDY

MAP 4

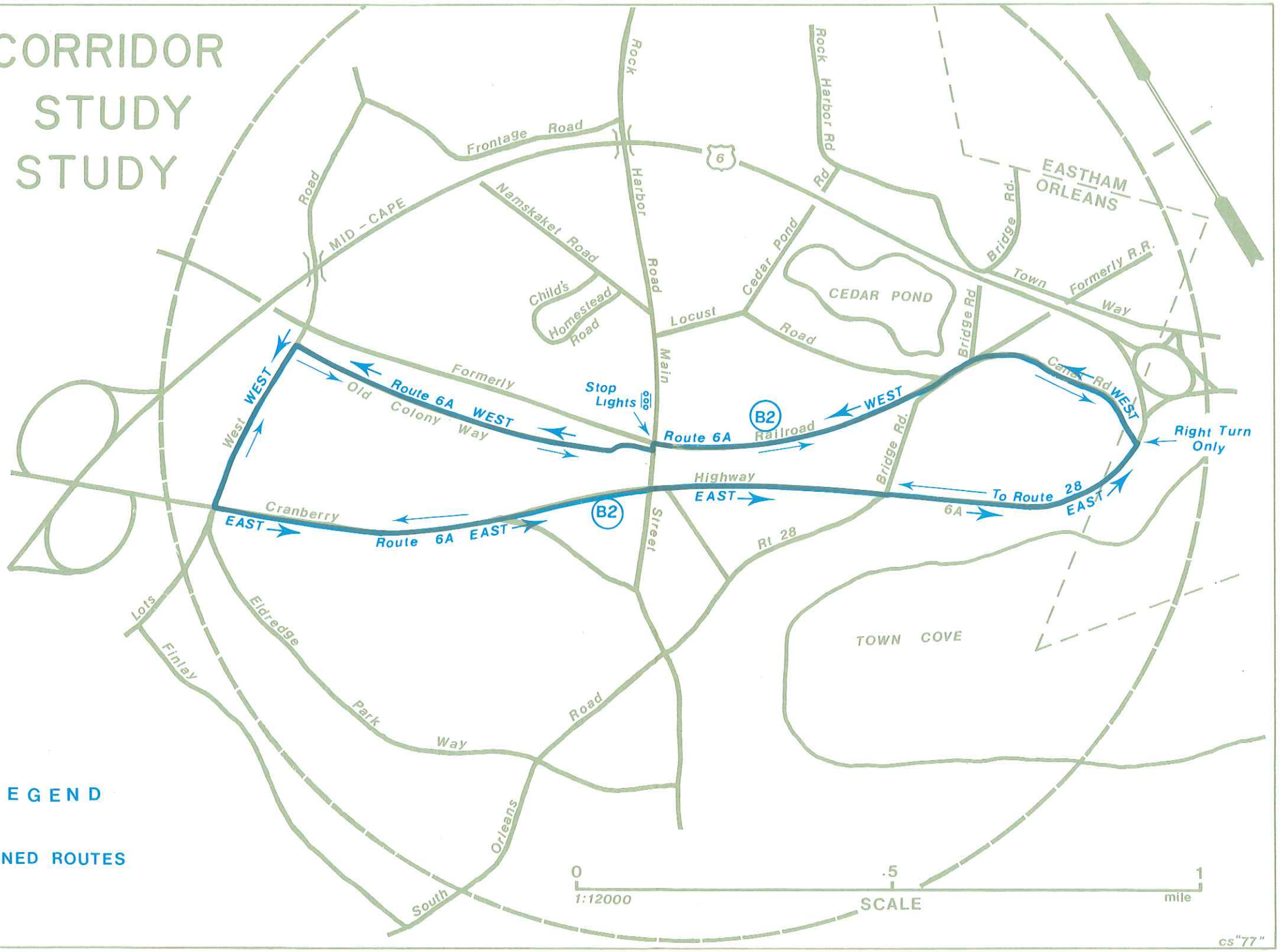


LEGEND

B1 ONE WAY

ORLEANS CORRIDOR PLANNING STUDY AREA OF STUDY

MAP 5



LEGEND

(B2) SIGNED ROUTES

Canal Road. Sign Canal Road Old Colony Way, and West Road to old 6A "Route 6A West". Sign Old Route 6A "To Route 28" from Canal Road to the intersection with Route 28.

b. Evaluation of B-2

Evaluation of B-2 made in Section 5 - Identification of Feasible Alternatives.

5. Alternative C "Finley Road Bypass (Map #3)

a. Description of C

Improve Finlay Road, Lots Hollow Road, and West Road to the intersection with the railroad right of way. Make new entrance to the Mid-Cape called "Exit 12N". Relabel old exit "12S". Make a service road between the two exits to provide motorist choice without resort to the Mid-Cape.

b. Evaluation of C

Route 28 at the point of bleedoff has low traffic density while the likely-hood of motorist use of this roundabout way in preference to the direct way is small. Eldredge Parkway is already constructed and serves the same purpose. Fatal Flaw - won't solve the problem - REJECT.

6. Alternative D "Mid-Cape Bypass" (Map #6)

a. Description of D

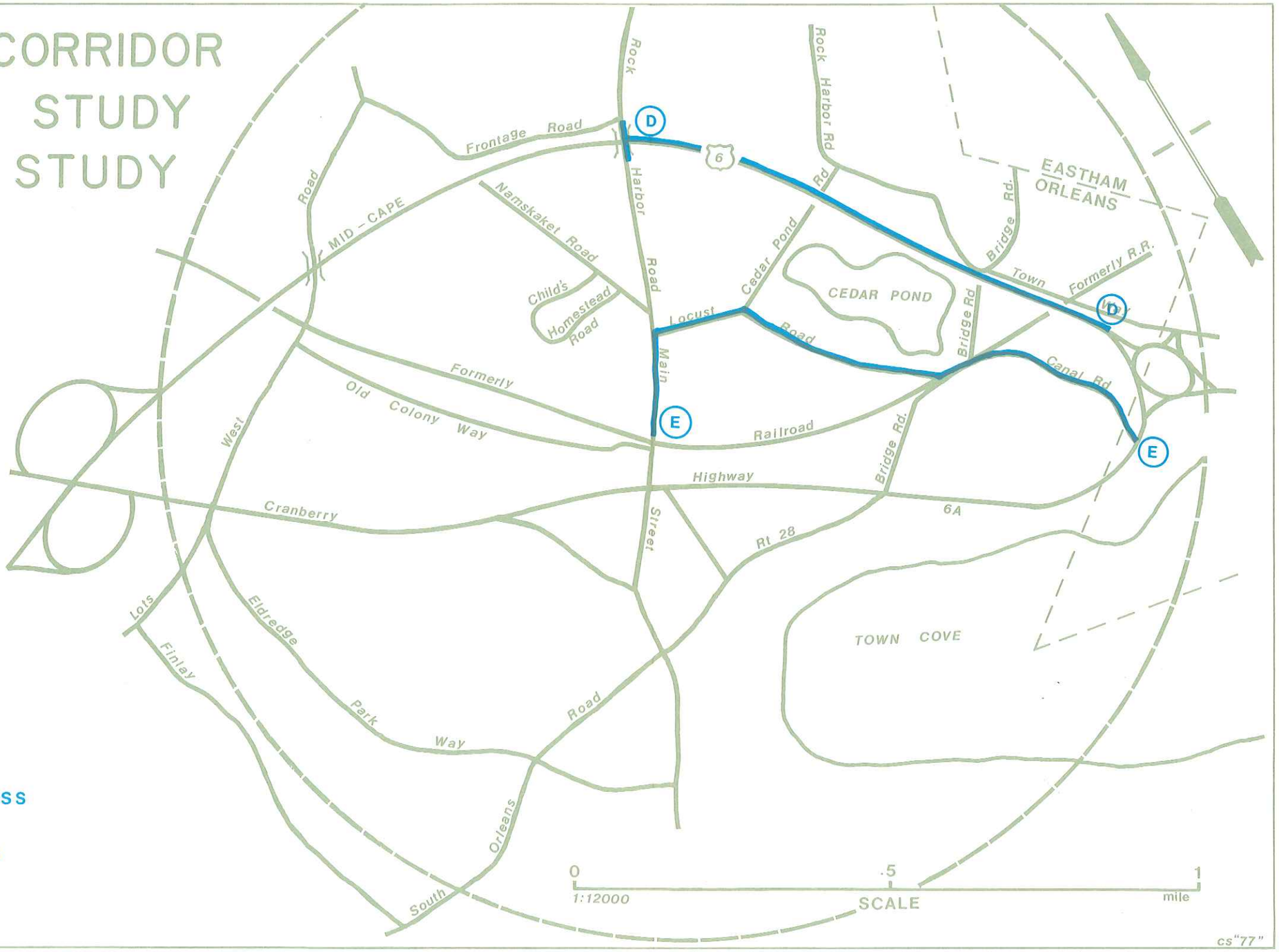
Connect Main Street - Rock Harbor Road with the Mid-Cape by both on and off ramps making it available as a local use bypass.

b. Evaluation of D

Local flaw-no assurance that this roundabout way will be taken by motorist. "Fatal Flaw", however, is the additional access into a limited access highway and the change of its character to a local road. REJECT.

ORLEANS CORRIDOR PLANNING STUDY AREA OF STUDY

MAP 6



LEGEND

(D) MID-CAPE BYPASS

(E) LOCUST BYPASS

7. Alternative E "Locust Bypass" (Map #6)

a. Description of E

Improve Main Street from Old Colony Way to Locust. Improve Locust Road and Canal Raod. Improve Bridge Road, Canal Road and Locust Road three way intersection.

b. Evaluation of E

Locust Road is a quiet residential street that would be totally changed by this great increase in use. REJECT

8. Alternative F-1 "Bridge Road" (Map #7)

a. Description of F-1

Improve West Road from 6A to Old Colony as in solution B-1. Make present Old Colony Way safer for pedestrians. Adjust Old Colony Way to line up with railroad right of way. Extend Old Colony Way from Main Street to Canal Road via the railroad right of way. Improve Locust Road, Bridge Road, Old-Colony Way intersection. Reconnect Bridge Road over the Mid-Cape by suitable bridge and improving Bridge Road in both Orleans and Eastham as necessary to improve its traffic handling capability. Solution includes Type II bikepath as in Alternative B-1.

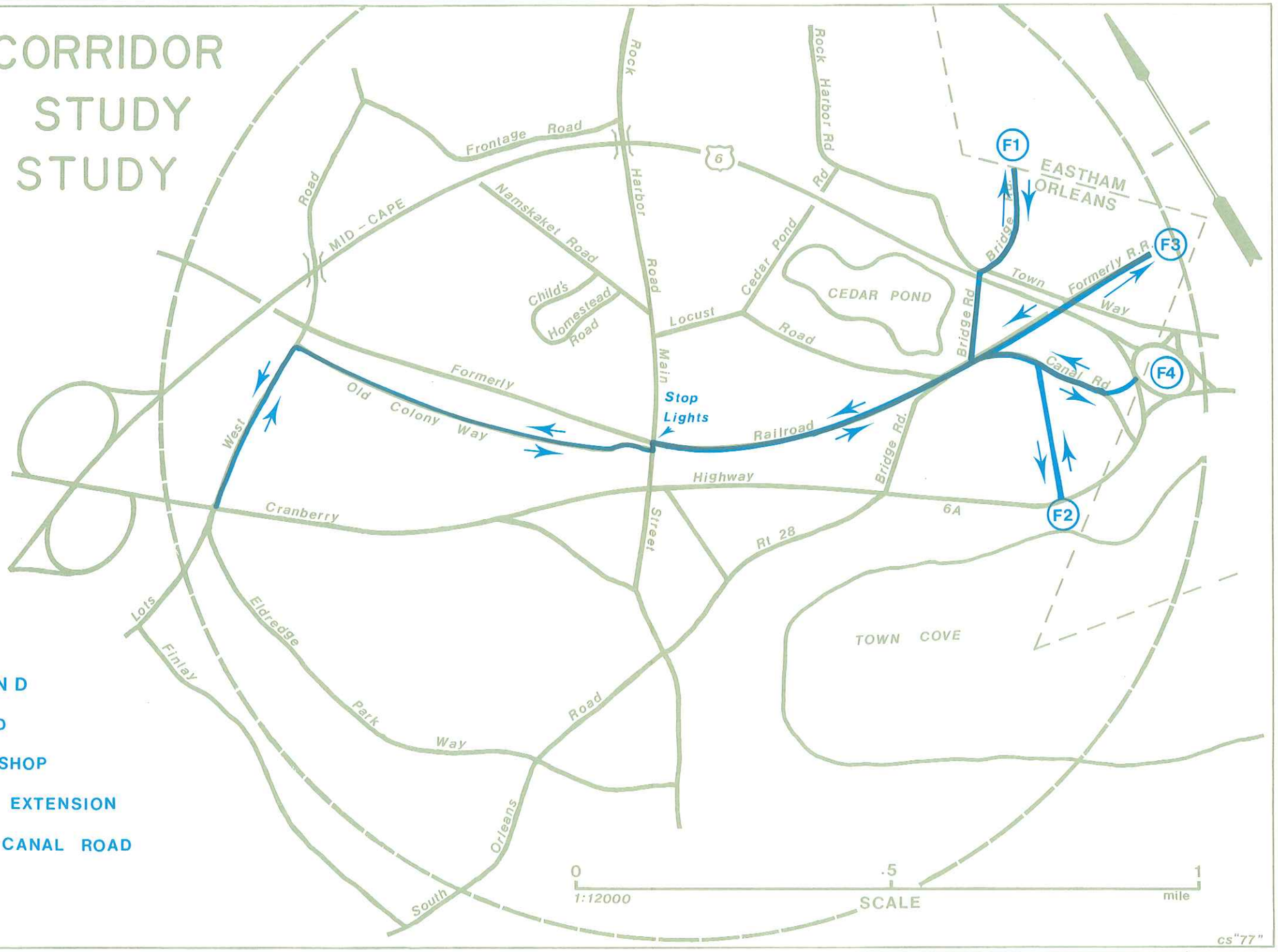
b. Evaluation of F-1

Historical sites are present and might interfere with needed widening. The required bridge over the Mid-Cape would be very expensive because it would probably have to allow for double-barreling and because the road curves slightly at that point requiring the straightening of Bridge Road and land taking for abutments.

Bridge Road in Eastham and Orleans is a quiet residential road. Though from a purely engineering view, it appears to solve two serious Eastham and Orleans problems involving 6A in Orleans and 6 in Eastham,

ORLEANS CORRIDOR PLANNING STUDY AREA OF STUDY

MAP 7



LEGEND

- (F1) BRIDGE ROAD
- (F2) STOP AND SHOP
- (F3) RAILROAD EXTENSION
- (F4) RE-ROUTE CANAL ROAD

meetings in Eastham and Orleans produced petitions in opposition to alternative F-1 that Eastham Selectmen reflect in their letter - Page 2, Appendix-A. REJECT

9. Alternative F-2 "Stop & Shop" (Map #7)

a. Description of F-2

Same as F-1 except to cut right over the Stop and Shop parking lot to reconnect with Route 6A at the present stop light at present Route 6A's intersection with Old Route 6A which is now used as a side street next to Town Cove.

b. Evaluation of F-2

Drops heavy traffic right back onto 6A at the point of heaviest traffic after the confluence of Route 28. This compounds an already serious problem and is a fatal flaw. However, a crossroad later would help any of the recommended solutions. REJECT as a primary solution.

10. Alternative F-3 "Railroad Extension" (Map #7)

a. Description of F-3

Same as F-1 except that Old Colony Way would continue on the railroad right of way bridging the Mid-Cape on up through Eastham to rejoin Route 6.

b. Evaluation of F-3

Bridging cost problems exist. A much greater cost factor in both Orleans and Eastham would be the very substantial effort to dike or bridge open wetlands and open water to provide a minimal 26' wide paved surface. The railroad dike top is about a clear 12' wide. Bulkheading could widen it somewhat.

The Conservation Commission (page 1 of Appendix A) rejects this solution for wetland reasons. Although the case might be pressed, the wetlands in Eastham are extensive and the proposal would be fatal flawed there in any case. REJECT

11. Alternative F-4 "Re-route Canal Road" (Map #7)

a. Description of F-4

Same as F-1 except improve Canal Road to point just short of Route 6A and then re-route it north so as to intersect traffic circle mid-way between 6 and 6A. Redesign Traffic Circle as necessary.

b. Evaluation of F-4

Evaluation of B-2 made in Section 5 - Identification of Feasible Alternatives.

12. Alternative F-5 "Split Old Colony" (Map #8)

a. Description of F-5

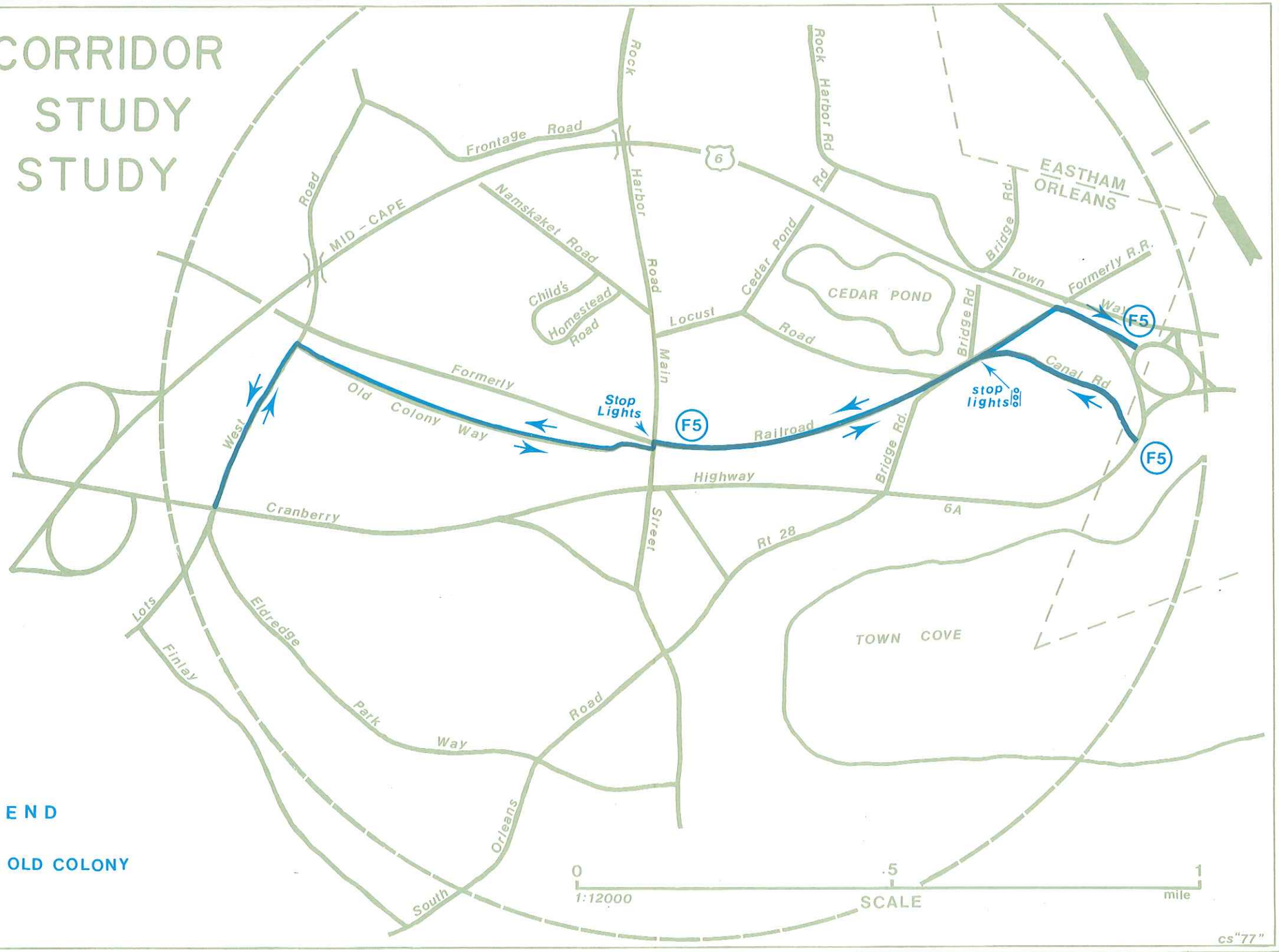
Same as F-1 to Canal Road intersection. Cross the southwest bound lane with the northeast bound lane and continue the northeast bound lane one-way over the railroad right of way to the Mid-Cape right of way. Either merge with Mid-Cape slowed down Eastbound traffic slightly earlier than before or merge at the traffic circle itself. Improve Canal Road making it one way southwest. Stop lights and adequate queuing to be provided at the crossover. Improve the Canal Road-Route 6A intersection limiting access to it from 6A southwest bound only. This restriction and careful design should eliminate the short queve problem on 6A southwest bound.

b. Evaluation of F-5

Evaluation of F-5 made in Section 5 - Identfication at Feasible Alternatives.

ORLEANS CORRIDOR PLANNING STUDY AREA OF STUDY

MAP 8



LEGEND

(F5) SPLIT OLD COLONY

13. Alternative G "No-Build"

a. Description of G

Except for improvements in the West Road and Main Street intersections with Route 6A already in process, proceed no further.

b. Evaluation of G

The problem as developed in Section 2 is so serious that some improvements have to be made. REJECT.

SECTION 5 - IDENTIFICATION OF FEASIBLE ALTERNATIVES

There remain four alternatives, separately or in combination, to solve the serious Orleans traffic safety problem viz. A-2 "Limited Access Modified", B-2 "Signed Routes", F-4 "Re-route Canal Road", and F-5 "Split Old Colony". To categorize, A-2 improves 6A's traffic carrying capacity while B-2, F-4 and F-5 decrease the traffic on 6A by providing the capacity of an additional road. It is necessary to develop and analyze the alternatives somewhat to develop a combination approach to the problem.

A-2 has been determined to be feasible by some trial efforts. However, its degree of success is open to serious question. Further, the point of diminishing returns or prohibitive cost-benefit ratio requires some engineering development beyond the scope of this study.

To detail, the closing of curb cuts will require careful approach to selected merchants by local Town Authorities since in many instances a direct reduction of business would result. Subsequently, it is understood that a State Team would obtain legal releases and accomplish the change. The Selectmen of Orleans has strongly endorsed this effort and indeed the A-2 alternative in its entirety - page 6 of Appendix A. A number of merchants have indicated cooperation on the basis of limited need for certain of their curb cuts, particularly in the clogged summer period. Some have taken the approach that safe access is good business and improved their road access. Notably Cape Cod Five has made improvements that improve sight lines and eliminate traffic disrupting queues. In summary, this is a low cost improvement with procedural difficulty but worthwhile if done without legal recourse.

On-Street Parking on 6A must be reduced or eliminated particularly on the right hand sides approaching intersections. The same procedure involving local authorities is suggested here. However, the effort might be incorporated in some instances with intersection modification.

Intersection modification is a major cost item that if carried to excess would pass the point of diminishing returns from a safety point of view. For example, comparing the Brewster Crossroads intersection with that of West Road, Brewster Crossroads is a present engineering nightmare while West Road appears only marginally misaligned. Accidents prove quite the reverse. The absence of need to use Brewster Crossroads heavily and the fact that most motorists are petrified of it make use minimal and very cautious. The costs of major correction would be astronomical. Yet increasing traffic pressure make changes mandatory. The engineering question is when does the cost-benefit ratio become too great.

West Road intersection produces accidents and would qualify for the Governor's High Hazard Program. It is going into contract for major improvement already. The cost of $60,000 is considered a favorable cost-benefit ratio with respect to potential accident reduction.

The dangerous intersections that need study are those with Main Street, Route 28, Cove Road, Brewster Crossroads, West Road and Canal Road. Some suggestions are contained in the Orleans Planning Board letter - page 6 Appendix A.

The Orleans Board of Selectmen and Traffic Study Committee would prefer that Cove Road be made "right-turn only" at both ends rather than to make it one way as suggested. During the Project Development Phase, Orleans authorities are ready to provide local help and suggestions as to details.

In summary, intersection improvements must be engineered carefully to gain maximum safety for the dollar.

B-2, F-4 and F-5 are the same in physical nature from the intersection with 6A at West Road, through Old Colony Way and Old Colony Way extended, and to the multi-road intersection at Locust's east end. West Road improvements are mandatory to straighten slightly and possibly widen. The intersection at Old Colony Way may require stoplighting with right green arrow from West to Old Colony. A turn-count is planned by the Town - see Selectmen letter, page 4 in Appendix A.

The 40' paved Old Colony Way is in excellent condition and is the widest road in Orleans. It was built with extension in mind. It has the significant defects: (1) inadequate facilities for the large number of pedestrians in adjacent Condominiums and (2) undefined curb cuts at points of major business. Both defects require Town action. Confining business development to privately developed cross-roads with no further curb cuts on Old Colony itself will do much to keep it a safe road even though it will carry much more traffic.

The intersection with Main Street would require relocation northward somewhat on Town owned land to line up with the railroad right of way. The west side of Main should require no land taking at all. In fact, substantial Public Parking, small garden park, and a bikepath trail head with picturesque facilities are planned. The major business, Nickerson Lumber is agreeable and negotiations are underway to move all their curb cuts at least 200' away from the intersection. The other side is more constrained with Town-owned land being only 32' wide at this point. However, the major business H. H. Snow's and Sons has discussed nominal cost land-taking with Town Authorities. The south side has not beeen resolved, but land taking should be minimal. Traffic flow from Snow's is under discussion.

A traffic light is essential at the intersection because of the short queuing distance on Main from 6A to Old Colony.

The railroad right of way is in good condition from Main to Locust Road. However, the presence of peat beds at the west end is suspected and would have to be verified and assessed by test boring. The Type II Bike Path planned (see page 7 of Appendix A) would go on the north side of the road. Since the right of way's 80' wide at all points except the aforementioned intersection, there should be ample room to include the bikeway in layout planning. Surprising sentiment supported the idea of bylaw changes to forbid curb cuts on this section and to permit business development only on cross-roads developed by private capital. This is mentioned in the Selectmen's letter on Page 4 of Appendix A. This latter provision would do much to guarantee the long term usefulness of this road for traffic relief to 6A.

Many businessmen on 6A treat the proposed new road as an improvement in their business since it would improve traffic safety in front of their establishments and attract new customers because of safe driving conditions. Others do not on the theory that the customer may be less likely to pass by his store with the second road. However, the traditional fear of business disaster is not present since the Mid-Cape already exists as the ultimate bypass.

Considering each alternative in detail shows that they are merely variations of attempts to solve the problem of easy to and from access to Eastham. The Selectmen, Planning Board and Traffic Study Committee of Orleans had reservations about each of the three on this count as stated in Appendix A.

B-2 uses the Canal Road right of way with an entirely new road upon it.

The present road is very much substandard. The intersection with 6A is "right turn only" to avoid traffic disruption so close to the Rotary. Access from Eastham to Orleans on either 6A or Canal Road is nearly perfect. Access from Orleans to Eastham on 6A is or can be made to be excellent. From Canal, it is impossible, as conceived. However, a large amount of land is available as noted in the Selectmen's letter for a re-engineered innovative intersection that would remove this impossibility. Should this problem be resolved, the advantage to B-2 is the immediate near equalization of traffic load.

F-4 takes considerable land as configured and enters the Rotary with a small distance between intersections. However, considerable land is available either to enlarge the rotary or to translate 6A east somewhat requiring less rotary redesign. If this can be successfully done, easy access between Orleans and Eastham is achieved.

F-5 solves the easy two way access problem, provided (1) the cross-over can be engineered, (2) the one-way road north over the railroad dike can be successfully engineered, (3) the merge into the Mid-Cape is smooth and easy, and (4) that the idea fits into long range plans for the Mid-Cape by the State.

CONCLUSION: THE SAFETY PROBLEM IS VERY SERIOUS AND GROWING WORSE. IMPROVEMENT OF 6A WILL ALLEVIATE THE SITUATION PARTIALLY BY INCREASING THE SAFE TRAFFIC CAPACITY OF 6A. EXTENSION OF OLD COLONY WAY WILL REDUCE TRAFFIC DEMANDS ON 6A AND TAKE CARE OF LONG TERM TRAFFIC INCREASE MADE INEVITABLE BY THE LOCATION OF ORLEANS AND THE POPULATION PRESSURES ON THE OUTER CAPE. RECOMMENDATION: ENTER THE PROJECT DEVELOPMENT PHASE WITH SOLUTION A-2 AND THE MOST ENGINEERINGLY FEASIBLE ALTERNATIVE OF SOLUTIONS B-2, F-4 and F-5 "TO IMPROVE RT. 6A IN ORLEANS AND TO EXTEND OLD COLONY WAY SO AS TO PROVIDE EASY ACCESS INTO EASTHAM".

SECTION 6 - ADDITIONAL ISSUES AND CONDITIONS TO BE ADDRESSED IN SUBSEQUENT ANALYSIS

The timing of engineering and construction, details of A-2, and the choice of the alternatives to extend Old Colony Way are primary items to be investigated during Project Development. A three part program has been suggested by the Orleans Board of Selectmen in pages 3-5 Appendix A. It gives priority to the improvement of 6A while engineering the Old Colony Extension. It then divides the road construction into two parts. Actual breakup also depends on engineering details, particularly any major intersection modifications in A-2 and just what degree of change will be required to make easy access by Old Colony Way into Eastham.

Besides engineering, phasing and the scope of work will depend on just what is planned for Route 6 itself. No plan is in work for double barelling Route 6 in Orleans. However, the Rotary itself is rapidly becoming overtaxed. Eastham's Route 6 is scheduled for improvement. This may delay the need for major change to the Rotary enough to warrant choice of 6A solution independent of broader changes to the Rotary.

The cautions expressed by most groups addressed in both Orleans and Eastham stemmed from the inherent non-specificity of the Corridor Planning Study Process itself. Most people await the engineering details with interest. Consequently, the usual hearing process at various stages in the Project Development must be followed. Through cooperation from Town authorities can be expected, public concern about details must be anticipated. In particular, if smooth easy access to and from Eastham is not feasible, early determination and public report would be highly desirable.

The Environmental Impact is sufficiently small and local authorities sufficiently knowledgeable and independent to warrant no Environmental Impact statement. This report and additional future hearings by appropriate authorities such as the Orleans Conservation Commission, should be sufficient to meet all environmental concerns of the proposed project.

As stated by the Orleans Board of Selectmen in their two letters, an article has been presented successfully to the May 2nd Town Meeting to assess numerically Town support of the project. Its success and the Selectmen's continued support should be viewed as an indication that the Town would give approval for the project provided the solution developed in the engineering phase gives easy access to Eastham at a reasonable cost. In any case the Town's support of improvement of Route 6A with or without the extension of Old Colony Way is very strong.

CONCLUSION: ORLEANS SUPPORT FOR IMPROVEMENT OF ROUTE 6A IS VERY STRONG. SIMILAR SUPPORT FOR THE EXTENSION OF OLD COLONY WAY IS DEPENDANT ON ENGINEERING A SOLUTION THAT GIVES EASY ACCESS TO EASTHAM AT A REASONABLE COST.

SECTION 7 - SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

CONSLUSIONS

2.1.1 BY ALL MEASURES OF COMPARISON, THE CURRENT TRAFFIC SAFETY PROBLEM OF ORLEANS ROUTE 6A IS EXTREMELY SERIOUS AND WARRANTS URGENT CORRECTION.

2.1.2 ORLEANS ROUTE 6A'S SERIOUS TRAFFIC SAFETY PROBLEM IS CAUSED BY EXCESSIVE TRAFFIC FOR THE CURRENT CONDITION OF THE ROAD. IT MAY BE CORRECTED BY:

A. REDUCING THE TRAFFIC,

B. IMPROVING THE CURRENT CONDITION OF THE ROAD, OR

C. BOTH.

2.1.3 CURRENTLY THE ORLEANS ROUTE 6A TRAFFIC SAFETY PROBLEM IS A SUMMER PROBLEM.

2.1.4 THE PRESENT CONFIGURATION OF ORLEANS ROUTE 6A HAS A TRAFFIC SAFETY SATURATION LEVEL OF ABOUT 10,000 CARS PER DAY ABOVE WHICH A SHARP DECREASE IN TRAFFIC SAFETY OCCURS.

AS TRAFFIC GROWTH OCCURS, THE ORLEANS ROUTE 6A TRAFFIC SAFETY PROBLEM WILL SPREAD INTO SPRING AND FALL.

THERE ARE TWO SOLUTIONS TO THE ORLEANS ROUTE 6A PROBLEM WHICH CAN BE USED SEPARATELY OR IN COMBINATION: REDUCE ROUTE 6A'S TRAFFIC OR DRASTICALLY IMPROVE 6A TO CARRY MORE TRAFFIC.

2.2 PRESENT AND FUTURE BUSINESS GROWTH ON ORLEANS ROUTE 6A IS RAPID. THIS GROWTH WILL AGGRAVATE THE PRESENT OVER CAPACITY SITUATION BY:

A. GENERATING MORE TRAFFIC

B. REDUCING THE SAFE TRAFFIC CAPACITY OF ROUTE 6A IN ORLEANS.

7.0 ORLEANS SUPPORT FOR IMPROVEMENT OF ROUTE 6A IS VERY STRONG. SIMILAR SUPPORT FOR THE EXTENSION OF OLD COLONY WAY IS DEPENDANT ON ENGINEERING A SOLUTION THAT GIVES EASY ACCESS TO EASTHAM AT A REASONABLE COST.

RECOMMENDATION:

THE MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS ENTER THE PROJECT DEVELOPMENT PHASE WITH SOLUTION A-2 AND THE MOST ENGINEERINGLY FEASIBLE ALTERNATIVE OF SOLUTIONS B-2, F-4 and F-5, "TO IMPROVE ROUTE 6A IN ORLEANS AND TO EXTEND OLD COLONY WAY SO AS TO PROVIDE EASY ACCESS INTO EASTHAM".

APPENDIX A

Town of Orleans
Conservation Commission

Town Hall • Orleans, Massachusetts 02653

March 23, 1977

Chairman, Orleans Traffic Study Committee
Orleans Town Hall
Orleans, Mass. 02653

Dear Sir:

After review of the "Draft" Corridor Planning Study concerning alternative solutions to downtown Orleans traffic problems, the Orleans Conservation Commission has the following comments:

a) All plans are in a very preliminary form, so it is difficult to estimate the affects of each plan in regards to the Wetlands Protection Act (G.L. Ch. 131, Sec. 40). The Conservation Commission is concerned with any and all work to be done within 100 feet of any wetland.

b) In our draft copy, page 13, the map entitled, "Enviromental Survey" is unclear, and it will not be relied upon by the Conservation Commission in making any determination of what is wetland and where situated.

c) It appears that plan F-3 would result in the most serious damage on wetland areas, and would probably be viewed unfavorably.

d) Any road construction plan, including drainage systems, should minimize any and all adverse effects on wetland areas.

Very truly yours,

Dana W. Eldridge
Chairman

Town of Eastham

MAR 15 [illegible]

BOARD OF SELECTMEN
BOARD OF ASSESSORS
BOARD OF HEALTH

EASTHAM
MASSACHUSETTS
02642

March 14, 1977

Mr. Robert Robes, Director
Cape Cod Planning & Economic Development Commission
Barnstable, Massachusetts

Dear Mr. Robes:

The following is in regards to the draft corridor planning study, for down town Orleans and is based in part on the public reaction to the study at the public information meeting, February 25, 1977.

The information meeting at the Eastham Town Hall allowed residents of the Town of Eastham to fully comment on all alternatives in the Draft Study as presented by Mr. Sherman Reed.

This information was also presented to the Eastham Planning Board March 10, 1977, and they concur with the following.

The Town of Eastham agrees with the Orleans Traffic Study Committee on the feasible alternatives which will be recommended to the Massachusetts Department of Public Works. The alternatives are B-2, F-5 and F-4. Alternative B-2 appears to be the best alternative in the study.

The Town of Eastham would like to go on record in strong opposition to alternative F-1 for two reasons; the cost factor of bridging is excessive and the adverse impact on residential property in Eastham. A petition, signed by residents in the area of Bridge Road, clearly indicates the negative effects F-1 will have to this area.

It is hoped that the Massachusetts Department of Public Works will promptly begin engineering of the feasible alternative so that implementation can occur in the near future.

Sincerely,

Fred G. LaPiana, Jr., Chairman

Howard W. Quinn

Laura L. Underhill

BOARD OF SELECTMEN

cc: Orleans Board of Selectman
Orleans Traffic Comm. Chief Chester Landers
Orleans Traffic Comm. Mr. Sherman Reed
Eastham JTC Chairman Mrs. Lillian Lamperti

FEB 2 3 1977

1 Dyer Prince Road
Eastham Mass.
Feb. 19, 1977

Cape Cod Planning and Economic Development Commission
1st District Courthouse
Barnstable, Mass.

Gentlemen:

Enclosed is a petition with some 37 signatures opposing the proposal to route traffic from downtown Orleans onto Bridge Road in Orleans and Eastham (alternative F-1 in the Draft Corridor Planning Study Alternative Solutions to the Traffic Problems in Downtown Orleans of January 27, 1977) Almost all of the residents of Bridge Road from Rock Harbor Road to Charlie Noble Way, of Dyer Prince Road, and of Charlie Noble Way who are presently in residence were consulted and all but two were strongly and even violently opposed to the alternative F-1.

This opposition, together with the many other obvious disadvantages of the alternative should make it totally unacceptable.

Sincerely yours,

Richard W. Wallace

Copies to:

Orleans Selectmen
Orleans Planning Board
Orleans Traffic Study Committee
Eastham Seletmen
Massachusetts Department of Public Works

February 7, 1977

We the undersigned are strongly opposed to the proposal to route traffic from downtown Orleans onto Bridge Road in Orleans and Eastham, known in the Draft Corridor Planning Study Alternative Solutions To The Traffic Problems In Downtown Orleans, January 27, 1977, as alternative E-1

Name	Address
Richd W Wallace	1 Dyer Prince Rd Eastham
Katy J. Wallace	1 Dyer Prince Rd. Eastham
Lovena A. Morse	55 Bridge Road Orleans
Louis H. Morse	55 Bridge Road Orleans
Francis K. Cody	53 Bridge Road Orleans
William A Pemberton	49 Bridge Road Orleans
Margaret L. Pemberton	49 Bridge Rd. Orleans
Hope H. Weller	45 Bridge Road - Orleans
Charlotte Price	54 Bridge Rd. Orleans
Brian C. Price	Bridge Rd Orleans
Mary C. Kelly	Bridge & Dyer Prince Rds Eastham
Clayton F. Eldredge Jr	54 Bridge Rd., Orleans
Christopher A Sh...	
Mrs(W B) Maryanne C Pole	Bridge Rd Eastham
Mary L. Stewardson (Mrs John)	Bridge Rd Eastham
John Stewardson	Bridge Rd Eastham
Walter W Campbell	Bridge Rd Eastham

Cornelius M. Crimphin	Bridge Rd. Eastham
Ernest B. Beers	Bridge Rd Eastham
Ulysses S. MacNeill	Bridge Rd Eastham
Marianne M. Page	Bridge Rd. Eastham
Edward C. Page	" "
Barnes Prince	Bridge Rd. Eastham
Alice J. Prince CC	Bridge Rd. Eastham
Burton B. Woodland	Charlie Noble Way, Eastham
Richard A. Woodland	Charlie Noble Way, Eastham
John C. White	Charlie Noble Way, Eastham
Beachey M. White	Charlie Noble Way, Eastham
Patricia L. Baker	Bridge Rd Eastham
Lynn H. Farber	Dyer Prince Rd Eastham
Dawson Farber III	Dyer Prince Rd. Eastham
Joseph J. Putnam	Bridge Rd Orleans
Jean W. Putnam	Bridge Rd. Orleans
Frances Price	Dyer Prince Rd Eastham
James L. Butler	Dyer Prince Rd Eastham
John B. Weidler	Dyer Prince Rd, E. Orleans.
Mabel A. Weidler	Dyer Prince Rd, Eastham
Dorothy D. Long	" " & Bridge Rd.
Wenger Long	Dyer Prince & Bridge Rd. EASTHAM
Frederick P. Smith	Bridge Rd., Eastham
Irma Smith	Bridge Rd Eastham

OFFICE OF

SELECTMEN - ASSESSORS

BOARD OF HEALTH

ORLEANS, MASSACHUSETTS

MAR 3 1 1977

APR 2 8 1977

HERBERT F. WILCOX
ROBERT R. PENO, JR.
GASTON L. NORGEOT

March 28, 1977

Cape Cod Planning and Economic Development Commission
1st District Court House
Barnstable, Massachusetts 02630

Gentlemen:

After receipt of many reports from our appointed Traffic Study Committee, letters from several sources, review of the Corridor Planning Study itself, and attendance at one of the numerous large and well attended meetings at which it was discussed, it is our strong opinion that the downtown Orleans traffic safety problem is very serious. Downtown traffic safety must be improved and the rapid increase in Orleans Route 6A accidents hopefully reversed. If action is not taken, unnecessary and unwarranted increase in injuries to Orleans citizens and visitors will occur. Downtown business will suffer as incoming business development capitalizes on citizen wariness to drive downtown and develops elsewhere in Orleans. Consequently, cooperation from the majority of the Orleans business community for needed changes is expected and has already been evidenced by public expressions of our Orleans Board of Trade.

The large number of meetings held in Orleans and Eastham in the past few months have resulted in significant improvement in the recommendations of this study. As would be expected in a project of this nature, some strong negative feelings have been expressed. Where possible, they have been allowed for in modification of recommendations, such as termination of reconnection of Bridge Road. General consensus is clearly cautious approval to go ahead, primarily because of the need for improved traffic safety. Though not a part of the Corridor Planning Study process, we are supporting an article in the annual Town Meeting on May 2nd designed to give further voice to any serious objection and more importantly to assess it numerically. This vote and normal later hearings in Orleans during the engineering phase should ensure unprecedented citizen involvement.

We wish to emphasize to our fellow citizens that the May 2nd Annual Town Meeting will not be the last time in which they have input. Later, normal engineering hearings will be held in Orleans and possibly a road building money article recommended at the appropriate time.

To solve the East-West Orleans Traffic safety problem, we feel that two actions must be taken:

a. Orleans Route 6A's safe carrying capacity must be increased by a combination of intersection improvement, decreased on street parking, and decreased curb cuts. We have reason to expect considerable individual cooperation

in this effort. This action will help the present situation.

b. For the future, we believe it essential to extend Old Colony Way, including improvement of the West Road cross connection. We share the Planning Board and Traffic Study Committee's view that the extension must be conditional upon successful engineering of smooth and rapid traffic flow to and from Eastham.

We note that Rotary changes, changes in 6A near the Rotary, and changes in the Mid-Cape near the Rotary are conceivable especially in view of the additional land available to the east of the present 6A and to the south of the Mid-Cape inside the present right of way. Minimum land taking is desirable which places F-4 last among our options. As part of this road construction, we note favorably that sentiment exists to prevent or minimize curb cuts on the new road and to provide that all development be on cross-streets to be constructed by private capital. Needed hearings and by-law changes would be triggered, we believe, by the availability of firm engineering plans by the DPW.

In view of the substantial sums likely to be involved, a two or three part construction effort may prove best. Subject to engineering development, it might break down sequentially as follows:

a. Improve 6A and engineer the Old Colony Way complex to the contract.phase.

b. Rebuild the Main Street - Old Colony intersection. Extend Old Colony to the first viable intersection. Improve West Road and the West Road - Old Colony intersection. The West Road - Route 6 intersection improvement is already in the contracting phase and should be expedited as part of the general Route 6A improvement.

c. Complete the extension of Old Colony Way and needed accessing of Eastham.

For traffic safety reasons it may be desirable to reverse steps (b) and (c). We defer to the DPW traffic safety engineers. in this matter.

Townagencies are prepared to give DPW their complete cooperation during project development. For example, we plan to take detailed turn counts of both Old Colony - Main Street intersection and the West Road - Old Colony intersection using recently acquired Town traffic counters.

Efforts to achieve consensus for major construction in a crowded area is never easy. Consequently, on behalf of the Town, we wish to thank publically the neighboring Towns of Eastham and Brewster, and the Planning Board and Conservation Commission of of Orleans for their cooperation and major contributions. In similar fashion we wish to thank four citizens who have contributed major useful ideas, namely Mr. Fritz Haubner, Mr. Walter Brown,

Mr. Walter Swanson, and Mr Hugh Crow. In particular, we wish to thank the CCP&EDC and our own Traffic Study Committee for working so closely and effectively together to achieve the needed two Town consensus and for their readieness to accept and incorporate worthwhile suggestions. This teamwork has been a good example of CCP&EDC working to the advantage of small Cape Cod towns. Finally we are most greatful for the essential and freely given technical assistance given by the Department of Public Works and Federal Highway Administration.

Sincerely yours,

Robert R. Pono, Jr.

Gaston L. Norgeot

Herbert F. Wilcox

Town of Orleans

PLANNING BOARD

TOWN HALL, ORLEANS, MASSACHUSETTS 02653

February 23, 1977

Traffic Study Committee
Town Offices
Orleans, Mass.

Dear Members:

The Orleans Planning Board greatly appreciates the hard work and organization that went into your excellent presentation of the Corridor Study last January 31. We realize that each proposed route you presented was the direct result of the input of a concerned resident. The Board approves of your suggestion to reduce the number of curb cuts along the main roads. However, a continuation of Old Colony Way along the railroad bed is not an acceptable proposal to this Board until another solution is found at the northern end of the way to ease the major bottleneck there. We feel that the presence of the Mid-Cape Highway and the rotary, under state control, prevents a feasible intersection with your proposed by-passes.

After discussing this matter the Board decided that it would rather see minor improvements in the downtown areas which would have an immediate effect on the traffic conditions both now and in the summer months. For example, prohibit parking in front of the movie theater near the intersection of Route 6A and Main Street. Perhaps a traffic island could be considered for the Route 28 and 6A intersection as well as a one-way street for Cove Road with traffic flowing towards Route 28. We are including more suggestions for reducing traffic congestion at other intersections in Orleans in a separate letter.

We feel your Corridor study will be most effective when combined with Eastham's needs for the future. Suggestions from the Town of Eastham, which presently has only one main thoroughfare, will greatly determine the final recommendations for a future traffic by-pass in Orleans. In conclusion, although we cannot agree with your main location for a road we certainly encourage all future study and proposals by your group.

Sincerely,

Edward F. Rohmer

Edward F. Rohmer, Chairman
ORLEANS PLANNING BOARD

EFR/jbc

Town Hall
Orleans, Mass. 02653
March 25, 1977

Cape Cod Planning & Economic Development Commission
County Court House
Barnstable, Mass. 02630

Gentlemen:

As Chairman of both the Orleans Bikeway Committee and of the Cape Cod Regional Bikeway Committee, I would like to record the following information for inclusion in the Orleans Corridor Planning Study. The Bourne to Provincetown Through Bike Path has been in planning for quite some time and requires use of the abandoned railroad right of way. Funds have been made available for the construction of the section from Nickerson State Park to the intersection of Main Street and Old Colony Way in Orleans. Construction planning is in progress.

As indicated on Map #3 of the Corridor Planning Study, it is planned to continue the bike path along the right of way over the Mid-Cape into Eastham. All Bike Path planning has assumed that a road would eventually be built involving joint use of the 80' wide right of way from Main Street at least to Canal Road. It was specifically understood and enthusiastically accepted that the path would be Type II (alongside but separate from the road). As bicyclists, we very much need safe and easy access to shopping. In addition, the commuting possibilities of the planned configuration are considerable.

Accordingly, we wish to emphasize that the proposed road is planned to be paralleled by the Type II bike Path and to ensure that the DPW so continues that planning in its action on the Corridor Planning Study.

Sherman C. Reed
Chairman

ORLEANS BOARD OF TRADE
BOX 153
ORLEANS, CAPE COD
MASSACHUSETTS 02653

APR 19 1977

Mrs Lillian Lamberti
Joint Transportation Committee
C.C.P.& E.D.Commission
First District Court House
Barnstable, Massachusetts 02630

Thursday,
April 14, 1977

Dear Mrs. Lamberti:

This is to convey to you and the Commission, the feelings of the Orleans Board of Trade concerning the traffic study involving Route 6-A and the subsequent alternative plans with regard to the utilization of the former R.R. right of way, Old Colony Way.

In a meeting of the membership held in Orleans, on March 8th 1977, it was RESOLVED:

> To reduce traffic hazards within the Downtown Business Area of Orleans, the Orleans Board of Trade endorses the improvement of traffic circulation within the Downtown Area and the continuing study and engineering of the extension of Old Colony Way along the former Railroad Right of Way, by the Department of Public Works.

A Draft of the various proposals of the " Corridor Planning Study "was distributed among the Directors of the Board of Trade and received their serious attention and discussion prior to its presentation to the membership

The Commission may feel free to call upon us for support for any action they may see fit to take in materializing the objectives of this resolution.

Very truly yours,

J. Quentin Breen
President

CC:B/T Sec'y
Orleans Selectmen
Police Chief, Chester Landers

Cape Cod
Joint Transportation Committee

CAPE COD PLANNING AND ECONOMIC DEVELOPMENT COMMISSION
1ST DISTRICT COURT HOUSE, BARNSTABLE, MASSACHUSETTS 02630 PHONE: 617-362-2511 EXT. 477

MEMORANDUM

TO: Cape Cod Planning and Economic Development Commission

FROM: Lillian Lamperti, Chairman Lillian Lamperti
Cape Cod Joint Transportation Committee

DATE: July 20, 1977

SUBJECT: Corridor Planning Study Entitled Alternative Solutions to the Traffic Problems in Down-town Orleans

The Cape Cod Joint Transportation Committee (CCJTC) on June 16, 1977 approved the Recommendation of the Corridor Planning Study entitled Alternative Solutions to the Traffic Problems in Down-town Orleans.

This study which was completed cooperatively by the CCPEDC staff working with the Town of Orleans and the Town of Eastham recommends that "The Massachusetts Department of Public Works enter the Project Development Phase with Solution A-2 and the most engineeringly feasible alternative of solutions B-2, F-4 and F-5 "to improve Rt. 6A in Orleans and to extend Old Colony Way so as to provide easy access into Eastham."

The CCJTC now requests the Cape Cod Planning and Economic Development Commission to also endorse the recommendation of the Corridor Planning Study.

I have asked that Mr. Sherman Reed, CCJTC representative of the Orleans Board of Selectmen discuss the CPS at the Commission meeting on July 28, 1977.

CAPE COD PLANNING AND ECONOMIC DEVELOPMENT COMMISSION
1ST DISTRICT COURT HOUSE, BARNSTABLE, MASSACHUSETTS 02630
TELEPHONE: 617-362-2511

August 22, 1977

Mr. V. M. Cassese, P. E.
Acting District Highway Engineer
Massachusetts Department of
Public Works
District #7
151 Pierce St.
Middleboro, Ma. 02346

Dear Mr. Cassese:

The Cape Cod Planning and Economic Development Commission on July 28, 1977 reviewed the Corridor Planning Study Report entitled Alternative Solutions to the Traffic Problems in Downtown Orleans.

The CCPEDC concurs with the recommendation of the Cape Cod Joint Transportation Committee and recommends: "the Massachusetts Department of Public Works enter the Project Development Phase with Solution A-2 and the most engineeringly feasible alternative of Solutions B-2, F-4 and F-5 to improve Route 6A in Orleans and to extend Old Colony Way so as to provide easy access into Eastham."

It is hoped that the Massachusetts Department of Public Works will promptly move this important project into Project Development so that engineering and design work can be initiated.

Thank you for your cooperation.

Very truly yours,

Robert E. Robes
Executive Director

RER:bg

Enc.

cc: Robert H. Patneaude

OFFICE OF

SELECTMEN - ASSESSORS

BOARD OF HEALTH

ORLEANS, MASSACHUSETTS

HERBERT F. WILCOX
ROBERT R. PENO, JR.
GASTON L. NORGEOT

July 21, 1977

Cape Cod Planning and Economic Development Commission
1st District Court House
Barnstable, Mass. 02630

Gentlemen:

To supplement our letter of March 28, 1977 concerning the Downtown Orleans Corridor Planning Study, we wish to report the results of the May 2-3, 1977 Annual Town Meeting. Article 71 was proposed as follows:

> To see if the Town will raise and appropriate or take from available funds the sum of One Thousand Dollars ($1,000.00) for contract services of a Professional Engineer to improve the traffic safety of Route 6A in Orleans and nearby roads in conjunction with ongoing work by State and Federal Highway Authorities; the foregoing work and funds to be authorized and disbursed at the discretion of the Board of Selectmen.

The Article was debated extensively and its relation to the Corridor Planning Study explained. The Article was passed 164-132.

It should be noted that this Corridor Planning Study was the first time that public discussion has been held in our Town of a very large number of alternatives without detailed engineering backup. Though we recognize that this is an essential part of the new method and that it is intended to save funds otherwise spent on projects ultimately disapproved in the political process, the complexities and uncertainties, no matter how well explained, render votes or political opinions prior to the engineering phase uncertain at best.

In our opinion, a well engineered solution for access to Eastham by Old Colony Way extended, and a reasonable road construction cost should result in favorable votes for needed Town Meeting Articles. We will continue to give it strong support under these conditions.

Sincerely yours,

Herbert F. Wilcox

Robert R. Peno, Jr.

Gaston L. Norgeot

APPENDIX B - LIST OF PUBLIC INFORMATION MEETINGS

Approximately six scheduled meetings of Orleans Traffic Study Committee - 1975-77

Approximately six meetings with Orleans Board of Selectmen - 1976-77

Four meetings with Orleans Board of Trade, December, 1975, January, 1976, February, 1977 and March 1977

Three meetings with the Orleans Planning Board early 1976, January, 1977 and March, 1977

Two meetings with Orleans Conservation Commission February and March 1977

One meeting with the Cape Cod Joint Transportation Committee - February 17, 1977

Joint Public Information Meeting with all Orleans Committees and Boards and with general citizenry - January 31, 1977

Eastham Public Information Meeting - February 25, 1977

Individual meetings with Orleans Police Chief and Highway surveyor, and with Eastham's Police Chief and their Board of Selectmen. All were in the period - January to March 1977

Consultive meetings with State DPW and Federal Highway people on two occasions in the Fall of 1976 and in February 1977

The Commonwealth of Massachusetts
Executive Office of Transportation and Construction
Department of Public Works
100 Nashua Street, Boston 02114

AUG 8 1978

June 28, 1978

Mr. Vito M. Cassese
Acting District Highway Engineer
P.O. Box 111 - 151 Pierce Street
Middleboro, MA., 02346

Subject: Route 6A, Orleans Corridor Planning Study

Dear Sir:

We have reviewed the Route 6A Orleans Corridor Planning Study. The CPS was submitted by the Cape Cod Planning and Economic Development Commission (CCPEDC) dated August, 1977.

The four alternatives recommended by the CCPEDC are: A-2, B-2, F-4 and F-5. These alternatives were considered as feasible by the Commission. The Department's comments and recommendations of the alternatives are contained in the attached report.

It is directed that you proceed with the engineering study of Alternative A-2 of the CPS for Route 6A in Orleans.

Very truly yours,

Robert T. Tierney

ROBERT T. TIERNEY
CHIEF ENGINEER

VG/ph
Encl.

THE COMMONWEALTH OF MASSACHUSETTS

INTER OFFICE CORRESPONDENCE — DEPARTMENT OF PUBLIC WORKS

From Vincent Giangregorio, Location Engineer

Attention of John F. Gallagher, Loc. & Surveys Engr. June 19, 1978

Subject Route 6A - Orleans

As requested by you, I submit the following report on Route 6A in Orleans. This report is based on my review of the CPS compiled by the Cape Cod Planning and Economic Development Commission dated August, 1977.

THE CPS recommended four Alternatives, A-2, B-2, F-4 and F-5. See attached sheets for descriptions of Alternatives and their related maps.

Comment - Alternate A-2

This Alternative would be the most feasible solution at this time and would have the least disruptive impact. The project could take place during a fall period (September) when traffic is at its minimum and continue through the Spring of the following year. This Alternative would require 40 scale plans to ascertain the proper evaluation of minimum curb-cuts. The removal of curb-cuts and off-street parking would produce local problems.

For maximum results, the District 7 Office and Orleans should combine their efforts, thus, allowing those closest to the problem determine its solution. Locations could assist if need be.

Comments-Alternate B-2

There are no apparent construction problems with this Alternative. The extension of Old Colony Way across Main Street and continued along the existing Railroad R.O.W. appears to be a reasonable location for the continuation of Old Colony Way. The CPS implied unknown depth of peat beds just east of Main Street. Assuming a reasonable depth of peat the extension could continue across Main Street. The Department would require a 44 ft. roadway. With a 32 foot R.R. R.O.W. takings would be necessary. Environmental impacts could produce delays in the early stages of this study and a questionable conclusion to this Alternative is possibly a no-build alternative.

Comments - Alternate F-4

This Alternative proposes the extension of Bridge Road over Route 6. Land owners would object to a land-fill necessary to carry Bridge Road over Route 6. Eastham may also object to this extension of Bridge Road because of the additional traffic in a new location of Eastham. The relocation of Canal Road, as proposed by this Alternative, appears to interfere with business properties in addition to the necessary taking of buildings. Assuming the relocation did not cause damage to properties, its relocation would introduce another weaving movement within the Rotary, thus creating a traffic hazard. The redesign of the Rotary, to accomodate relocated Canal Road, remains questionable.

6/23

ADM-320

Comments - Alternate F-5

Same as Alternative B-2, except this alternative proposes the extension of the R.R. R.O.W. to Route 6 (Mid-Cape Highway).

This proposed break in Route 6 access would decrease the safety of a no-access highway, (Route 6).

Recommendations

Alternative A-2 is the least costly, construction wise, and probably the most effective solution to the towns' problem. Therefore, this would be the first and may be the only choice to make at this time. Aerial photographs of the Orleans area appear to indicate sufficient width to construct a 10 foot shoulder on each side of Route 6A and hold the existi four lanes. If the construction of a 10 foot shoulder becomes a feasible project, then the reducing of curb-cuts may not be as sigificant as indicated in the CPS. With construction of A-2, this Department could then monitor its effectiveness in solving the towns' problem. Should it show signs of failure, the Department should begin an O. & D. (Origin and Destination) study of traffic east and west of Orleans. With this study in hand the Department could continue from there.

Alternate B-2

This would require photogrammetrics, funding for the extension of a town road (Old Colony Way), environmental impacts, land takings, peat bogs etc These could become major problems and produce burdensome delays and could ultimately halt the project. This may have to be the second choice to A-2, depending upon the outcome of the O. & D. study.

Alternates F-4 & F-5 are not acceptable because they both propose a break the Route 6 No-Access line. See comments for F-4 and F-5.

Conclusion

My review of the CPS shows a heavy volume of traffic during June, July ar August. This traffic on 6A wants to be there and any alternative to 6A would not alter the traffic volume significantly. To change traffic patterns would invite a confrontation with businesses along 6A. Consequently Alternate A-2 has all indications of solving the problem in Orleans.

District 7 Project Office should be notified to commence the study of Alternate A-2, should this recommendation not be acceptable to you. I will wait for your comments in continuing further study of Route 6A in Orleans.

Respectfully submitted,

Vincent Gingregorio
Location Engineer

Good report!
I agree with the conclusion

VG/ph