# ROUTE 6A
# ALTERNATE MODES ASSESSMENT

*Final Report*

**August 1995**

*Prepared for*

**Cape Cod Commission**
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**in cooperation with the**
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# Executive Summary

Louis Berger & Associates, Inc. (LBA) has been retained by the Cape Cod Commission to identify the feasibility of alternate modes of transportation along Route 6A to reduce the dependency on automobile travel within the corridor. This effort is funded under Phase 2 of the Scenic Byways Program, in coordination with the Massachusetts Highway Department (MHD), which seeks to maintain scenic, historic, recreational, cultural, and archeological characteristics of designated roadways.

Also known as Old King's Highway, Route 6A has been a major thoroughfare serving Cape Codders and their visitors for the past 350 years. Lane-widths are historically narrow with approximately 26 of the 34 miles consisting of only 24 feet of pavement width with little or no shoulders. Presently, the private automobile is the predominant mode of transportation along the corridor. As a result, transportation pressures in the form of increasing traffic congestion and turning movement conflicts have threatened the highway's ability to serve people effectively and safely. According to the Old King's Highway/Route 6A Corridor Management Plan prepared by the Cape Cod Commission, nine of the eleven major intersections along Route 6A operate near, at or below capacity during the peak summer period.

The Route 6A travel market has three major features. First, Route 6A serves a high percentage of summer residents and vacationers. This is witnessed by the higher traffic volumes found on the corridor in the summer season. Second, there is a wide variety of low-intensity land uses along the corridor, resulting in a wide variety of trip lengths and trip purposes. Third, there is a high level of interaction between land uses along Route 6A and other regions of the Cape. A successful alternative to the private automobile must attempt to address these three features.

In addition to the automobile, five existing alternate modes currently service the Route 6A corridor. Three of them are transit services and consist of the Cape Cod Scenic Railroad, SeaLine bus service and the Plymouth & Brockton Hyannis-Provincetown bus service. The other two modes are bicycling and walking. Each of the existing alternate modes serves a slightly different segment of the Route 6A travel market.

Despite their increasing ridership levels over the past several years, there are numerous deficiencies in the existing system of alternate modes to adequately service the Route 6A corridor. A few of the more notable deficiencies are (1) inadequate coverage, (2) infrequent service, and (3) a lack of connectivity. The reasons why the Route 6A corridor is so poorly served is a lack of focus on the roadway as a travel market in itself and a failure to view the existing modes as a connected system rather than as separate services.

A variety of alternate modes were considered for the Route 6A corridor. They include a combination of expanding existing services as well as proposing new services with new service alignments. The alternate modes considered for Route 6A are (1) rail, (2) water transportation, (3) bus, (4) bicycling, and (5) walking.

A summer trolley-style bus has been selected as the preferred technology for the Route 6A corridor due to its low cost, flexibility in routing and scheduling and successful operation in other regions of the Cape. The trolley service is recommended to operate during the summer season when transportation demand along the corridor is at its highest. A summary of the service characteristics for the proposed trolley service is as follows:

| | |
|---|---|
| Type of system: | summer trolley-style shuttle bus, fixed back and forth route along study corridor, equipped with bike racks for easy on and off storing |

| | |
|---|---|
| Fueled by: | gasoline |
| Fare per Person: | $0.50 per boarding |
| Route length: | 20 - 32 miles |
| Spacing of stops: | variable |
| Operating hours/day: | 14 hours (7:30 AM - 9:32 PM) |
| Operating days/year: | Approximately 73 days (from first weekend before July 4 through Labor Day) |
| Journey speed: | 25 mph |

Based on an average mode share of 1.18%, the proposed trolley service for Route 6A can be expected to carry about 271 passengers per day during the peak summer months of July and August. Cost estimates indicate that the proposed service will require $33,856.50 in additional funds to operate for the season, corresponding to approximately $463.79 per day.

The following funding sources are recommended for exploration: (1) Congestion Mitigation and Air Quality (CMAQ) funds, (2) Scenic Byways Program funds, (3) town funds, (4) local Chamber of Commerce contributions, (5) contributions from other non-profit economic development corporations or consortiums, (6) partnerships with private companies and businesses which will directly benefit from the proposed trolleybus service, and (7) inviting a private company to operate a trolleybus system along the corridor.

# 1.0 Introduction

Louis Berger & Associates, Inc. (LBA) has been retained by the Cape Cod Commission to identify the feasibility of alternate modes of transportation along Route 6A to reduce the dependency on automobile travel within the corridor. This effort is funded under Phase 2 of the Scenic Byways Program, in coordination with the Massachusetts Highway Department (MHD), which seeks to maintain scenic, historic, recreational, cultural, and archeological characteristics of designated roadways.

## 1.1 Description of Route 6A

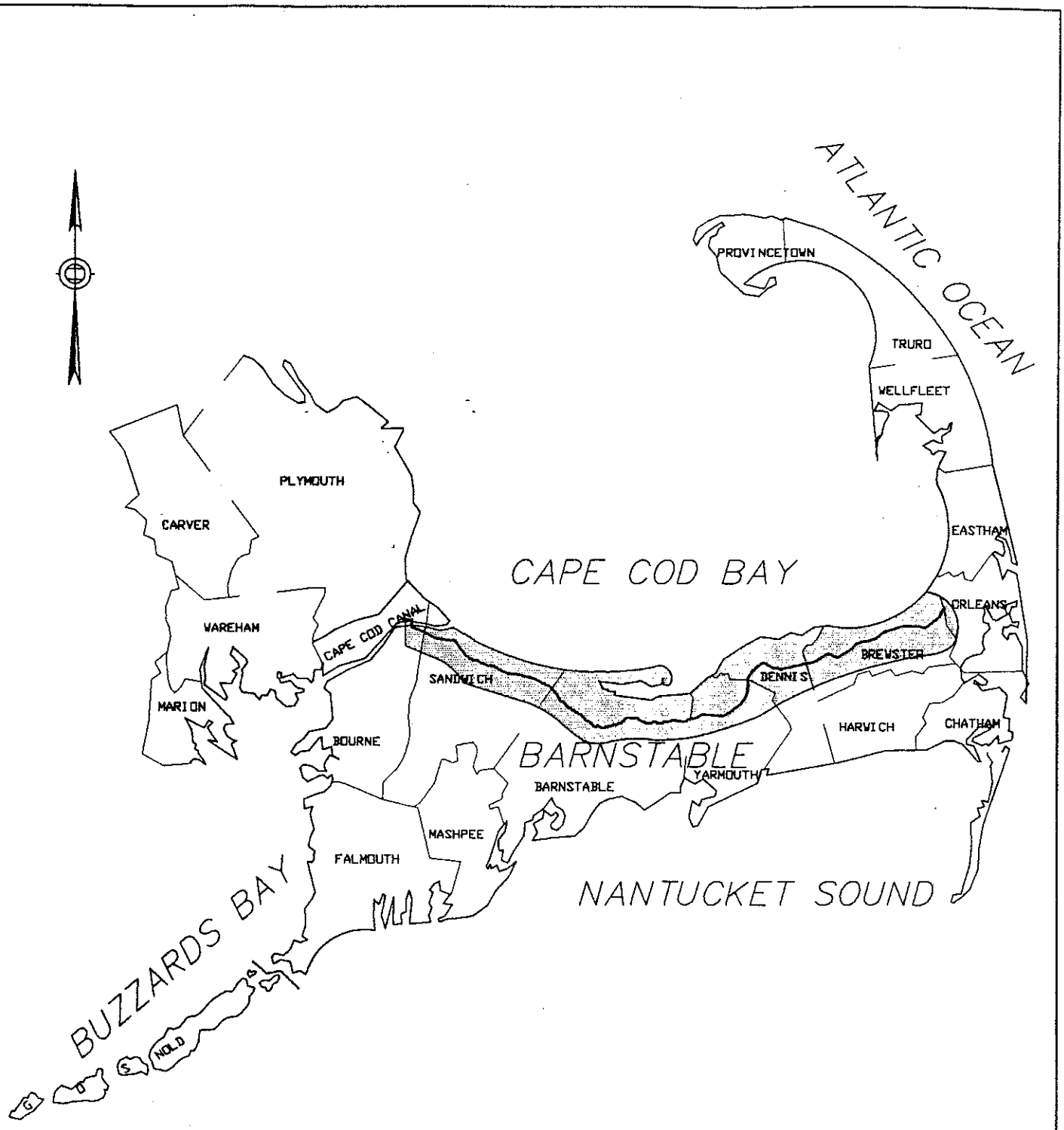
Route 6A in the Commonwealth of Massachusetts is an east-west, two-lane roadway extending for approximately 34 miles along Cape Cod's northern shore between the Sagamore Bridge in the Town of Bourne and the Orleans/Eastham rotary. The roadway changes functional classes three times in the 34 miles: (1) from the Sagamore Bridge east to Route 132 in the Town of Barnstable, the roadway is classified as a major rural collector, (2) from Route 132 east to Route 134 in the Town of Dennis, it is classified as a minor urban arterial, (3) from Route 134 east to the Dennis/Brewster town line, the roadway is classified as a minor urban extension, and (4) from the Dennis/Brewster town line east to the Orleans/Eastham Rotary, Route 6A is classified as a minor rural arterial. Route 6A is a state highway except for a small segment of roadway extending from Old Jail Lane to Hyannis Road in Barnstable Village which is under the jurisdiction of the Town of Barnstable.

Also known as Old King's Highway, Route 6A has been a major thoroughfare serving Cape Codders and their visitors for the past 350 years. Lane-widths are historically narrow with approximately 26 of the 34 miles consisting of only 24 feet of pavement width with little or no shoulders. Presently, the private automobile is the predominant mode of transportation along the corridor. As a result, transportation pressures in the form of increasing traffic congestion and turning movement conflicts have threatened the highway's ability to serve people effectively and safely. According to the Old King's Highway/Route 6A Corridor Management Plan prepared by the Cape Cod Commission, nine of the eleven major intersections along Route 6A operate near, at or below capacity during the peak summer period.

Route 6A is valued for its scenic and historic character. In 1992, Route 6A became one of only two roadways in the Commonwealth to be designated as a Scenic Byway under the National Scenic Byways Program established under the Intermodal Surface Transportation Efficiency Act (ISTEA). Furthermore, Route 6A has been designated as a Regional Roadway with Scenic and Historic Values in Cape Cod's Regional Policy Plan. On roadways with this designation, the Regional Policy Plan encourages alternatives to automobiles and non-structural mitigation for new development.

## 1.2 Study Area

Route 6A traverses seven communities on Cape Cod's north shore. The seven communities are Bourne, Sandwich, Barnstable, Yarmouth, Dennis, Brewster and Orleans. The study area, illustrated in Figure 1, extends from the Sagamore Bridge in the west to the Orleans/Eastham rotary in the east, and from Cape Cod Bay in the north to a distance approximately 1/3 mile from Route 6A in the south.




| | |
|---|---|
| CAPE COD COMMISSION | |
| LOUIS BERGER & ASSOCIATES INC. | |
| ROUTE 6A<br>ALTERNATE MODES ASSESSMENT | |
| STUDY AREA MAP | |
| DATE: AUGUST 1995 | FIGURE NO: 1 |

## 1.3 Approach and Methodology

The purpose of the Route 6A Alternate Modes Assessment is to identify a viable transportation alternative(s) to the automobile to reduce traffic congestion along the corridor. The approach first requires an understanding of travel characteristics along Route 6A including land use, traffic volumes and travel patterns. Then, existing alternate transportation modes along the roadway are evaluated to identify deficiencies in the existing multimodal system in terms of service frequency, service coverage and intermodal connectivity. Alternate mode technologies applicable to Route 6A and the goals of this study are then explored which leads to the most practical selection. Finally, service characteristics and ridership estimates are developed along with a cost estimate of the proposed service. The following details the findings of this study.

# 2.0 Existing Travel Characteristics

## 2.1 Land Use and Population Density

### 2.1.1 Land Use

Land uses adjacent to Route 6A, illustrated in Figure 2, are primarily residential; commercial; open space, wetlands, or undeveloped lands; and agricultural. With the exception of Orleans, land use distribution in each of the six towns is relatively homogeneous with low-density residential being the most dominant use, followed by commercial; open space, wetlands, or undeveloped lands; and finally agricultural in the form of small farms or cranberry bogs. In Orleans, most of land uses adjacent to Route 6A are commercial. Very few residences are located along the corridor in this town and there is no open space or agricultural uses.

According to the Route 6A Corridor Management Plan prepared by the Cape Cod Commission, land uses along the roadway were patterned in two phases. The first phase is based on historic settlement patterns dating back to the early 1600s when most of the towns were incorporated. The most identifiable feature of this phase are the historic village centers which now form the focal point for much of the corridor's tourist activity. The second phase is based on modern zoning practices and includes much of the land uses developed since the early 1970s. Although some of these later developments located near village centers, many did not. As a result, new clusters of commercial and residential activity have developed, forming an almost continuous stream of low-intensity uses along the corridor.

The Plan reports that "typical business/commercial land uses that are found continuously along the roadway include inns, motels and cottages, restaurants, antique shops, galleries and gift shops, community services such as gas stations, video stores, banks, small markets, and small professional offices." In addition, numerous home occupations exist as well as churches and municipal buildings.

The towns' historic villages range in size from very small to considerably large. Yarmouthport and Brewster, with less than one dozen small businesses each, have the smallest village centers. The county seat, consisting of the Courthouse, jailhouse and all county offices, is located in Barnstable Village making it the largest of the village centers. Sandwich, Dennis, and Orleans also have active village centers. Historic Sandwich Village, located less than 1/4 mi. south of Route 6A, is well-known for its museums and historic landmarks. Dennis' village center contains the Cape Museum of Fine Arts, the Cape Cinema, and the Cape Playhouse. Orleans' village center, located within a larger commercial/business zone, is surrounded by shopping centers, restaurants, and many small retail shops.

In addition to the historic village centers, there are numerous other well-established visitor facilities which draw tourists and residents to Route 6A. The following is only a partial listing of some of these attractions:

- Sandwich: *Shawme-Crowell State Forest, Heritage Plantation, Sandwich Fish Hatchery, Green Briar Nature Center.*
- Barnstable: *Sandy Neck Beach, Trayser Memorial Museum.*
- Yarmouth: *Botanic Trails of Yarmouthport.*
- Dennis: *Chapin Memorial Beach, Scargo Lake & Tower.*

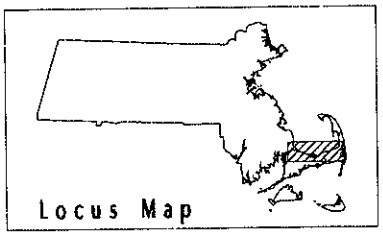
# Route 6A Scenic Byways Program
# 1990 Land Use

Data Sources:

MacConnell landuse is from June 1990 aerial photo interpretation (1:25,000 scale). University of Massachusetts.

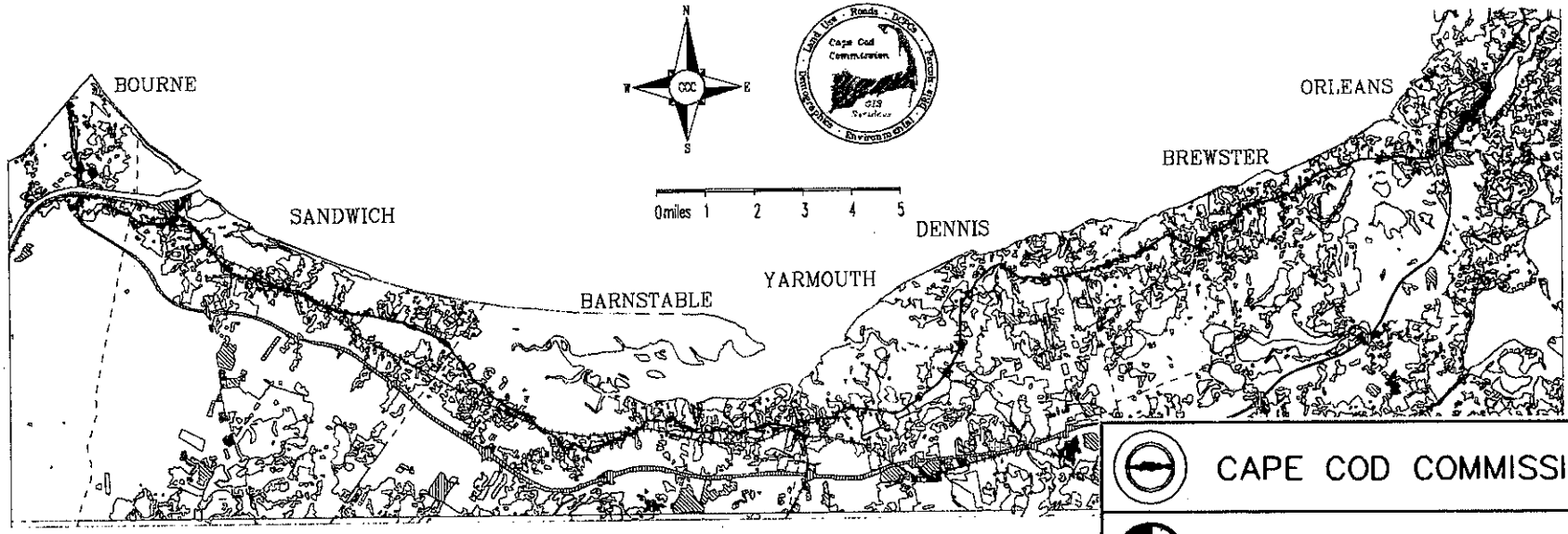
Basemap features: MassGIS (railroads)

Plot file created on August 12, 1994




MacConnell Land Use

- Residential
- Commercial
- Industrial
- Agricultural
- Open Space, Wetlands, or Undeveloped Land
- Transportation

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ROUTE 6A
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1990 LAND USE

DATE: AUGUST 1995 | FIGURE NO: 2

- Brewster: *Museum of Natural History, New England Fire & History Museum, Breakwater Landing Beach, Nickerson State Park.*
- Orleans: *Skakett Beach, Rock Harbor.*

### 2.1.2 Population Density

Population density is often used to determine the types and levels of transportation service required for an area. Population density in persons/square mile was determined at the block group level for the study corridor using 1990 U.S. Census data. A map showing these densities can be found in Figure 3.

The block group containing Orleans Center has the highest number of persons/sq. mi. of all the block groups along Route 6A. Other regions with relatively high population densities are Dennis; East Dennis, south of Route 6A; Yarmouthport; Sandwich Village; and portions of Brewster. The block group with the lowest number of persons/sq. mi. contains the village of West Barnstable. Although residential density is known to be low in this vicinity, this block group also contains Sandy Neck Conservation Area which also contributes to the low figure. Other regions with low population densities include portions of Sandwich, north of Route 6A; most of Barnstable; East Dennis, north of Route 6A; and portions of Brewster.

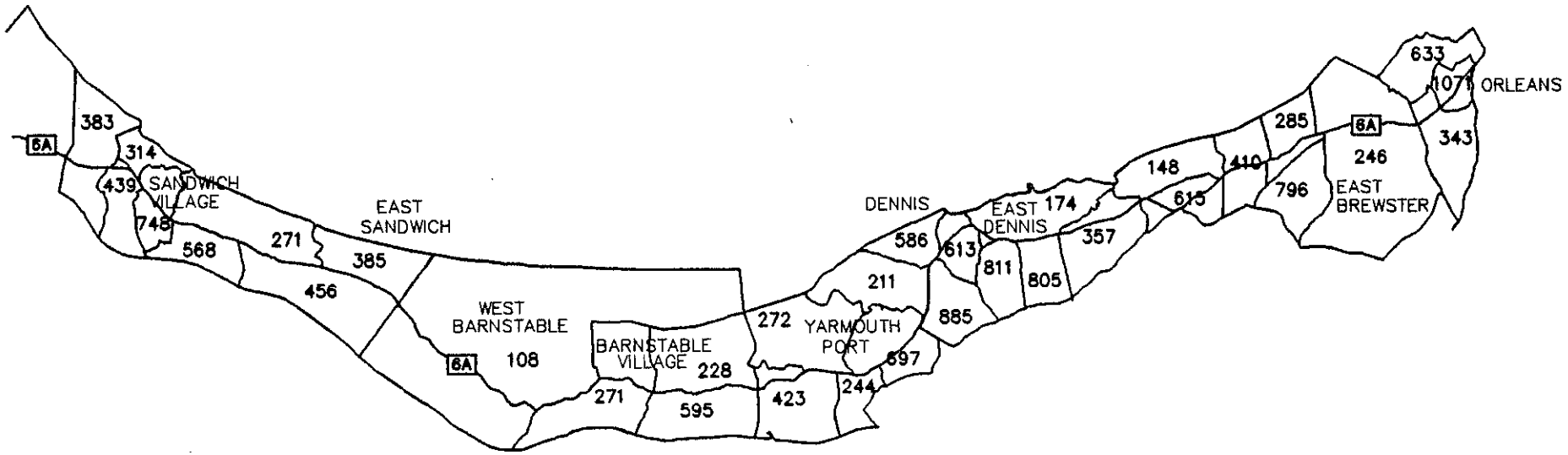
Average population density by town was determined using only those block groups shown in Figure 3. A summary of these results are presented in Table 1. The results in Table 1 indicate that population density is highest in Orleans (568 persons/sq. mi.) and lowest in Barnstable (189 persons/sq. mi.). Calculations for the individual block groups and the towns can be found in Worksheet A1 of Appendix A.

**Table 1**
**Population Density by Town, Route 6A Corridor**

| Town | Population Density (persons/sq. mi.) | Ranking |
|---|---|---|
| Sandwich | 421 | 4 |
| Barnstable | 189 | 6 |
| Yarmouth | 531 | 2 |
| Dennis | 521 | 3 |
| Brewster | 347 | 5 |
| Orleans | 568 | 1 |

## 2.2 Traffic Volumes

Peak season Average Daily Traffic (ADT) Volumes were identified for locations along Route 6A. The ADT volumes were obtained from the *Cape Cod Traffic Counting Report 1994, Tenth Year Anniversary Edition*,

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# ROUTE 6A ALTERNATE MODES ASSESSMENT

## POPULATION DENSITY FOR BLOCK GROUPS

(IN PERSONS/SQ. MILE)

DATE: AUGUST 1995

FIGURE NO: 3

and adjusted, if necessary, to represent July 1994 summer conditions. Locations and ADT volumes are presented in Table 2.

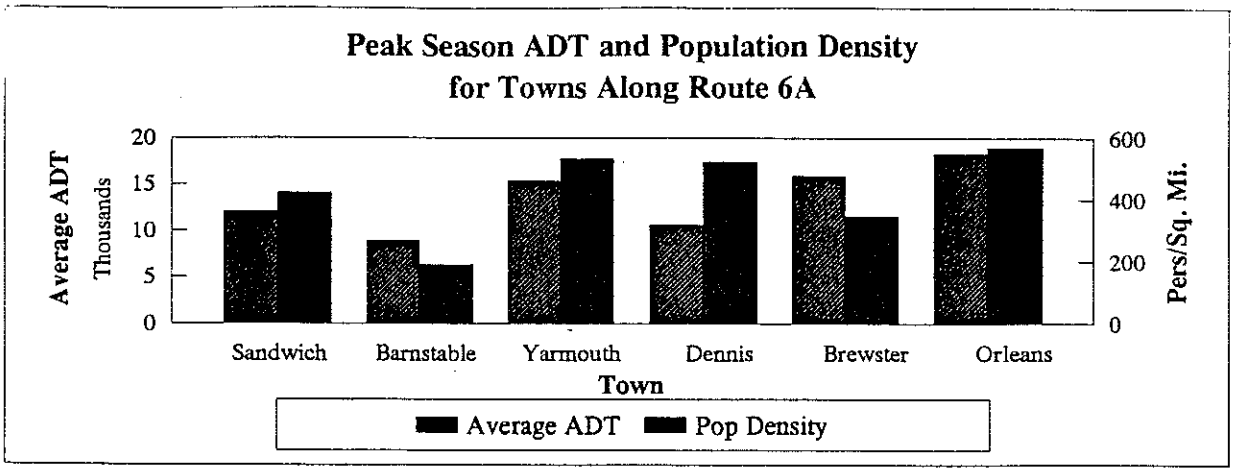
Peak season ADTs were averaged for each of the six towns along Route 6A and plotted with population density. The results, illustrated in Figure 4, indicate that ADT and population density are closely correlated for Sandwich, Barnstable, Yarmouth and Orleans. Orleans, for example, has the highest population density and also the highest ADT out of the six towns. Barnstable, on the other hand, has the lowest population density and also the lowest ADT. This trend demonstrates that land use activity and transportation activity are closely related in these towns. Dennis and Brewster each exhibit different trends. Population density in Dennis is relatively high along the Route 6A corridor as compared to the other towns; however, recorded traffic volumes are relatively low. Motorists could be avoiding Route 6A in this town due to the availability of alternate routes or the need to only make short trips on the study corridor. Brewster, on the other hand, has a relatively low population density, but a high ADT. The high ADT in this town may be the result of (1) a lack of alternate routes, (2) a high number of through trips, (3) longer trip lengths, or (4) a higher number of visitors attracted to Route 6A.

Monthly seasonal adjustment factors are derived each year from six permanent traffic counting stations located throughout Cape Cod. Although new data is collected annually, the monthly factors vary little from year to year. In general, weekday traffic in January is approximately half the weekday traffic in July. Winter traffic volumes are primarily comprised of year-round residents; whereas summer traffic has the addition of summer residents and vacationers.

**Table 2**
**1994 Peak Summer ADT Volumes on Route 6A**

| Location | 1994 Peak Summer ADT Volume |
|---|---|
| @ Bourne/Sandwich Town Line | 15,452 |
| East of Tupper Rd, Sandwich | 14,781 |
| Sandwich/Barnstable Town Line | 5,779 |
| East of Hyannis Rd, Barnstable | 8,504 |
| @ Barnstable/Yarmouth Town Line | 12,307 |
| East of Willow St, Yarmouth | 17,988 |
| East of Union St, Yarmouth | 17,702 |
| West of Setucket Rd, Yarmouth | 15,726 |
| @ Yarmouth/Dennis Town Line | 13,109 |
| @ Dennis/Brewster Town Line | 8,089 |
| East of Deer Park Rd, Brewster | 19,788 |
| @ Brewster/Orleans Town Line | 19,766 |
| North of Brewster Cross Rd, Orleans | 16,698 |

**Figure 4**




## 2.3 Travel Patterns

The Cape Cod Commission's travel demand forecasting model was used to determine travel patterns within the Route 6A corridor. The model, created using TMODEL2, simulates travel patterns for a designated peak period. The PM peak period was initially selected by Cape Cod Commission staff; other time periods were then derived from the PM peak period data.

The Cape Cod Commission's travel demand model covers all of Barnstable County and consists of 52 internal zones and 4 external zones. The Traffic Analysis Zone (TAZ) structure for the model is modified census tracts. The base year (1990) trip table was used to determine the relative origins and destinations of trips made during the PM peak period. The trip table was partially compressed by grouping TAZs outside of the Route 6A study area. Vehicle trips were converted to person trips by applying a vehicle-occupancy factor of 1.61. This factor was derived from data collected by the Cape Cod Commission on the Bourne and Sagamore Bridges on July 8, 1993 during the PM peak hour. The compressed trip table showing person trip exchanges for Barnstable County is presented in Table 3. A map demarcating the new TAZ groupings is presented in Figure 5. A map demarcating the original TAZ structure for the entire modeled area can be found in Figure A1 of Appendix A.

The person trip table is read by using the FROM column to find the TAZ of origin and the TO row to find the TAZ of destination. For example, to find the person trips made from TAZ 42 to TAZ 53, one would first find TAZ 42 in the FROM column and then read across to the value in the cell in the TAZ 53 row. The answer is 19 person trips.

Desire lines are often used to illustrate travel patterns. Desire lines are simply band-widths which graphically represent the volume of trips between areas. The wider the band-width, the higher the volume of trips traveling between points. A series of desire lines were developed for the TAZs containing each of the villages located along Route 6A - Sandwich Village, Barnstable Village, Yarmouthport, Dennis, Brewster Village and Orleans Center. They are shown in Figures 6 through 11, respectively. For each of these TAZs, desire lines were developed for person trips from the TAZ to other zones, shown in Figure a, and for person trips from other zones to the TAZ, shown in Figure b. Zones exchanging less than 25 person trips are not shown.

## Table 3
## Compressed Trip Table for Barnstable County

TO

| FROM TAZ | 33 | 34 | 42 | 22 | 18 | 13 | 14 | 8 | 9 | 4 | I | II | III | IV | V | VI | VII | VIII | 53 | 54 | 55 | 56 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 33 | 89 | 832 | 11 | 5 | 10 | 11 | 11 | 8 | 3 | 39 | 13 | 14 | 16 | 47 | 217 | 161 | 23 | 89 | 23 | 3 | 631 | 3 | 2259 |
| 34 | 132 | 84 | 204 | 21 | 11 | 72 | 23 | 18 | 2 | 40 | 21 | 13 | 3 | 53 | 166 | 135 | 64 | 338 | 35 | 29 | 21 | 2 | 1488 |
| 42 | 2 | 348 | 52 | 5 | 19 | 16 | 16 | 6 | 2 | 3 | 3 | 3 | 8 | 16 | 35 | 60 | 39 | 18 | 19 | 3 | 3 | 6 | 683 |
| 22 | 3 | 114 | 8 | 148 | 253 | 219 | 3 | 37 | 23 | 3 | 3 | 5 | 6 | 11 | 145 | 155 | 24 | 16 | 5 | 3 | 3 | 3 | 1191 |
| 18 | 26 | 11 | 6 | 253 | 238 | 118 | 134 | 13 | 13 | 32 | 3 | 14 | 18 | 60 | 575 | 47 | 19 | 63 | 3 | 6 | 13 | 2 | 1666 |
| 13 | 50 | 10 | 11 | 124 | 114 | 245 | 60 | 10 | 6 | 37 | 5 | 5 | 8 | 34 | 390 | 39 | 19 | 55 | 2 | 19 | 18 | 3 | 1262 |
| 14 | 90 | 2 | 14 | 3 | 68 | 29 | 95 | 6 | 6 | 5 | 3 | 5 | 2 | 18 | 127 | 198 | 23 | 53 | 5 | 40 | 40 | 6 | 839 |
| 8 | 18 | 11 | 6 | 39 | 21 | 19 | 23 | 272 | 68 | 295 | 53 | 26 | 79 | 433 | 76 | 77 | 42 | 68 | 6 | 72 | 61 | 11 | 1776 |
| 9 | 2 | 6 | 2 | 18 | 18 | 6 | 18 | 55 | 304 | 349 | 37 | 29 | 82 | 288 | 68 | 40 | 27 | 56 | 6 | 37 | 34 | 6 | 1489 |
| 4 | 31 | 10 | 6 | 5 | 31 | 53 | 16 | 250 | 375 | 401 | 122 | 116 | 404 | 190 | 148 | 81 | 55 | 97 | 5 | 52 | 40 | 5 | 2491 |
| I | 34 | 8 | 11 | 3 | 8 | 35 | 2 | 43 | 45 | 111 | 795 | 280 | 180 | 129 | 10 | 84 | 29 | 58 | 5 | 34 | 34 | 2 | 1940 |
| II | 18 | 11 | 11 | 5 | 8 | 11 | 6 | 64 | 45 | 122 | 319 | 784 | 232 | 116 | 21 | 90 | 43 | 47 | 6 | 35 | 27 | 8 | 2032 |
| III | 16 | 16 | 19 | 3 | 18 | 14 | 10 | 85 | 116 | 316 | 147 | 200 | 1119 | 187 | 27 | 111 | 58 | 79 | 10 | 21 | 19 | 11 | 2602 |
| IV | 27 | 48 | 26 | 16 | 45 | 21 | 24 | 454 | 287 | 156 | 113 | 105 | 190 | 2731 | 507 | 230 | 97 | 175 | 10 | 66 | 64 | 11 | 5403 |
| V | 90 | 58 | 37 | 233 | 462 | 317 | 250 | 58 | 106 | 164 | 13 | 13 | 48 | 576 | 3315 | 1053 | 147 | 398 | 76 | 211 | 193 | 24 | 7842 |
| VI | 275 | 97 | 132 | 227 | 58 | 55 | 299 | 103 | 74 | 113 | 31 | 74 | 64 | 280 | 1278 | 8697 | 739 | 599 | 147 | 184 | 130 | 50 | 13706 |
| VII | 150 | 35 | 13 | 21 | 11 | 19 | 81 | 61 | 27 | 50 | 19 | 58 | 58 | 106 | 169 | 757 | 5889 | 815 | 31 | 285 | 1093 | 451 | 10199 |
| VIII | 196 | 124 | 19 | 18 | 27 | 34 | 113 | 60 | 43 | 74 | 35 | 29 | 53 | 132 | 343 | 414 | 1026 | 1748 | 23 | 618 | 1299 | 97 | 6525 |
| 53 | 10 | 8 | 24 | 8 | 2 | 3 | 3 | 2 | 2 | 10 | 3 | 5 | 3 | 11 | 27 | 274 | 36 | 27 | 0 | 0 | 0 | 0 | 448 |
| 54 | 203 | 8 | 3 | 3 | 13 | 13 | 130 | 42 | 42 | 71 | 32 | 11 | 16 | 85 | 341 | 267 | 328 | 584 | 0 | 0 | 0 | 0 | 2194 |
| 55 | 259 | 18 | 6 | 6 | 19 | 37 | 150 | 74 | 50 | 114 | 69 | 42 | 34 | 138 | 491 | 328 | 886 | 1238 | 0 | 0 | 0 | 0 | 3961 |
| 56 | 32 | 5 | 3 | 2 | 2 | 3 | 3 | 21 | 3 | 3 | 2 | 5 | 3 | 19 | 13 | 85 | 417 | 89 | 0 | 0 | 0 | 0 | 710 |
| Total | 1752 | 1864 | 628 | 1166 | 1455 | 1352 | 1468 | 1742 | 1642 | 2508 | 1842 | 1835 | 2628 | 5661 | 8490 | 13382 | 10019 | 6709 | 415 | 1719 | 3726 | 702 | 72706 |

## Figure 5
## New TAZ Groupings

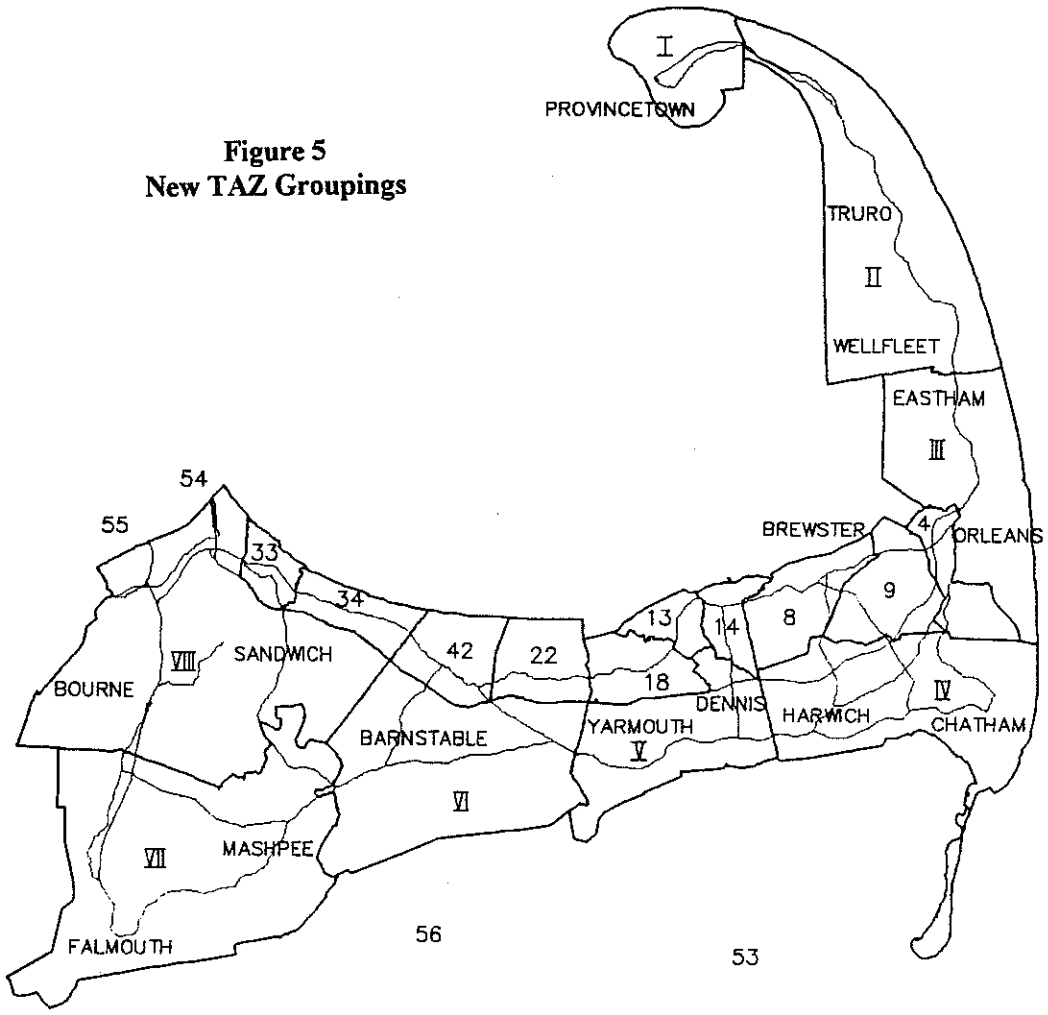
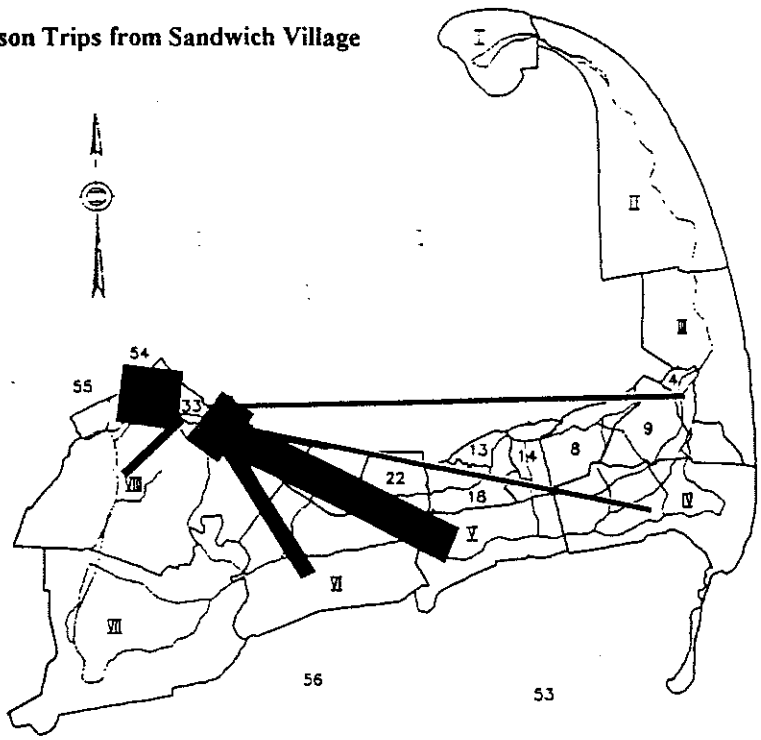


**Figure 6**
**Person Trips from/to Sandwich Village**

**a) Person Trips from Sandwich Village**




**b) Person Trips to Sandwich Village**

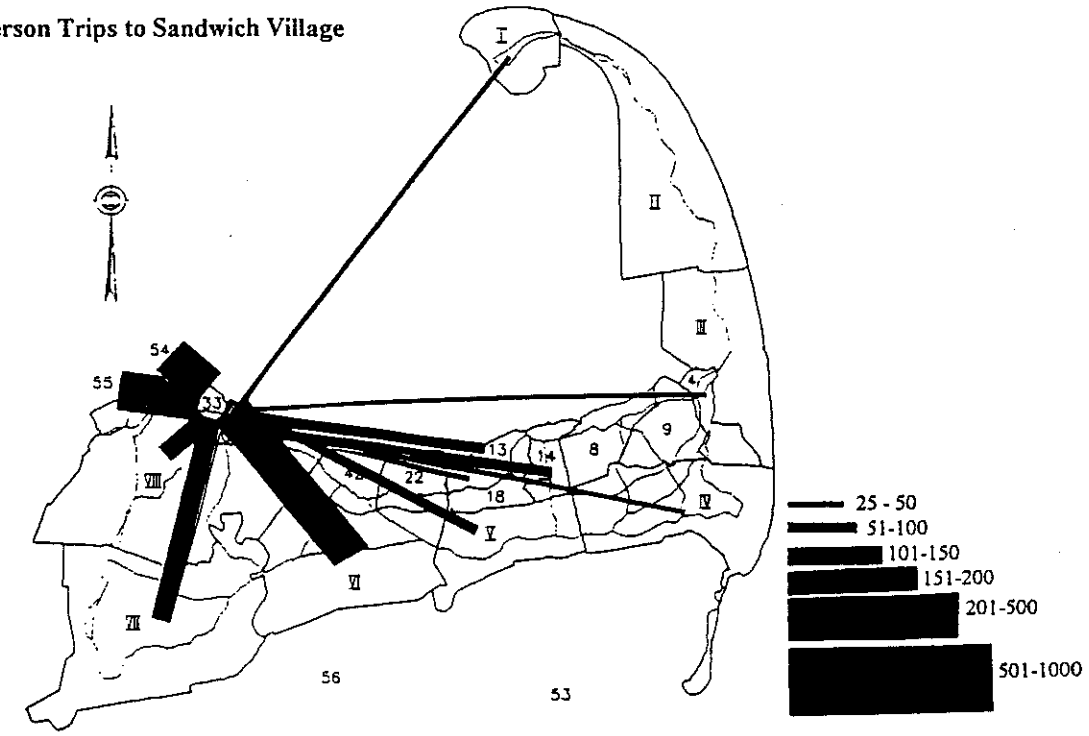
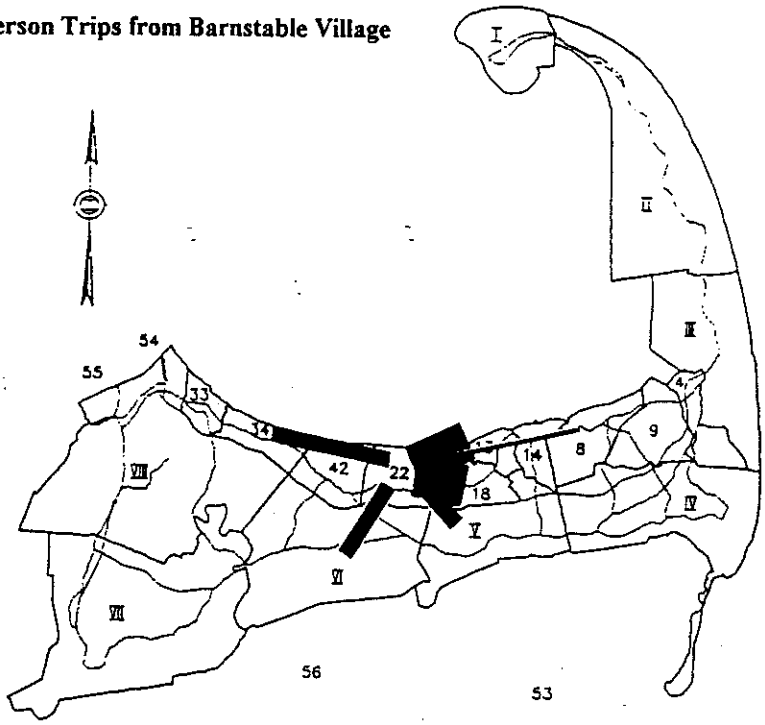


**Figure 7**
**Person Trips from/to Barnstable Village**

**a) Person Trips from Barnstable Village**




**b) Person Trips to Barnstable Village**

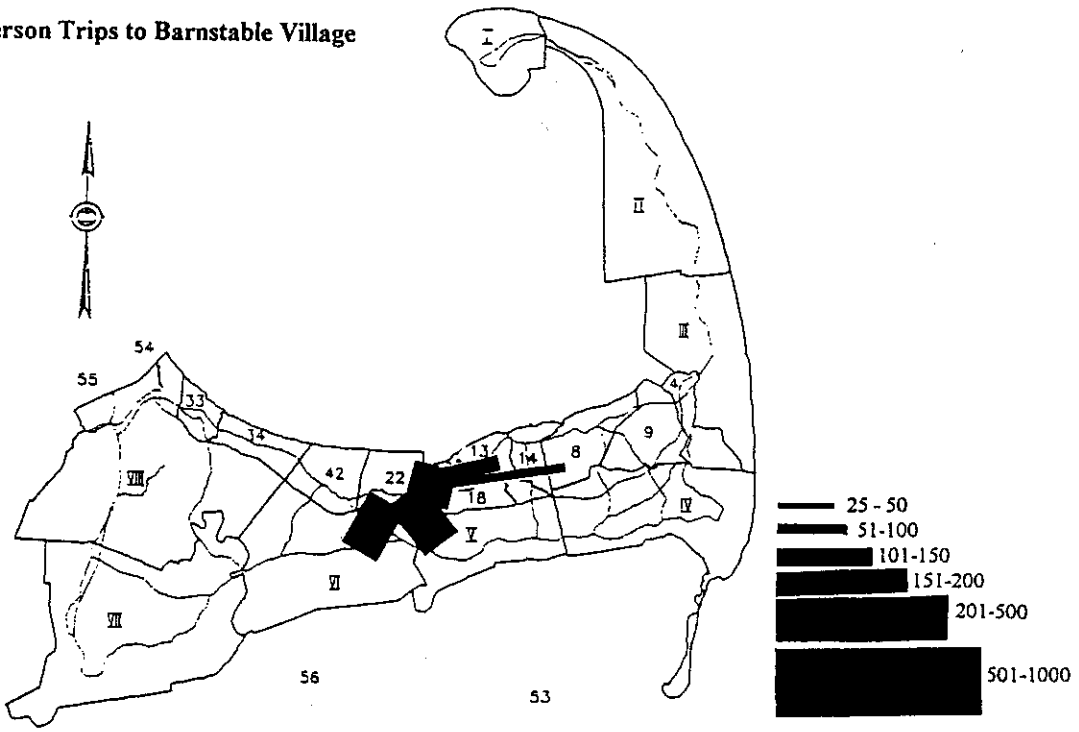
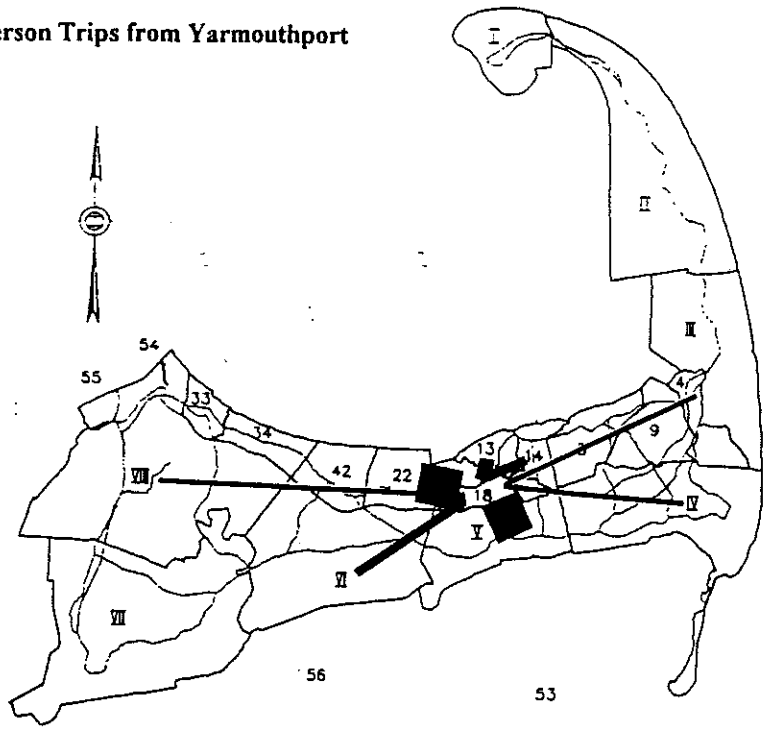


**Figure 8**
**Person Trips from/to Yarmouthport**

**a) Person Trips from Yarmouthport**




**b) Person Trips to Yarmouthport**

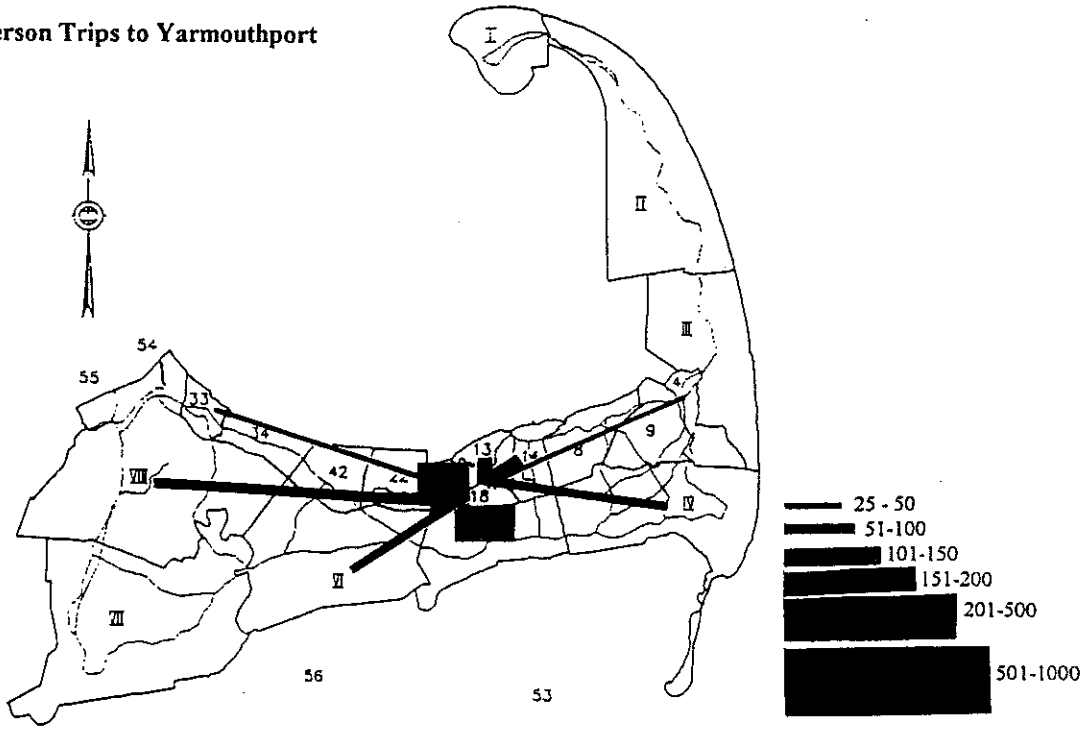
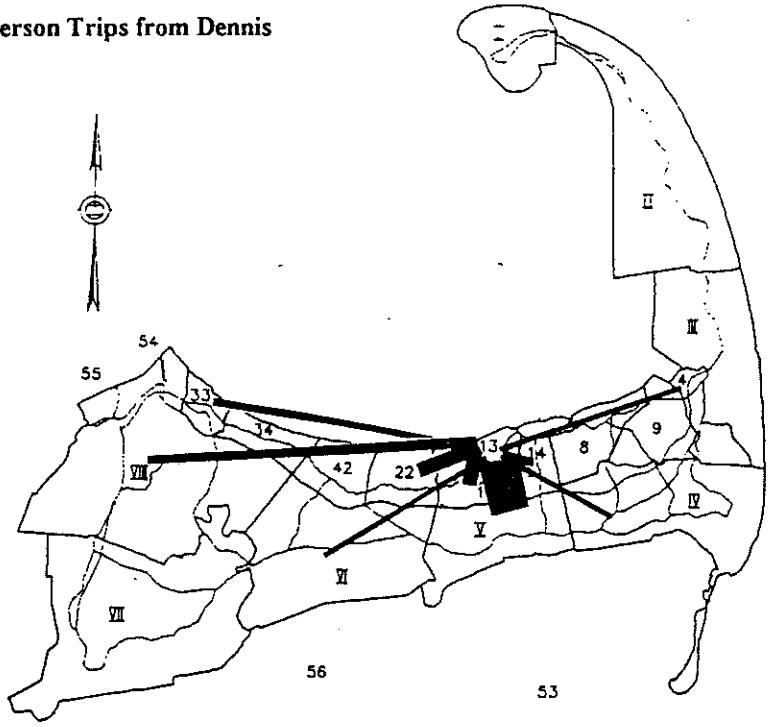


**Figure 9**
**Person Trips from/to Dennis**

**a) Person Trips from Dennis**




**b) Person Trips to Dennis**

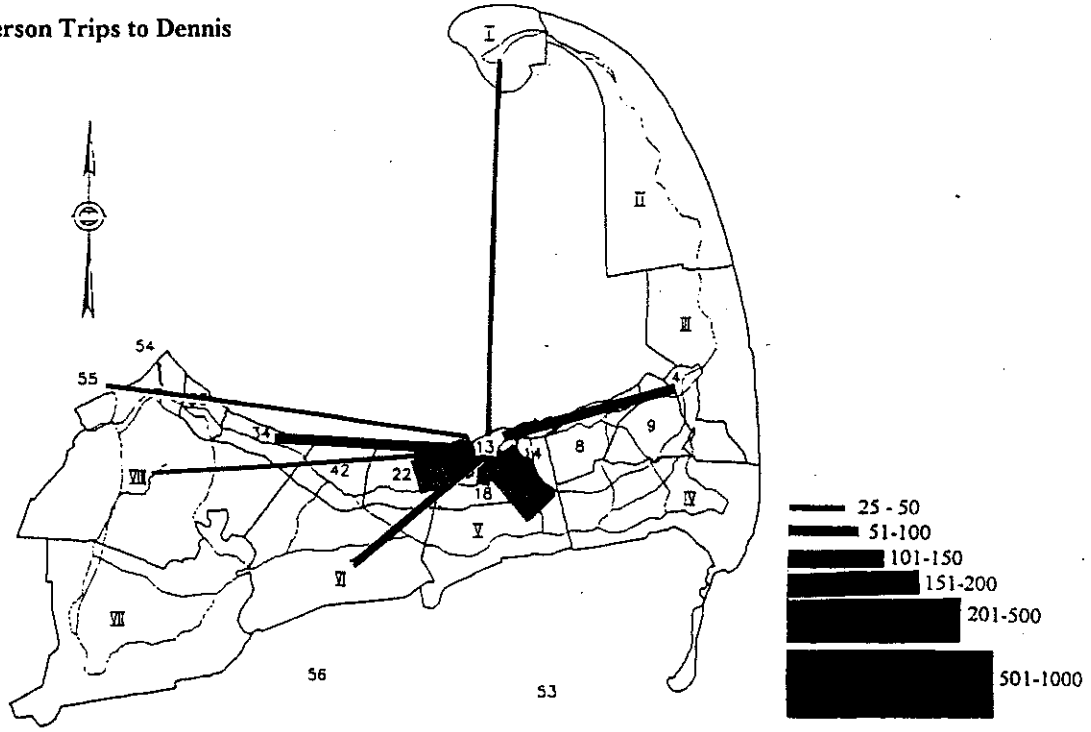
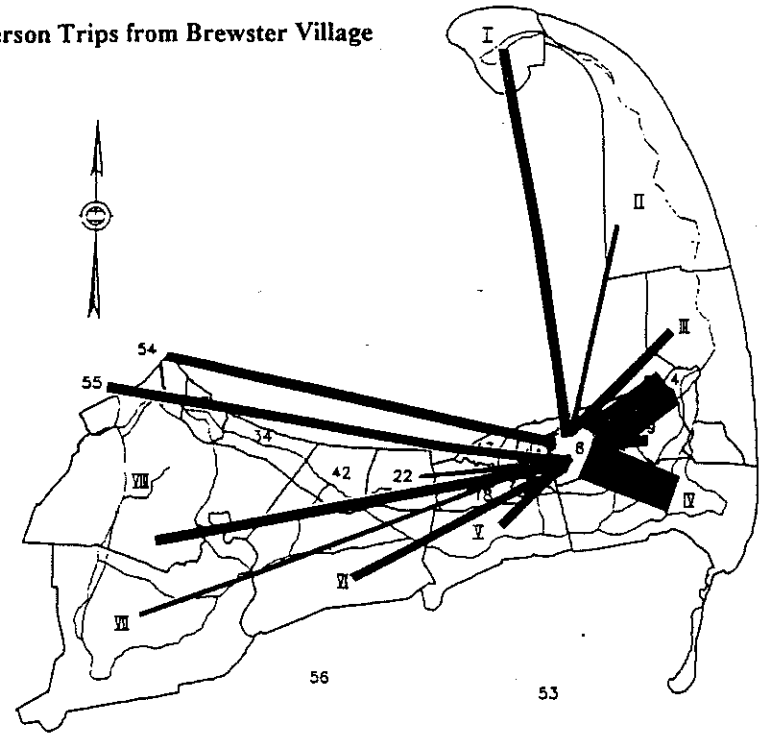


**Figure 10**
**Person Trips from/to Brewster Village**

**a) Person Trips from Brewster Village**




**b) Person Trips to Brewster Village**

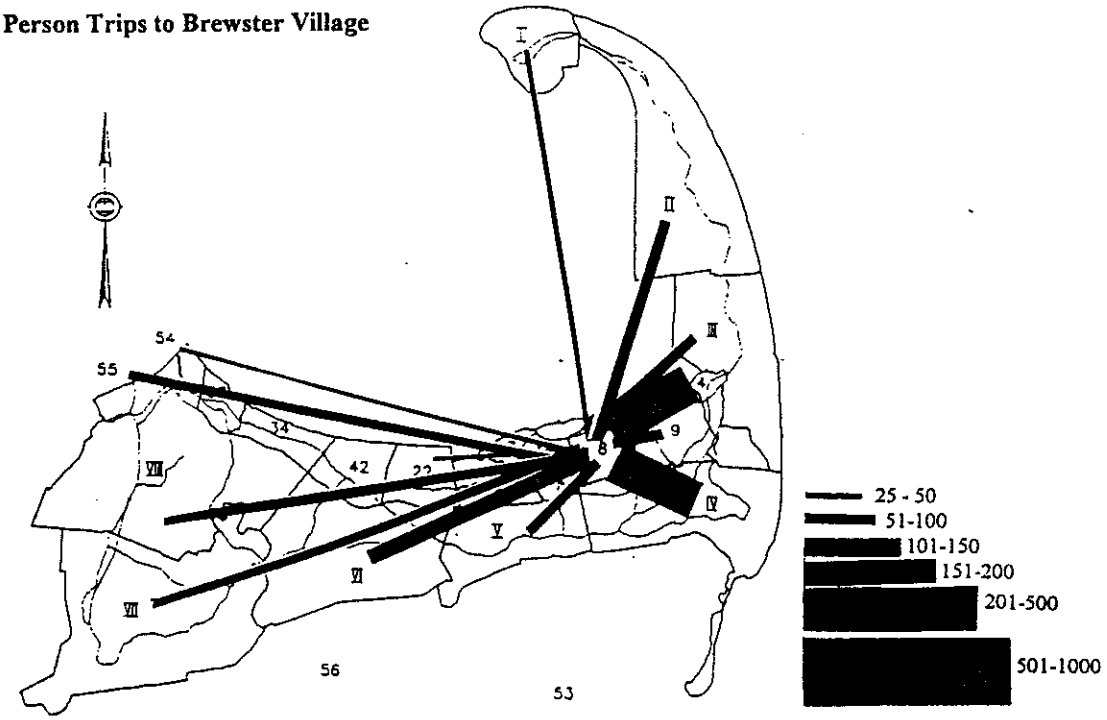
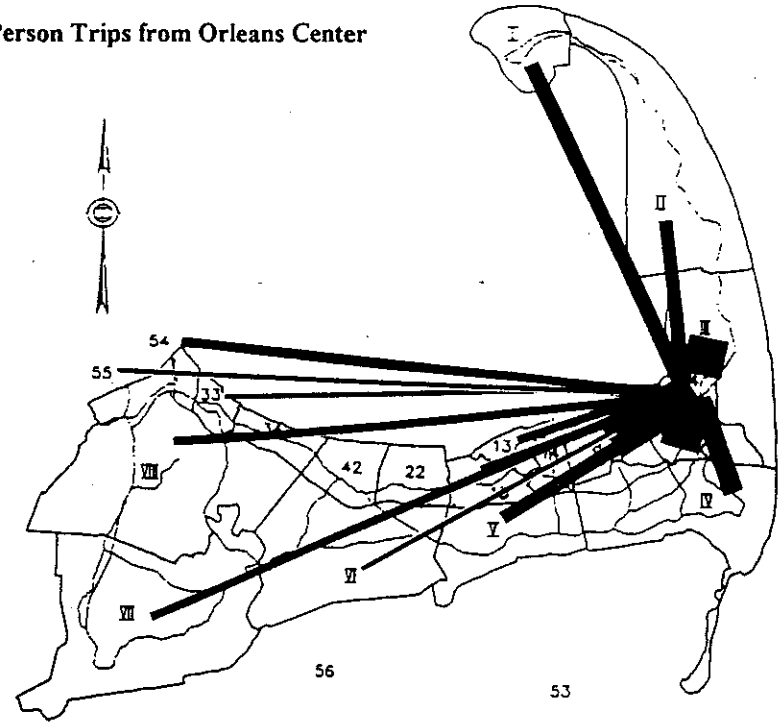
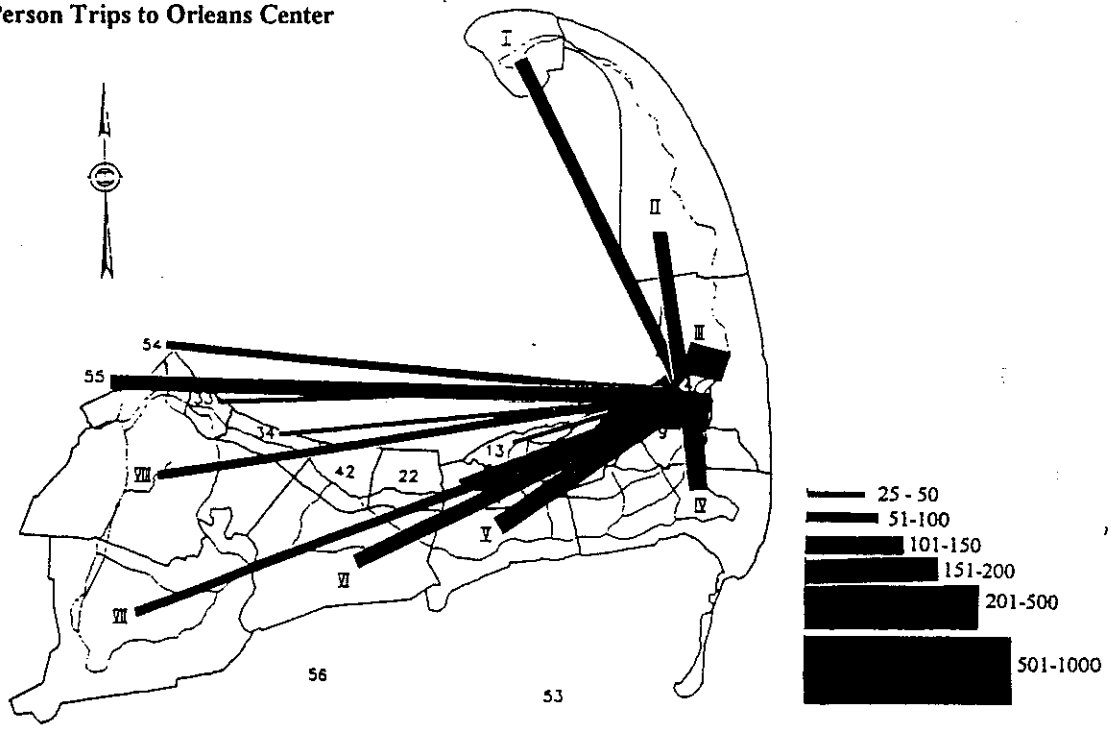


**Figure 11**
**Person Trips from/to Orleans Center**

**a) Person Trips from Orleans Center**




**b) Person Trips to Orleans Center**



The desire lines were created from the PM peak period calibrated trip table. They are considered representative of the magnitude of travel between the regions throughout the day. The following summarizes the results of this analysis for each village:

*Sandwich Village (Figure 6)*:
A substantial number of trips are made between Sandwich and Route 25; East Sandwich; Barnstable, south of Route 6; and Yarmouth and Dennis, south of Route 6. There is less travel between Sandwich and other towns along Route 6A. The travel that does occur along Route 6A is highly directional. Trips originate in Yarmouth and Dennis during the PM peak period and are destined to these towns during the AM peak period.

*Barnstable Village (Figure 7)*:
Trip lengths are short from and to Barnstable Village. A substantial number of trips are made between Barnstable Village and neighboring communities such as Yarmouth and Barnstable, south of Route 6. There is also some activity between Barnstable Village and Dennis and Brewster.

*Yarmouthport (Figure 8)*:
Yarmouthport attracts many of its trips from the central Cape region. Although most of the trips occur between Yarmouthport and the neighboring towns of Barnstable; Yarmouth and Dennis, south of Route 6; and Dennis, some trip exchanges also occur between Yarmouthport and Orleans, Chatham, Harwich, Bourne and South Sandwich.

*Dennis (Figure 9)*:
Dennis is similar to Yarmouthport in that most of its trip exchanges are with towns in the central Cape region. Substantial travel occurs between this area and Barnstable Village; Yarmouthport; and Yarmouth and Dennis, south of Route 6. Some travel also occurs between Dennis and Orleans; Barnstable, south of Route 6; Bourne and Sandwich.

*Brewster Village (Figure 10)*:
Trips to and from Brewster Village have origins and destinations throughout the Cape. The high traffic volume shown for Brewster in Figure 4 is clearly the result of the town's high level of activity with the other regions. Even though the greatest number of trip exchanges occur between West Brewster and Orleans and the Harwich/Chatham zone, significant trip exchanges occur with nearly every zone in the region.

*Orleans Center (Figure 11)*:
Orleans is the center of activity for almost all areas of the Cape. Orleans is similar to Brewster in that trip exchanges occur between it and nearly every other zone. The greatest number of trips travel between Orleans Center and the neighboring communities of Eastham, Chatham, Harwich, Dennis and Yarmouth. Furthermore, because of its location with the lower Cape region, Orleans also has the highest number of trip exchanges with Provincetown, Truro and Wellfleet out of all the zones along Route 6A.

Intrazonal person trips for TAZs along Route 6A are presented in Table 4. Orleans Center, Brewster, West Dennis and Yarmouthport have the highest number of intrazonal trips. The degree to which these trips travel on Route 6A is a measure of the size of the zone and availability of parallel routes. West Dennis and Yarmouthport are small zones with a limited number of alternate routes; therefore, it is probable that at least

a part of each trip takes place on Route 6A. The same is true for Zone 22 (Barnstable Village). Few parallel routes exist in the vicinity of Barnstable Village; it is likely that a large percentage of the 148 trips travel on Route 6A.

**Table 4**
**Intrazonal Person Trips for TAZs along Route 6A**

| TAZ | No. of Intrazonal Person Trips |
|---|---|
| 33 | 89 |
| 34 | 84 |
| 42 | 52 |
| 22 | 148 |
| 18 | 238 |
| 13 | 245 |
| 14 | 95 |
| 8 | 272 |
| 9 | 304 |
| 4 | 401 |

## 2.4 Description of Travel Market

The Route 6A travel market has three major features. First, Route 6A serves a high percentage of summer residents and vacationers. This is witnessed by the higher traffic volumes found on the corridor in the summer season. Second, there is a wide variety of land uses along the corridor, resulting in a wide variety of trip lengths and trip purposes. Third, there is a high level of interaction between land uses along Route 6A and other regions of the Cape. The desire lines shown in Figures 6-11 demonstrate that many of the trips along Route 6A are either made across town boundaries and/or between the north and south shores. A successful alternative to the private automobile must attempt to address these features.

## 3.0 Existing Alternate Transportation Modes

In addition to the automobile, five existing alternate modes currently service the Route 6A corridor. Three of them are transit services and consist of the Cape Cod Scenic Railroad, SeaLine bus service and the Plymouth & Brockton Hyannis-Provincetown bus service. The other two modes are bicycling and walking. A map showing the service alignments for the three transit services and the bicycle paths and bicycle routes serving the Route 6A corridor can be found in Figure 12.

### 3.1 Existing Transit Services

#### 3.1.1 SeaLine

The SeaLine is the Cape Cod Regional Transit Authority's (CCRTA) regularly scheduled bus service running from the Court House Complex in Barnstable Village to the Woods Hole Docks in Falmouth. CCRTA is the primary provider for public transportation on Cape Cod. In addition to the Sea Line, the CCRTA operates a paratransit (door-to-door by appointment) service serving the entire Cape Cod area and summer trolleys in five towns on Cape Cod's south shore.

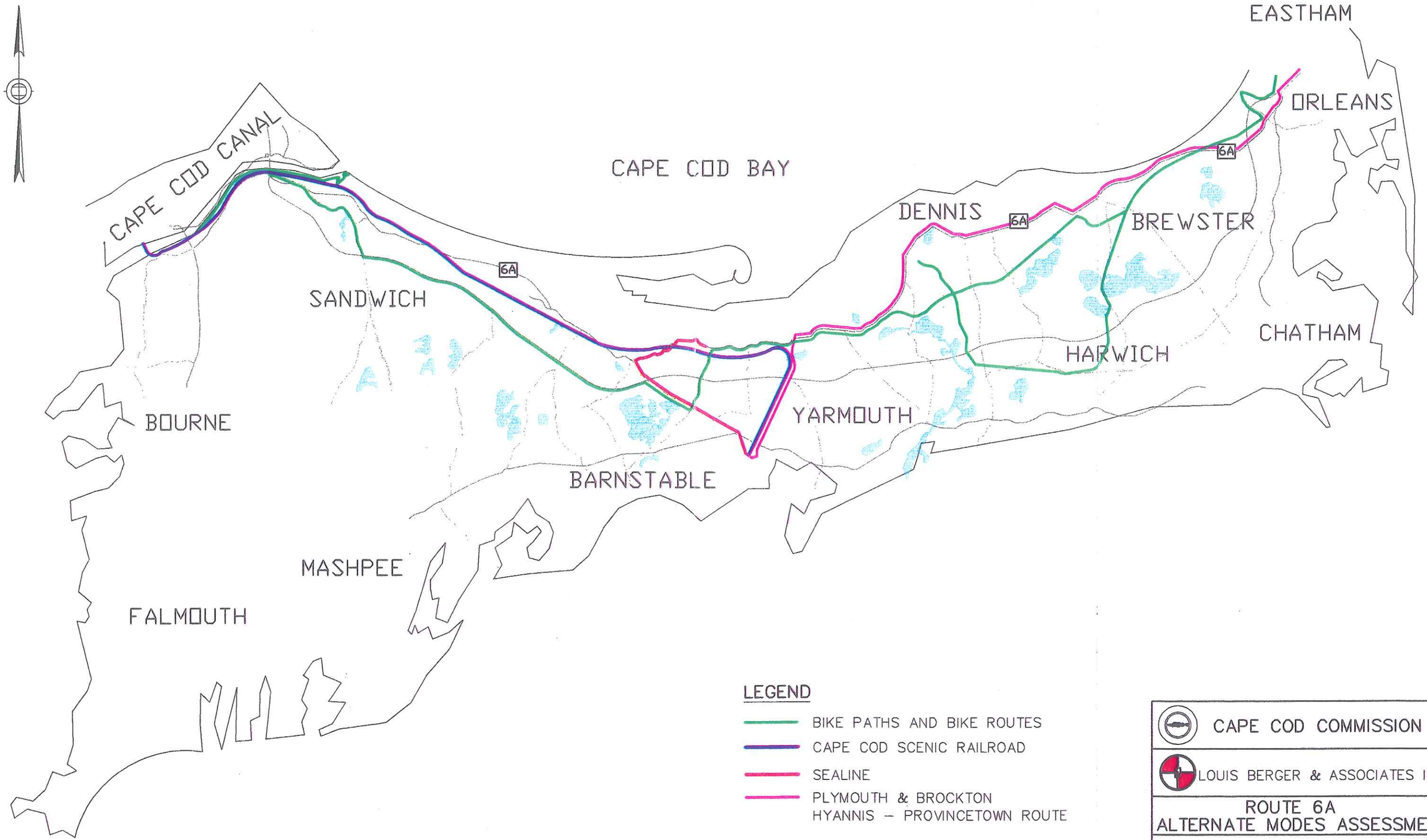
*Service Frequency*

SeaLine service consists of four runs per direction Monday through Friday with two additional runs on Saturday and no Sunday service. SeaLine buses run from 8:30 AM to 7:19 PM on weekdays and from 6:08 AM to 7:19 PM on Saturdays. There are between 15 and 21 scheduled stops along the route (depending on the run) serving Barnstable Village, Hyannis, Mashpee, Falmouth and Woods Hole. In addition to the fixed stops, passengers may board the SeaLine by waving to the driver as the bus approaches at other locations. A summary of SeaLine departures and arrivals for route termini for Summer 1995 is presented in Table 5. Full schedules for winter, summer and fall can be found in Appendix B.

**Table 5**
**Summary of SeaLine Departures and Arrivals for Summer 1995**

| DEPART Barnstable County Complex | DEPART Cape Cod Mall | ARRIVE Woods Hole Docks | DEPART Woods Hole Docks | DEPART Falmouth Bus Depot | ARRIVE Cape Cod Mall | ARRIVE Barnstable County Complex |
|---|---|---|---|---|---|---|
| ---- | 6:08 AM* | 7:05 AM* | ---- | 6:30 AM* | 7:25 AM* | 7:45 AM* |
| 8:30 AM | 8:50 AM | 10:05 AM | 7:15 AM* | 7:23 AM* | 8:28 AM* | 8:48 AM* |
| 10:50 AM | 11:10 AM | 12:26 PM | 10:30 AM | 10:40 AM | 11:56 AM | 12:16 PM |
| 12:50 PM* | 1:10 PM* | 2:28 PM* | 1:00 PM | 1:10 PM | 2:26 PM | 2:46 PM |
| 1:50 PM | 2:10 PM | 3:25 PM | 4:00 PM | 4:10 PM | 5:28 PM | 5:48 PM |
| 4:50 PM | 5:10 PM | 6:23 PM | 6:25 PM | 6:35 PM | 7:32 PM | ---- |

* No Saturday service.




CAPE COD COMMISSION

LOUIS BERGER & ASSOCIATES INC.

ROUTE 6A
ALTERNATE MODES ASSESSMENT

EXISTING ALTERNATE MODES

DATE: AUGUST 1995 | FIGURE NO: 12

The SeaLine offers connections to Boston, Logan Airport, Springfield, Providence and New York City by stopping at the Plymouth & Brockton and Falmouth Bus Terminals. For passengers wishing to travel to Martha's Vineyard or Nantucket, the SeaLine offers ferry connections from the Steamship Authority Docks in Hyannis and Woods Hole and from the Hyline Docks in Hyannis.

*Fare Structure*

One-way adult fares for the SeaLine range from $.75 for intracommunity travel to $4.00 for travel between Barnstable Village and Woods Hole. A summary of the fares between communities is presented in Table 6.

**Table 6**
**One-Way Adult Fares for SeaLine**

| ONE-WAY ADULT FARES *Between* | Woods Hole | Falmouth | Teaticket | East Falmouth | Waquoit | Mashpee | Cotuit | Marstons Mills | Osterville | Centerville | Hyannis | Cape Cod Mall | CCCC | Barnstable Village |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Woods Hole** | .75 | | | | | | | | | | | | | |
| **Falmouth** | 1.0 | .75 | | | | | | | | | | | | |
| **Teaticket** | 1.2 | 1.0 | .75 | | | | | | | | | | | |
| **East Falmouth** | 1.5 | 1.2 | 1.0 | .75 | | | | | | | | | | |
| **Waquoit** | 1.7 | 1.5 | 1.2 | 1.0 | .75 | | | | | | | | | |
| **Mashpee** | 2.0 | 1.7 | 1.5 | 1.2 | 1.0 | .75 | | | | | | | | |
| **Cotuit** | 2.2 | 2.0 | 1.7 | 1.5 | 1.2 | 1.0 | .75 | | | | | | | |
| **Marstons Mills** | 2.5 | 2.2 | 2.0 | 1.7 | 1.5 | 1.2 | 1.0 | .75 | | | | | | |
| **Osterville** | 2.7 | 2.5 | 2.2 | 2.0 | 1.7 | 1.5 | 1.2 | 1.0 | .75 | | | | | |
| **Centerville** | 3.0 | 2.7 | 2.5 | 2.2 | 2.0 | 1.7 | 1.5 | 1.2 | 1.0 | .75 | | | | |
| **Hyannis** | 3.2 | 3.0 | 2.7 | 2.5 | 2.2 | 2.0 | 1.7 | 1.5 | 1.2 | 1.0 | .75 | | | |
| **Cape Cod Mall** | 3.5 | 3.2 | 3.0 | 2.7 | 2.5 | 2.2 | 2.0 | 1.7 | 1.5 | 1.2 | 1.0 | .75 | | |
| **CCCC** | 3.7 | 3.5 | 3.2 | 3.0 | 2.7 | 2.5 | 2.2 | 2.0 | 1.7 | 1.5 | 1.2 | 1.0 | .75 | |
| **Barnstable Village** | 4.0 | 3.7 | 3.5 | 3.2 | 3.0 | 2.7 | 2.5 | 2.2 | 2.0 | 1.7 | 1.5 | 1.2 | 1.0 | .75 |

Senior citizens and disabled persons are offered a 50% reduction in fare and children under the age of five ride free when accompanied by an adult. CCRTA also offers a Commuter Pass whereby passengers may get 20 rides

for the price of 15 rides. There is no charge for transporting bicycles on the SeaLine; one bicycle rack with a capacity to hold two bicycles is provided on the outside of each transit vehicle.

*Ridership*

Annual ridership has been increasing over the past several years. In FY 1991 (July 1990 through June 1991), SeaLine carried 22,736 passengers. In FY 1992, the service carried 23,494 passengers; in FY 1993, the service carried 27,308 passengers; and in 1994, the service carried 29,339 passengers, corresponding to a increase of 29% in the four year period.

Monthly ridership figures for FY 1994 show September as the month having the highest ridership with 3,239 passengers. August is the second highest month with 2,963 passengers and October is the third highest month for ridership with 2,903 passengers. The months with the lowest ridership were January, November and April with 1,802 passengers, 1,911 passengers, and 1,802 passengers, respectively.

The SeaLine provides service to communities within the towns of Barnstable, Mashpee and Falmouth. Of these three towns, Barnstable attracts the greatest number of riders. Approximately 17,000 passengers (58%) board the bus at one of the stops in this town, corresponding to an average annual boarding volume of 2,130 persons per stop. Mashpee attracts the lowest number of riders with 2,630 persons; only one stop is provided in this town. Finally, Falmouth attracts 9,690 riders at its four stops, corresponding to a average annual boarding volume of 2,424 persons per stop.

### 3.1.2 Plymouth & Brockton Bus Line

The Plymouth & Brockton Street Railway Company provides year-round service to 26 towns and cities in Southeastern Massachusetts. The P&B Terminal located on Elm Street in Hyannis serves as Cape Cod's central hub of service. Two routes serve the Cape Cod area - a semi-express route between downtown Boston and Logan Airport and Hyannis, and a local route between Hyannis and Provincetown. Plymouth & Brockton service is partially subsidized by the Massachusetts Bay Transportation Authority (MBTA). The Hyannis-Provincetown route is partially subsidized by the CCRTA.

#### 3.1.2.1 Hyannis - Logan Airport Route

This semi-express route has approximately 30 runs per weekday serving the Plymouth & Brockton Terminal on Elm Street in Hyannis and the Park 'n' Ride lot located near the Burger King at the interchange of Route 6 and Route 132. Headways range from 10 minutes to 3 hours from 4:30 AM to 11:15 PM. Shorter headways occur during the morning hours from Hyannis to Boston, and during the late afternoon hours from Boston to Hyannis to accommodate commuter travel. Weekend service includes 12 to 13 runs in the winter and 17 runs in the summer to and from downtown Boston and Logan Airport. The first run of the day leaves Hyannis at 4:30 AM and the last run of the day leaves Boston at 11:15 PM. During the winter, one bus per weekday from downtown Boston continues beyond the P&B Terminal to the Steamship Authority Docks and the Hy-Line Docks in Hyannis. During the summer, there are two runs daily to and from these docks in Hyannis. Winter and summer schedules for 1995 for the Logan Airport-Hyannis route can be found in Appendix B.

### 3.1.2.2 Provincetown-Hyannis Route

The local route between Provincetown and Hyannis serves 8 stops along Route 6 in Provincetown, Truro, Wellfleet and Eastham, and 6 stops along Route 6A in Orleans, Brewster, Dennis and Yarmouth (depending on the run).

*Service Frequency*

During the winter, bus service is provided to and from Provincetown twice daily with stops at all locations. During the summer, an "express" service which bypasses Route 6A is provided twice daily with an optional transfer connection to an express service to Logan Airport. Service with local stops along Route 6A is provided three times per day for each direction of travel. Westbound buses leave Orleans at 7:30 AM, 9:30 AM and 5:15 PM. Eastbound buses along Route 6A leave Hyannis at 11:15 AM, 5:45 PM and 7:45 PM. No changeover is necessary for destinations beyond the P&B Terminal with this service. A summary of the frequency of winter and summer service is provided in Table 7. The shaded area indicates bus stops located along Route 6A. Winter and summer schedules for the Hyannis-Provincetown route can be found in Appendix B. Transfer to Bonanza bus service is also available at the P&B Terminal for destinations to Providence, RI and New York City.

*Fare Structure*

Fares for the Hyannis-Provincetown route, shown in Table 8, range from $2.00 to $9.00. Fares along Route 6A range from $2.00 for adjacent stops to $4.00 for the entire length from Orleans to Yarmouthport. Plymouth & Brockton offers a 50 percent reduction in fares for children under the age of 12 years. Children under the age of 5 years of age may be carried free. Bicycles are also permitted on P&B buses for a charge of $5.00 for all points between Boston and Hyannis, and between Hyannis and Provincetown. Carrying a bicycle from Boston to Provincetown costs $10.00. Bicycles are carried in the baggage compartment when there is sufficient room; no bicycle racks are provided on the transit vehicles.

**Table 7**
**Frequency of Winter and Summer Service, Hyannis-Provincetown Route**

| Bus Stop Location | Winter Service | | Summer Service | |
|---|---|---|---|---|
| | Weekday Frequency | Weekend Frequency | Weekday Frequency | Weekend Frequency |
| Provincetown *(Chamber of Commerce)* | 2 | 2 | 5 | 5 |
| North Truro *(Dutra's Store)* | 2 | 2 | 5 | 5 |
| Truro *(Jam's Store)* | 2 | 2 | 5 | 5 |
| Wellfleet *(Town Hall, Main St)* | 2 | 2 | 5 | 5 |
| South Wellfleet *(D & D Market)* | 2 | 2 | 5 | 5 |
| North Eastham *(Village Green)* | 2 | 2 | 5 | 5 |
| Eastham *(Town Hall)* | 2 | 2 | 5 | 5 |
| Orleans *(C V S)* | 2 | 2 | 5 | 5 |
| East Brewster *(Cumberland Farms)* | 2 | 2 | 3 | 3 |
| Brewster *(General Store)* | 2 | 2 | 3 | 3 |
| East Dennis *(Players Plaza)* | 2 | 2 | 3 | 3 |
| Dennis *(Post Office)* | 2 | 2 | 3 | 3 |
| Yarmouth *(Peterson's Market)* | 2 | 2 | 3 | 3 |
| Yarmouthport *(Hallet's)* | 2 | 2 | 3 | 3 |
| Hyannis *(P&B Terminal)* | 2 | 2 | 5 | 5 |

Shaded area indicates bus stops located along Route 6A.

**Table 8**
**Fare Structure for Hyannis-Provincetown Route**

| ONE-WAY ADULT FARES *Between* | Provincetown | No. Truro | Truro | Wellfleet | So. Wellfleet | No. Eastham | Eastham | Orleans | E. Brewster | Brewster | E. Dennis | Dennis | Yarmouth | Yarmouthport | Hyannis |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Provincetown** | 2.00 | | | | | | | | | | | | | | |
| **No. Truro** | 2.25 | 2.00 | | | | | | | | | | | | | |
| **Truro** | 3.00 | 2.00 | 2.00 | | | | | | | | | | | | |
| **Wellfleet** | 4.00 | 2.50 | 2.00 | 2.00 | | | | | | | | | | | |
| **So. Wellfleet** | 4.25 | 3.00 | 2.25 | 2.00 | 2.00 | | | | | | | | | | |
| **No. Eastham** | 5.00 | 4.00 | 3.00 | 2.00 | 2.00 | 2.00 | | | | | | | | | |
| **Eastham** | 5.25 | 4.00 | 3.50 | 2.50 | 2.00 | 2.00 | 2.00 | | | | | | | | |
| **Orleans** | 6.00 | 4.25 | 4.00 | 3.00 | 2.50 | 2.00 | 2.00 | 2.00 | | | | | | | |
| **E. Brewster** | 6.50 | 5.25 | 4.25 | 4.00 | 3.50 | 2.50 | 2.00 | 2.00 | 2.00 | | | | | | |
| **Brewster** | 7.00 | 5.50 | 5.00 | 4.00 | 4.00 | 2.50 | 2.25 | 2.00 | 2.00 | 2.00 | | | | | |
| **E. Dennis** | 7.50 | 6.50 | 6.00 | 5.00 | 4.25 | 4.00 | 3.50 | 2.50 | 2.25 | 2.00 | 2.00 | | | | |
| **Dennis** | 8.00 | 7.00 | 6.00 | 5.25 | 5.00 | 4.00 | 4.00 | 3.50 | 2.50 | 2.25 | 2.00 | 2.00 | | | |
| **Yarmouth** | 8.25 | 7.50 | 6.50 | 6.00 | 5.25 | 4.25 | 4.25 | 4.00 | 3.50 | 2.50 | 2.00 | 2.00 | 2.00 | | |
| **Yarmouthport** | 9.00 | 7.50 | 7.00 | 6.00 | 5.50 | 5.00 | 4.25 | 4.00 | 4.00 | 3.50 | 2.25 | 2.00 | 2.00 | 2.00 | |
| **Hyannis** | 9.00 | 7.50 | 7.00 | 6.00 | 6.00 | 5.25 | 4.25 | 4.25 | 4.00 | 3.50 | 2.50 | 2.00 | 2.00 | 2.00 | 2.00 |

*Ridership*

Ridership on the P&B Hyannis-Provincetown Route increased over the past several years. In 1991, this bus route carried 26,122 persons. In 1992, the route carried 27,781 persons; in 1993, the route carried 26,390 persons, and in 1994, 28,191 persons rode a P&B bus on this route, corresponding to an 8% increase over the past four years.

The highest monthly weekday ridership in 1994 occurred in August when the Hyannis-Provincetown route carried 4,936 passengers, or 215 riders per day. In January 1995, ridership dropped to 472 passengers for the month, or only 24 passengers per day. Average weekend ridership is higher than weekday ridership in the summer by approximately 17%. The reverse is true in the winter. Weekend ridership is about 18% lower than weekday ridership during the winter months. This trend is likely due to a greater percentage of vacationers riding the route in the summer; whereas, in the winter, commuters make up a greater percentage of the riders.

### 3.1.3 Cape Cod Scenic Railroad

Cape Cod Scenic Railroad is a privately funded railroad which operates a scenic excursion train between the Cape Cod Canal and Hyannis with one stop on Jarvis Street near Route 6A in historic Sandwich Village. The trains operate roundtrip from 10:00 AM to 9:30 PM with two and one-half hour headways. One-way trip length is approximately 50 minutes. The excursion trains operate on weekends and holidays in May and daily except Mondays (unless a holiday) from June through October. Special Christmas trains operate on the weekends from mid-November through mid-December. A summary of the Cape Cod Scenic Railroad Schedule is presented in Table 9.

**Table 9**
**Summary of Cape Cod Scenic Railroad Schedule**

| DEPART Hyannis | ARRIVE Sandwich | ARRIVE Canal | DEPART Canal | ARRIVE Sandwich | ARRIVE Hyannis |
|---|---|---|---|---|---|
| 10:00 AM | 10:40 AM | 10:50 AM | 11:00 AM | 11:10 AM | 11:50 AM |
| 12:30 PM | 1:10 PM | 1:20 PM | 1:30 PM | 1:40 PM | 2:20 PM |
| 3:00 PM | 3:40 PM | 3:50 PM | 4:00 PM | 4:10 PM | 4:50 PM |
| 6:30 PM* | 7:20 PM | 8:00 PM | 8:20 PM | 8:50 PM | 9:30 PM |

* DINNER TRAIN by Reservation Only; operates Tuesday through Sunday Summer and Fall; Weekends Winter and Spring (closed January)

Roundtrip fare from the Canal to Hyannis is $11.50 per adult, $10.50 for senior citizens and $7.50 for children under 12 years old with children under 3 years riding for free. Fare for the last train of the day, the 6:30 dinner train, is $41.86 per person roundtrip.

On Sundays, the 3:00 PM train is coordinated with the Amtrak arrival and departs the Cape Cod Canal at 3:45 PM. Glasstown Trolley, a privately funded trolley service owned and operated by Aitchison Bus Company of Cotuit, meets the trains daily at the Sandwich stop for tours of historic Sandwich Village. The cost for the trolley is $5.00 per day.

Currently, the vast majority of riders on the Cape Cod Scenic Railroad are recreationists with very few riders using the railroad as an alternate mode of transportation. Few one-way tickets are sold and the ones that are sold are primarily sold to senior citizen bus tours. Plans are being made to extend the railroad to Middleborough to connect with the MBTA commuter rail extension due for completion in 1996. This connection is intended to transform the rail line from a recreational service to a destinational service.

### 3.1.4 Paratransit Services

CCRTA operates a 55 bus fleet paratransit service called the B-Bus. The service offers Cape-wide personalized door-to-service for a variable cost depending on the age of the rider and length of the trip. Each B-Bus has the capacity to seat 16 people and two wheelchairs. B-Bus service is partially subsidized by federal, state and local funds.

### 3.2 Bicycle Facilities

Bicycle facilities may be grouped into three classes:

**Class I** - Bike path or trail. A completely separate roadway designated for the exclusive use of bicycles; typically separated from motor vehicle roadway by an open space or barrier.
**Class II** - Bike lane. A portion of a roadway which has been designated for exclusive or preferential use by bicycles; normally distinguished by a paint, stripe, curb, or barrier.
**Class III** - Shared roadway or bike route. A roadway that has been officially designated and marked a bicycle route but which is used by both motor vehicle and bicycle traffic.

State Bicycle Route 1 (known as the Claire Saltonstall Bikeway) from Boston to Provincetown follows Route 6A from Sandwich Road in Bourne to Route 130 in Sandwich and from Hyannis Road in Barnstable to Setucket Road in Yarmouth. The Boston-Provincetown route was designated in 1978; signage is maintained along portions of the route.

Several other bicycle facilities either parallel or cross Route 6A between Sagamore and Orleans. They are:

(1) Cape Cod Canal Bike Trail - a separate Class I facility for most of its length extending from the Railroad Bridge, west of the Bourne Bridge, to Coast Guard Station in Sandwich. The bike trail parallels Route 6A between the Sagamore Bridge and the Coast Guard Station.
(2) Cape Cod Rail Trail - a separate Class I facility (except in Harwich where it crosses over Route 6 and Orleans Center) extending from Route 134, south of Route 6, in Dennis to Salt Pond Visitor's Center in Eastham. This facility parallels Route 6A in Brewster and Orleans and intersects Route 6A at Nickerson State Park in Brewster.
(3) Old Bass River Bike Path - a separate Class I facility which parallels Old Bass River Road in Dennis. This path begins at the Claire Saltonstall Bikeway on Setucket Road and ends approximately 0.5 mile short of Route 6A in Dennis.
(4) Setucket Road Bike Route - a Class III facility along Stony Brook Road in Brewster and Setucket Road in Brewster and Dennis. This route extends from Route 6A in Brewster to the Claire Saltonstall Bike Route in Dennis. It intersects the Old Bass River Bike Path in Dennis at Old Bass River Road.

Bicycle volume counts were conducted in August 1993 as part of the Route 6A Corridor Management Plan. Typical bicycle activity was found to be low except in the vicinity of recreational areas such as Nickerson State Park in Brewster and the playground in Yarmouthport. The average number of bicycles recorded per hour per town is presented in Table 10.

**Table 10**
**Average Bicycle Volumes per Hour on Route 6A**

| Town | Bicycles per Hour (BPH) |
|---|---|
| Sandwich | 2 |
| Barnstable | 5 |
| Yarmouth | 4 |
| Dennis | 2 |
| Brewster | 12 |
| Orleans | 2 |
| **Total** | **27** |

SOURCE: Old King's Highway/Route 6A Corridor Management Plan, April 1995

### 3.3 Pedestrian Facilities

Pedestrian travel along the Route 6A corridor is accommodated primarily by sidewalk facilities. Each of the seven towns provide sidewalk facilities along a part of Route 6A. The percentage of Route 6A which has a sidewalk along at least one side of the roadway for each town is presented in Table 11.

**Table 11**
**Percentage of Route 6A with Sidewalks by Town**

| Town | % of Route 6A with Sidewalks |
|---|---|
| Bourne | 42% |
| Sandwich | 7% |
| Barnstable | 38% |
| Yarmouth | 29% |
| Dennis | 22% |
| Brewster | 20% |
| Orleans | 57% |
| **TOTAL** | **25%** |

SOURCE: Old King's Highway/Route 6A Corridor Management Plan, April 1995

Sidewalks are found primarily in the village centers. The magnitude of the percentages presented in Table 11 relates to the level of activity in each of the town's village centers. For example, Orleans has the highest percentage of sidewalk length and also the largest village center. Barnstable has the second largest village center

and so on. Sandwich's village center which is also large is located about 1/4 mile south of Route 6A. This offset location is the reason why the percentage of sidewalk length in this town is so much lower than the other towns.

### 3.4 Existing System Deficiencies

There are numerous deficiencies in the existing system of alternate modes to adequately service the Route 6A corridor. A few of the more notable deficiencies are:

- inadequate coverage,
- infrequent service, and
- a lack of connectivity.

The reasons why the Route 6A corridor is so poorly served is a lack of focus on the roadway as a travel market in itself and a failure to view the existing modes as a connected system rather than as separate services (refer to Figure 12).

Each of the existing alternate modes serves a slightly different segment of the Route 6A, travel market. The following summarizes the general travel market for each of the five services:

Cape Cod Scenic Railroad provides an alternate mode for the leisure traveler who primarily wishes to ride the train for nostalgia. Although the train provides stops in Sagamore, Sandwich Village and Hyannis, and is coordinated with Amtrack service from points further west, the cost of a ticket (11.50 per adult) precludes the use of the train on a regular basis. Even so, the Cape Cod Scenic Railroad does provide a means of travel for recreationists who may otherwise travel on Route 6A in Bourne, Sandwich and Barnstable.

SeaLine service was recently extended to the Route 6A corridor by providing an additional stop at the Barnstable County Complex five times daily. The SeaLine route has 21 stops serving Barnstable, Mashpee and Falmouth. SeaLine service to Route 6A provides an alternative mode for residents who work or have business to tend to in Barnstable Village as well as recreationists who wish to travel from Barnstable Village to any of the other major attractions along its route. Although the frequency and cost of SeaLine service is attractive, it only serves a small portion of trips on Route 6A.

Plymouth & Brockton serves Route 6A between Yarmouthport and Orleans three times daily. The least expensive roundtrip fare is $4.00. Both the frequency and the cost of this service indicate a travel market comprised almost entirely of long distance travelers. Consequently, only short trips are removed from the study corridor because a motorist would access Route 6 (the Mid Cape Highway) as soon as possible to take advantage of the faster speeds and quicker travel times.

Presently, Bicycle Paths and Bicycle Routes along Route 6A serve only a small portion of the travel market. It is likely that bicycle users and bicycle trip lengths vary along the corridor. A survey conducted by the American League of Wheelmen indicate that the combined average length of trips for work and school is 4 miles one way, and that the average trip length for recreational and touring trips is 22.2 miles in length for a round trip. These survey results indicate that increased bicycle use within the Route 6A corridor could serve to reduce automobile trips, especially those trip that are less than 10 miles one-way in length.

The Route 6A corridor is conducive to pedestrian travel due to its scenic character and its abundant mix of residential and commercial land uses. However, surveys have found that people are only willing to walk a maximum of about 400 ft. for work-related trips; for other trip purposes, the distance is even less. A summary of average distances (in feet) walked for various population groups by trip purpose is presented in Table 12.

**Table 12**
**Average Distance (in feet) Walked by Trip Purpose**

| | Trip Purpose | | | |
|---|---|---|---|---|
| **Population** | **Shopping** | **Personal Business** | **Work** | **Other** |
| 10,000-25,000 | 200 | 200 | 270 | 190 |
| 25,000-50,000 | 280 | 240 | 400 | 210 |
| 50,000-100,000 | 350 | 290 | 410 | 260 |

SOURCE: Data extracted from *Parking Principles*, National Research Council, Table 2.11, p.15.

Based on this information, the effects of increasing pedestrian travel to reduce automobile trips is limited to only those trips very short in length. Even so, pedestrian travel should be encouraged along the corridor in areas where sidewalks are provided. Walking can be particularly advantageous in village centers where congestion is already high by eliminating the need for a motorist to travel on Route 6A in his/her automobile for interparcel trip making.

# 4.0 Alternate Modes Feasibility

The Route 6A corridor has three features which greatly affect the support of alternate modes. They are

(1) Transportation demand and a corresponding need for congestion relief are highest in the summer season.
(2) The Route 6A corridor is made up of many origins and destinations with the village centers serving as small activity nodes.
(3) There is a high level of interaction between land uses along Route 6A and other regions of the Cape. The desire lines shown in Figures 6-11 demonstrate that many of the trips along Route 6A are either made across town boundaries and/or between the north and south shores.

Considering the variability of these three features, it is no wonder that the private automobile with its convenience and flexibility is overwhelmingly chosen for travel along the corridor today.

## 4.1 Alternate Mode Characteristics and Applications

A variety of alternate modes were considered for the Route 6A corridor. They include a combination of expanding existing services as well as proposing new services with new service alignments. The alternate modes considered for Route 6A are

- rail,
- water transportation,
- bus,
- bicycling, and
- walking.

The following describes the characteristics of each of the services considered along with its applicability towards travel on Route 6A.

### 4.1.1 Rail

Currently, rail transportation is limited along the Route 6A corridor with the Cape Cod Scenic Railroad being the only provider of rail transportation to and on the Cape. There is, however, rail infrastructure extending beyond Barnstable to Dennis. Beyond Dennis, the tracks have been removed and the Cape Cod Rail Trail begins serving bicycle and pedestrian travel. In addition, there are additional depots located in Barnstable and West Barnstable which are not being utilized. Depots which are utilized by the Cape Cod Scenic Railroad are Sagamore, Sandwich Village and Hyannis.

Given the low land use densities along the study corridor and the cost of re-instating passenger service, an expansion of the existing rail service would not be warranted to meet this study's objective. Fixed passenger service would better serve to reduce congestion and improve air quality throughout the entire mid to upper Cape and should be considered an option when more universal challenges are being considered.

### 4.1.2 Water Transportation

Ferries, water taxis and high speed boats are a few of the water transportation technologies being brought under the heading of public transportation services. Presently, no public water transportation services exist on Cape Cod which transport people from one place on the Cape to another.

Water transportation is similar to rail transportation in that the service characteristics are not directly applicable to the land use densities along the corridor. There are four harbors in Cape Cod Bay which are located within the study area. They are Sandwich Harbor, Barnstable Harbor, Sesuit Harbor in Dennis, and Rock Harbor in Orleans. For water transportation to be viable along Route 6A, another mode which could carry passengers from the docks to Route 6A needs to be considered. Given the costs of providing water transportation in Cape Cod Bay along with the cost of a transfer mode, water transportation was eliminated from further consideration.

### 4.1.3 Bus

Fixed route transit bus service along the Route 6A corridor currently consists of the P&B Hyannis-Provincetown route and the SeaLine. P&B is the primary carrier of people traveling on and off the Cape. As a result, P&B scheduling and routing on the Provincetown-Hyannis route is designed around the long distance travel needs of Cape residents and their visitors, and around the transfer schedules at the P&B Terminal in Hyannis. Because the focus of this existing service is only on a small portion of the Route 6A travel market, further expansion along Route 6A was not considered.

SeaLine is a specialized service designed to transport people from one generator on Cape Cod to another. Its stops include the Barnstable County Complex (as previously noted), Cape Cod Community College, the Cape Cod Mall, the Steamship Authority Docks in the summer, and more (refer to Appendix B for full schedule). Although this service has the frequency and characteristics appropriate for Route 6A, expanding this existing service would decrease frequency and increase travel times. A similar type of service with a new service alignment is therefore recommended for the study corridor.

Summer trolley-style buses are growing in numbers across the United States as a means of accommodating seasonal travel demands. Found mostly in areas with high tourist activity, these buses (sometimes referred to as shuttle buses) are characterized as having a short loop or back and forth route, high frequency, fast loading and unloading, low fare, and hours of operation flexible to the needs of the specific service area. Although the SeaLine meets many of these criteria, it was classified as a fixed route transit bus because it operates year-round. Currently, these specialized circulator systems are being used with considerable success in Ogunquit, ME; Plymouth, MA; Newport, RI; Hanover-Lebanon, NH; and Beaver Creek, CO.

The CCRTA operates 6 summer shuttles in the mid to upper Cape region. Towns in which these shuttles are operating are Hyannis, Mashpee, Harwich, Falmouth, Dennis and Yarmouth. Three of these shuttles - the Hyannis HAT, the Falmouth WHOOSH and the Yarmouth YES - began operation in 1994; whereas, the others have begun operation just this past summer. Average daily ridership on the three older shuttles range from 300+ to 600+ riders per day. The SeaLine and the summer shuttles all operate by flag stop which simply means that in addition to boarding at the scheduled stops, passengers may board the SeaLine at other locations by waving to the driver as the bus approaches.

### 4.1.4 Bicycle Transportation

Limited right-of-way and a desire to preserve the scenic and historic character of the corridor have made an expansion to bicycle travel along the roadway an unlikely alternative. However, by encouraging the use of the bicycle as a transfer mode and equipping the transit vehicles with bicycle racks for easy on and off storing, bicycle travel could be safely accommodated and encouraged.

### 4.1.5 Pedestrian Transportation

As previously mentioned in Section 3.4, pedestrian traffic on the existing sidewalk network can reduce short automobile trips especially in the village centers. Improvements to sidewalk facilities which will improve the walking environment are as follows:

- keep sidewalks clear of obstructions, especially overgrown vegetation;
- keep street corners free of obstacles such as street light and traffic signal poles;
- provide special ramps for the handicapped;
- clearly mark crosswalks; and
- enforce pedestrian right-of-way rules.

# 5.0 Evaluation of Proposed Alternative

## 5.1 Description of Alternative

An summer trolley-style bus has been selected as the preferred technology for the Route 6A corridor due to its flexibility in routing and scheduling as well as its successful operation in other regions of the Cape. The trolley service is recommended to operate during the summer season when transportation demand along the corridor is at its highest.

### 5.1.1 Service Characteristics

A summary of the service characteristics for the proposed trolley service is as follows:

| | |
|---|---|
| Type of system: | summer trolley-style shuttle bus, fixed back and forth route along study corridor, equipped with bike racks for easy on and off storing |
| Fueled by: | gasoline |
| Route length: | 20 - 32 miles |
| Spacing of stops: | variable |
| Operating hours/day: | 14 hours (7:30 AM - 9:32 PM) |
| Operating days/year: | Approximately 73 days (from first weekend before July 4 through Labor Day) |
| Journey speed: | 25 mph |

The type of vehicle recommended is a standard trolley-style shuttle bus with a seating capacity of 34 minus 4 seats for each wheelchair on-board. The trolleybus should be equipped with at least two bicycle racks to increase the viability of a transfer mode.

### 5.1.2 Fuel Type

Gasoline, diesel and propane fuel sources are currently available on Cape Cod. Gasoline and diesel fuels are available right on sight at the CCRTA maintenance facility and at commercial refueling areas along the study corridor; whereas propane is available only at the CCRTA maintenance facility. A gasoline powered trolleybus is recommended simply because the fuel is readily available and economical.

The CCRTA has four older buses which run on propane. Propane is a cleaner fuel, but costs more. Conversation with the CCRTA revealed that they intend to replace these buses with gasoline or diesel powered buses when their service life has terminated. The reason given was that the propane was not economical. If controlling emissions along Route 6A is a priority, and propane fuel is preferred, alternative refueling plans may need to be established in the future.

### 5.1.3 Service Alignment and Scheduling

The proposed service alignment considers service from Sandwich Village to Orleans Center for several runs of the day. A preliminary schedule drafted by the Cape Cod Commission considers a shorter route from Barnstable Village to Orleans Center only. The route was extended to include Sandwich Village for the morning and afternoon runs because the trip table analysis presented in Sec. 2.3 showed (a) significant interzonal activity between Sandwich Village and Barnstable and Yarmouth, south of Route 6; and (b) highly directional trip

exchanges during the AM and PM peak periods between Sandwich Village and other towns on Route 6A. Trips between Sandwich and the Towns south of Route 6 can be serviced by coordinating the proposed trolley schedule with the existing SeaLine schedule at the Barnstable County Complex so that an alternate mode may be taken for the entire journey. The revised schedule for the proposed trolley service can be found in Table 11.

Distance between Sandwich Village and the Barnstable Complex is approximately 11.5 miles. It would take the trolley 28 minutes to traverse this distance traveling at an average running speed of 25 mph. By adding this additional stop, headways for the remaining stops along Route 6A increase by approximately 10-40 minutes (depending on the run) above the headways originally proposed under the Cape Cod Commission schedule. One trolleybus is still proposed to accomplish this plan. However, if longer headways for the route is deemed unacceptable, the addition of a second trolleybus may be considered to shorten headways and increase frequency.

### 5.1.4 Flag Stop Operation

Operation by flag stop means that passengers may board anywhere along a route by waving to the driver as the bus approaches. Summer shuttle bus systems currently operating on Cape Cod's south shore operate by flag stop. Flag stop operation is advantageous in low-density areas because it offers flexibility in servicing many origins and destinations.

The proposed trolleybus would service a greater market if flag stop operation were permitted. Areas with a high number of intrazonal trips (refer to Table 4) and/or areas with low population density (refer to Figure 3) would benefit from flag stop operation by permitting riders to get on and off the bus at or near their origins and destinations. Ridership levels on the proposed trolleybus would increase and lower transit subsidies would be required.

For most of its length, Route 6A is a two-lane roadway with narrow lanes and little or no shoulder width. Furthermore, sight distance along many sections of the roadway is limited by sharp curves and building fronts located close to the roadway. If flag stop operation is permitted, these characteristics may create hazardous driving conditions. Motorists may drive around corners only to find a trolleybus stopped unexpectedly in front of them. The number of rear-end collisions could potentially increase along the corridor.

Route 28 is also a two-lane roadway along sections where flag stop operation is permitted. However, both horizontal and vertical curvature along Route 28 are gentler and sight distances are not as restricted. These differences may be enough to permit flag stop operation on Route 28 and not permit it on Route 6A.

Flag stop operation would clearly benefit the service performance of the proposed trolleybus. However, further investigation needs to be made into whether or not sight distances are sufficient to maintain an adequate level of safety. Investigation into rear-end collisions resulting from the existing shuttle systems would be particularly useful. Safety mitigation, such as signs on the back of the trolleybus warning motorists that the bus does operate by flag stop, needs to be explored.

Table 11

Eastbound

Proposed Bus Schedule for Route 6A Summer Shuttle

| Town | Stop Location | Mileage | Time | Time | Time | Time | Time | Time |
|---|---|---|---|---|---|---|---|---|
| | | | Bus Begins | | | | | |
| Sandwich | Sandwich Village | 2.82 | 7:15 AM | 10:15 AM | — | — | 5:10 PM | — |
| Barnstable | Barnstable Village (County Complex) | 14.33 | 7:45 AM | 10:45 AM | 12:45 PM | 2:40 PM | 5:45 PM | 7:45 PM |
| Yarmouth | Hallet's Market | 17.15 | 8:06 AM | 10:51 AM | 12:51 PM | 2:46 PM | 5:49 PM | 7:49 PM |
| | Peterson's Market | 17.90 | 8:08 AM | 10:53 AM | 12:53 PM | 2:48 PM | 5:51 PM | 7:51 PM |
| | Playground | 18.37 | 8:09 AM | 10:54 AM | 12:54 PM | 2:49 PM | 5:52 PM | 7:52 PM |
| Dennis | Dennis Public Market | 21.53 | 8:17 AM | 11:02 AM | 1:02 PM | 2:57 PM | 6:00 PM | 8:00 PM |
| | Dennis Post Office | 21.72 | 8:17 AM | 11:02 AM | 1:02 PM | 2:57 PM | 6:00 PM | 8:00 PM |
| | Shopping Plaza @ Rte 134 | 23.69 | 8:22 AM | 11:07 AM | 1:07 PM | 3:02 PM | 6:05 PM | 8:05 PM |
| Brewster | CC Museum of Natural History | 26.29 | 8:28 AM | 11:13 AM | 1:13 PM | 3:08 PM | 6:11 PM | 8:11 PM |
| | Brewster General Store | 27.50 | 8:31 AM | 11:16 AM | 1:16 PM | 3:11 PM | 6:14 PM | 8:14 PM |
| | Cumberland Farms | 30.00 | 8:37 AM | 11:22 AM | 1:22 PM | 3:17 PM | 6:22 PM | 8:22 PM |
| | Nickerson St Park | 31.13 | 8:40 AM | 11:25 AM | 1:25 PM | 3:20 PM | 6:25 PM | 8:25 PM |
| Orleans | Rte 6A @ Main St | 33.69 | 8:46 AM | 11:31 AM | 1:31 PM | 3:26 PM | 6:31 PM | 8:31 PM |
| | Stop & Shop Plaza | 34.20 | 8:47 AM | 11:32 AM | 1:32 PM | 3:27 PM | 6:32 PM | 8:32 PM |

Assume ave.
Running Speed 25

Westbound

| Town | Stop Location | Mileage | Time | Time | Time | Time | Time | Time |
|---|---|---|---|---|---|---|---|---|
| Orleans | Stop & Shop Plaza | 34.20 | 9:00 AM | 11:45 AM | 1:45 PM | 3:40 PM | 6:45 PM | 8:45 PM |
| | Rte 6A @ Main st. | 33.69 | 9:01 AM | 11:46 AM | 1:46 PM | 3:41 PM | 6:46 PM | 8:46 PM |
| Brewster | Nickerson St Park | 31.13 | 9:07 AM | 11:52 AM | 1:52 PM | 3:47 PM | 6:52 PM | 8:52 PM |
| | Cumberland Farms | 30.00 | 9:10 AM | 11:55 AM | 1:55 PM | 3:50 PM | 6:55 PM | 8:55 PM |
| | Brewster General Store | 27.50 | 9:16 AM | 12:01 PM | 2:01 PM | 3:56 PM | 7:01 PM | 9:01 PM |
| | CC Museum of Natural History | 26.29 | 9:18 AM | 12:03 PM | 2:03 PM | 3:58 PM | 7:03 PM | 9:03PM |
| Dennis | Shopping Plaza @ Rte 134 | 23.69 | 9:25 AM | 12:10 PM | 2:10 PM | 4:05 PM | 7:10 PM | 9:10 PM |
| | Dennis Post Office | 21.72 | 9:29 AM | 12:14 PM | 2:14 PM | 4:09 PM | 7:14 PM | 9:14 PM |
| | Dennis Public Market | 21.53 | 9:30 AM | 12:15 PM | 2:15 PM | 4:10 PM | 7:15 PM | 9:15 PM |
| Yarmouth | Playground | 18.37 | 9:38 AM | 12:23 PM | 2:23 PM | 4:18 PM | 7:23 PM | 9:23 PM |
| | Peterson's Market | 17.90 | 9:39 AM | 12:24 PM | 2:24 PM | 4:19 PM | 7:24 PM | 9:24 PM |
| | Hallet's Market | 17.15 | 9:40 AM | 12:25 PM | 2:25 PM | 4:20 PM | 7:25 PM | 9:25 PM |
| Barnstable | Barnstable Village (County Complex) | 14.33 | 9:47 AM | 12:32 PM | 2:32 PM | 4:27 PM | 7:32 PM | 09:32 PM |
| Sandwich | Sandwich Village | 2.82 | 10:00 AM | — | — | 4:55 PM | — | — End |

### 5.1.5 Pull-out Areas

With the exception of the Playground in Yarmouth, each of the proposed bus stop locations have ample impervious surface area to accommodate bus pull-out areas. Six out of the 14 proposed stops are locations currently servicing the P&B Hyannis-Provincetown bus route. These locations are:

(1) Cumberland Farms in East Brewster
(2) Brewster General Store
(3) Players Plaza in East Dennis
(4) Post Office in Dennis
(5) Peterson's Market in Yarmouth
(6) Hallet's in Yarmouthport

## 5.2 Estimated Ridership Demand

An average mode share of 1.18% was estimated for Route 6A based on mode shares derived from July and August ridership figures from the three 1994 summer shuttles - Falmouth WHOOSH, Yarmouth YES and Hyannis HAT. A summary of the data used to calculate this mode share is presented in Table 14. Calculations for the average route ADT can be found in Appendix C.

**Table 14**
**1994 Mode Share for Summer Shuttle Services**

| Shuttle Service | No. Passengers | Avg. No. Passengers/Day | Avg. Route ADT | Avg. Route Person Trips* | Shuttle Mode Share |
|---|---|---|---|---|---|
| Falmouth WHOOSH | 20241 | 326 | 16856 | 27139 | 1.20 |
| Yarmouth YES | 27089 | 437 | 29200 | 47013 | 0.93 |
| Hyannis HAT | 38203 | 616 | 27185 | 43768 | 1.41 |
| | | | | **Average Shuttle Mode Share** | 1.18 |

* Calculated using Vehicle Occupancy Factor of 1.61. SOURCE: Cape Cod Commission.

Table 2 presents 1994 peak summer ADT volumes on Route 6A. The average of the 13 traffic volumes presented in Table 2 is 14,283 vehicles per day, corresponding to a corridor average of 22,997 person trips per day. Based on an average mode share of 1.18%, the proposed trolley service for Route 6A can be expected to carry about 271 passengers per day during the peak summer months of July and August.

## 5.3 Cost Estimate

Cost estimates assume that the trolley vehicle will be leased for the summer season at a cost of $9,000.00. Operating costs obtained from the Cape Cod Commission indicate an average operating cost of $34/hour which includes the costs of labor (driver salary plus fringe-benefits), fuel and liability. Because the vehicle will be leased, no maintenance costs were estimated.

Table 15 presents the results of the cost estimates for the proposed trolley service. These calculations indicate that the proposed service will require $33,856.50 in additional funds to operate for the season, corresponding to approximately $463.79 per day.

**Table 15**
**Cost Estimates for Proposed Trolley Service**

| | **Annual Costs** | **Cost per Day** |
|---|---|---|
| **Capital Costs** One Leased Vehicle | $9,000.00 | $123.29 |
| **Operating Costs** @ $34.00/Hour | $34,748.00 | $476.00 |
| **Total Costs** | $43,748.00 | $599.29 |
| | **Annual Revenue** | **Revenue per Day** |
| **Fare Box Recovery** 271 passengers/day @ $0.50 each | $9,891.50 | $135.50 |
| Required Additional Funding | $33,856.50 | $463.79 |

## 6.0 Funding Sources

The following briefly describes some of funding sources available for the proposed trolleybus service. It is recommended that each of these sources be explored and the possibility for innovative funding be considered.

### 6.1 Federal/State Funding

The following funding sources are offered through the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA). The formula for distributing these funds to the regional level is determined by the Commonwealth.

(1) Congestion Mitigation and Air Quality (CMAQ) - These program funds may be used for transportation projects and programs such as transportation control measures (TCMs) and transit projects. CMAQ funds have been successfully appropriated for regional transit project throughout the Commonwealth. The shuttle bus systems currently operating on Cape Cod's south shore are funded in part by the CMAQ program. CMAQ funds are also being used to sponsor alternative fuel transit projects in the MAPC region such as the Logan Airport Electric Vehicle (EV) Demonstration Project proposed by MassPort.

(2) Scenic Byways Program - These funds are authorized for the planning, design and development of scenic byways projects. Route 6A was designated as a scenic byway in 1992 by the Commonwealth of Massachusetts. Funding from this special program of ISTEA may be available.

### 6.2 Local Funding

Local funding may be acquired through a variety of sources. Among them are:

(1) Town funds.
(2) Local Chamber of Commerce contributions. In Ogunquit, ME, the local chamber of commerce is the operating agency for 4 out of the 10 trolleys in the region.
(3) Other non-profit economic development corporations or consortiums.

### 6.3 Private Funding

There are several types of private initiatives and donations which can be explored in the Cape Cod region. These include:

(1) partnerships with private companies and businesses which will directly benefit from the proposed trolleybus service.
(2) providing incentives for a private company to operate a trolleybus system along the corridor. In Ogunquit, ME, a private trolley company called Molly Trolley owns and operate 6 of the 10 trolleys in the region.

# APPENDIX A


Worksheet A1: Population Density for Block Groups along Route 6A Corridor ..... A1
Population Density by Town ..... A1
Figure A1: Original Traffic Analysis Zone Structure, Cape Cod Model ..... A2

**Worksheet A1**

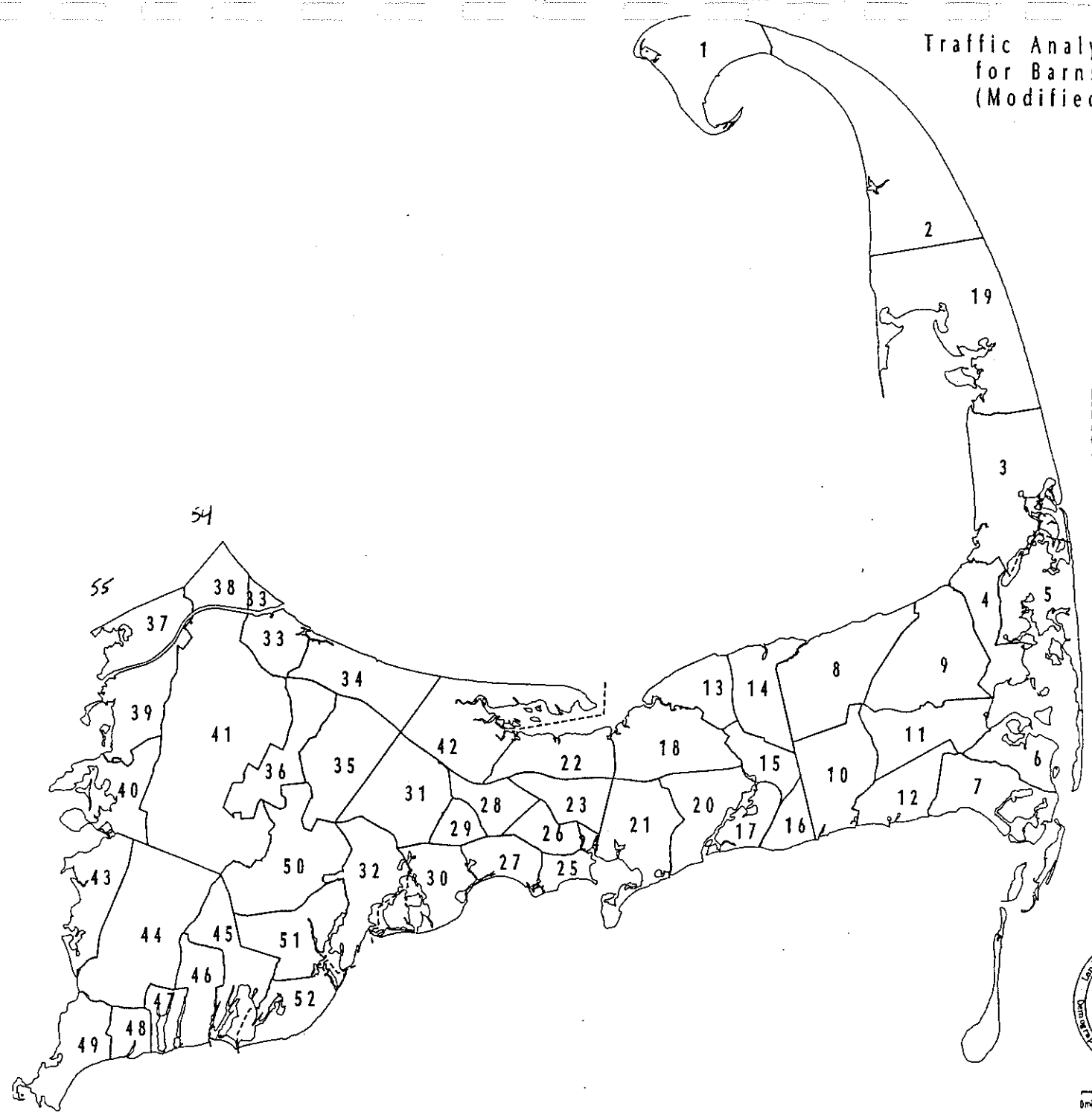
**Population Density for Block Groups Along Route 6A Corridor**

| Name | Population | Area | Persons/Sq.Mi |
|---|---|---|---|
| 0104 1 | 902 | 1.42474878 | 633 |
| 0104 2 | 697 | 0.65101284 | 1,071 |
| 0104 3 | 637 | 1.85795939 | 343 |
| 0108 1 | 338 | 1.18645871 | 285 |
| 0108 2 | 575 | 1.40186763 | 410 |
| 0108 3 | 230 | 1.55172551 | 148 |
| 0108 4 | 673 | 1.09428394 | 615 |
| 0108 6 | 711 | 1.99075007 | 357 |
| 0109 1 | 1717 | 6.99176788 | 246 |
| 0109 4 | 1232 | 1.54847825 | 796 |
| 0113 1 | 413 | 1.95931363 | 211 |
| 0113 2 | 538 | 0.9186401 | 586 |
| 0113 3 | 556 | 0.9075343 | 613 |
| 0113 4 | 1289 | 1.4558953 | 885 |
| 0114 1 | 364 | 2.09018564 | 174 |
| 0114 2 | 938 | 1.15647316 | 811 |
| 0114 3 | 916 | 1.13746679 | 805 |
| 0118 1 | 732 | 2.6901319 | 272 |
| 0118 2 | 1424 | 2.0443387 | 697 |
| 0118 4 | 1042 | 0.83759707 | 1,244 |
| 0118 5 | 933 | 2.20705032 | 423 |
| 0122 1 | 1634 | 15.1407928 | 108 |
| 0122 2 | 871 | 3.21488953 | 271 |
| 0122 3 | 588 | 2.57836604 | 228 |
| 0122 4 | 1254 | 2.10730004 | 595 |
| 0133 1 | 875 | 2.28686881 | 383 |
| 0133 2 | 492 | 1.56930959 | 314 |
| 0133 3 | 908 | 2.06694514 | 439 |
| 0133 4 | 873 | 1.1678195 | 748 |
| 0134 1 | 704 | 2.59391475 | 271 |
| 0134 2 | 687 | 1.20944619 | 568 |
| 0134 3 | 1358 | 2.977494 | 456 |
| 0134 4 | 637 | 1.6540767 | 385 |

**Population Density by Town**

| Town | Population | Area | Persons/Sq.Mi |
|---|---|---|---|
| Sandwich | 6534 | 15.5258747 | 421 |
| Barnstable | 4347 | 23.0413485 | 189 |
| Yarmouth | 4131 | 7.779118 | 531 |
| Dennis | 5014 | 9.62550893 | 521 |
| Brewster | 5476 | 15.765332 | 347 |
| Orleans | 2236 | 3.93372101 | 568 |

# Traffic Analysis Zones for Barnstable County (Modified Census Tracts)




Data Sources:

Coastline and Town Boundaries, are from MassGIS 1:100000 scale Arc/Info conversions of USGS Digital Line Graph Files (DLGs).

This map was produced by the Cape Cod Commission's Geographic Information System department and Transportation Staff as a key to Traffic Analysis Zones. The boundaries have been modified from census tracts.

Depicted boundaries are approximate and are intended for planning purposes only. This map is not intended to be used for survey or legal purposes. Corrections to this map are welcome at the Cape Cod Commission office.
June 1994

Land Use · Roads · DCPCs · Parcels · DRIs · Environmental · Demographics
Cape Cod Commission
GIS Services

Miles 1 2 3 4 5

SCALE 1:80,000

Plot file created June 28

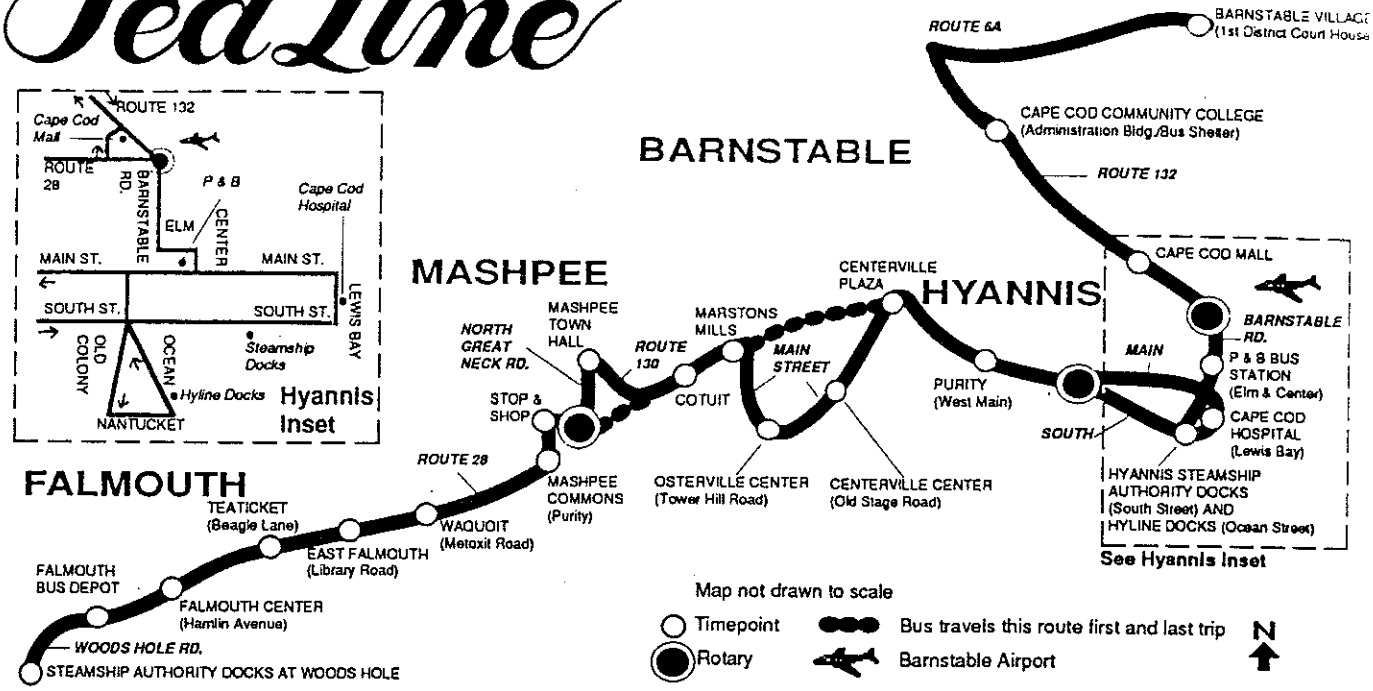
A2

# APPENDIX B

SeaLine Schedule - Fall/Winter 1994/1995 ..... B1
SeaLine Schedule - Summer 1995 ..... B2
Plymouth & Brockton Logan Airport-Hyannis Route Schedule - Winter/Spring Effective 1994 ..... B3
Plymouth & Brockton Logan Airport-Hyannis Route Schedule - Summer Effective 1995 ..... B4
Plymouth & Brockton Hyannis-Provincetown Route Schedule - Winter/Spring Effective 1994 ..... B5
Plymouth & Brockton Hyannis-Provincetown Route Schedule - Summer Effective 1995 ..... B6

Fall & Winter 1994/1995

# SeaLine




## BARNSTABLE VILLAGE TO WOODS HOLE

OUTBOUND
MONDAY THROUGH SATURDAY

| DEPARTS | AM | AM | AM/PM | PM | PM | PM |
|---|---|---|---|---|---|---|
| BARNSTABLE VILLAGE | ---- | 8:30 | 10:50 | 12:50* | 1:50 | 4:50 |
| CCCC | ---- | 8:40 | 11:00 | 1:00* | 2:00 | 5:00 |
| CAPE COD MALL | 6:08* | 8:50 | 11:10 | 1:10* | 2:10 | 5:10 |
| P&B BUS STATION | 6:10* | 8:55 | 11:15 | 1:15* | 2:15 | 5:15 |
| HYANNIS DOCKS | 6:11* | 8:59 | 11:20 | 1:20* | 2:19 | 5:20 |
| CAPE COD HOSPITAL | 6:12* | 9:02 | 11:22 | 1:23* | 2:21 | 5:22 |
| WEST END ROTARY | 6:15* | 9:05 | 11:28 | 1:29* | 2:27 | 5:28 |
| PURITY (WEST MAIN) | 6:18* | 9:08 | 11:31 | 1:32* | 2:30 | 5:31 |
| CENTERVILLE PLAZA | 6:22* | 9:10 | 11:34 | 1:35* | 2:33 | 5:36 |
| CENTERVILLE CENTER | ---- | 9:14 | 11:37 | 1:38* | 2:36 | 5:39 |
| OSTERVILLE CENTER | ---- | 9:19 | 11:42 | 1:43* | 2:41 | 5:44 |
| COTUIT LANDING | 6:28* | 9:24 | 11:47 | 1:48* | 2:46 | 5:49 |
| MASHPEE TOWN HALL | ---- | 9:31 | 11:54 | 1:55* | 2:53 | ---- |
| STOP & SHOP | ---- | 9:33 | 11:56 | 1:57* | 2:55 | 5:54 |
| MASHPEE COMMONS | 6:35* | 9:35 | 11:58 | 1:59* | 2:57 | 5:56 |
| WAQUOIT | 6:38* | 9:38 | 12:01 | 2:03* | 3:00 | 5:59 |
| EAST FALMOUTH | 6:42* | 9:43 | 12:05 | 2:07* | 3:04 | 6:02 |
| TEATICKET | 6:46* | 9:48 | 12:09 | 2:11* | 3:08 | 6:06 |
| FALMOUTH CENTER | 6:50* | 9:53 | 12:13 | 2:15* | 3:12 | 6:10 |
| FALMOUTH BUS DEPOT | 6:55* | 9:55 | 12:16 | 2:18* | 3:15 | 6:13 |
| WOODS HOLE DOCKS | 7:05* | 10:05 | 12:26 | 2:281 | 3:25 | 6:23 |

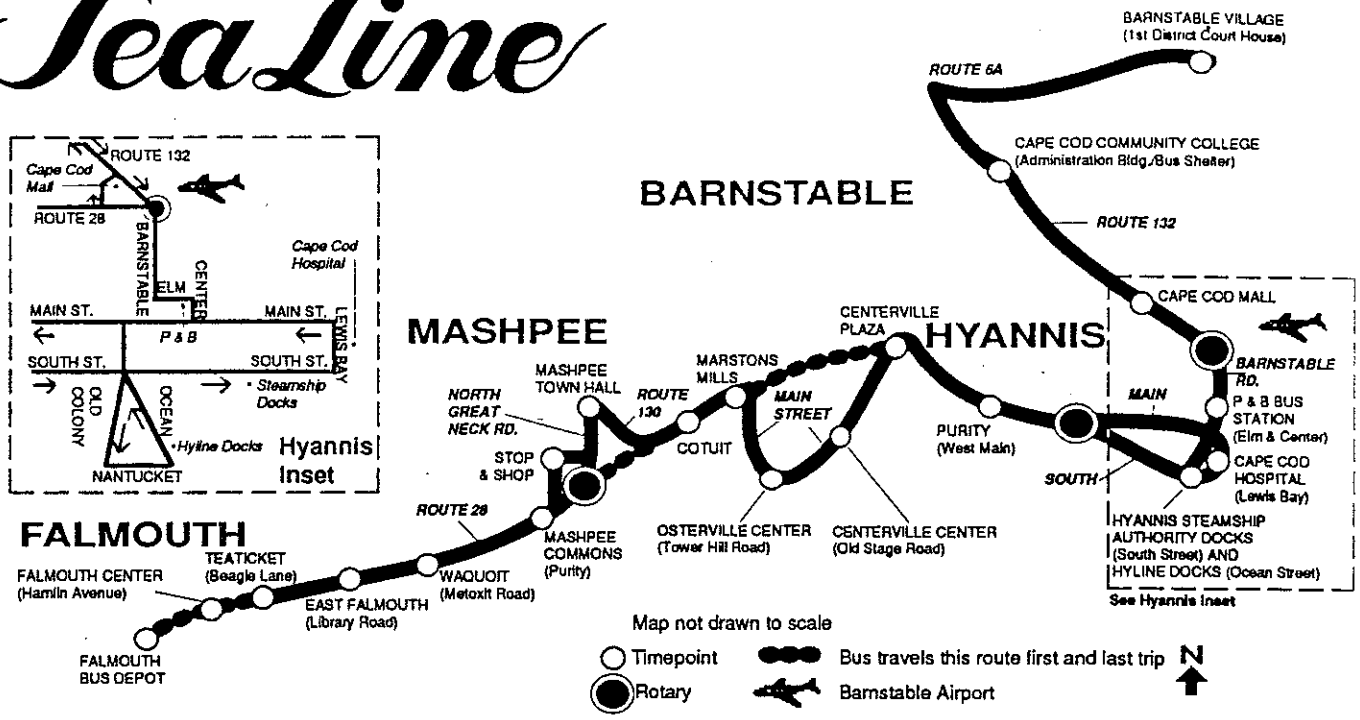
## WOODS HOLE TO BARNSTABLE VILLAGE

INBOUND
MONDAY THROUGH SATURDAY

| DEPARTS | AM | AM | AM/PM | PM | PM | PM |
|---|---|---|---|---|---|---|
| WOODS HOLE DOCKS | ---- | 7:15* | 10:30 | 1:00 | 4:00 | 6:25 |
| FALMOUTH BUS DEPOT | 6:30* | 7:23* | 10:40 | 1:10 | 4:10 | 6:35 |
| FALMOUTH CENTER | 6:32* | 7:26* | 10:43 | 1:13 | 4:15 | 6:38 |
| TEATICKET | 6:35* | 7:29* | 10:48 | 1:18 | 4:20 | 6:43 |
| EAST FALMOUTH | 6:40* | 7:34* | 10:53 | 1:23 | 4:25 | 6:48 |
| WAQUOIT | 6:45* | 7:39* | 10:58 | 1:28 | 4:30 | 6:53 |
| MASHPEE COMMONS | 6:50* | 7:44* | 11:03 | 1:33 | 4:35 | 6:58 |
| STOP AND SHOP | 6:52* | 7:46* | 11:05 | 1:35 | 4:37 | 7:00 |
| MASHPEE TOWN HALL | ---- | ---- | 11:08 | 1:38 | 4:40 | ---- |
| COTUIT LANDING | 6:57* | 7:51* | 11:15 | 1:45 | 4:47 | 7:05 |
| OSTERVILLE CENTER | 7:04* | 7:58* | 11:22 | 1:52 | 4:54 | ---- |
| CENTERVILLE CENTER | 7:07* | 8:03* | 11:27 | 1:57 | 4:59 | ---- |
| CENTERVILLE PLAZA | 7:09* | 8:07* | 11:32 | 2:02 | 5:04 | 7:11 |
| PURITY (WEST MAIN) | 7:11* | 8:11* | 11:37 | 2:07 | 5:09 | 7:16 |
| WEST END ROTARY | 7:13* | 8:15* | 11:41 | 2:11 | 5:13 | 7:19 |
| HYANNIS DOCKS | 7:16* | 8:19* | 11:46 | 2:16 | 5:18 | 7:22 |
| CAPE COD HOSPITAL | 7:17* | 8:21* | 11:48 | 2:18 | 5:20 | 7:24 |
| P&B BUS STATION | 7:20* | 8:23* | 11:51 | 2:21 | 5:23 | 7:27 |
| CAPE COD MALL | 7:25* | 8:28* | 11:56 | 2:26 | 5:28 | 7:32 |
| CCCC | 7:35* | 8:38* | 12:06 | 2:36 | 5:38 | ---- |
| BARNSTABLE VILLAGE | 7:45* | 8:48* | 12:16 | 2:46 | 5:48 | ---- |

NOTES: 1. Falmouth Bus Depot is a drop-off point only--no passenger pick-ups enroute to Woods Hole.
2. *No Saturday service.
3. Dash line ---- indicates no service at this stop on this run.
4. Commuter Passes, offering 20 rides for the price of 15 rides, are available from *SeaLine* drivers.

# SeaLine




## BARNSTABLE VILLAGE TO FALMOUTH

OUTBOUND
MONDAY THROUGH SATURDAY

| DEPARTS | AM | AM | AM/PM | PM | PM | PM |
|---|---|---|---|---|---|---|
| BARNSTABLE VILLAGE | ---- | 8:30 | 10:50 | 12:50* | 2:50 | 4:50 |
| CCCC | ---- | 8:40 | 11:00 | 1:00* | 3:00 | 5:00 |
| CAPE COD MALL | 6:08* | 8:50 | 11:12 | 1:10* | 3:12 | 5:10 |
| P&B BUS STATION | 6:10* | 8:55 | 11:17 | 1:15* | 3:17 | 5:15 |
| HYANNIS DOCKS | 6:11* | 8:59 | 11:22 | 1:20* | 3:22 | 5:20 |
| CAPE COD HOSPITAL | 6:12* | 9:02 | 11:27 | 1:25* | 3:27 | 5:25 |
| WEST END ROTARY | 6:15* | 9:05 | 11:35 | 1:30* | 3:35 | 5:30 |
| PURITY (West Main) | 6:18* | 9:08 | 11:38 | 1:33* | 3:38 | 5:33 |
| CENTERVILLE PLAZA | 6:22* | 9:10 | 11:41 | 1:36* | 3:41 | 5:36 |
| CENTERVILLE CENTER | ---- | 9:14 | 11:43 | 1:38* | 3:43 | 5:38 |
| OSTERVILLE CENTER | ---- | 9:19 | 11:48 | 1:43* | 3:48 | 5:43 |
| COTUIT LANDING | 6:28* | 9:24 | 11:53 | 1:48* | 3:53 | 5:48 |
| MASHPEE TOWN HALL | ---- | 9:31 | 12:00 | 1:55* | 4:00 | ---- |
| STOP & SHOP | ---- | 9:33 | 12:03 | 1:58* | 4:03 | 5:56 |
| MASHPEE COMMONS | 6:35* | 9:35 | 12:05 | 2:00* | 4:05 | 5:58 |
| WAQUOIT | 6:38* | 9:32 | 12:10 | 2:05* | 4:10 | 6:03 |
| EAST FALMOUTH | 6:42* | 9:43 | 12:15 | 2:10* | 4:15 | 6:08 |
| TEATICKET(Falmouth Mall) | 6:46* | 9:50 | 12:20 | 2:15* | 4:20 | 6:13 |
| FALMOUTH CENTER | ** | ** | ** | ** | ** | ** |
| FALMOUTH BUS DEPOT | ** | ** | ** | ** | ** | ** |

## FALMOUTH TO BARNSTABLE VILLAGE

INBOUND
MONDAY THROUGH SATURDAY

| DEPARTS | AM | AM | AM | PM | PM | PM |
|---|---|---|---|---|---|---|
| FALMOUTH BUS DEPOT | 6:30* | ** | ** | ** | ** | ** |
| FALMOUTH CENTER | 6:32* | ** | ** | ** | ** | ** |
| TEATICKET(Falmouth Mall) | 6:35* | 7:30* | 10:30 | 12:30 | 4:30 | 6:30 |
| EAST FALMOUTH | 6:40* | 7:35* | 10:37 | 12:35 | 4:35 | 6:35 |
| WAQUOIT | 6:45* | 7:40* | 10:42 | 12:40 | 4:40 | 6:40 |
| MASHPEE COMMONS | 6:50* | 7:45* | 10:46 | 12:45 | 4:45 | 6:45 |
| STOP AND SHOP | ---- | 7:47* | 10:48 | 12:47 | 4:47 | 6:47 |
| MASHPEE TOWN HALL | ---- | ---- | 10:51 | 12:50 | 4:50 | ---- |
| COTUIT LANDING | 6:57* | 7:50* | 10:58 | 12:57 | 4:57 | 6:52 |
| OSTERVILLE CENTER | 7:04* | 7:57* | 11:03 | 1:02 | 5:02 | ---- |
| CENTERVILLE CENTER | 7:07* | 8:02* | 11:08 | 1:07 | 5:07 | ---- |
| CENTERVILLE PLAZA | 7:09* | 8:06* | 11:13 | 1:12 | 5:12 | 6:58 |
| PURITY (West Main) | 7:11* | 8:10* | 11:18 | 1:17 | 5:17 | 7:03 |
| WEST END ROTARY | 7:13* | 8:14* | 11:23 | 1:22 | 5:22 | 7:05 |
| HYANNIS DOCKS | 7:16* | 8:18* | 11:29 | 1:27 | 5:27 | 7:09 |
| CAPE COD HOSPITAL | 7:17* | 8:20* | 11:31 | 1:30 | 5:30 | 7:11 |
| P&B BUS STATION | 7:20* | 8:22* | 11:34 | 1:35 | 5:35 | 7:14 |
| CAPE COD MALL | 7:25* | 8:27* | 11:39 | 1:40 | 5:40 | 7:19 |
| CCCC | 7:35* | 8:37* | 11:44 | 1:50 | 5:50 | ---- |
| BARNSTABLE VILLAGE | 7:45* | 8:47* | 11:55 | 2:02 | 6:02 | ---- |

NOTES: 1. * No Saturday or Holiday service.
2. ** WHOOSH trolley service. Passengers wishing to travel between Teaticket and Woods Hole should deboard the SeaLine at the Falmouth Mall and board the WHOOSH trolley. Transfer free with SeaLine Commuter Pass; otherwise, WHOOSH trolley fare is 50 cents.
3. ---- No service at this stop on this run.

## HYANNIS BARNSTABLE–SAGAMORE NO. PLYMOUTH ROCKLAND BOSTON—LOGAN AIRPORT

WEEKDAY SERVICE MONDAY - FRIDAY

READ DOWN

| SCHEDULE NUMBER | | 202 | 204 | 206 | 208 | 210 | 212 | 214 | 218 | 220 | 224 | 228 | 230 | 232 | 234 | 236 | 238 | 240 | 242 | 246 | 250 | 254 | 258 | 260 | 262 | 264 | 272 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Folder No 2451 12-3-94 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FREQUENCY | | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H |
| HYANNIS, MA | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hy-Line Docks | Lv | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Steamship Authority Docks | Lv | | | | | | | | | | | | | | | | | | | | | | | | | | |
| P & B Terminal, Elm St | Lv | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Barnstable | | | 4 45 | | 5 15 | 5 25 | 5 35 | 5 45 | | 6 05 | 6 15 | | 6 40 | 7 00 | | 7 50 | 8 30 | | | | | | | | | | |
| Sagamore Circle | | | 4 55 | | 5 25 | 5 35 | 5 45 | 5 55 | | 6 15 | 6 25 | | 6 50 | 7 10 | | 8 00 | 8 40 | | | | | | | | | | |
| Plymouth | | | 5 10 | | 5 40 | 5 50 | 6 00 | 6 10 | | 6 30 | 6 40 | | 7 05 | 7 25 | | 8 15 | 8 55 | | | | | | | | | | |
| Rockland, MA | | | ↓ | | ↓ | ↓ | ↓ | ↓ | | ↓ | ↓ | | ↓ | ↓ | | ↓ | 9 15 | | | | | | | | | | |
| BOSTON, MA | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| So Station Transp Ctr | Ar | | 6 10 | | 6 40 | 6 55 | 7 15 | 7 25 | | 7 45 | 8 00 | | 8 25 | 8 45 | | 9 30 | ↓ | | | | | | | | | | |
| Park Square | Ar | | 6 20 | | 6 50 | | 7 25 | 7 35 | | 7 55 | 8 10 | | 8 35 | 8 55 | | 9 40 | 10 05 | | | | | | | | | | |
| Peter Pan Term 555 Atlantic Ave | Ar | | | | | | | | | | | | | | | | 10 15 | | | | | | | | | | |
| Boston Logan Airport, MA | Ar | | | | | | | | | | | | | | | | | | | | | | | | | | |

Passengers may board any bus at Logan Airport for all connecting service not shown on schedule and transfer at either Park Square or South Station Terminal

2451A-1116dh 2451B-1115dh

## LOGAN AIRPORT—BOSTON ROCKLAND NO. PLYMOUTH SAGAMORE–BARNSTABLE HYANNIS

WEEKDAY SERVICE MONDAY-FRIDAY

READ DOWN

| SCHEDULE NUMBER | | 203 | 209 | 213 | 217 | 221 | 223 | 225 | 231 | 109 | 233 | 235 | 239 | 241 | 119 | 243 | 245 | 247 | 249 | 251 | 253 | 145 | 257 | 155 | 261 | 263 | 265 | 269 | 273 | 275 | 279 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Folder No 2451 12-3-94 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FREQUENCY | | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H |
| BOSTON, MA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Boston Logan Airport | Lv | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Peter Pan Term , 555 Atlantic Ave. | Lv | 7 05 | | | | | | | 3 10 | 3 25 | 3 30 | | 4 00 | 4 15 | 4 20 | 4 30 | | 4 50 | 5 00 | 5 15 | 5 25 | 5 20 | | 5 50 | 6 00 | 6 15 | | | | | |
| Park Square | Lv | 7 15 | | | | | | | 3 00 | 3 15 | 3 20 | | 3 50 | | 4 10 | 4 20 | | | 4 50 | | 5 15 | | | 5 40 | 5 50 | 6 25 | | | | | |
| Rockland, MA | | 7 30 | | | | | | | ↓ | ↓ | ↓ | | ↓ | ↓ | ↓ | ↓ | | ↓ | ↓ | ↓ | ↓ | ↓ | | ↓ | ↓ | ↓ | | | | | |
| Plymouth | | 8 00 | | | | | | | 4 10 | 4 15 | 4 35 | | 5 05 | 5 25 | 5 10 | 5 40 | | 6 00 | 6 10 | 6 25 | 6 35 | 6 15 | | 6 35 | 7 05 | 7 25 | | | | | |
| Sagamore Circle | | 8 20 | | | | | | | 4 25 | | 4 50 | | 5 20 | 5 40 | | 5 55 | | 6 15 | 6 25 | 6 40 | 6 50 | | | | 7 20 | 7 40 | | | | | |
| Barnstable | | 8 35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HYANNIS, MA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| P & B Terminal, Elm St. | Ar | 8 45 | | | | | | | 4 35 | | 5 00 | | 5 30 | 5 50 | | 6 05 | | 6 25 | 6 35 | 6 50 | 7 00 | | | | 7 30 | 7 50 | | | | | |
| Steamship Authority Docks | Ar | 9 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hy-Line Docks | Ar | 9 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

① — Local service via Route 53 and Plymouth Center.
② — Passengers may board bus for Plymouth Terminal at Logan Airport only.
D — Discharge only.

2451C-1116dh 2451D-1115dh

## HYANNIS BARNSTABLE–SAGAMORE NO. PLYMOUTH ROCKLAND BOSTON—LOGAN AIRPORT

WEEKEND SERVICE SATURDAY ONLY

READ DOWN

| SCHEDULE NUMBER | | 1202 | 1208 | 1222 | 1226 | 1228 | 1230 | 1234 | 1236 | 1240 | 1242 | 1244 | 1246 | 1250 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Folder No 2451 9-10-94 | | | | | | | | | | | | | | |
| FREQUENCY | | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| HYANNIS, MA | Lv | 4 30 | 5 30 | 7 30 | | | | | | | | | | |
| Barnstable | | 4 40 | 5 40 | 7 40 | | | | | | | | | | |
| Sagamore Circle | | 4 55 | 5 55 | 7 55 | | | | | | | | | | |
| Plymouth | | 5 10 | 6 10 | 8 15 | | | | | | | | | | |
| Rockland, MA | | 5 30 | 6 30 | 8 35 | | | | | | | | | | |
| BOSTON, MA | | | | | | | | | | | | | | |
| Park Square | Ar | ↓ | 6 50 | 9 10 | | | | | | | | | | |
| Peter Pan Term , 555 Atlantic Ave | Ar | 5 50 | 7 00 | 9 20 | | | | | | | | | | |
| Boston Logan Airport, MA | Ar | 6 00 | 7 15 | 9 45 | | | | | | | | | | |

2451E-0801ms

## LOGAN AIRPORT—BOSTON ROCKLAND NO. PLYMOUTH SAGAMORE–BARNSTABLE HYANNIS

WEEKEND SERVICE SATURDAY ONLY

READ DOWN

| SCHEDULE NUMBER | | 1203 | 1205 | 1207 | 1209 | 1213 | 1215 | 1217 | 1225 | 1229 | 1235 | 1241 | 1247 | 1251 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Folder No 2451 9-10-94 | | | | | | | | | | | | | | |
| FREQUENCY | | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| BOSTON, MA | | | | | | | | | | | | | | |
| Boston Logan Airport | Lv | 7 45 | | | | | | | | | | | | |
| Peter Pan Term , 555 Atlantic Ave | Lv | 8 15 | | | | | | | | | | | | |
| Park Square | Lv | 8 25 | | | | | | | | | | | | |
| Rockland, MA | | 8 50 | | | | | | | | | | | | |
| Plymouth | | 9 15 | | | | | | | | | | | | |
| Sagamore Circle | | 9 35 | | | | | | | | | | | | |
| Barnstable | | 9 50 | | | | | | | | | | | | |
| HYANNIS, MA | Ar | 10 00 | | | | | | | | | | | | |

2 — Discharge only

2451F-0804ms

## HYANNIS BARNSTABLE–SAGAMORE NO. PLYMOUTH ROCKLAND BOSTON—LOGAN AIRPORT

WEEKEND SERVICE SUNDAY ONLY

READ DOWN

| SCHEDULE NUMBER | | 1202 | 1216 | 1226 | 1228 | 1230 | 1236 | 1238 | 1240 | 1242 | 1244 | 1246 | 1250 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Folder No 2451 9-10-94 | | | | | | | | | | | | | |
| FREQUENCY | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| HYANNIS, MA | Lv | 4 30 | 6 30 | 8 30 | | | | | | | | | |
| Barnstable | | 4 40 | 6 40 | 8 40 | | | | | | | | | |
| Sagamore Circle | | 4 50 | 6 50 | 8 55 | | | | | | | | | |
| Plymouth | | 5 10 | 7 10 | 9 15 | | | | | | | | | |
| Rockland, MA | | 5 30 | 7 30 | | | | | | | | | | |
| BOSTON, MA | | | | | | | | | | | | | |
| Park Square | Ar | ↓ | 7 50 | 10 05 | | | | | | | | | |
| Peter Pan Term , 555 Atlantic Ave | Ar | 5 50 | 8 00 | 10 15 | | | | | | | | | |
| Boston Logan Airport, MA | Ar | 6 00 | 8 20 | 10 40 | | | | | | | | | |

2451G-0804ms

## LOGAN AIRPORT—BOSTON ROCKLAND NO. PLYMOUTH SAGAMORE–BARNSTABLE HYANNIS

WEEKEND SERVICE SUNDAY ONLY

READ DOWN

| SCHEDULE NUMBER | | 1205 | 1209 | 1213 | 1215 | 1217 | 1225 | 1229 | 1235 | 1241 | 1245 | 1249 | 1251 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Folder No 2451 9-10-94 | | | | | | | | | | | | | |
| FREQUENCY | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| BOSTON, MA | | | | | | | | | | | | | |
| Boston Logan Airport | Lv | 8 45 | | | | | | | | | | | |
| Peter Pan Term , 555 Atlantic Ave | Lv | 9 15 | | | | | | | | | | | |
| Park Square | Lv | 9 25 | | | | | | | | | | | |
| Rockland, MA | | 9 50 | | | | | | | | | | | |
| Plymouth | | 10 10 | | | | | | | | | | | |
| Sagamore Circle | | 10 30 | | | | | | | | | | | |
| Barnstable | | 10 50 | | | | | | | | | | | |
| HYANNIS, MA | Ar | 11 00 | | | | | | | | | | | |

2 — Discharge only

2451H-0801ms

Summer Effective June 10, 1995

WEEKDAY SERVICE MONDAY — FRIDAY

## HYANNIS – BARNSTABLE – SAGAMORE – PLYMOUTH – ROCKLAND – BOSTON – LOGAN AIRPORT

Folder No. 2451 6-10-95

| SCHEDULE NUMBER → | | 200 | 202 | 204 | 206 | 208 | 210 | 212 | 214 | 218 | 220 | 224 | 228 | 230 | 232 | 234 | 236 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Frequency → | | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H |
| HYANNIS, MA | Hy-Line Docks | | | | | | | | | | | | | | | | |
| | Steamship Authority Docks | | | | | | | | | | | | | | | | |
| | P & B Terminal Elm Street | | 4:30 | 4:45 | 5:00 | 5:15 | 5:25 | 5:35 | 5:45 | 5:55 | 6:05 | 6:15 | 6:30 | 6:40 | 7:00 | 7:20 | 7:50 |
| BARNSTABLE, MA | Park Ride Lot Rt 6 & 132 | | 4:35 | 4:55 | 5:10 | 5:25 | 5:35 | 5:45 | 5:55 | 6:05 | 6:15 | 6:25 | 6:40 | 6:50 | 7:10 | 7:30 | 8:00 |
| SAGAMORE, MA | Park Ride Lot Sag Circle | 4:40 | 4:50 | 5:10 | 5:25 | 5:40 | 5:50 | 6:00 | 6:10 | 6:20 | 6:30 | 6:40 | 6:55 | 7:05 | 7:25 | 7:45 | 8:15 |
| PLYMOUTH, MA | P & B Terminal Ind'l Park | 5:00 | 5:10 | ↓ | 5:45 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | 7:15 | ↓ | ↓ | 8:05 | ↓ |
| ROCKLAND, MA | Park Ride Lot Rte 3 & 228 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| BOSTON, MA | So. Station (Greyhound Term) | 5:40 | 5:50 | 6:10 | 6:30 | 6:40 | 6:55 | 7:15 | 7:25 | 7:35 | 7:45 | 8:00 | 8:15 | 8:25 | 8:45 | 9:05 | 9:30 |
| | Park Square (Broadway St) | | ↓ | 6:20 | ↓ | 6:50 | | 7:25 | 7:35 | ↓ | 7:55 | 8:10 | ↓ | 8:35 | 8:55 | ↓ | 9:40 |
| | Peter Pan Term 555 Atlantic Av | | ↓ | | ↓ | | | | | ↓ | | | ↓ | | | ↓ | |
| | Logan International Airport | | 6:10 | | 6:40 | | | | | 8:00 | | | 8:45 | | | 9:35 | |

| SCHEDULE NUMBER → | | 238 | 240 | 242 | 244 | 246 | 248 | 250 | 254 | 258 | 260 | 262 | 264 | 266 | 270 | 272 | 274 | 278 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Frequency → | | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H |
| HYANNIS, MA | Hy-Line Docks | | | | | | | | | 1:10 | | | | | | | | 8:10 |
| | Steamship Authority Docks | | | | | | | | | 1:20 | | | | | | | | 8:20 |
| | P & B Terminal Elm Street | 8:30 | 8:30 | 9:30 | 9:30 | 10:30 | 10:30 | 11:30 | 12:30 | 1:30 | 1:30 | 2:30 | 2:30 | 3:30 | 3:30 | 4:30 | 6:30 | 8:30 |
| BARNSTABLE, MA | Park Ride Lot Rt 6 & 132 | 8:40 | 8:40 | 9:40 | 9:40 | 10:40 | 10:40 | 11:40 | 12:40 | 1:40 | 1:40 | 2:40 | 2:40 | 3:40 | 3:40 | 4:40 | 6:40 | 8:40 |
| SAGAMORE, MA | Park Ride Lot Sag Circle | 8:55 | 8:55 | 9:55 | 9:55 | 10:55 | 10:55 | 11:55 | 12:55 | 1:55 | 1:55 | 2:55 | 2:55 | 3:55 | 3:55 | 4:55 | 6:55 | 8:55 |
| PLYMOUTH, MA | P & B Terminal Ind'l Park | 9:15 | 9:15 | 10:15 | 10:15 | 11:15 | 11:15 | 12:15 | 1:15 | 2:15 | 2:15 | 3:15 | 3:15 | 4:15 | 4:15 | 5:15 | 7:15 | 9:15 |
| ROCKLAND, MA | Park Ride Lot Rte 3 & 228 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | 5:35 | 7:35 | 9:35 |
| BOSTON, MA | So. Station (Greyhound Term) | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| | Park Square (Broadway St) | 10:05 | ↓ | 11:05 | ↓ | 12:05 | ↓ | 1:05 | 2:05 | 3:05 | ↓ | 4:05 | ↓ | 5:05 | ↓ | 6:05 | 8:05 | 10:05 |
| | Peter Pan Term 555 Atlantic Av | 10:15 | ↓ | 11:15 | ↓ | 12:15 | ↓ | 1:15 | 2:15 | 3:15 | ↓ | 4:15 | ↓ | 5:15 | ↓ | 6:15 | 8:15 | 10:15 |
| | Logan International Airport | | 10:30 | | 11:30 | | 12:30 | 1:40 | 2:40 | | 3:30 | | 4:30 | | 5:30 | 6:40 | 8:35 | 10:35 |

WEEKDAY SERVICE MONDAY — FRIDAY

## LOGAN AIRPORT-BOSTON – ROCKLAND – PLYMOUTH – SAGAMORE - BARNSTABLE – HYANNIS

Folder No. 2451 6-10-95

| SCHEDULE NUMBER → | | 201 | 203 | 205 | 209 | 211 | 213 | 217 | 219 | 221 | 223 | 225 | 227 | 229 | 231 | 109 | 233 | 235 | 239 | 241 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Frequency → | | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H |
| BOSTON, MA | Logan International Airport | | | 7:45 | 8:45 | | 9:45 | 10:45 | | 11:45 | ... | 12:45 | 1:45 | | | | | 2:45 | | |
| | Peter Pan Term 555 Atlantic Av | 5:50 | 7:05 | 8:15 | 9:15 | 9:15 | 10:15 | 11:15 | 11:15 | 12:15 | 12:15 | 1:15 | 2:15 | 2:40 | 3:10 | 3:25 | 3:30 | 3:45 | 4:00 | 4:15 |
| | Park Square (Broadway St) | 6:00 | 7:15 | 8:25 | ↓ | 9:25 | 10:25 | ↓ | 11:25 | ↓ | 12:25 | 1:25 | ↓ | 2:30 | 3:00 | 3:15 | 3:20 | ↓ | 3:50 | ↓ |
| ROCKLAND, MA | Park Ride Lot Rte 3 & 228 | ↓ | 7:30 | ↓ | ↓ | ↓ | ↓ | ↓ | 11:45 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| PLYMOUTH, MA | P & B Terminal Ind'l Park | 6:40 | 8:00 | 9:10 | 10:00 | 10:10 | 11:10 | 12:00 | 12:10 | 1:00 | 1:10 | 2:10 | 3:00 | 3:20 | ↓ | 4:15 | ↓ | 4:30 | ↓ | ↓ |
| SAGAMORE, MA | Park Ride Lot, Sag Circle | ↓ | 8:20 | 9:30 | 10:20 | 10:30 | 11:30 | 12:20 | 12:30 | 1:20 | 1:30 | 2:30 | 3:20 | 3:40 | 4:10 | | 4:35 | 4:50 | 5:05 | 5:25 |
| BARNSTABLE, MA | Park/Ride Lot, Rte 6 & 132 | ↓ | 8:35 | 9:45 | 10:35 | 10:45 | 11:45 | 12:35 | 12:45 | 1:35 | 1:45 | 2:45 | 3:35 | 3:55 | 4:25 | | 4:50 | 5:05 | 5:20 | 5:40 |
| HYANNIS, MA | P & B Terminal Elm St | 7:25 | 8:45 | 9:55 | 10:45 | 10:55 | 11:55 | 12:45 | 12:55 | 1:45 | 1:55 | 2:55 | 3:45 | 4:05 | 4:35 | | 5:00 | 5:15 | 5:30 | 5:50 |
| | Steamship Authority Docks | | 9:00 | | | | | | | 2:00 | | | | | | | | | | |
| | Hy-Line Docks | | 9:15 | | | | | | | 2:15 | | | | | | | | | | |

| SCHEDULE NUMBER → | | 119 | 243 | 245 | 247 | 249 | 251 | 253 | 145 | 257 | 259 | 155 | 261 | 263 | 265 | 269 | 271 | 273 | 275 | 279 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Frequency → | | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H |
| BOSTON, MA | Logan International Airport | | | 3:45 | | | | | | 4:45 | | | | | 5:45 | 6:45 | | 7:45 | 8:45 | |
| | Peter Pan Term 555 Atlantic Av | 4:20 | 4:30 | ↓ | 4:50 | 5:00 | 5:15 | 5:25 | 5:20 | ↓ | 5:40 | 5:50 | 6:00 | 6:15 | 6:35 | ↓ | 7:15 | 8:15 | 9:15 | 11:15 |
| | Park Square (Broadway St) | 4:10 | 4:20 | ↓ | ↓ | 4:50 | ↓ | 5:15 | ↓ | ↓ | ↓ | 5:40 | 5:50 | 6:25 | ↓ | ↓ | 7:25 | 8:25 | 9:25 | 11:50 |
| ROCKLAND, MA | Park Ride Lot Rte 3 & 228 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | 9:50 | (1) |
| PLYMOUTH, MA | P & B Terminal Ind'l Park | 5:10 | ↓ | 5:10 | ↓ | ↓ | ↓ | ↓ | 6:15 | 6:10 | ↓ | 6:35 | ↓ | 7:10 | 7:20 | 8:00 | 8:10 | 8:10 | 10:10 | 12:35 |
| SAGAMORE, MA | Park Ride Lot, Sag Circle | | 5:40 | 5:30 | 6:00 | 6:10 | 6:25 | 6:35 | | 6:30 | 6:45 | | 7:05 | 7:25 | 7:35 | 8:20 | 8:30 | 8:30 | 10:30 | 12:55 |
| BARNSTABLE, MA | Park/Ride Lot, Rte 6 & 132 | | 5:55 | 5:45 | 6:15 | 6:25 | 6:40 | 6:50 | | 6:45 | 7:00 | | 7:20 | 7:40 | 7:50 | 8:35 | 8:45 | 9:45 | 10:45 | 1:10 |
| HYANNIS, MA | P & B Terminal Elm St | | 6:05 | 5:55 | 6:25 | 6:35 | 6:50 | 7:00 | | 6:55 | 7:10 | | 7:30 | 7:50 | 8:00 | 8:45 | 8:55 | 9:55 | 10:55 | 1:20 |
| | Steamship Authority Docks | | | | | | | | | | | | | | | | | | | |
| | Hy-Line Docks | | | | | | | | | | | | | | | | | | | |

(1) Local Service via Rte. 53 & Rte. 3A

WEEKEND SERVICE SATURDAY – SUNDAY – HOLIDAY

## HYANNIS – BARNSTABLE – SAGAMORE – PLYMOUTH – ROCKLAND – BOSTON

Folder No. 2451 6-10-95

| SCHEDULE NUMBER → | | 1202 | 1208 | 1216 | 1222 | 1224 | 1226 | 1228 | 1230 | 1234 | 1236 | 1238 | 1240 | 1242 | 1244 | 1246 | 1248 | 1250 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Frequency → | | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 |
| HYANNIS, MA | Hy-Line Docks | ... | ... | ... | ... | | ... | ... | ... | ... | ... | 1:10 | ... | ... | ... | ... | ... | 8:10 |
| | Steamship Authority Docks | ... | ... | ... | ... | | ... | ... | ... | ... | ... | 1:20 | ... | ... | ... | ... | ... | 8:20 |
| | P & B Terminal, Elm Street | 4:30 | 5:30 | 6:30 | 7:30 | 8:30 | 8:30 | 9:30 | 10:30 | 11:30 | 12:30 | 1:30 | 2:30 | 3:30 | 4:30 | 6:30 | 7:30 | 8:30 |
| BARNSTABLE, MA | Park/Ride Lot, Rt 6 & 132 | 4:40 | 5:40 | 6:40 | 7:40 | 8:40 | 8:40 | 9:40 | 10:40 | 11:40 | 12:40 | 1:40 | 2:40 | 3:40 | 4:40 | 6:40 | 7:40 | 8:40 |
| SAGAMORE, MA | Park/Ride Lot, Sag Circle | 4:55 | 5:55 | 6:50 | 7:55 | 8:55 | 8:55 | 9:55 | 10:55 | 11:55 | 12:55 | 1:55 | 2:55 | 3:55 | 4:55 | 6:55 | 7:55 | 8:55 |
| PLYMOUTH, MA | P & B Terminal, Ind'l Park | 5:10 | 6:10 | 7:10 | 8:15 | 9:15 | 9:15 | 10:15 | 11:15 | 12:15 | 1:15 | 2:15 | 3:15 | 4:15 | 5:15 | 7:15 | 8:15 | 9:15 |
| ROCKLAND, MA | Park/Ride Lot, Rte 3 & 228 | 5:30 | 6:30 | 7:30 | ↓ | ↓ | ↓ | 10:35 | ↓ | ↓ | 1:35 | ↓ | ↓ | 4:35 | ↓ | 7:35 | ↓ | 9:35 |
| BOSTON, MA | Park Square (Broadway St) | ↓ | 6:50 | 7:50 | 9:05 | 10:05 | ↓ | 11:10 | 12:05 | 1:05 | 2:10 | 3:05 | 4:05 | 5:10 | 6:05 | 8:10 | 9:05 | 10:10 |
| | Peter Pan Term | 5:50 | 7:00 | 8:00 | 9:15 | 10:15 | ↓ | 11:20 | 12:15 | 1:15 | 2:20 | 3:15 | 4:15 | 5:20 | 6:15 | 8:20 | 9:15 | 10:20 |
| | Logan International Airport | 6:10 | 7:15 | 8:20 | 9:40 | ... | 10:30 | 11:45 | 12:40 | 1:40 | 2:45 | 3:40 | 4:40 | 5:45 | 6:40 | 8:45 | 9:40 | 10:45 |

WEEKEND SERVICE SATURDAY – SUNDAY – HOLIDAY

## BOSTON – ROCKLAND – PLYMOUTH – SAGAMORE – BARNSTABLE – HYANNIS

Folder No. 2451 6-10-95

| SCHEDULE NUMBER → | | 1201 | 1203 | 1205 | 1207 | 1209 | 1211 | 1213 | 1215 | 1217 | 1225 | 1229 | 1235 | 1241 | 1245 | 1247 | 1249 | 1251 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Frequency → | | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 |
| BOSTON, MA | Logan International Airport | | 7:45 | 8:45 | 9:45 | 10:45 | 11:45 | 12:45 | 1:45 | 2:45 | 3:45 | 4:45 | 5:45 | 6:45 | 7:45 | 8:45 | 9:45 | 11:15 |
| | Peter Pan Term | 7:05 | 8:15 | 9:15 | 10:15 | 11:15 | 12:15 | 1:15 | 2:15 | 3:15 | 4:15 | 5:15 | 6:15 | 7:15 | 8:15 | 9:15 | 10:15 | 11:40 |
| | Park Square, Broadway St | 7:15 | 8:25 | 9:25 | 10:25 | 11:25 | 12:25 | 1:25 | 2:25 | 3:25 | 4:25 | 5:25 | 6:25 | 7:25 | 8:25 | 9:25 | 10:25 | 11:50 |
| ROCKLAND, MA | Park/Ride Lot, Rte 3 & 228 | ↓ | 8:50 | 9:50 | ↓ | 11:50 | ↓ | ↓ | 2:50 | ↓ | ↓ | 5:50 | 6:50 | ↓ | ↓ | 9:50 | ↓ | 12:10 |
| PLYMOUTH, MA | P & B Terminal, Ind'l Park | 8:00 | 9:15 | 10:15 | 11:10 | 12:15 | 1:10 | 2:10 | 3:15 | 4:10 | 5:10 | 6:15 | 7:15 | 8:10 | 9:10 | 10:15 | 11:10 | 12:35 |
| SAGAMORE, MA | Park/Ride Lot, Sag Circle | 8:20 | 9:35 | 10:35 | 11:30 | 12:35 | 1:30 | 2:30 | 3:35 | 4:30 | 5:30 | 6:35 | 7:35 | 8:30 | 9:30 | 10:35 | 11:30 | 12:55 |
| BARNSTABLE, MA | Park/Ride Lot, Rte 6 & 132 | 8:35 | 9:50 | 10:50 | 11:45 | 12:50 | 1:45 | 2:45 | 3:50 | 4:45 | 5:45 | 6:50 | 7:50 | 8:45 | 9:45 | 10:50 | 11:45 | 1:10 |
| HYANNIS, MA | P & B Terminal, Elm St | 8:45 | 10:00 | 11:00 | 11:55 | 1:00 | 1:55 | 2:55 | 4:00 | 4:55 | 5:55 | 7:00 | 8:00 | 8:55 | 9:55 | 11:00 | 11:55 | 1:20 |
| | Steamship Authority Docks | 9:00 | ... | ... | ... | ... | 2:10 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Hy-Line Docks | 9:15 | ... | ... | ... | ... | 2:20 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |

Winter/Spring Effective Dec. 10, 1994

## PROVINCETOWN ORLEANS–HYANNIS BOSTON—LOGAN AIRPORT

### WEEKDAY SERVICE MONDAY—FRIDAY

READ DOWN — READ UP

| 810 | 800 | SCHEDULE NUMBER | 803 | 809 |
|---|---|---|---|---|
| | | Folder No. 2461 12-3-94 | | |
| X67H | X67H X67H | FREQUENCY | X67H | X67H X67H |
| | 6 50 | Lv PROVINCETOWN, MA (Ch. of Comm.) Ar | | 7 10 |
| | 7 02 | North Truro (Dutra's Store) | | 6 55 |
| | 7 07 | Truro (Jam's Store) | | 6 49 |
| | 7 15 | Wellfleet (Town Hall, Main St.) | | 6 42 |
| | 7 20 | South Wellfleet (Rt. 6 & Lecounts Hollow Rd.) | | 6 36 |
| | 7 25 | North Eastham (Village Green) | | 6 31 |
| | 7 30 | Eastham (Town Hall) | | 6 26 |
| | 7 35 | Orleans (C.V.S.) | | 6 23 |
| | 7 37 | East Brewster (Cumberland Farms) | | 6 18 |
| | 7 42 | Brewster (General Store) | | 6 15 |
| | 7 48 | East Dennis (Player's Plaza) | | 6 11 |
| | 7 53 | Dennis (Post Office) | | 6 06 |
| | 7 55 | Yarmouth (Peterson's Market) | | 6 03 |
| | 8 00 | Yarmouthport (Hallet's) | | 5 58 |
| | 8 15 | Ar Hyannis (P & B Terminal) Lv | | 5 45 |
| | 8 30 | Lv Hyannis (P & B Terminal) Ar | | 5 00 |
| | 8 40 | Barnstable (Commuter Pk. Lot) | | 4 50 |
| | 8 55 | Sagamore Circle (Commuter Pk. Lot) | | 4 35 |
| | 9 15 | Plymouth (P & B Terminal) | | |
| | ⬇ | Rockland (Park & Ride, Rte. 228) | | |
| | | BOSTON, MA | | |
| | 10 05 | Ar Park Square Lv | | 3 20 |
| | 10 15 | Ar Peter Pan Terminal Lv | | 3 30 |
| | | Ar Boston Logan Airport Lv | | |
| | | BONANZA CONNECTIONS | | |
| 5 30 | 8 30 | Lv Hyannis, MA Ar | 10 50 | 5 35 |
| 6 00 | 9 00 | Ar Bourne, MA Lv | 10 20 | 5 05 |
| 7 30 | 10 30 | Ar Providence, RI Lv | 9 00 | 3 45 |
| 11 45 | 2 45 | Ar New York, NY Lv | | 11 30 |

**Note:** See Table 2451 for connecting Rockland trips. 2461A-1116dh

**Some of our service is subsidized in part by the C.C.R.T.A.**

## PROVINCETOWN ORLEANS–HYANNIS BOSTON—LOGAN AIRPORT

### WEEKEND SERVICE SATURDAY & SUNDAY

READ DOWN — READ UP

| 1810 | 1800 | SCHEDULE NUMBER | 1803 | 1809 |
|---|---|---|---|---|
| | | Folder No. 2461 12-3-94 | | |
| 67 | 67 | FREQUENCY | 67 | 67 |
| | | Lv PROVINCETOWN, MA (Ch. of Comm.) Ar | | |
| | | North Truro (Dutra's Store) | | |
| | | Truro (Jam's Store) | | |
| | | Wellfleet (Town Hall, Main St.) | | |
| | | South Wellfleet (Rt. 6 & Lecounts Hollow Rd.) | | |
| | | North Eastham (Village Green) | | |
| | | Eastham (Town Hall) | | |
| | | Orleans (C.V.S.) | | |
| | | East Brewster (Cumberland Farms) | | |
| | | Brewster (General Store) | | |
| | | East Dennis (Player's Plaza) | | |
| | | Dennis (Post Office) | | |
| | | Yarmouth (Peterson's Market) | | |
| | | Yarmouthport (Hallet's) | | |
| | | Ar Hyannis (P & B Terminal) Lv | | |
| | | Lv Hyannis (P & B Terminal) Ar | | |
| | | Barnstable (Commuter Pk. Lot) | | |
| | | Sagamore Circle (Commuter Pk. Lot) | | |
| | | Plymouth (P & B Terminal) | | |
| | | Rockland (Park & Ride, Rte. 228) | | |
| | | BOSTON, MA | | |
| | | Ar Park Square Lv | | |
| | | Ar Peter Pan Terminal Lv | | |
| | | Ar Boston Logan Airport Lv | | |
| | | BONANZA CONNECTIONS | | |
| 5 30 | 8 30 | Lv Hyannis, MA Ar | 10 50 | 5 35 |
| 6 00 | 9 00 | Ar Bourne, MA Lv | 10 20 | 5 05 |
| 7 30 | 10 30 | Ar Providence, RI Lv | 9 00 | 3 45 |
| 11 45 | 2 45 | Ar New York, NY Lv | | 11 30 |

**Note:** See Table 2451 for connecting Rockland trips. 2461B-1116dh

## SPECIAL SCHEDULE FOR CHRISTMAS 1994 AND NEW YEAR'S DAY 1995

### LOGAN AIRPORT—BOSTON—HYANNIS—PROVINCETOWN

READ DOWN — READ UP

| 12 | 10 | 8 | SCHEDULE NUMBER | 7 | 9 | 11 |
|---|---|---|---|---|---|---|
| | | | Folder No. 2462 9-10-94 | | | |
| | | | FREQUENCY | | | |
| | | | BOSTON, MA | | | |
| | | | Lv Boston Logan Airport Ar | 10 40 | | |
| | | | Lv Peter Pan Term. (555 Atlantic Ave.) Ar | 10 25 | | |
| | | | Lv Park Square Ar | 10 05 | | |
| | | | Rockland, MA (Park & Ride, Rte. 228) | 9 35 | | |
| | | | Ar Plymouth, MA Lv | 9 15 | | |
| | | | Sagamore Circle (Commuter P. Lot) | 8 55 | | |
| | | | Barnstable (Commuter P. Lot) | 8 40 | | |
| | | | Ar HYANNIS, MA (P&B Term.) Lv | 8 30 | | |
| | | | Lv HYANNIS, MA (P&B Term.) Ar | | | |
| | | | Yarmouthport (Hallet's) | | | |
| | | | Yarmouth (Peterson's) | | | |
| | | | Dennis (Post Office) | | | |
| | | | Brewster (Gen. Store) | | | |
| | | | East Brewster (Cumberland) | | | |
| | | | Orleans (C.V.S.) | | | |
| | | | Easthan (Town Hall) | | | |
| | | | North Easthan (Village Green) | | | |
| | | | South Wellfleet (Gen. Store) | | | |
| | | | Wellfleet (Town Hall) | | | |
| | | | Truro (Jam's) | | | |
| | | | North Truro (Dutra's) | | | |
| | | | Ar PROVINCETOWN, MA (Cham. Com.) Lv | | | |

PPB-5/0805ms

Summer Effective June 10, 1995

## WEEKDAY SERVICE — MONDAY — FRIDAY
## PROVINCETOWN – HYANNIS

READ DOWN ↓ — READ UP ↑

| 816 | 812 | | 808 | | 804 | | 800 | ◄ SCHEDULE NUMBER ► | | 801 | | 803 | | 805 | | 809 | | 813 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | Folder No. 2461 6-10-95 Frequency | | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H | X67H |
| 9:30 | 4:30 | | 1:30 | | 8 50 | | 6 50 | Provincetown, MA | Chamber of Commerce | 8 40 | .... | 12:45 | .. | 3:45 | | 7:10 | | 9:10 |
| 9:40 | 4:40 | | 1:40 | | 9 02 | | 7 02 | North Truro, MA | Dutra's Store | 8 28 | .... | 12:35 | .. | 3:30 | | 6:55 | | 8:55 |
| 9:45 | 4:45 | | 1:45 | | 9 07 | | 7 07 | Truro, MA | Jam's Store | 8 23 | .. | 12:25 | .... | 3:25 | | 6:49 | | 8:49 |
| 9:52 | 4:52 | | 1:52 | | 9 15 | | 7 15 | Wellfleet, MA | Town Hall, Main Street | 8 17 | .. | 12:15 | .. | 3:18 | | 6:42 | | 8:42 |
| 9:56 | 4:56 | | 1:56 | | 9 18 | | 7 18 | South Wellfleet, MA | D & D Market | 8 12 | .... | 12:10 | .. | 3:13 | | 6:36 | | 8:36 |
| 10:01 | 5:01 | | 2:01 | | 9 20 | | 7 20 | North Eastham, MA | Village Green | 8 08 | .... | 12:05 | .... | 3:08 | | 6:31 | | 8:31 |
| 10:04 | 5:04 | | 2:04 | | 9 25 | | 7 25 | Eastham, MA | Town Hall | 8 05 | .... | 12:00 | .... | 3:05 | | 6:28 | | 8:28 |
| 10:10 | 5:10 | | 2:10 | | 9 30 | | 7 30 | Orleans, MA | CVS | 8 00 | ..... | 11 55 | .. | 3:00 | | 6:23 | | 8:23 |
| ↓ | 5:15 | | ↓ | | 9 37 | | 7 37 | East Brewster, MA | Cumberland Farms | ↑ | ..... | 11 50 | .. | ↑ | ... | 6:18 | | 8:18 |
| | 5:18 | | | | 9 42 | | 7 42 | Brewster, MA | General Store | | ..... | 11 45 | .. | | .. | 6:15 | .. | 8:15 |
| | 5:23 | | | | 9 48 | | 7 48 | East Dennis, MA | Players Plaza | | ..... | 11 41 | .... | | ... | 6:11 | .. | 8:11 |
| | 5:28 | | | | 9 53 | | 7 53 | Dennis, MA | Post Office | | ..... | 11 36 | .... | | ... | 6:06 | .. | 8:06 |
| | 5:31 | | | | 9 55 | | 7 55 | Yarmouth, MA | Peterson's Market | | ..... | 11 33 | .... | | ..... | 6:03 | .. | 8:03 |
| | 5:35 | | | | 10 00 | | 8 00 | Yarmouthport, MA | Hallet's | | ..... | 11 28 | .... | | ..... | 5:58 | .. | 7:58 |
| 10:35 | 5:50 | ⌐ | 2:45 | ⌐ | 10 15 | ⌐ | 8 15 | Hyannis, MA | P & B Terminal | 7 30 | ⌐ | 11 15 | ⌐ | 2:30 | ⌐ | 5:45 | ⌐ | 7:45 |
| | 6:30 | 3:30 | 3:30 | 10:30 | 10 30 | 8:30 | 8 30 | Hyannis, MA | P & B Terminal | 7 25 | 10:45 | 10 55 | 1:45 | 1:55 | 5:15 | 5:00 | 6:55 | 7:10 |
| | 6:40 | 3:40 | 3:40 | 10 40 | 10 40 | 8:40 | 8 40 | Barnstable, MA | Commuter Pk Lot | ↑ | 10:35 | 10 45 | 1:35 | 1:45 | 5:05 | 4:50 | 6:45 | 7:00 |
| | 8:55 | 3:55 | 3:55 | 10 55 | 10 55 | 8:55 | 8 55 | Sagamore, MA | Commuter Pk Lot | | 10:20 | 10 30 | 1:20 | 1:30 | 4:50 | 4:35 | 6:30 | 6:45 |
| | 7:15 | 4:15 | 4:15 | 11 15 | 11 15 | 9:15 | 9 15 | Plymouth, MA | P & B Terminal | 6 40 | 10:00 | 10:10 | 1:00 | 1:10 | 4:30 | ↑ | 6:10 | ↑ |
| | 7:35 | ↑ | ↓ | ↑ | ↓ | ↓ | ↓ | Rockland, MA | Commuter Pk Lot | ↓ | ↑ | ↑ | ↑ | ↑ | ↑ | | ↑ | |
| | 8:05 | | 5:05 | | 12:05 | | 10 05 | Boston, MA | Park Square | 6:00 | | 9:25 | | 12:25 | | 3:20 | | |
| | 8:15 | | 5:15 | | 12:15 | | 10 15 | | Peter Pan Terminal | 5 50 | 9:15 | 9 15 | 12:15 | 12:15 | 3:45 | 3:30 | | 5:40 |
| | 8:35 | 5:30 | | 12:30 | | 10:30 | | | Logan Airport | | 8:45 | | 11 45 | | 2:45 | | 4:45 | |
| | | | | | | | | BONANZA CONNECTIONS | | | | | | | | | | |
| | | | 3:20 | | 10:30 | | 8 30 | Hyannis, MA | P & B Terminal | | | 10:50 | | 1:35 | | 5:35 | | 7:35 |
| | | | 3:50 | | 11 00 | | 9 00 | Bourne, MA | Tedeschi Market | | | 10:20 | | 1:05 | | 5:05 | | 7:05 |
| | | | 5:30 | | 12:30 | | 10 30 | Providence, RI | Bonanza Terminal | | | 9:00 | | 11 45 | | 3:45 | | 5:45 |
| | | | 9:45 | | 4:45 | | 2:45 | New York, NY | Port Authority Terminal | | | | | 7:30 | | 11 30 | | 1:30 |

Note: See table 2451 for connecting Rockland trips

## WEEKEND SERVICE — SATURDAY – SUNDAY – HOLIDAY
## PROVINCETOWN – HYANNIS

READ DOWN ↓ — READ UP ↑

| 1816 | 1812 | 1808 | 1804 | | 1800 | ◄ SCHEDULE NUMBER ► | | 1801 | 1803 | 1805 | 1809 | 1813 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 67 | 67 | 67 | 67 | 67 | 67 | Folder No. 2461 6-10-95 Frequency | | 67 | 67 | 67 | 67 | 67 |
| 9:30 | 4:30 | 1:30 | 8.50 | | 6 50 | Provincetown, MA | Chamber of Commerce | | 12:45 | 3:45 | 7:10 | 9:10 |
| 9:40 | 4:40 | 1:40 | 9:02 | | 7 02 | North Truro, MA | Dutra's Store | | 12:35 | 3:30 | 6:55 | 8:55 |
| 9:45 | 4:45 | 1:45 | 9:07 | | 7 07 | Truro, MA | Jam's Store | | 12:25 | 3:25 | 6:49 | 8:49 |
| 9:52 | 4:52 | 1:52 | 9:15 | | 7 15 | Wellfleet, MA | Town Hall, Main Street | | 12:15 | 3:18 | 6:42 | 8:42 |
| 9:56 | 4:56 | 1:56 | 9:18 | | 7 18 | South Wellfleet, MA | D & D Market | | 12:10 | 3:13 | 6:36 | 8:36 |
| 10:01 | 5:01 | 2:01 | 9:20 | | 7 20 | North Eastham, MA | Village Green | | 12:05 | 3:08 | 6:31 | 8:31 |
| 10:04 | 5:04 | 2:04 | 9:25 | | 7 25 | Eastham, MA | Town Hall | | 12:00 | 3:05 | 6:28 | 8:28 |
| 10:10 | 5:10 | 2:10 | 9:30 | | 7 30 | Orleans, MA | CVS | | 11:55 | 3:00 | 6:23 | 8:23 |
| ↓ | 5:15 | ↓ | 9:37 | | 7 37 | East Brewster, MA | Cumberland Farms | | 11:50 | ↑ | 6:18 | 8:18 |
| | 5:18 | | 9:42 | | 7 42 | Brewster, MA | General Store | | 11:45 | | 6:15 | 8:15 |
| | 5:23 | | 9:48 | | 7 48 | East Dennis, MA | Players Plaza | | 11:41 | | 6:11 | 8:11 |
| | 5:28 | | 9:53 | | 7 53 | Dennis, MA | Post Office | | 11:36 | | 6:06 | 8:06 |
| | 5:31 | | 9:55 | | 7 55 | Yarmouth, MA | Peterson's Market | | 11:33 | | 6:03 | 8:03 |
| | 5:35 | | 10:00 | | 8 00 | Yarmouthport, MA | Hallet's | | 11:28 | | 5:58 | 7:58 |
| 10:35 | 5:50 | 2:45 | 10:15 | ⌐ | 8 15 | Hyannis, MA | P & B Terminal | 7 30 | 11:15 | 2:30 | 5:45 | 7:45 |
| | 6:30 | 3:30 | 10:30 | 8:30 | 8 30 | Hyannis, MA | P & B Terminal | | 11:00 | 1:55 | 4:55 | 7:00 |
| | 6:40 | 3:40 | 10:40 | 8:40 | 8 40 | Barnstable, MA | Commuter Pk Lot | | 10:50 | 1:45 | 4:45 | 6:50 |
| | 6:55 | 3:55 | 10:55 | 8:55 | 8 55 | Sagamore, MA | Commuter Pk Lot | | 10:35 | 1:30 | 4:30 | 6:35 |
| | 7:15 | 4:15 | 11:15 | 9:15 | 9 15 | Plymouth, MA | P & B Terminal | | 10:15 | 1:10 | 4:10 | 6:15 |
| | 7:35 | 4:35 | ↓ | ↓ | ↓ | Rockland, MA | Commuter Pk Lot | | 9:50 | ↑ | ↑ | 5:50 |
| | 8:10 | 5:10 | 12:05 | | 10 05 | Boston, MA | Park Square | | 9:25 | 12:25 | 3:25 | 5:25 |
| | 8:20 | 5:20 | 12:15 | | 10 15 | | Peter Pan Terminal | | 9:15 | 12:15 | 3:15 | 5:15 |
| | 8:45 | 5:45 | 12:40 | 10:30 | | | Logan Airport | | 8:45 | 11:45 | 2:45 | 4:45 |
| | | | | | | BONANZA CONNECTIONS | | | | | | |
| | | 3:20 | 10:30 | | 8 30 | Hyannis, MA | P & B Terminal | | 10:50 | 1:35 | 5:35 | 7:35 |
| | | 3:50 | 11:00 | | 9 00 | Bourne, MA | Tedeschi Market | | 10:20 | 1:05 | 5:05 | 7:05 |
| | | 5:30 | 12:30 | | 10 30 | Providence, RI | Bonanza Terminal | | 9:00 | 11:45 | 3:45 | 5:45 |
| | | 9:45 | 4:45 | | 2:45 | New York, NY | Port Authority Terminal | | | 7:30 | 11:30 | 1:30 |

Note: See table 2451 for connecting Rockland trips

# APPENDIX C

Cape Cod Mode Share Calculations for Summer Trolley Services ..... C1

**Cape Cod Mode Share for Summer Trolley Services**
**1994 Peak Summer Period (July-August)**

| | No. Passengers | Avg. No. Passengers/Day | Avg. Route ADT | Avg. Route Person Trips* | Trolley Mode Share |
|---|---|---|---|---|---|
| **Falmouth WHOOSH** | 20241 | 326 | 16,856 | 27,139 | 1.20 |
| **Yarmouth YES** | 27089 | 437 | 29,200 | 47,013 | 0.93 |
| **Hyannis HAT** | 38203 | 616 | 27,185 | 43,768 | 1.41 |
| | | | **Average Trolley Mode Share** | | **1.18** |

* Calculated using Vehicle Occupancy Factor of 1.61. SOURCE: Cape Cod Commission.

1994 Traffic Count Locations and ADT - Falmouth WHOOSH Route

| Location | Beg. Date | RAW ADT | Adj. ADT |
|---|---|---|---|
| Rt 28, E of King St | 06/02/92 | 17,582 | 24,066 |
| Jones Rd, W of Dove Cottage Rd | 06/15/90 | 9,357 | 14,817 |
| Locust St, S of Rt 28 | 07/21/87 | 17,566 | 28,633 |
| Spring Bars Rd, W of Worcester Ct | 05/12/88 | 5,101 | 10,801 |
| Woods Hole Rd, S of Oyster Pond | 08/30/94 | 10,048 | 10,048 |
| Worcester Ct, N of Spring Bars | 04/28/88 | 5,429 | 12,773 |
| | | Average ADT | 16,856 |

1994 Traffic Count Locations and ADT - Yarmouth YES Route

| Location | Beg. Date | RAW ADT | Adj. ADT |
|---|---|---|---|
| Rt 28, W of Forest Rd | 06/22/94 | 19,393 | 21,979 |
| Rt 28, E of Higgins Crowell Rd | 05/22/91 | 22,148 | 34,790 |
| Rt 28, W of Higgins Crowell Rd | 05/20/91 | 21,263 | 33,399 |
| Rt 28, W of Main St | 06/30/91 | 20,732 | 30,140 |
| Rt 28, W of North Main St | 06/12/91 | 17,444 | 25,360 |
| Rt 28, W of SeaView Ave | 06/17/91 | 23,353 | 33,950 |
| Rt 28, W of West Yarmouth Rd | 07/06/92 | 21,799 | 25,723 |
| Rt 28, W of Winslow Grey | 07/05/88 | 30,260 | 46,600 |
| Rt 28, E of Wood Rd | 06/17/91 | 19,458 | 28,288 |
| Main St, E of Wood Rd | 07/28/86 | 6,846 | 11,775 |
| | | Average ADT | 29,200 |

1994 Traffic Count Locations and ADT - Hyannis HAT Route

| Location | Beg. Date | RAW ADT | Adj. ADT |
|---|---|---|---|
| Rt 132, E of Bearses Way | 08/27/91 | 31,309 | 39,762 |
| Rt 132, W of Independence Park Dr | 08/08/89 | 30,513 | 44,243 |
| Rt 132, E of Phinney's Lane | 07/13/94 | 34,020 | 34,020 |
| Rt 132, W of Phinney's Lane | 06/14/94 | 26,041 | 29,513 |
| Barnstable Rd, S of Airport Rotary | 06/20/94 | 21,273 | 24,109 |
| Barnstable Rd, N of Center St | 06/20/94 | 17,484 | 19,815 |
| Main St, W of Center St | 07/22/87 | 18,841 | 30,710 |
| Lewis Bay Rd, N of South St | 09/16/85 | 6,841 | 14,298 |
| Ocean St, S of South St | 05/12/92 | 5,542 | 8,196 |
| | | Average ADT | 27,185 |

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