

Transportation



Skaket Corners, Rt 6A and Eldredge Park Way

9. Transportation

9.1 Overview

This chapter presents goals, an overview, issues and recommendations associated with Orleans' transportation system. Many recommendations reflect the need to better manage automobile traffic and to find alternatives to their use, such as bicycling, walking, and public transportation. Transportation and general circulation problems throughout the town present complex and urgent challenges to the community.

Orleans serves as a commercial hub for this region of the Cape. It is burdened by the presence of three State highways that pass through the town. Orleans' network of roads must be able to accommodate both year-round residents and a large influx of seasonal residents and tourists. During peak travel periods, the north-south flow of traffic is mainly composed of people either shopping downtown or passing through Orleans to other parts of the Cape. The east-west traffic is composed of people using downtown or on their way to the beaches and lakes. This has resulted in an overuse of the major roads and concern for safety at many major intersections. The downtown must provide convenient, adequate, and accessible parking. All plans for improvements to the transportation system must be consistent with the character of the town and its vision for the future.

Developments of Regional Impact (DRIs), as defined by the Cape Cod Commission, can have a deleterious effect on traffic management. The Town of Orleans must continue to work with the Cape Cod Commission to ensure that large development projects will not add further traffic to a transportation system that is already overburdened during the summer season. This Commission's Regional Policy Plan contains a set of Minimum Performance Standards that relate directly to traffic impacts of DRIs (MPS 4.1.1.1-4.1.1.17, 4.1.2.1- 4.1.2.5). Those standards are adopted into this Plan by reference and should be used to mitigate the traffic impacts of Developments of Regional Impact.

9.2 Goals

Goal

To establish and maintain a multi-modal transportation system for present and future year-round and seasonal needs. The system should be safe, convenient, accessible, effective, economical and should be consistent with the Town's historic, scenic, natural resource, land use development and growth management policies.

Policies

- Transportation and circulation improvements should be consistent with the town character, accommodate the visibility and access needs of local merchants, encourage pedestrian and bicycle activity, and give clear directions.

- Transportation impacts should be identified and potential improvements should be evaluated using established performance indicators as defined in the Highway Capacity Manual⁸.
- Traffic improvement measures should be designed with sensitivity to seasonal variations in traffic patterns. However, roadway design should reflect year-round traffic demands, and the Town should develop other management strategies to address peak seasonal traffic flow.
- Traffic flow solutions should be considered on a macro-level, i.e. areas in which several intersections are interrelated should be reviewed as a whole, not intersection by intersection.
- Transportation improvement measures required as a result of new development or redevelopment should be consistent with community character and should not degrade historic, scenic or natural resources.
- Existing transportation rights-of-way should be preserved for transportation uses, including bicycle and pedestrian access ways.
- Adjacent business uses should share access points and provide connections between parcels so as to minimize curb cuts, driveways, and vehicular turning movements.
- The Town should support public transportation services.

Goal

To allow for less dependence on private automobiles by integrating a variety of transportation modes and by promoting alternatives which reduce travel such as telecommunications and home occupations.

Policies

- Roads and intersections should be widened to provide for safe bicycle and pedestrian travel and accessibility, where appropriate.
- Bicycle and walking should be encouraged as an alternative to automobile trips. Where appropriate, historic footpaths should be maintained and safe bicycle and walking links should be created to establish an interconnected transportation system.
- Town regulations should encourage home occupations and up-to-date communications links.

⁸ Third Edition Updated 1994, *Highway Capacity Manual*, Transportation Research Board.

Goal

To assure convenient access to and safety in the downtown area.

Policies

- Mixed use development that minimizes dependence on the automobile should be encouraged.
- The Town should deploy additional enforcement resources in the peak summer months.
- Every effort should be made to reduce the speed of automobiles and create separation between moving vehicles.

9.3 Inventory

9.3.1 Roadway Network

Orleans has 58 miles of town roadways. There is approximately an equal amount of privately owned roads. The network of State roads, (Route 6, Route 6A, and Route 28) converge at the rotary on the Eastham border. However, Route 39 intersects with, and ends at Route 28 in South Orleans. The convergence of the state roads in Orleans has historically influenced the development of the Town. In the early 1950s, when the Town created zoning districts and regulations, the areas on either side of the entire length of Route 6A and portions of Route 28 were zoned for commercial development. These roads provided the means for people in the lower Cape region to travel to the town's business districts. State roads helped Orleans develop into the commercial hub of the Lower Cape, and their presence ensures that the area will continue to serve this purpose.

The roadway network is one of many elements that contribute to the Town's rural, historic seaside character. The town's numerous miles of narrow, often unpaved private roads constitute one of the features that contributes to the town's Cape Cod charm.

Classification of Orleans' Roadways

The Cape Cod Commission's Regional Policy Plan categorizes roadways as Major Regional Roadways, Regional Roadways with Scenic and Historic Qualities, Local Roadways of Regional Significance and Other Local Roadways (Cape Cod Commission, 2002). Control of roads in Orleans is divided into three categories: State roads, Town accepted roads, and private ways. Below is a brief description of each. The following section describes how the roads in Orleans relate to these categories.

State Roads

Route 6, 28 and 6A are the three state roads that traverse Orleans. Route 6 is the only Major Regional Roadway in Orleans. Route 28 and Route 6A, designated as Regional Roadways with Scenic and Historic Qualities, have also been labeled as scenic under the provisions of MGL Ch. 40, 15C.

Local Roads

There are two categories of public streets in Orleans: those within accepted public layouts and those for which there is no layout. A layout is a plan that establishes a swath of land within which the roadway, sidewalks, utilities and other features are located. This is also known as the public right of way.

Town-accepted streets total 58 miles. The Orleans Highway Department is responsible for maintenance of all local public roads. Approximately 50% of the public streets are historic ways which were improved by the Town over the years without benefit of a formal layout. Without a layout, the Town owns only the extent of the paved road. This situation creates management difficulties for the Highway Department when repairs are necessary and makes it difficult to add safety features such as bike lanes and sidewalks.

Private Roads

More than half of the roadway miles in the Town are private roads. In general, private roads are owned by the abutters. It is the responsibility of the owners to maintain the road. In Orleans, no public funds are expended to maintain private roads. For instance, snow removal for private ways is the responsibility of the property owners.

In most cases, private roads are a benefit to the community. These are the roads which tend to be much more rural in nature than public streets. They are usually narrower than Town roads, and may have a gravel surface instead of asphalt, which is both environmentally and aesthetically desirable.

The Town has enacted an Emergency Access Bylaw, Chapter 90 of the general code, requiring private roads to have a minimum clearance of fourteen feet high and fourteen feet wide, to allow for passage by emergency vehicles. This bylaw provides for the protection of the general public by insuring safe and adequate access over all ways within the town for oversized emergency vehicles for the purpose of providing emergency medical, law enforcement and/or fire protection services. The Fire Chief inspects roads and penalties may be imposed if roads are not properly maintained in accordance with the bylaw.

Scenic Roads

Massachusetts General Law Chapter 40, Section 15, authorizes a municipality, upon recommendation of its Planning Board, Conservation Commission or Historical Commission, to designate "scenic roads." Any road in a community, other than state numbered routes or highways, may be designated as a scenic road. The purpose of the statute is to provide an opportunity for the Planning Board to review the cutting or removal of trees, alteration of stone walls, or other alterations within the road right of way of a designated scenic road.

Local Roadways of Regional Significance are roads that have been designated by the Cape Cod Commission because of their importance to the transportation network of the region. Scenic roads in Orleans that are classified as Local Roadways of Regional Significance include:

Table 9-A: Local Roadways of Regional Significance

| | |
|------------------|--------------------|
| Beach Road * | Rock Harbor Road * |
| Bridge Road | Skaket Beach Road |
| Eldredge Parkway | West Road |
| Main Street | |

Other local roadways that have also been designated as Scenic by the Town include:

Table 9-B: Orleans Scenic Roadways

| | | |
|------------------------------------|--------------------|--------------------|
| Arey's Lane (to town landing only) | Monument Road * | Barley Neck Road * |
| Namequoit Road | Briar Springs Road | Namskaket Road |
| Brick Hill Road | Pochet Road | Champlain Road |
| Portanimitcut Road | Defiance Lane | Quanset Road |
| Freeman Lane | River Road | Gibson Road |
| Shore View Drive | Great Oak Road | Snow's Shore Road |
| Herring Brook Way | Tar Kiln Road | Hopkins Lane |
| Tonset Road | Locust Road * | Uncle Harvey's Way |
| Mill Pond Road | Eldredge Park Way | West Road |

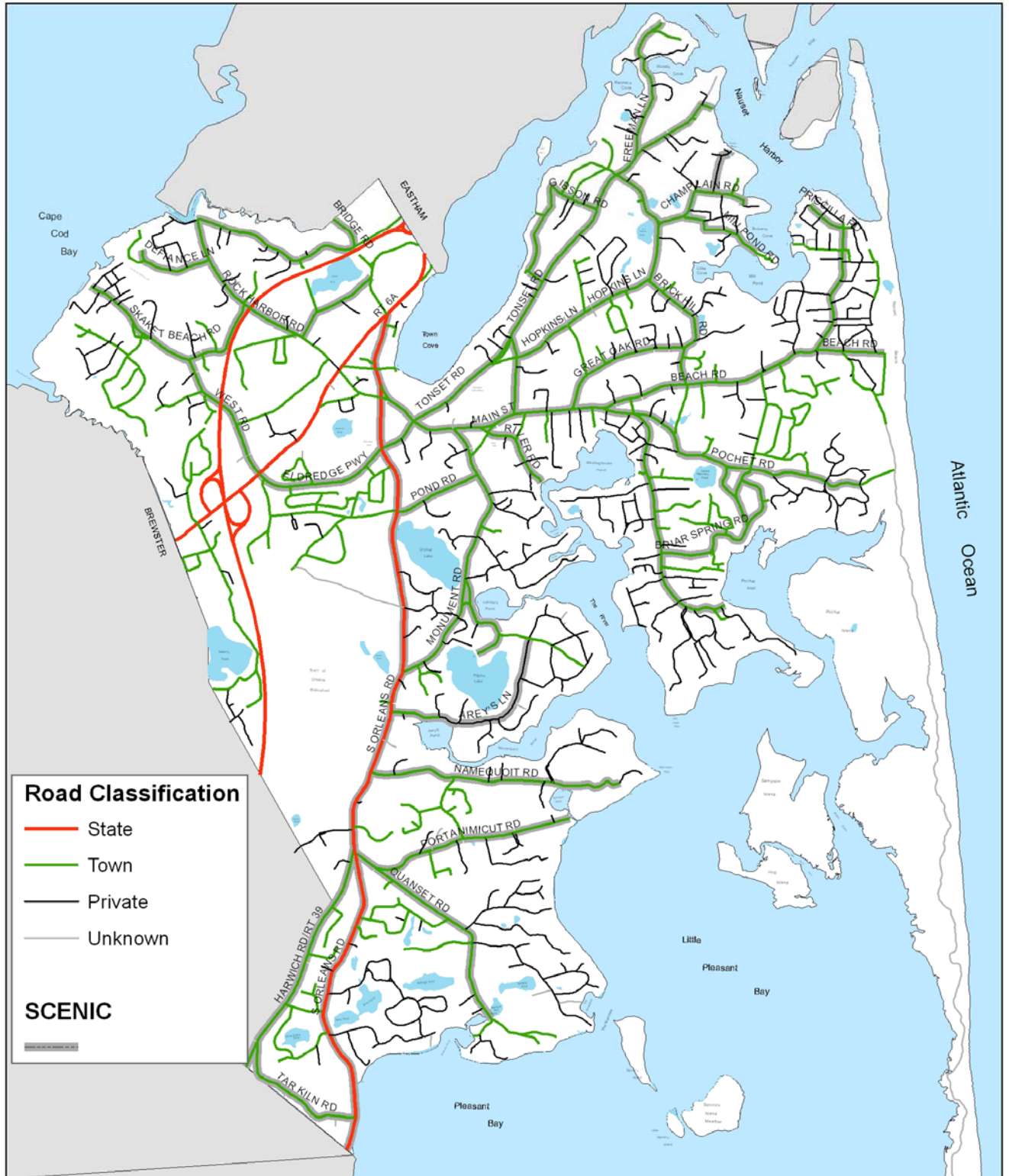
Also See Map of Scenic Roads

() Denotes streets for which there is no formal layout.*

From the 1940's through the early 1990's the Town sustained a full-time staffed tree department to maintain its roadside trees. Although the Town no longer has a Tree Department it does have a full time Tree Warden who has part time help that is shared from the Parks and Beaches Department. The Tree Warden remains committed to improving the safety along scenic and town roads by taking down hazard trees, planting appropriate roadside species, and pruning and maintaining the existing shade trees along the roadways.

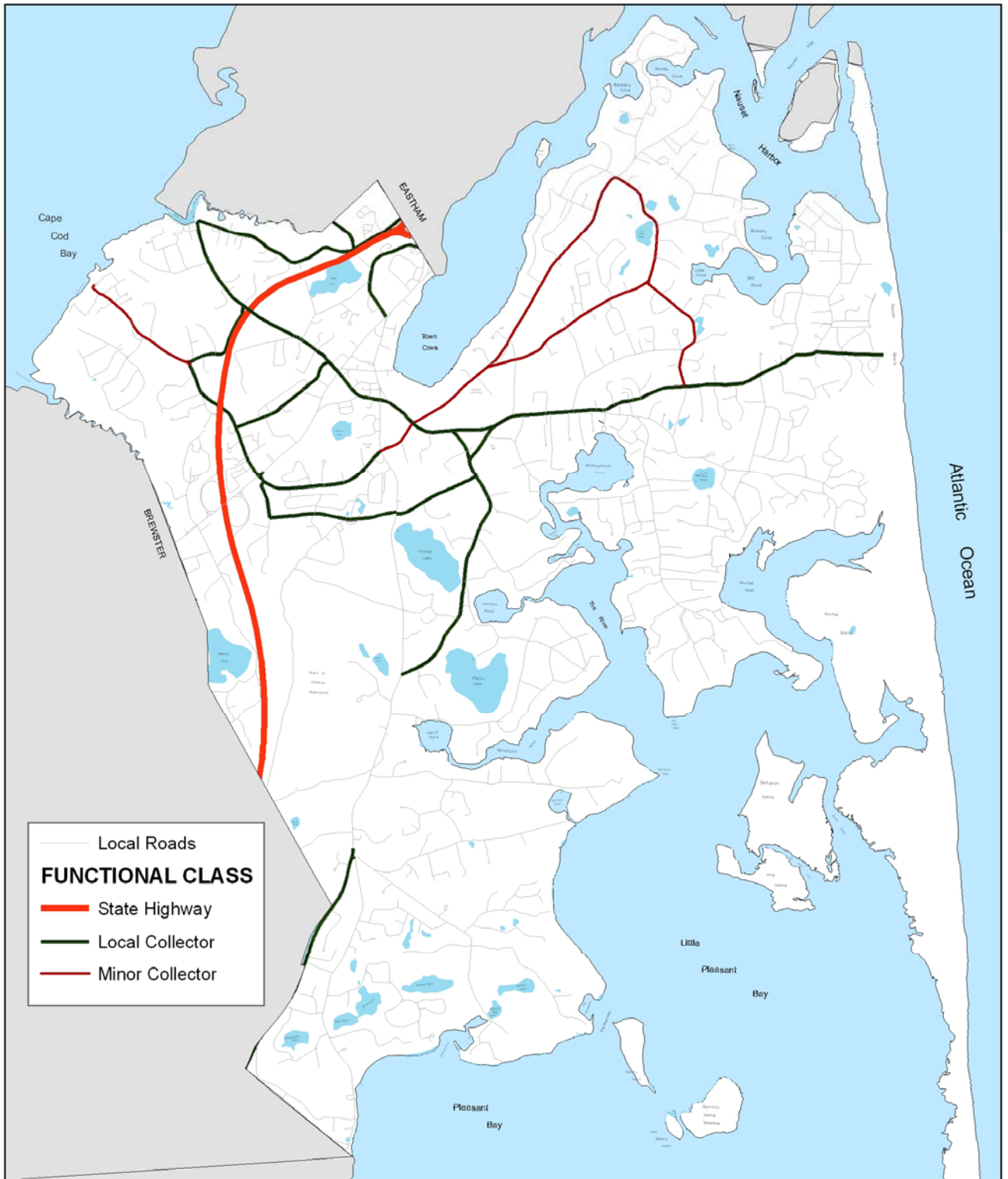


Orleans Comprehensive Plan: Roadway Status





Orleans Comprehensive Plan: Road Functional Classifications



9.3.2 Parking

The Town maintains a total of 2,641 public parking spaces. The following table inventories 806 public parking spaces on Town owned property in the downtown area and land owned by the Nauset Regional School District.

Table 9-C: Downtown Public Parking Facilities

| Public Parking | Use Category | Number of Spaces |
|--|--------------|------------------|
| Bike Path - off Main Street | General | 19 |
| Main Street - On-street spaces | General | 56 |
| Depot Square (Old Colony and Main Street) | General | 51 |
| Town Hall Annex (spaces located at rear of Community Ctr.) | General | 30 |
| Town Cove lot at Goose Hummock | General | 60± |
| Guertin Bros. Lot (off Main Street) | General | 22 |
| Nauset Regional Middle School * | School | 412 |
| Orleans Elementary School* | School | 118 |
| Snow Library | Municipal | 38 |
| Total Downtown Parking | | 806 |

Source: Town of Orleans, 2005

*Note: * School facilities not available during school hours.*

Table 9-D: Other Public Parking Facilities

| Public Parking | Use Category | Number of Spaces |
|-------------------------------------|------------------|------------------|
| Rock Harbor | Beach/boating | 130 |
| Skaket Beach | Beach | 175 |
| Nauset Beach | Beach | 1,000 |
| Crystal Lake | Beach | 8 |
| Pilgrim Lake | Beach | 60 |
| All Town Landings | Boating/ fishing | 283 |
| Police Station/Harbor Master | Municipal | 42 |
| Fire Station | Municipal | 33 |
| Town Hall | Municipal | 48 |
| Highway Department/Parks Department | Municipal | 16 |
| Sea Call Farm | Conservation | 12 |
| Baker's Pond | Conservation | 12 |
| Kent's Point | Conservation | 10 |
| Pah Wah Pond | Conservation | 6 |
| Total Out-of-Town Public Parking | | 1,835 |
| TOTAL PUBLIC PARKING | | 2,641 |

In addition, there are several private parking lots that serve the community's downtown parking needs. A parking analysis of the existing businesses in the downtown was undertaken by the Planning Department in 2000 in order to determine where there was a surplus or deficit when it comes to required parking areas. It was found that in most cases private lots have a surplus of parking that is often used for public parking spaces. Below is a list of businesses providing the most significant private lots in the downtown:

- CVS Lot
- Snow & Sons
- Mid-Cape Home Center
- Friends Market
- Besse Lot (off Main Street)
- Hole-in-One/Watson's Lot
- Post Office Square
- Orleans Marketplace
- Lowell Square

The Besse Lot is the only private lot in the above list that has the potential to become a public parking lot. There are roughly 30 spaces located on the Besse Lot. If developed for public parking the area could support close to 100 spaces depending on site design and access. There are other areas within the downtown which are underutilized and have the potential to help alleviate parking problems. The area behind the Bon Repose bedding store, and land behind the Red Barn and Whole Food Store all have the potential to help alleviate seasonal parking problems in the village.

9.3.3 Public Transportation

Public transportation is a means to alleviate traffic congestion and mitigate environmental impacts caused by vehicles, road improvements and run-off. There are a variety of public transportation facilities available to Orleans residents. These facilities, however, are underutilized. Most connections to air, rail, and ferry services are provided by private companies, including the Plymouth and Brockton bus line.

Table 9-E: Public Transportation Facilities & Service Area

| Transportation Type | Service Area |
|--|--|
| Plymouth and Brockton Street Railway (P&B) | Provincetown to Boston (including Logan Airport) |
| H2O | Hyannis to Orleans busline |
| Flex Route | Harwich to Provincetown busline |
| B Bus Service | Ride by appointment throughout entire Cape |
| Taxi Service | |
| On-call private service | |
| Ferry Service | |
| Boston-Provincetown Ferry | Provincetown to Boston |
| | Harwich to Nantucket |
| Steamship Authority | Hyannis to Nantucket & MV |
| Air Service | |
| Barnstable Airport | |
| Chatham Municipal Airport | |
| Provincetown Municipal Airport | |

The current local demand for public transportation is difficult to accurately access. Recently, steps have been taken to make transit more reliable, recognizable, and frequent. The new Flex Route bus line service is expected to serve a wide area of Orleans and enhance mobility options of residents year round. This new service runs a fixed route between Harwich and Provincetown but also has the ability to deviate up to a mile from its route to pick up riders. A new bus stop, or mini modal center is planned

for Cranberry Cove Plaza (Stop and Shop) that would serve as a connection point for the local routes and the express service off Cape (P&B Bus).

9.3.4 Bicycle Paths and Pedestrian Walkways

Two modes of transportation which reduce the number of cars on the roads and lessen the impact on infrastructure and the environment are walking and bicycling. There are a limited number of sidewalks in the town, most of which are congregated in the downtown area. A significant portion of the town is in need of sidewalk improvements. As area road and intersection improvements are performed sidewalks also get re-built and repaired.

There is a need to link outlying public parking areas with the downtown and to establish walking paths between abutting business properties. It is important to link the three primary villages (E. Orleans, S. Orleans, and the Village Center) for bicycle and pedestrian access. There are no bike lanes on either of the state routes that travel through town. Other than the Cape Cod Rail Trail travel on bicycle can be dangerous on the busy, narrow streets in town. Steps to improve bicycle safety and provide the needed bike connections are a priority of the Orleans Bikeway Committee.

Bicycle routes are categorized according to their functional classification. The following is an explanation of the basic types of bicycle facilities:

Class I - A separated bike path exclusively for non-motorized vehicles.

Class II - Bike lanes adjacent to a roadway that have striping or pavement markings to separate them from traffic.

Class III - An on-road bikeway that may have wider street pavement to allow safe use by bicyclists.

The Cape Cod Rail Trail is part of a designated bicycle path which runs along the former railroad right-of-way and passes through the center of town. A recently constructed bicycle bridge over route 6 and an extended bike path into the center of Orleans from the north has improved the safety and the popularity of the Rail Trail. With these new additions the center of Orleans has a Class I connection to points north.

9.4 Analysis

9.4.1 Road Maintenance & Improvement

Pavement Management System

Improvements to public roadways are funded by the Commonwealth, either through the Regional Transportation Improvement Plan or through Chapter 90 reimbursement. In 2005, the Town will receive \$184,000 to maintain its 58 miles of public roadway, a level that has been decreasing in recent years. This amount is not adequate to maintain all roads, resulting in the need to prioritize road work, and to augment state road repair funds with local tax dollars.

The Highway Department maintains a computerized pavement management system. This system includes a detailed condition survey of all public roads in the Town. Indicators of condition include the age of the road, surface condition, base condition, level of traffic, and other characteristics to assist Town officials in making annual budgeting decisions to properly maintain local roads. It is recommended that the Town continue to maintain the pavement management system and use it in developing its annual road maintenance budget. (T-1)

Other components of the transportation network that are under the authority of the Highway Department include sidewalks, and in the future bicycle paths. A unified transportation maintenance program should include these components.

Public Street Layouts & Private Streets

Most of the major routes in the town began as cart paths during the settlement period and were gradually improved over time. In most cases, the Town has accepted a road layout, which essentially conveys ownership of the street corridor to the municipality.

There still remain, however, a number of significant public streets for which no layout exists. For example, Rock Harbor Road is a major local road that is not formally laid out. (T-3) In these cases, the Town's authority does not extend beyond the width of the pavement. Abutting property owners are responsible for maintaining the area from the edge of the pavement to the boundary of their property. This limitation of Town authority creates difficulties when the community wishes to improve a local road. In order to install a sidewalk, bikeway, or widen the road, the Town must acquire property to create a public right of way – a difficult and time consuming task. It is therefore recommended that the Town begin a program of laying out and accepting all existing public streets. (T-3)

With more than half of all roads being private ways, equity issues arise as to the appropriate level of services which are provided by the Town. Private ways are not currently maintained by the Town. In some communities, it has been determined that snow removal on private ways can be provided by the municipality. In Chatham, any private way which meets standards set by the Highway Department is plowed by the Town. The Town of Orleans should investigate the costs and other issues surrounding snow removal and other services on private ways. (T-4)

Scenic Roads, Rural Character & Trees

As discussed in the Inventory section, there is an extensive list of Town-designated scenic roads in Orleans. While the listing covers nearly all connecting roads in the Town, there may still be other roads which need to be designated as Scenic Roads to protect their character. One example is Nauset Heights Road, a public street that provides access to several neighborhoods and Nauset Harbor landings. Efforts should be made to review the existing list and determine whether other roads should be brought to Town Meeting for scenic designation. (T-5)

Back in 1998, the Town's Tree Warden developed a "tree inventory" for 23 roads. The inventory is still maintained today and lists over 1150 trees. Additionally, there are over

1000 known public shade trees on 131 Town roads of which 32 are designated as scenic roads. Working from the concept of an inventory, a maintenance program can be established. The Tree Warden’s current maintenance efforts include pruning and lifting trees in the road layout, and removal of hazard trees supplemented by the planting of new shade trees. The Tree Warden also oversees the Scenic Road Bylaw with the Planning Board and enforces Massachusetts’ laws pertaining to public shade trees. The two parties have worked together to resolve a number of cases. The addition of a planting program in concert with the cutting requests has worked well in and should be continued.

Scenic roads for which there is no public layout limits the Town’s ability to regulate activities which are proposed on or near the roadway. It is recommended that the Town take action to ensure that all scenic roads are located within an accepted layout. (T-3, T-5)

9.4.2 Road Capacity

Existing and Future Conditions

The roadway intersections with existing and projected design problems should be evaluated and management tools implemented to address them. (T-8, T-9) The Cape Cod Commissions Regional Transportation Plan compares the demand placed on Orleans road network with their operating capacity. Capacity is defined as “...the number of vehicles that can pass through an intersection or section of roadway over a fixed period of time, usually one hour.” The width of the road and the type of traffic (cars and trucks) passing through determine the base number of vehicles that should be able to flow through freely in a given hour. (Regional Transportation Plan, 2003).

The Regional Transportation Plan forecasts traffic conditions on the Lower Cape based on the existing traffic counts taken annually and the CCC’s growth projections. Many of the same locations have been counted multiple times over the last 10 years and provide a timeline of traffic data. What the traffic counts show is a continually increasing traffic volume on all of our major roadways of about 1.5% per year.

Table 9-F: Relationship between Volume/Capacity (V/C) and Congestion

| Volume / Capacity measured as a Percentage | Level of Congestion |
|--|---------------------|
| 100% and over | Over Capacity |
| 80%-100% | Congested |
| 80% and lower | Not Congested |

Source: Cape Cod Commission

Maps of traffic for base year conditions and future year conditions are provided to demonstrate that many local roads will be operating beyond their capacity in the future.

Village Center Traffic

In 2003 the Town obtained a \$25,000 grant to have a detailed traffic study done of the Village Center by Judith Nitsch and Associates (JENI). The study goal was to quantify and qualify the transportation activities in town and make recommendations to aid in alleviating area traffic impacts and improve circulation of cars, bicycles and pedestrians in the Village Center.

As part of the study, traffic was counted in the Village Center at 10 different intersections during peak summer periods from 3pm to 6pm. Once up to date traffic volumes were collected, JENI then calculated a Level of Service for each intersection. A Level of Service (LOS), pertains not only to the functioning of a road, but also to the functioning of an intersection and its relative effect on intersection delay and safety. Listed below are intersection Levels of Service, they can be referred to like an intersection report card where an F is failing grade and a C is a passing grade.

Table 9-G: Intersection Level of Service in the Village Center

| LOCATION | 2003 LOS | 2008 LOS | 2013 LOS |
|-----------------------------------|----------|----------|----------|
| Route 6A /Brewster Cross Road | F | F | F |
| Main Street / Old Colony Way | D | E | F |
| Rt 6A / Main Street | B | C | C |
| Route 6A / Cove Road | D | F | F |
| Route 6A / Route 28 / Canal Road | F | F | F |
| Route 28 / Cove Road | F | F | F |
| Route 28 / Academy Place | F | F | F |
| Route 28 / Main Street | B | B | C |
| Main Street / Tonset Road | D | E | E |
| Main Street / Brewster Cross Road | B | C | C |

LOS described above for each intersection as a whole (not by movement or approach) Source:Village Center Traffic Study,2003

What the above table demonstrates is that if NO ACTION, or improvements, were taken at the intersections in the Village Center that 6 out of the 10 intersections will be operating in a failure condition in the year 2013.

The Village Center Study makes a number of recommendations to help guide the Town in improving traffic in the downtown. The Planning Board prioritized these recommendations and the following represent action items they would like to see remain in this plan and carried out:

Short Term (1-3 years)

- For all crosswalks under Town jurisdiction, create a consistent marking pattern such as the red brick street imprint used at Route6A/Main Street;
- At Brewster Cross Road/Main Street install a raised median island to “tighten-up” the intersection;

- Re-stripe the Brewster Cross Road/Main Street intersection to show land lines so the intersection can be better channelized and be compatible with the improvement above and add 3 curbside spaces on Main Street in front of the Compass Bank;
- Upgrade the Main Street/Tonset Road intersection, as signal equipment is outdated and obsolete. An application has recently been filed through the MHD Footprints Roads Pilot Program to improve this intersection. If this application is unsuccessful, the Town should place the project in its budgeting program for future upgrade;
- The Town should request the MHD to upgrade the pedestrian signal heads at Route 6A/Main Street and install signal heads at the Route 28/Main Street intersection. Countdown pedestrian signals are recommended;
- The Town should request the MHD to alter the signal timing at Route 28/Main Street to add more green time for the northbound (southbound) approach;
- Monitor the development on Main Street in the area of Friends Market and Post Office Square as Main Street should be reviewed for altering/consolidating curb cuts to better serve the two-way center left turn land on Main Street once redevelopment occurs;
- At Main Street/Old Colony Way install an elephant track crosswalk at the crossing of the Cape Cod Rail Trail with Main Street and place the portable pedestrian crosswalk sign at the crosswalk adjacent to Mahoney's Restaurant. In addition, maintain police officer control during the sunny days of July and August from 10 AM - 4 PM. Also Snow's east driveway opening should be designated as one-way in-only;

Long-Term (5-10 years)

- The Town working with the MHD should place the Route 28/Route 6A intersection on the Transportation Improvement Program;
- Through the Capital Budgeting Program, the Town should acquire the Besse Lot, which is located on Main Street, behind the Hogan Art Gallery and Honey Candles. Access-only should be provided from Main Street and full access/egress should be provided on Brewster Cross Road;
- Erect a standard green on white parking trailblazing sign along the gateways to the Town Center to identify to visitors the designated public parking areas;

Safety Problems

As traffic congestion increases it leads to increased driver confusion and conflicts. The following table provides an accident summary of major intersections in the town. (T-10, T-8) The top ranking accident location, 6A and Eldredge Park Way, has been re-designed with construction in 2005 that hopes to improve the safety record of this location. Other intersections have also been re-designed such as Old Colony and Main Street constructed in 2003 and Rt 28 and Finlay Road scheduled for 2007. These improvements should improve the safety of these intersections.

Table 9-H: Accidents at Intersections in Orleans

| Roadway/ Intersection | # of Accidents 1997-2003 |
|-----------------------------------|-----------------------------|
| Route 28/ Finlay/Pond | 18 |
| 6A/West & Eldredge Parkway | 113 |
| Rt. 6A/ Route 28 Canal Road | 72 |
| Main St. / Old Colony Way | 15 |
| Route 6A / Brewster Cross Rd. | 29 |
| Lots Hollow Rd & Eldredge Parkway | 1 |
| Route 6A / Main St. | 48 |
| Route 6A / Cranberry Cove Plaza | 20 |
| Rts. 28 /Rt. 39 / Quanset Road | 5 |
| Post Office Square | 9 |

Accident data from Orleans Police Dept.

Other problem areas which should also be addressed in the future include:

Table 9-I: Roadway Problem Areas

| | |
|--|-----------------------------|
| • Route 28 & Monument Road | • Cottage Street & Route 28 |
| • Cove Road & Route 28 | • Cove Road & Route 6A |
| • Main Street & Route 28 (green arrow) | • Windmill Plaza (E. Orl.) |
| • Tonset Road & Main Street | • Beach Road & Nauset Hts. |
| • Monument Rd & Herringbrook Rd. | |

As road capacity is approached, even a relatively small increase in traffic volume can cause a dramatic increase in congestion and safety. The other dynamic which occurs during high volume periods is that motorists seek alternative routes to avoid congested areas. The result, local roads carry higher volumes and become inherently less safe. Another result of heavy congestion is peak spreading. This is when motorists plan their travel outside of the known congested travel times and spread out the traffic congestion from a one hour peak period to possible a 2 hour peak period of congestion. In fact this type of driver behavior already exists during the congested summer traffic season.

In recognition of the need to begin immediate work to resolve existing traffic and safety problems, Town Meeting voters have approved transportation improvement projects at Skaket Corners, Main Street @ Old Colony Way, and Route 28 @ Finlay Road. Construction has been completed at Main Street and Old Colony Way, Skaket Corners, and is planned to start in 2007 for Finlay Road.

A Network Approach

Solutions to problem intersections and congested roadways cannot be solved on an individual basis. Many of the problems are interrelated, requiring a thoughtful, holistic analysis of the transportation network to determine which solutions offer the greatest overall benefits. Traffic associated with the Industrial District provides a good example.

Traffic into and out of the Industrial District must pass through one of two intersections, Finlay Road @ Route 28 or Lots Hollow Road @ Eldredge Parkway. Both intersections have problems, as does the intersection of Giddiah Hill Road on Finlay Road. To compound the problem, Lots Hollow Road also ends near Skaket Corners so that traffic flow in that intersection affects Lots Hollow Road. Improving one intersection without considering associated areas may have unanticipated adverse consequences. Therefore, the two entry points must be evaluated together. (T-11)

The Town has made efforts to improve both of these key intersections described above. The intersection of Finlay Road and Rt 28 is on the Transportation Improvement Program, a federally funded program, and is scheduled for improvement in 2007. The intersections of Eldredge Park Way and Lots Hollow Road are targeted for improvements via a Public Works Economic Development grant (PWED). The concept re-design would extend Lots Hollow Road where it would approach Eldredge Park Way further to the East creating a safer more efficient intersection. The coordination of this improvement with the Skaket Corners expansion would make the whole area road network function more efficiently.

Other problem areas that should also be considered together include:

- Main Street @ Route 28, Main Street @ Route 6A, Cove Road @ Route 6A (T-12)
- Cranberry Cove Plaza @ Route 6A, Routes 28 & 6A @ Canal Road, Canal Road (east end) @ 6A

Alternatives that may help improve the above locations may include traffic management methods and/or hard solutions (construction). It is recommended that traffic studies be performed for each of the above problem areas to determine how different improvement scenarios relate to each other in order to select the best approach to alleviate traffic problems in Orleans. (T-8, T-11, T-13, T-14)

Areas of congestion in Orleans are associated primarily with Route 6A and the General Business District, and are generally confined to the summer months. (T-9, T-12, T-13) For residents, convenient and enjoyable access to the downtown is denied not so much by having to wait but by the lack of orderliness that causes gridlock and rewards aggressive behavior. The deployment of summer foot patrols to direct traffic is a cost-effective method of restoring order and civility to the downtown. This is a quality of life issue for Orleans residents. Strategies that could be employed to reduce seasonal congestion may include the following:

- Increase traffic controls at major intersections. (T-8)
- Improve directional signs for visitors. (T-16)
- Encourage “through traffic” to use Route 6 to bypass the center of town.

- Limit left turns for traffic entering Route 6A. (T-8)
- Establish walking linkages between businesses to encourage shoppers to walk between destinations. (T-18)
- Establish set biking lanes on roads and bike path linkages to East and South Orleans. (OS-22)
- Facilitate State construction of a Park & Ride lot on Bay Ridge Lane (T-19)

Another method of reducing congestion and improving safety is access management or reducing the number of curb cuts. This could be accomplished by providing interconnecting and common driveways along Rt 6A that would serve a number of adjacent businesses and direct entrance and egress traffic to limited locations. (T-20, T-21, T-22) This concept would best be used along the easterly section of Route 6A from the Cranberry Cove Plaza to the Fog Cutter Route 28 intersection. Reduction and consolidation of curb cuts are commonly requested and carried out during the site plan review process of re-development. These efforts by the Town should continue.

A long-term strategy to reduce congestion in the downtown area could involve setting up one-way traffic flow on Cove Road, and Brewster Cross Road. These alternatives were considered as part of the Village Center Transportation Study and the Town should consider if there is action to be taken on these measures.

Left turns onto main roads during the summer cause an unsafe situation and exacerbates traffic congestion. As motorists are forced to wait an increasingly long time to enter traffic, they tend to take risks that can lead to accidents. It is recommended that the Town examine the potential benefits of limiting left turns during the busy summer months. (T-8)

Certain land use regulations will also help address traffic problems, particularly along Route 6A where nearly all of the properties are business oriented and there is a large amount of commercial sprawl. This type of strip development that encourages automobile use should be constrained in the area. In order to focus new development into centers as opposed to strip development, the area in the General Business District between the Orleans Marketplace and Skaket Corners was rezoned as limited business district. (T-23, ED-5)

9.4.3 Transportation Improvements

Each of the intersections discussed above may need to be improved or redesigned to meet the population and land use projections. Structural improvements such as turning lanes and road widening should be based on year-round needs as opposed to seasonal demands. Improvements should be designed within the framework of retaining the Town's semi-rural character. (T-10, T-8)

Parking Facilities and Needs

Additional public parking is needed to enhance the downtown area. Added parking facilities would reduce congestion in the Village Center area. Development of a public parking lot in the Village Center was recommended as part of the Village Center

Transportation Plan and could allow more people to show and utilize the downtown. Better utilization of existing lots, such as the Nauset Regional Middle School lot, could make it easier to access the entire downtown area. (T-15)

There is a need for walkway interconnections between parking areas, both public and private. This would allow vehicles that enter a parking area that is at capacity to proceed to an adjacent lot without the need to enter the street network. (T-18) Interconnections between private and public parking areas would drastically improve the function of the downtown during peak times by allowing overflow traffic to proceed to the next parking area without having to reenter the street network. It is desirable to allow visitors to “park once” and be within walking distance of many shops and businesses. It will be important to design parking area interconnections in such a way that cut-through traffic is discouraged. (T-11, T-25)

Alternatives that could minimize the need for additional public parking include:

- Enhance alternative modes of transportation, e.g. Flex Route and or summer trolley service, to reduce the amount of cars on town streets.
- Utilize existing parking lots to a greater extent. (T-15)
- Create walking paths between the Village Center and adjacent areas. (T-18)

In order to properly prepare to meet the parking needs of the population, the Town should incorporate a municipal land acquisition program into its capital planning. (T-25) Nearly all land purchases by the Town have been for open space preservation purposes. If sufficient new parking could be acquired, it would be desirable to reconfigure parking on Main Street and create better bicycle and pedestrian lanes. There is a need to explore opportunities to develop more efficient traffic solutions and find ways to foster an enjoyable experience for downtown visitors.

There are also parking problems at many of the Town Landings and some of the beaches. (CF-12) The Town may wish to consider requiring parking stickers for Town landings and beaches. (T-27) In addition, they may also wish to encourage water based travel as an alternative to using cars. (T-26) The Community Facilities and Services chapter discusses potential improvements at these sites and some of the issues involved.

Demand for Pedestrian and Bicycle Paths, Sidewalks and Facilities

Comments from participants in the Village Center Workshop and Town Survey showed residents’ interest in expanding on and off road bicycle paths. Residents have also expressed a desire for additional hiking trails on conservation land and the addition of sidewalks along major streets. (T-28) Based on the public desire for additional bicycle paths, sidewalks and pedestrian walkways, it is recommended that the appropriate Town departments and committees evaluate the feasibility of expanding pedestrian and bicycle facilities. (T-29) Bike path extensions should be constructed to connect to South Orleans, East Orleans, and Rock Harbor/Skaket areas. (OS-22)

In addition to expanding and improving bicycle and walking routes, efforts must be made to improve the safety and function of the transportation system, especially where different modes connect or cross. Creating brick or cobblestone crosswalks from curb

edges provides an attractive road crossing for pedestrians and at the same time slows vehicular traffic. There are other traffic calming techniques that could be used, such as “neckdowns” at crosswalks which reduce the distance for a pedestrian to cross the street. Bike racks should also be placed in appropriate areas to encourage bicycle use. Relatively small improvements such as these not only create a safer pedestrian environment, but help to promote the small village atmosphere that residents desire.

As more diverse modes of transportation interact, it is important that everyone who utilizes the area comply with traffic laws to ensure adequate public safety. Some residents and business owners have requested that traffic laws be better enforced in the Village Center and throughout the Town. The State, however, has control over speeds on many roads in Orleans. (T-31, T-30) This Plan recognizes the benefits of having a police presence in the Village Center to assist with congestion problems and maintain pedestrian flow when streets are utilized beyond design capacity.

Public Transportation Needs

In 2006, the FLEX bus service began operating full-time between Harwich and Provincetown. The service provides buses running every 30 minutes, with rides costing a dollar or less. Funding for the buses was provided through a grant to the Cape Cod National Seashore. Operating costs are borne by the State (75%) and the participating towns (25%). For the first full year, Orleans’ cost is estimated to be \$37,000.

The Flex service is somewhat unique, in that it has the ability to deviate up to a mile from the set route to pick up or drop off riders. Route deviation arrangements are made by phone at least two hours prior to the pick up or drop off. It is hoped that the ability to “flex” will make the service more user-friendly and encourage strong ridership.

As part of a good public transportation network, a centralized center is needed for drop-offs, parking, change-overs, etc. Following up the Flex service, the National Park Service has provided a grant to study and locate two local transportation centers on the Lower Cape. One will be located in Provincetown and the other in Orleans. The study phase is expected to be completed in 2007, and future funding may be available for purchase and construction of the center (T-33).

A working group with representatives from each town has been established to review the Flex service and recommend changes to improve service. The Cape Cod Regional Transit Authority manages the service, and will be working with the group in the coming years to assure that the transit needs of Lower Cape residents are being met.”

9.5 Implementation Program

| | Action | Time for Completion | Resources Required | Lead Responsible Agency |
|-------------|---|--|--------------------|---------------------------------------|
| T-1 | Complete and utilize a Pavement Management System to develop a systematic approach to street maintenance and improvement. | FY 07-10 | L | Highway Dept. |
| T-2 | Incorporate adequate maintenance of roadways, sidewalks, and bicycle paths into the Highway Department budget. | FY 07-10 | M | Board of Selectmen |
| T-3 | Develop public layout plans for all major public roads in the Town. | FY 11-20 | H | Highway Dept. |
| T-4 | <i>Develop a policy for services to private roads.</i> | <i>Addressed See Appendix</i> | <i>L</i> | <i>Board of Selectmen</i> |
| T-5 | Prioritize private Scenic Roads that have regional significance for layout to ensure proper regulatory review. | FY 07-10 | L | Highway Dept. |
| T-6 | <i>Commit necessary resources to manage tree and vegetation cutback work along all public roads.</i> | <i>Addressed See Appendix</i> | <i>L</i> | <i>Highway Dept.</i> |
| T-7 | <i>Fund the Highway Department at an appropriate level to support the maintenance and replacement of new and existing roads.</i> | <i>Addressed See Appendix</i> | <i>L</i> | <i>Board of Selectmen</i> |
| T-8 | Based on the T-11, T-13, T-14 traffic studies, commission a design and establish a traffic management program to correct the cited deficiencies | FY 11-20 | H | Board of Selectmen |
| T-9 | Develop effective transportation management solutions for existing seasonal traffic problems. | Ongoing | M | Town Administrator |
| T-10 | Traffic circulation problems identified in the analysis section need to be analyzed and solutions determined. | FY 07-10 | L | Traffic Advisory Comm. |
| T-11 | <i>Conduct a comprehensive traffic study of the area serving the Industrial District, from Skaket Corners to Route 28.</i> | <i>Addressed See Appendix</i> | <i>M</i> | <i>Planning Department</i> |
| T-12 | Ensure that reconstruction along Route 6A and Route 28 specifically address safety and access problems. | Ongoing | L | Planning Board |
| T-13 | <i>Conduct a comprehensive traffic study of the Village Center, concentrating on problems at Route 6A and Main Street.</i> | <i>Addressed See Appendix</i> | <i>M</i> | <i>Planning Department</i> |
| T-14 | Conduct a comprehensive traffic study of the Route 6A corridor between Route 28 and the Eastham rotary. | FY 07-10 | M | Planning Department |
| T-15 | Assure adequate connections between school parking lots and the Village Center. | FY 07-10 | M | Highway Dept. |

| | | | | |
|------|---|---------------------------------------|----------|---------------------------|
| T-16 | Provide better directional signs to destinations and parking areas. | FY 07-10 | L | Highway Dept. |
| T-17 | <i>Petition MassHighway to remove the "Shore Road" sign at exit 12 and install signs at town entry points directing through traffic to bypass Route 6A and remain on Route 6.</i> | <i>Addressed See Appendix</i> | <i>L</i> | <i>Highway Dept.</i> |
| T-18 | Build or expand walking paths to connect various locations in the downtown. | FY 07-10 | M | Highway Dept. |
| T-19 | <i>Facilitate State construction of a Park & Ride lot on Bay Ridge Lane.</i> | <i>Addressed See Appendix</i> | <i>L</i> | <i>Highway Dept.</i> |
| T-20 | Re-evaluate parking regulations in the Zoning Bylaws in order to assure that the location, number, size, and screening of parking lots is appropriate, and to promote shared driveways and internal connections between parking lots. | FY 07-10 | L | Planning Board |
| T-21 | Work with property owners to reduce the number of curb cuts on Routes 6A, 28, and in the Village Center. | FY 11-20 | L | Highway Dept. |
| T-22 | Develop an access management bylaw to improve safety of residential and commercial curb cuts. | FY 07-10 | L | Planning Board |
| T-23 | Amend the Zoning Bylaws to reduce the size of the General Business District to alleviate the current and projected traffic congestion along Route 6A. | FY 07-10 | M | Planning Board |
| T-24 | Establish a transit/transportation center to support public transportation for residents and provide protection from weather, sanitary facilities, and local information. | FY 07-10 | H | Planning Department |
| T-25 | Acquire land in strategic locations for better traffic and parking management in the downtown area. | FY 11-20 | H | Board of Selectmen |
| T-26 | <i>Consider water-based travel as an alternative to using cars to access the downtown and beaches.</i> | <i>Addressed See Appendix</i> | <i>L</i> | <i>Board of Selectmen</i> |
| T-27 | Consider requiring parking stickers for all Town Landings and beaches. | FY 07-10 | L | Board of Selectmen |
| T-28 | Implement sidewalk and bikeway extension program on main roads. | FY 11-20 | H | Highway Dept. |
| T-29 | Develop a systematic program for extending sidewalks and bikeways in areas where there is high pedestrian traffic. | FY 07-10 | L | Highway Dept. |
| T-30 | <i>Enforce parking regulations on public streets and at Town landings</i> | <i>Addressed See Appendix</i> | <i>L</i> | <i>Board of Selectmen</i> |
| T-31 | <i>Work with State officials to re-evaluate speed limits on State roads.</i> | <i>Addressed See Appendix</i> | <i>L</i> | <i>Board of Selectmen</i> |
| T-32 | Consider methods to foster a viable public transportation system, possibly targeting key needs groups such as the elderly. | FY 07-10 | L | Town Administrator |