

# Pavement Management 2022 Status Report

November 2022





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### 1. Introduction

As an essential task required by the Cape Cod Metropolitan Planning Organization (MPO) through its Unified Planning Work Program, this report provides the status of pavement condition assessment activities on Cape Cod. The objectives of this effort are to collect data and implement a regional pavement management system for Cape Cod to provide an objective rating of pavement conditions and needs.

The pavement management process is conducted with the intent to keep the roadway system in the best possible condition with the most efficient use of available funds. There are distinct advantages to managing pavement condition and significant cost savings that can take place with preventative or rehabilitation measures rather than waiting until a road needs reconstruction. Of course, due to the reality of limited financial resources, it is necessary to prioritize pavement repair based on affordability. Deciding which roads to improve and by what technique in a fiscally responsible manner is the essence of Pavement Management.

As stated in the MPO-approved Cape Cod 2020 Regional Transportation Plan, the goal of the pavement management process is to improve the overall pavement condition of all federal aid-eligible roads. Specifically, a four-year performance measure target has been set to have 30% of all non-interstate roads to be in "good" condition.

#### 1.1 PAVEMENT MANAGEMENT SYSTEMS - BACKGROUND

Pavement Management is the practice of planning for pavement repairs and maintenance with the goal of maximizing the value and life of a pavement network.

To accomplish this, a community needs to have several repair techniques in its arsenal and the knowledge of when to apply them. This is where pavement management comes into play. With a comprehensive database of road conditions, the pavement management software can model when to perform which repairs on a road network. Of course, engineering judgment is required to finalize any list of street repairs, as no computer model can take every variable analyzed in making a repair decision into account. The computer system is a great springboard to help a community start its repair program for each year and is an excellent method of storing the repair data.

Below is a model of how a street's pavement deteriorates over time. Interpreting the curve, a street starts out in excellent condition when it is newly constructed. Midway through its life, a low-cost repair such as crack seal and full depth patch will cost approximately a dollar a square yard. It takes only a few years for the window of opportunity to perform this low-cost maintenance to pass after which the road would need an overlay costing \$13 - \$17 per square yard. By performing timely maintenance, road conditions can be improved today thereby extending the life of the road.



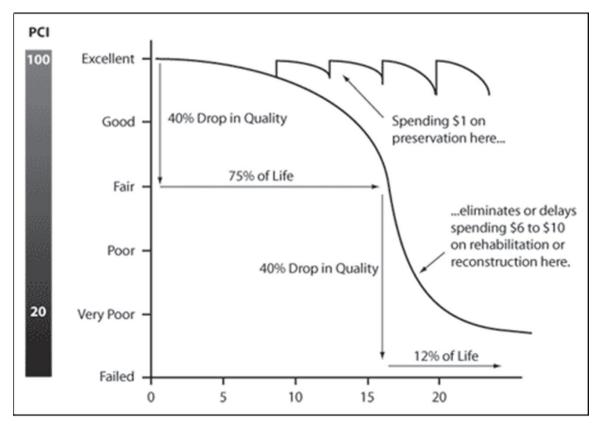


Figure 1 - Pavement Deterioration Curve

Source: Federal Highway Administration

#### 1.2 EVALUATION CRITERIA FOR CCC DATA COLLECTION

The Cape Cod Commission has continued to collect pavement condition data since 2011 through a series of "Windshield Surveys". These "Windshield Surveys" involve driving the roadways in need of collection and filling out a brief survey with observations. Observers were given photographs and descriptions of example pavement distresses. Observers used a 1-5 rating system and made notations of distresses observed in the field. Copies of the field observations for the most recent three-year period (2020-2022) are provided in the appendix of this report. The following table is a summary of the guidance given to observers:



#### Table 1 - CCC Evaluation Criteria

Condition	Description	Criteria
1	Very Good to Excellent	New pavement with no cracking, rutting, raveling/ signs of wear
2	Good to Very Good	No cracking, rutting, showing a little wear
3	Fair to Good	Showing evidence or more wear and possibly repairs that are in good condition
4	Poor to Fair	Evidence of cracking, rutting, serious wear
5	Poor	Severe cracking, rutting, potholes

# 1.3 SURVEY OF CAPE COD COMMUNITIES' PAVEMENT MANAGEMENT ACTIVITIES

In the Fall of 2021, an email was sent to each of the 15 towns' Department of Public Works directors to ask for an update on their current pavement management activities. The following pages summarize the current pavement management efforts underway among the towns.

#### 1.3.1 BARNSTABLE PAVEMENT MANAGEMENT ACTIVITIES

The Town of Barnstable utilizes detailed field inspections and analysis performed by BETA Group as a Consultant. Their work is entered onto Barnstable's database and periodic reports are provided and discussed. The DPW participates in the data and cost analysis used for reporting. DPW reviews project bids received by the Town and establishes base line costs for each pavement treatment band. These costs are discussed with the town's consultant - then utilized in the pavement conditions report. In addition to the BETA work, the DPW maintains a record of roadway repairs and relies upon experienced field personnel to assist in planning for individual maintenance tasks such as crack & chip seal. DPW also informally monitors the performance of all treatments. Key to the pavement management program is coordination with other utilities and proposed roadway rehabilitation information is passed to utility companies 6-12 months in advance of construction. Schedule adjustments can be made if planned utility work conflicts with DPW projects. This coordination is critical as a moratorium is in place for 5 years after application of a new surface.



#### Submitted materials include:

BETA-prepared "Pavement Management Summary," September 2020. The
report contains a summary of the Town's Pavement Management Program,
approach, description of the roadway surface survey process, summary of
findings, capital planning and typical costs for various items involved in
pavement repair and related road work. See section 1.4.1 for discussion of BETA
Pavement Management Systems.

#### 1.3.2 BOURNE PAVEMENT MANAGEMENT ACTIVITIES

The Town has retained the services of Environmental Partners, Inc. (EP) to continue the Town's Pavement Management Program (PMP) efforts to adapt to the Town's Capital Improvement Plan (CIP) to accommodate recent changes in staff, environment, and society. The PMP incorporates an extensive database of roadway surface conditions to produce a prioritized list of improvements. The PMP is a planning tool intended to provide the foundation to manage the town's roadway resources by combining professional engineering metrics with local institutional knowledge. EP and Town Staff will work together to identify goals regarding roadway network condition.

The roadway survey in Bourne, consisting of paved, town-accepted roadways, was most recently completed in the Fall of 2017. A total of 97.85 miles of roadway were inspected. The collection effort focused on the primary categories of roadway data including roadway length, width, segment start/end points, surface type, and pavement condition. Additional roadway elements including curbing, sidewalks, striping, roadway width, and pavement material were also assessed as part of this inspection process and recorded in the database.

Upon completion of the survey, the overall Road Surface Rating (RSR) value for Bourne's public roadway network was 75.97. The overall RSR represents a benchmark for performance measuring of the Town's pavement management program moving forward. If the overall RSR were to drop in the years to come, this would be a sign that the program needs to be adjusted or funding for the program may need to be increased. Repair strategies and associated unit costs were defined to develop the Backlog Summary. The current backlog summary for the Town's roadway network is approximately \$10.8 Million. This budgetary dollar figure represents the funding necessary if the Town were to perform all required maintenance for the Town's roadway network within the next year.

The Town will continue to monitor its progress and roadway rating by performing periodic network inspections and is committed in maintaining and improving its roadway network.



#### 1.3.1 BREWSTER PAVEMENT MANAGEMENT ACTIVITIES

The Town of Brewster retained BETA Group, Inc. (BETA) to provide a Pavement Management Program (PMP) to better maintain the Town's roadway network. BETA's pavement services include performing a detailed visual inspection, calculation of a Roadway Surface Rating (RSR), and recommendation of required maintenance for each roadway segment. BETA compiles the pavement data into a web-based application to allow the town to actively manage their priorities.

A total of 48.3 centerline miles were inspected during the summer of 2020. The required field inspections were preformed autonomously using a smartphone application utilizing machine-learning technology. Based on the inventory in 2020, the overall Road Surface Rating (RSR) for Brewster's Town roadway network was 78.64.

The PMP allows for the Town to develop a Capital Improvement Plan (CIP) for the existing roadway network. The Town has shown a commitment to maintaining the PMP and improving its roadway network.

#### 1.3.2 CHATHAM PAVEMENT MANAGEMENT ACTIVITIES

The Town of Chatham has retained the firm of BETA Group, Inc. (BETA) to develop a Pavement Management Program (PMP). BETA's pavement services include performing a detailed visual inspection, calculation of a Roadway Surface Rating (RSR), and recommendation of required maintenance for each roadway segment. BETA compiles the pavement data into a web-based application to allow the town to actively manage their priorities.

#### 1.3.3 DENNIS PAVEMENT MANAGEMENT ACTIVITIES

The Town of Dennis contracted StreetLogix to provide their Pavement Management System. In 2021, the Town hired StreetLogix to perform an inventory of their roadways (approximately 142 miles) and sidewalks (approximately 29 miles). The results of the inventory completed by StreetLogix is in an interactive, web-based system, which the Town will use as a guide to determine which roads to work on and to project future budgets. The Town will use the system as a guide as yearly construction needs to consider other factors that the pavement management system cannot factor into the calculations such as funding, fairly spreading the improvements through the 5 villages in Dennis and maximizing the bids received by contractors.

Based on the inventory conducted in 2021, the Town's overall PCI rating is 80 (Good condition).

The town's road budget for pavement improvement has been consistently funded between \$400,000 to \$600,000 per year through Capital Requests for "secondary



roads" but can vary depending on other capital requests. Chapter 90 funds are also used to maintain the Town's roads and are usually spent on larger resurfacing projects or on arterial and collector roads.

#### 1.3.4 EASTHAM PAVEMENT MANAGEMENT ACTIVITIES

Along with a consultant, the Town of Eastham embarked on a town-wide condition and assessment survey of all its private ways and town-maintained public roads, prompted mainly by the on-going construction of its town-wide water distribution network, with the purpose of assisting in the preparation of a Capital Improvements Plan (CIP).

A summary of the survey revealed the following information:

- Eastham has a total of 114 centerline miles broken down as follows:
  - o 55 miles of which are town-maintained (non-State or Federal) public roads
  - 59 miles of which are private ways
- Surface Information:
  - o 54 miles of the town-maintained public roads are paved
  - o 1 miles of the town-maintained public roads is unpaved
  - o 25 miles of private ways are paved
  - o 34 miles of private ways are unpaved
- Pavement Condition Index (PCI):
  - The average PCI, prior to the construction of the water distribution network, was 88 for paved town-maintained public roads and 79 for paved public ways

Due to the disruption created by the water distribution construction project, the Town of Eastham completed a preliminary Capital Improvements Plan to repair all roads (both public and private) affected by the project. At the 2020 Annual Town Meeting, held in the fall of 2020, the Temporary Repairs on Private Ways bylaw was also updated. This new update will provide a vehicle for residents of private ways to petition the Town for assistance with certain kinds of repairs. Once the correct mechanism to fund the necessary repairs to Eastham's roadway network has been established, the Town plans to update both their current pavement management software and data to adequately and efficiently maintain this investment for years to come.



The Town of Eastham is also a Massachusetts Complete Streets Tier 3 community, and as such will be looking to include multimodal access options in all repairs related to its Roadway Capital Improvements Plan.

#### 1.3.5 FALMOUTH PAVEMENT MANAGEMENT ACTIVITIES

Falmouth continues to use VUEWorks Asset Management Software to track their Public Works Assets. Their pavement rating system is based on the ASTM rating system. A survey of pavement within the town was performed over seven years ago with the help of an engineering consultant. Falmouth uses a couple of strategies to determine their repair schedule. The town has a 10-year roadway plan for major repairs. This is funded by the town operating budget and a Capital Plan. The town also has a service call/ work order system to take requests from the public for signs, potholes, sweeping and grading, etc. The town does some work in-house and contracts its crack sealing and large repairs out. These are covered by the town operating budget and Capital Plan.

#### 1.3.6 HARWICH PAVEMENT MANAGEMENT ACTIVITIES

The DPW has a five-year road maintenance plan that is updated every year and is available on the Harwich website. The Town uses Chris Nickerson, Highway Road Manager, who is a certified pavement inspector, to develop a plan based on his experience, training, and knowledge of Harwich's 481 public roads (142 miles). The Town attempts to balance maintenance with repair to avoid costly reconstruction utilizing many different processes and procedures.

The Town of Harwich typically spends \$1.4 million on their annual road maintenance program, which is comprised from approximately \$700,000 in Chapter 90 funds and \$700,000 in a local article. The current plan focus is on installing new drainage systems ahead of the sewer project to avoid paving over old infrastructure.

#### 1.3.7 MASHPEE PAVEMENT MANAGEMENT ACTIVITIES

The Town of Mashpee hired now Stantec in 2020 to complete a town-wide pavement assessment and included the Town's major collector roads. The Town had Stantec do an update in 2020 that also included major collector road. The report was issued in May 2020 and is being used to help prioritize projects and determine required funding levels.

The report evaluated roads in two categories - local/neighborhood and collector. Historically, Chapter 90 funds have been used for all projects on collector roads, excluding routine maintenance such as drainage installation, crack sealing, and similar treatments. This funding is no longer enough to fund "Complete Street" type projects and resurfacing. The Town must compile several years of Chapter 90 apportionments



for the larger projects so the latter will now require another funding source to maintain an acceptable PCI on the collector roads.

#### 1.3.8 ORLEANS PAVEMENT MANAGEMENT ACTIVITIES

In Spring 2019, the Town of Orleans retained the firm of Vanasse Hangen Brustlin (VHB) to update the Town's pavement management system by performing pavement condition evaluations on all Town-maintained roadways and parking lots with the goal of prioritizing pavement maintenance and rehabilitation projects and analyzing budgetary needs. With this year's efforts, VHB conducted a street survey and compiled a report update. Historically, the Town performs a pavement management study update every five (5) years.

The current network PCI rating is 83, which is up from 79 in 2013. The Town appropriates about \$384,000 (increases by inflation each year) per year for pavement management above and beyond Chapter 90 funds. VHB estimates that a current budget of approximately \$660,000 per year is anticipated to maintain the average PCI over the five-year study period but will allow the backlog of work to increase due in part to inflation.

#### 1.3.9 PROVINCETOWN PAVEMENT MANAGEMENT ACTIVITIES

Environmental Partners Group (EPG) was hired in 2016 to update the Town's pavement management program that has been used to assess existing roadway pavement conditions and establish a Capital Improvement Plan (CIP) for improvements. The planning tool continues to be utilized to establish an order-of-magnitude budget for roadway maintenance and reconstruction.

Recent roadway improvement activities include:

- Redeveloped 920 linear feet of Conwell Street between Route 6 and Cemetery Road to include dedicated bike lanes, pedestrian sidewalks, stormwater drainage improvements.
- Will perform road surface and storm drain repairs on Route 6 in October 2021.
- Currently planning stormwater improvements to West Vine Street. Work to be performed in Fall 2021.



- Currently planning road resurfacing and stormwater improvements to portions of Standish Street, Alden Street, Montello Street and Conant Street. Work to be performed in Spring 2022.
- Currently designing stormwater improvements to Howland Street.

#### 1.3.10 SANDWICH PAVEMENT MANAGEMENT ACTIVITIES

The Town of Sandwich works with the firms Vanasse Hangen Brustlin (VHB) and Baden Consulting Services (BCS) to perform pavement management services. The study was undertaken to re-evaluate pavement conditions in Sandwich and to allow for the analysis of various funding scenarios. VHB and BCS performed detailed inspection of the condition of the pavement on all town-maintained roads and updated a database of this information using VHB's "Smart Asset Management and Inventory System" (SAM IS) software. This year's efforts are focused on updating data with recent repairs, surveying pavement conditions, and evaluating funding scenarios.

To determine road repair strategies, the town mainly uses PCI (Pavement Condition Index) and Benefit. For estimated costs for implementing various repair strategies, the town uses the County's bid process and incorporates these into their own spreadsheets. The town's 5-Year plan changes dramatically year-to-year but provides a guide to follow as funds become available.

#### 1.3.11 TRURO PAVEMENT MANAGEMENT ACTIVITIES

Truro uses local knowledge to determine pavement repair priorities.

#### 1.3.12 YARMOUTH PAVEMENT MANAGEMENT ACTIVITIES

The Town of Yarmouth works with the firm of Vanasse Hangen Brustlin (VHB) to perform pavement management services. VHB services consist of performing a comprehensive study to evaluate pavement conditions in Yarmouth and to allow for the analysis of various funding scenarios; perform a detailed inspection of the condition of the pavement on all town-maintained roads and update a database of this information using VHB's SAM IS (Smart Asset Management and Inventory System) software.

To determine repair strategies, the town reviews an initial list generated by the software and then decides whether to apply chip seal, double ship seal, or overlay. Main roads are treated with rubber chip seal or overlay. In the town's capital plan, annual spending ranges from \$1.3 million to \$1.5 million for roadway maintenance.

As of May 2021, the Town's PCI rating was 80.7.



#### 1.3.13 WELLFLEET PAVEMENT MANAGEMENT ACTIVITIES

The Town of Wellfleet retained the firm of BETA Group, Inc. (BETA) to develop a Pavement Management Program (PMP) in 2015. The Town is currently looking at updating the PMP in Spring 2022.

In addition, the Town DPW actively keeps their own list and performs inspections on a regular basis. In Fall 2019, the following roads were planned to be resurfaced: sections of Long Pond Road, sections of Gull Pond Rd, Schoolhouse Hill Rd, Coles Neck Road, and sections of Brown's Neck Road. The town also performed crack sealing during the Autumn of 2020 on various roads including: Chequessett Neck Road, Long Pond Road, Lecount Hollow Road, Nauset Road, Lawrence Road, Cottontail Road, Spring Valley Road, Paine Hollow Road, and Old Wharf Road.

#### 1.4 SUMMARY OF TOWN PAVEMENT MANAGEMENT EFFORTS

The following table summarizes the activities that responding towns use for pavement management.



**Table 2 – Municipal Pavement Management Activities Summary** 

Town	Pavement Management Consultant	Software Program	Latest Survey Year
Barnstable	BETA Group, Inc.	BETA – Microsoft Access	2020
Bourne	Environmental Partners Group	BETA – Microsoft Access	2017
Brewster	BETA Group, Inc.	BETA – Microsoft Access	2020
Chatham	BETA Group, Inc.	BETA – Microsoft Access	2018
Dennis	Streetlogix	Streetlogix	2019
Eastham	Environmental Partners Group	none	2016
Falmouth	Yes	VUEWorks Asset Management	2012
Harwich	Streetlogix	Streetlogix	2018
Mashpee	Stantec	Cartegraph Systems	2020
Orleans	VHB	VHB – SAM IS	2019
Provincetown	Environmental Partners Group	None	2016
Sandwich	VHB & BCS	VHB – SAM IS	
Truro	None	None	
Yarmouth	VHB	VHB – SAM IS	
Wellfleet	BETA Group, Inc.	BETA – Microsoft Access	2015



As seen in Table 2, most towns are hiring an engineering consulting firm to assist with field collection and the development of a pavement management plan. Several of the consulting firms provide access to a pavement management system. The use of a consultant allows a third party to perform the pavement inspections and compile the results. The consultants compile results into a user-friendly GIS application, which allows the towns to easily access and track pavement activities. A slight variation between the two consultants is that BETA classifies the pavement results using a Road Surface Rating (RSR) while VHB follows the PCI rating system. Both systems use a 0-100 scale to describe the general condition of the roadway.

## Pavement Management Analyses

According to information prepared for the Cape Cod Regional Transportation Plan, the Cape Cod Region possesses 739 miles of roadway eligible for federal funding. Of those miles, 565.0 are under the jurisdiction of the Cape's local communities.

MassDOT evaluates roads under their own jurisdiction and a selection of municipally owned roadways. The following table lists the corresponding rating from Excellent to Poor, based on a "PSI" (Pavement Serviceability Index) rating – roughly analogous to the "Pavement Condition Index" (PCI) commonly used.

Pavement Condition	tion Excellent Good		Fair	Poor
"PSI" Range	PSI >=3.5	PSI 2.8-3.5	PSI 2.3-2.8	PSI < 2.3

# 2.1.1 CCC EVALUATIONS OF PAVEMENT CONDITIONS – "WINDSHIELD" SURVEYS

Since 2011, Cape Cod Commission staff have performed "windshield" surveys throughout Barnstable County. In 2014, a new data collection strategy was deployed, based on Geographic Information Systems' needs and strengths. Data-collection regions of each town were identified which contained roughly one-third of the mileage of federal-aid eligible municipal roadways. The quality and accuracy of the data collection was greatly improved using GPS-capable tablet computers. The following figure shows the roadways that the CCC staff collected data on in 2022.



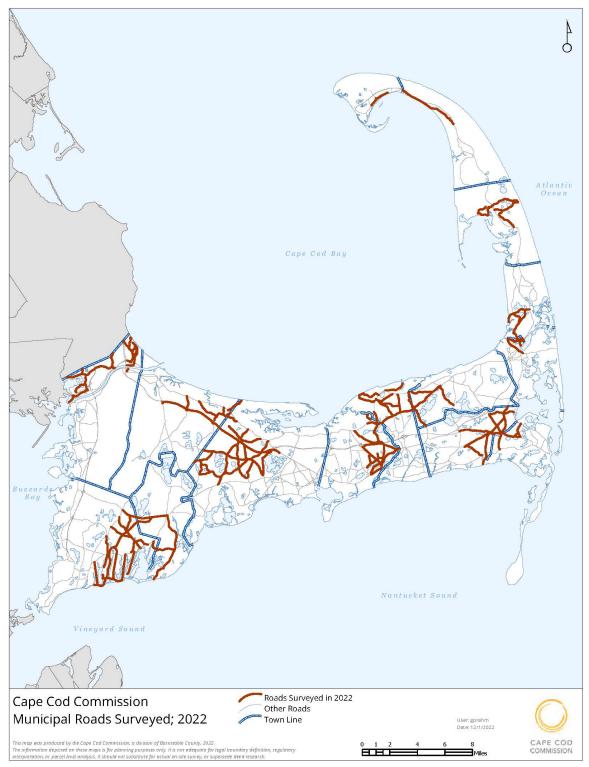


Figure 2 - Municipal Roads Surveyed in 2022



The following table provides a summary by town of the Cape Cod Commission's windshield survey data.

**Table 3 – Surveys of Pavement Condition - miles** 

Town	Very Good to Excellent	Good to Very Good	Fair to Good	Poor to Fair	Poor	Totals	
Barnstable	3.1	12.2	87.7	7.9	0.3	111.2	
Bourne	1.3	2.7	29	8.7	0.2	41.9	
Brewster	2.6	10.1	9.8	2.7	1.4	26.6	
Chatham	0.0	0.4	11.5	0.9	0.0	12.8	
Dennis	0.4	10.6	33.9	0.5	0.0	45.4	
Eastham	0.5	2.3	12.4	1.7	0.0	16.9	
Falmouth	2.4	11.3	60.7	10.7	0.3	85.4	
Harwich	0.3	9.2	30.4	3.2	0.0	43.1	
Mashpee	0.0	1.4	23.2	5	0.0	29.6	
Orleans	0.6	3.6	12.1	0.6	0.0	16.9	
Provincetown	0.0	1.4	11.4	0.6	0.0	13.4	
Sandwich	0.7	7.5	24	5.1	0.7	38.0	
Truro	0.0	2.5	6.4	3.5	0.0	12.4	
Wellfleet	0.7	2.9	15.5	0.6	0.0	19.7	
Yarmouth	1.6	12.6	37.2	0.7	0.0	52.1	
Total Miles:	14.2	90.7	405.2	52.4	2.9	565.4	

Source: latest data available up to 2022, collected by Cape Cod Commission

As shown in the table above, approximately 565 miles of roadway have been surveyed at least once as recently as 2022. The most common rating "Fair to Good" yielded over 400 miles and resulted in a higher result in comparison to the 2020 and 2021 observations. This is followed by 90 miles of "Good to Very Good", 52 miles of "Poor to Fair," approximately 14 miles for "Very Good to Excellent" and approximately 3 miles of "Poor." The following figures provide a graphic of the CCC survey data in a series of four maps (Upper Cape, Mid-Cape, Lower Cape, and Outer Cape). The CCC evaluations are shown as colored parallel lines ranging from Blue (Very Good to Excellent) to Red (Poor).



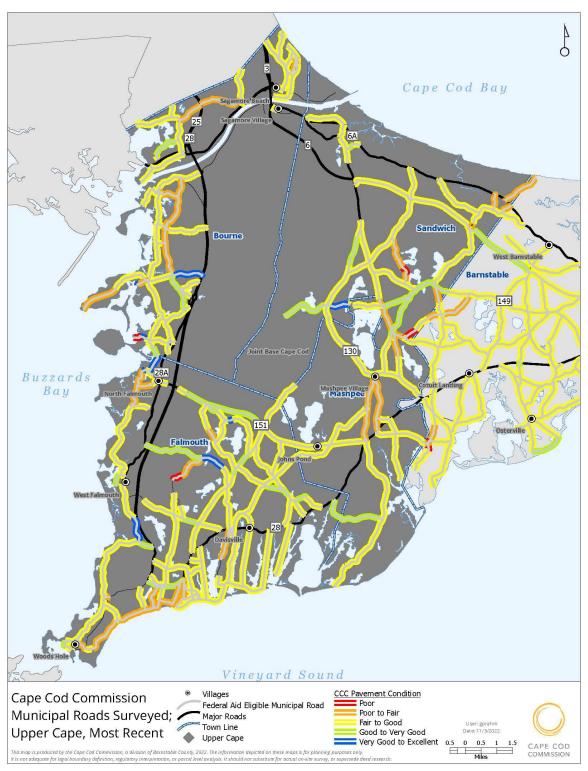


Figure 3 –Pavement Condition Surveys: Upper Cape

Source: latest data available from 2020-2022 collected by Cape Cod Commission



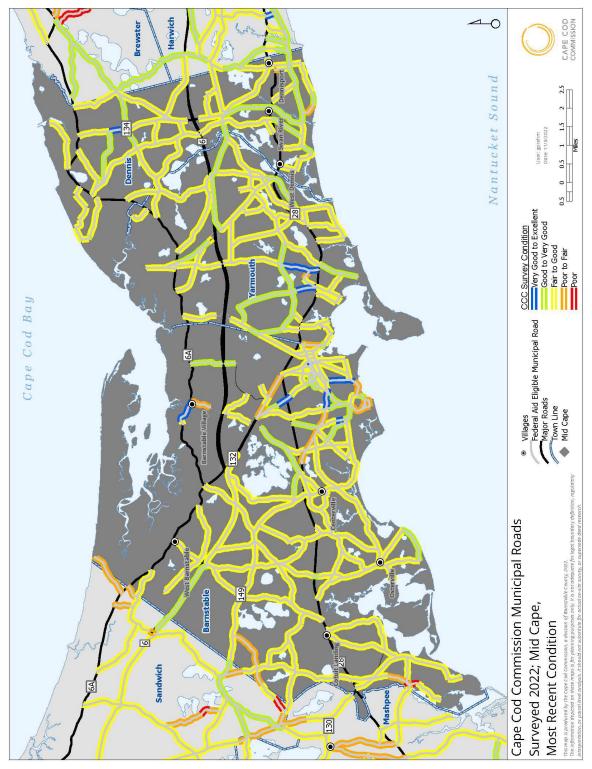


Figure 4 –Pavement Condition Surveys: Mid-Cape

Source: latest data available from 2020-2022 collected by Cape Cod Commission



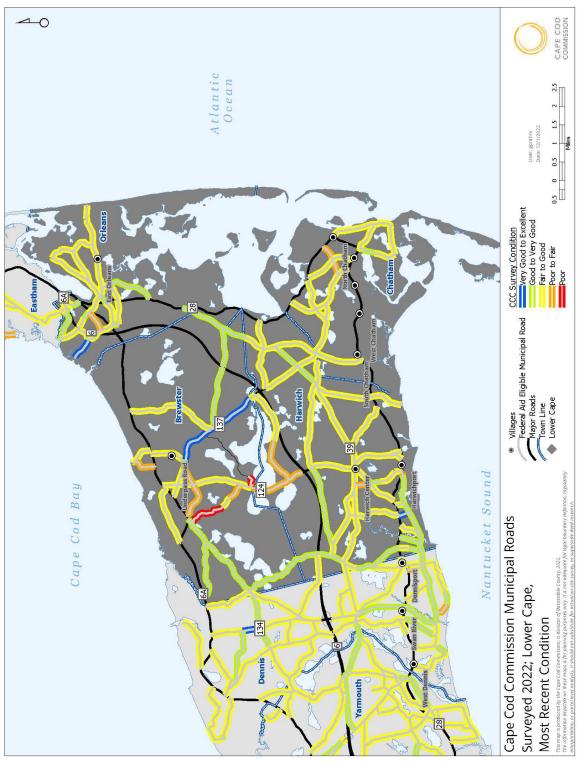


Figure 5 – Pavement Condition Surveys: Lower Cape

 $Source: \ latest\ data\ available\ from\ 2020-2022\ collected\ by\ Cape\ Cod\ Commission$ 



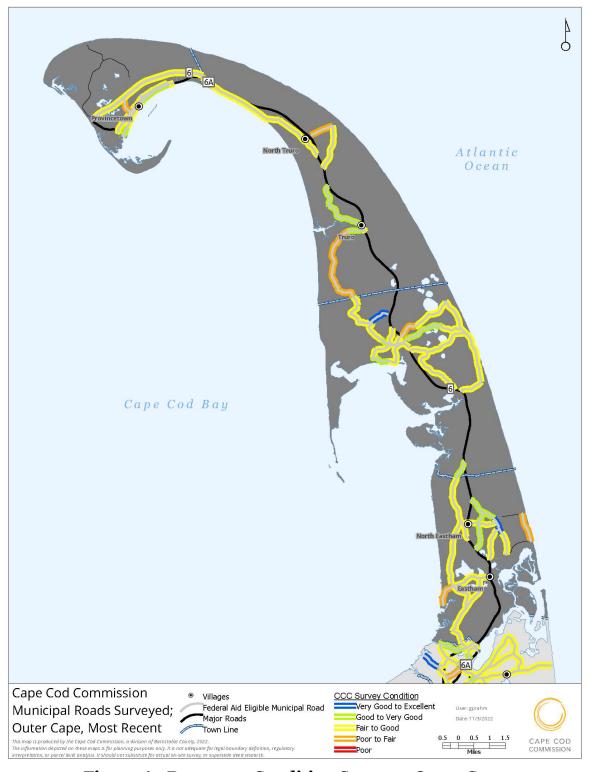


Figure 6 – Pavement Condition Surveys: Outer Cape Source: latest data available from 2020-2022 collected by Cape Cod Commission



# 3. Recommendations for Achieving Improved Pavement Condition

After the pavement observations have been recorded and categorized, the next step is to calculate the pavement rating score, identify the proper treatment and appropriate timeline for maintenance.

#### Surface Distress Assessment

For each pavement management section, the severity and extent of nine major pavement distresses are recorded, and then inputted into a weighted formula to arrive at a Pavement Condition Index (PCI). The distresses are categorized as base related or surface related distresses. Base related distresses indicate that the pavement structure is inadequate for the existing traffic load and soil conditions. Streets that show significant base related distresses may need to have the pavement structure strengthened with either thicker or stronger base or pavement materials. Surface related distresses are caused by age and weathering of the pavement. Streets that have predominantly surface related distresses are excellent candidates for maintenance sealing to inhibit further pavement oxidization (the main effect of aging). Streets with more of the base-related distresses will most likely need some full depth patching, structural overlays, or reclamation/reconstruction.

The four base related distresses are:

- Potholing or non-utility patching
- Alligator cracking
- Distortion
- Rutting

The five surface related distresses are:

- Block cracking
- Transverse or longitudinal cracking
- Bleeding or polished aggregate
- Surface wear or raveling
- Shoving, slippage, or corrugation

#### The Five Treatment Bands

The pavement management system uses broad ranges to group the individual repair types into five major treatment bands. Treatment bands are a useful tool to summarize data on a Town-wide basis. An individual road segment will fall into a category based on the strategy table's output of repair types and will vary due to functional classification. The goal is to gain a broad understanding of the existing conditions in simple yet meaningful terms.



**Table 4 - Treatment Band Descriptions** 

TREATMENT BAND	PCI*	Description
DO-NOTHING	93-100	Excellent condition - in need of no maintenance.
ROUTINE MAINTENANCE	86-92	Good condition – may need crack sealing or minor localized repair.
PREVENTIVE MAINTENANCE	76-85	Fair condition – pavement surface may need surface sealing, full depth patch and/or crack sealing.
STRUCTURAL IMPROVEMENT	56-75	Deficient condition – pavement surface structure in need of added strength for existing traffic. Typical repairs are overlay with or without milling.
BASE REHABILITATION	0-55	Poor condition – in need of base improvement.  Typical repairs are reclamation or full depth reconstruction.

<sup>\*</sup>Note: Treatment bands are defined below. These are only general PCI ranges for reference purposes and represent only one pavement type. There are several fields considered by the strategy table when assigning repair types to each individual street. Source: VHB

#### **Do-Nothing**

The Do-Nothing category exhibits roads which need no maintenance. These roads are in excellent condition and existing distresses generally do not need to be addressed.

#### **Routine Maintenance**

Routine maintenance activities are those which are taken to correct a specific pavement distress. Routine maintenance usually addresses localized pavement defects and includes activities such as:

- Full depth patching;
- Skin patching;
- Crack sealing.

#### **Preventive Maintenance**

Preventive maintenance activities are those which are performed at planned intervals to protect and seal the pavement. Seals are designed to provide one or more of the following benefits:

• Prevent the intrusion of air and moisture;



- Fill small cracks and voids;
- Rejuvenate an oxidized binder;
- Provide a new wearing surface.

#### Structural Improvement

Structural improvement includes the work necessary to restore the pavement to a condition that will allow it to perform satisfactorily for several years. Generally, a structural improvement will consist of a milling the existing pavement down and applying a new Hot Mix Asphalt Overlay allowing existing grades to be maintained. When the existing grade can be increased a new Hot Mix Asphalt course can simply be placed upon the existing surface. Structural improvements also include the work necessary to prepare the pavement for an overlay, either with or without milling. The major activities involved in the rehabilitation process are:

- Partial depth patching;
- Full depth patching;
- Joint and crack sealing;
- Grinding and milling;
- Hot Mix Asphalt Leveling Courses.

#### **Base Rehabilitation**

Base rehabilitation utilizes one of two methods:

- Reclamation;
- Reconstruction.

Reclamation is the process of rehabilitating existing deteriorated pavements. The existing pavement and base, subbase, and possibly subgrade is pulverized and blended to create a homogenous pavement base. This reclaimed pavement base is then paved with a new Hot Mix Asphalt surface. Reconstruction is the complete removal and replacement of a failed pavement, and might also involve widening, realignment, traffic control devices, safety hardware, and major base and drainage work.

The Cape Cod MPO is committed to exploring improved pavement management strategies and techniques to help optimize investment and achieve maximum improvement in overall PCIs.



# 4. Conclusion/Recommendations for Pavement Management Survey Enhancement

The data collected in the monitoring process will be continually analyzed to identify overall pavement conditions in the different Cape Cod towns to assist in programming maintenance and reconstruction activities. Cape Cod Commission staff will continue advance Pavement Management Survey activities throughout the fifteen towns of Barnstable County. Efforts will continue such as:

- Identify individual towns' methods for pavement condition evaluation and programming for improvements
- Display the Annual Pavement Survey results in a GIS web-based application to assist towns in their pavement management efforts. The GIS web application is available for public viewing on the Cape Cod Commission website: <a href="https://www.capecodcommission.org/our-work/pavement-conditions/">https://www.capecodcommission.org/our-work/pavement-conditions/</a>
- Identify "gaps" in pavement condition information on Municipally-owned Federal Aid eligible roadways and prioritize and implement CCC data collection activities on these roadways
- Improve CCC skills in performing pavement evaluations
- Analyze local communities' bid prices to develop Cape-specific improvement costs of various pavement conditions
- Generate listings of roadways with poor pavement conditions
- Explore strategies and techniques for a regional pavement management plan as part of a potential Regional Capital Plan.

## APPENDIX -

Cape Cod Commission Pavement Condition - Comments

STREET_NAME	TOWN	Crack_alligator	Crack_block	Crack_edge	Crack_linear	Crack_Transverse	Patched_pavement	Potholes	Sealed_cracks	Weathering	Rutting	Comments	Miles	Condition
AIRPORT ROAD	Barnstable						Yes			Minor	Major		0.40	3
ASA MEIGS ROAD	Barnstable	Major		Minor	Minor		Yes	Yes		Major			0.47	4.00
BARNSTABLE ROAD	Barnstable	Major		Minor	Minor		Yes		Yes				0.83	3
BASSETT LANE	Barnstable	Major					Yes			Minor			0.07	2
BASSETT LANE	Barnstable	Major				Minor	Yes		Yes	Minor			0.12	3
BAY VIEW STREET	Barnstable	Minor				Minor	Yes	Yes	Yes				0.09	4
BEARSES WAY	Barnstable												0.42	1
BEARSES WAY	Barnstable	Minor		Minor	Minor	Minor	Yes		Yes	Major			0.99	2
BEARSES WAY	Barnstable						Yes			Major			0.49	3
BEARSES WAY	Barnstable	Major				Minor	Yes	Yes	Yes	Major	Minor		0.03	4
BRIDGE STREET	Barnstable	Minor					Yes	Yes		Minor			0.28	3
BUMPS RIVER ROAD	Barnstable	Minor	Minor	Minor	Major	Minor	Yes	Yes	Yes	Minor	Minor		2.74	3
CAMP STREET	Barnstable	Minor		Minor	Minor		Yes		Yes				0.28	3
CEDAR STREET WEST BARNSTABLE	Barnstable	Minor		Minor			Yes		Yes	Minor		Rough/bumpy		3.00
CENTER STREET	Barnstable	Minor			Minor		Yes		Yes	Minor			0.25	3
CENTERVILLE AVE	Barnstable	Minor	Minor		Minor	Minor	Yes	Yes	Yes	Minor	Minor		0.23	3
CHARLES STREET	Barnstable	Major			Minor	Minor	Yes	Yes	Yes				0.16	3
CHESTNUT STREET	Barnstable	Major			Minor	Minor	Yes	Yes	Yes				0.33	3
CHURCH STREET	Barnstable	Minor		Minor			Yes		Yes	Minor			0.90	3.00
CRAIGVILLE BEACH ROAD	Barnstable	Minor		Minor	Minor		Yes	Yes	Yes	Minor			1.52	3
CRAIGVILLE BEACH ROAD	Barnstable	Major	Minor		Minor		Yes		Yes	Minor			0.17	2
CRAIGVILLE BEACH ROAD	Barnstable	Major	Minor		Minor		Yes		Yes	Minor			0.62	3
CROOKED CARTWAY	Barnstable	Major		Minor	Minor		Yes	Yes		Major			0.65	4.00
FIVE CORNERS ROAD	Barnstable	Minor		Minor	Major	Minor	Yes	Yes		Minor			0.52	3
FULLER ROAD	Barnstable	Minor	Minor	Minor	Major	Minor	Yes		Yes	Minor	Minor		0.61	3
GOSNOLD STREET	Barnstable	Major		Minor	Minor				Yes				0.57	3
GREAT MARSH ROAD	Barnstable	Minor		Minor	Minor		Yes		Yes	Minor			0.14	3.00
GREENWOOD AVENUE	Barnstable						Yes			Minor			0.12	3
HIGH SCHOOL ROAD	Barnstable									Minor			0.21	2
HIGH SCHOOL ROAD	Barnstable	Minor					Yes		Yes	Major		Right lane newer than left	0.11	3

HIGH STREET WEST BARNSTABLE	Barnstable				Minor								0.82	3.00
HOWLAND ROAD	Barnstable	Minor		Minor	Minor				Yes	Minor			0.11	4.00
HYANNIS AVENUE	Barnstable									Minor			0.18	2
HYANNIS BARNSTABLE ROAD	Barnstable			Major				Yes		Major			0.54	4
HYANNIS BARNSTABLE ROAD	Barnstable									-			0.01	1
IRVING AVENUE	Barnstable	Minor				Minor	Yes		Yes	Minor			0.17	4
IYANOUGH AVENUE	Barnstable	Minor				Minor	Yes		Yes	Minor			0.12	4
IYANOUGH ROAD	Barnstable	Major					Yes	Yes	Yes	Major	Major		0.25	3
IYANOUGH ROAD	Barnstable	Major			Major		Yes	Yes	Yes	Major	Minor		1.04	4
KIDD'S HILL ROAD	Barnstable						Yes			Minor			0.85	3
LAFAYETTE AVENUE	Barnstable	Minor				Minor	Yes		Yes	Minor			0.06	4
LEWIS BAY ROAD	Barnstable	Minor		Minor	Minor		Yes		Yes				0.28	3
LINCOLN ROAD	Barnstable				Minor					Minor			0.73	
LINDEN AVENUE	Barnstable	Minor		Minor	Minor		Yes	Yes	Yes	Minor			0.13	
LOVELLS LANE	Barnstable	Minor		Minor		Minor	Yes	Yes		Minor				3.00
LUMBERTS MILL ROAD	Barnstable				Minor									3.00
LUMBERTS MILL ROAD	Barnstable	Minor			Minor	Minor		Yes		Minor			0.61	3
MAIN STREET	Barnstable	Minor		Minor	Minor		Yes	Yes	Yes	Minor			3.48	3
MAIN STREET	Barnstable	Major					Yes		Yes	Minor			0.87	1
MAIN STREET	Barnstable	Minor		Minor	Minor		Yes		Yes	Major	Minor	Right lane newer than left	1.41	3
MAIN STREET COTUIT	Barnstable		Minor	Minor	Major	Minor	Yes	Yes	Yes		Minor		3.42	3
MARSTON AVENUE	Barnstable						Yes			Minor			0.26	3
MARY DUNN WAY	Barnstable									Minor			1.16	2
MEETING HOUSE WAY	Barnstable	Minor		Minor	Minor		Yes		Yes	Minor		Rough/bumpy	0.91	3.00
NORTH STREET	Barnstable	Minor		Minor					Yes	Minor			0.05	1
NORTH STREET	Barnstable	Major		Minor		Minor	Yes	Yes	Yes	Minor			0.84	3
NOTTINGHAM DRIVE	Barnstable	Minor		Minor			Yes			Minor			0.97	3.00
NYE ROAD	Barnstable	Minor		Minor			Yes			Minor			0.44	3.00
NYE ROAD	Barnstable	Minor		Minor	Minor					Minor			0.12	3
OAK STREET	Barnstable	Minor		Major	Minor		Yes	Yes	Yes	Minor			2.02	3.00
OCEAN AVENUE	Barnstable												0.11	1
OCEAN AVENUE	Barnstable	Minor				Major	Yes						0.42	4
OCEAN STREET	Barnstable												0.13	
OCEAN STREET	Barnstable	Major		Minor	Minor		Yes			Major			0.80	3
OLD COLONY ROAD	Barnstable	Major		Minor	Minor		Yes		Yes	Major	Minor		1.21	3
OLD CRAIGVILLE ROAD	Barnstable	Minor			Minor	Minor	Yes			Minor			1.12	3
OLD FALMOUTH ROAD	Barnstable	Minor		Minor	Minor	Minor	Yes	Yes	Yes	Minor			2.10	3.00
OLD MILL ROAD	Barnstable	Minor	Minor	Minor	Minor	Minor	Yes	Yes	Yes	Minor	Minor		1.30	3

OLD OYSTER ROAD	Barnstable				Major		Yes	Yes					0.42	3
OLD POST ROAD	Barnstable			Minor	Major	Minor	Yes						2.49	3
OLD POST ROAD CENTERVILLE	Barnstable	Minor	Minor	Minor	Minor	Minor	Yes	Yes	Yes	Minor	Minor		0.50	3
OLD STAGE ROAD	Barnstable	Minor		Major	Minor		Yes	Yes	Yes	Minor			2.80	3.00
OLD STAGE ROAD	Barnstable	Minor	Minor	Minor	Minor	Minor	Yes	Yes	Yes	Minor	Minor		0.32	3
OLD TOWN ROAD	Barnstable	Major	Minor		Minor	Minor	Yes		Yes	Minor	Minor		0.97	2
OSTERVILLE WEST BARNSTABLE ROAD	Barnstable	Minor		Minor	Minor		Yes		Yes	Minor			1.91	3.00
OSTERVILLE WEST BARNSTABLE ROAD	Barnstable	Minor	Minor	Minor	Minor	Minor	Yes	Yes	Yes	Minor	Minor		1.78	2.91
PARK AVENUE	Barnstable	Minor		Minor	Minor		Yes	Yes	Yes	Minor			0.16	3
PARKER ROAD	Barnstable	Minor		Minor			Yes		Yes	Minor			0.69	3.00
PARKER ROAD	Barnstable	Minor	Minor	Minor	Minor		Yes	Yes	Yes	Minor	Minor		1.19	3
PHINNEYS LANE	Barnstable	Minor		Minor	Minor		Yes	Yes		Minor			0.46	3
PHINNEYS LANE	Barnstable			Minor				No		Minor			1.67	2
PHINNEYS LANE	Barnstable				Minor		Yes	Yes		Minor			0.65	3
												Right lane		
PINE AVENUE	Barnstable	Minor		Minor			Yes		Yes		Minor	newer than	0.10	3
												left		
PINE STREET CENTERVILLE	Barnstable	Minor		Minor	Minor		Yes	Yes		Minor			0.59	3
PINE STREET CENTERVILLE	Barnstable	Major		Minor	Minor		Yes		Yes	Major			0.29	3
PITCHERS WAY	Barnstable	Minor			Minor				Yes	Minor			0.46	2
PITCHERS WAY	Barnstable	Minor		Minor	Minor		Yes		Yes	Minor			1.89	3
PLEASANT STREET	Barnstable	Minor			Minor		Yes		Yes	Major	Minor		0.19	3
POND STREET OSTERVILLE	Barnstable	Minor	Minor	Minor	Minor	Minor	Yes	Yes	Yes	Minor	Minor		0.97	3
PROSPECT STREET	Barnstable	Minor		Major	Minor	Minor	Yes	Yes	Yes	Minor			3.77	3.00
PUTNAM AVENUE	Barnstable		Minor	Minor	Major		Yes	Yes	Yes		Minor		2.02	3
RACE LANE	Barnstable	Minor	Minor	Minor	Minor		Yes	Yes	Yes	Minor	Minor		3.41	3.00
RACE LANE	Barnstable								Yes	Minor			0.04	2
RIVER ROAD	Barnstable	Minor		Minor		Minor	Yes			Minor			1.64	3.00
SANDY NECK ROAD	Barnstable	Minor		Minor	Minor	Minor	Yes		Yes	Minor			0.56	4.00
SANTUIT NEWTOWN ROAD	Barnstable	Minor		Minor			Yes		Yes	Minor			1.08	3.00
SANTUIT NEWTOWN ROAD	Barnstable	Minor		Minor	Minor		Yes	Yes	Yes	Minor			2.18	3
SANTUIT NEWTOWN ROAD	Barnstable	Major		Minor	Minor		Yes		Yes				0.41	3
SANTUIT ROAD	Barnstable		Major	Minor	Major	Major	Yes	Yes	Yes		Major	Dirt Road	1.68	3.7
SCHOOL STREET	Barnstable	Major		Minor	Minor		Yes	Yes	Yes	Major			0.57	4.00
SCHOOL STREET	Barnstable		Minor	Minor	Minor	Minor	Yes	Yes	Yes		Minor		0.82	3
SCHOOL STREET	Barnstable	Minor		Minor	Minor		Yes		Yes	Major	Minor		0.18	3
SCUDDER AVENUE	Barnstable									Minor			0.07	1
SCUDDER AVENUE	Barnstable	Minor								Minor			0.70	2
SCUDDER AVENUE	Barnstable				Minor		Yes		Yes	Major			0.63	4
SEA STREET	Barnstable									-			0.65	1

												Right lane		
SEA STREET	Barnstable	Minor					Yes		Yes			newer than	0.02	3
												left		
SEA VIEW AVENUE	Barnstable	Minor			Minor		Yes			Minor			1.02	2
SERVICE ROAD	Barnstable	Minor		Major	Minor		Yes	Yes	Yes	Minor			4.47	2.60
SHOOT FLYING HILL ROAD	Barnstable	Minor		Major	Minor		Yes	Yes	Yes	Minor			2.91	3.00
SMITH STREET	Barnstable									Minor			0.30	2
SOUTH COUNTY ROAD	Barnstable				Minor		Yes		Yes				0.97	3
SOUTH MAIN STREET	Barnstable	Minor		Minor	Minor		Yes	Yes	Yes	Minor			1.59	3
												Right lane		
SOUTH STREET	Barnstable	Minor		Minor	Minor		Yes		Yes	Major	Minor	newer than	1.04	3
										1		left		
STEVENS STREET	Barnstable									Minor			0.54	2
STRAWBERRY HILL ROAD	Barnstable	Major	Minor	Minor	Minor	Minor	Yes		Yes	Major	Minor		1.49	3
THE STRAIGHT WAY SOUTH SECTION	Barnstable	Minor					Yes		Yes	Minor			0.20	1
THE STRAIGHT WAY SOUTH SECTION	Barnstable												0.14	2
THE STRAIGHT WAY SOUTH SECTION	Barnstable	Minor					Yes		Yes	Minor			0.49	3
WAKEBY ROAD	Barnstable	Minor		Minor						Minor			0.87	3.00
WAKEBY ROAD	Barnstable	Minor		Minor	Major	Minor				Minor			0.92	3
WASHINGTON AVENUE HYANNISPORT	Barnstable									Minor			0.09	2
WASHINGTON AVENUE HYANNISPORT	Barnstable	Minor				Minor	Yes		Yes	Minor			0.15	4
WEQUAQUET LANE	Barnstable	Major							Yes	Major			0.31	3
WEST BAY ROAD	Barnstable	Minor	Minor				Yes	Yes	Yes	Minor	Minor		0.28	3
WEST MAIN STREET	Barnstable												0.02	1
WEST MAIN STREET	Barnstable									Minor			0.47	1
WEST MAIN STREET	Barnstable	Minor		Minor	Minor	Minor	Yes		Yes	Minor	Minor		1.65	4
WEST MAIN STREET ROTARY CIRCLE	Barnstable									Minor			0.10	1
WIANNO AVENUE	Barnstable	Major	Minor	Minor	Minor		Yes	Yes	Yes	Major	Minor		1.10	3
WILLOW STREET HYANNIS	Barnstable	Major			Minor		Yes		Yes	Minor	Minor		0.11	3
WINCHESTER AVENUE	Barnstable	Minor			Minor	Minor	Yes		Yes	Major			0.08	4
WINTER STREET	Barnstable	Major		Minor	Minor	Minor	Yes	Yes	Yes	Minor	Minor		0.73	3
YARMOUTH ROAD	Barnstable		Minor	Minor	Minor		Yes		Yes	Minor	Minor		0.05	2
YARMOUTH ROAD	Barnstable	Minor	Minor	Minor	Major		Yes	Yes	Yes		Major		1.44	3
ACADEMY DRIVE	Bourne				Minor		Yes	Yes	Yes				0.59	3.00
ADAMS STREET	Bourne												0.22	3.00
BARLOWS LANDING ROAD	Bourne									Minor			1.06	1
BARLOWS LANDING ROAD	Bourne	Major		Minor			Yes	Yes	Yes	Minor			0.84	3
BARLOWS LANDING ROAD	Bourne	Major		Major	Major	Minor	Yes	Yes	Yes	Minor			0.32	4
BEACH STREET	Bourne	Minor			Minor		Yes	Yes	Yes	Minor	Minor		0.27	3
BOURNEDALE ROAD	Bourne	Major	Minor	Major	Major	Minor	Yes	Yes	Yes	Major	Minor		2.30	4.00

CANAL STREET	Bourne								Yes				0.40	3.00
CLARK ROAD	Bourne	Minor			Minor				Yes	Minor			0.62	3.00
CLAY POND ROAD	Bourne	Minor	Minor		Minor	Minor	Yes	Yes	Yes	Minor	Minor		1.44	3
COUNTY ROAD	Bourne	Minor	Minor	Minor	Minor	Minor	Yes	Yes	Yes	Minor	Minor		3.37	4
COUNTY ROAD	Bourne	Major		Major			Yes		Yes	Minor		WB new EB old	1.28	2
COUNTY ROAD	Bourne	Major		Minor	Minor		Yes	Yes	Yes	Major			1.75	3
GIBBS ROAD	Bourne								Yes				0.05	3.00
HEAD OF THE BAY ROAD	Bourne				Minor		Yes	Yes	Yes				2.58	2.97
HERRING POND ROAD	Bourne	Minor		Minor	Minor			Yes	Yes	Minor			1.29	3.00
HOMESTEAD AVENUE	Bourne	Minor		Minor					Yes	Minor			0.09	3.00
INDIAN TRAIL	Bourne	Minor		Minor					Yes	Minor			0.08	3.00
LAKE DRIVE	Bourne	Minor		Minor		Minor							0.14	3
LAKE DRIVE EXTENSION	Bourne	Minor		Minor		Minor							0.12	3
LONG HILL ROAD	Bourne	Major		Minor	Minor		Yes		Yes	Major			0.26	3
MAIN STREET	Bourne				Minor		Yes	Yes	Yes				1.33	3.00
MASHNEE ROAD	Bourne			Major	Minor		Yes	Yes	Yes				0.39	3
MEETINGHOUSE LANE	Bourne			-	Minor		Yes						0.32	3.00
MEGANSETT ROAD	Bourne												0.01	1
MEGANSETT ROAD	Bourne	Major								Minor			0.35	2
MIDWAY ROAD	Bourne				Minor		Yes		Yes				0.27	3
MONUMENT NECK ROAD	Bourne	Minor			Minor	Minor	Yes		Yes	Minor			0.16	3
NORRIS ROAD	Bourne	Minor		Minor					Yes	Minor			0.71	3.00
OLD COUNTY ROAD	Bourne	Minor		Minor		Minor	Yes		Yes	Minor			0.17	3
OLD DAM ROAD	Bourne	Minor	Minor	Minor	Minor	Minor	Yes	Yes	Yes	Minor	Minor		0.68	4
OLD PLYMOUTH ROAD	Bourne			Minor	Minor				Yes				1.89	3.00
PEAKED CLIFF ROAD	Bourne	Minor		Minor					Yes	Minor			0.07	3.00
PLYMOUTH LANE	Bourne	Minor		Minor	Minor		Yes	Yes	Yes	Minor			0.41	3.00
PRESIDENTS ROAD	Bourne	Minor		Major	Minor	Minor	Yes	Yes	Yes	Minor			0.45	3
PURITAN ROAD	Bourne			-					Yes				0.96	2.00
RED BROOK HARBOR ROAD	Bourne	Major			Minor	Major	Yes	Yes	Yes				0.88	3
RED BROOK ROAD	Bourne	1			Minor		Yes	Yes	Yes				0.03	3.00
SAINT MARGARETS STREET	Bourne								Yes				0.13	3.00
SCRAGGY NECK ROAD	Bourne	Major		Minor	Minor		Yes		Yes	Major			0.79	3
SCRAGGY NECK ROAD EXTENSION	Bourne	1								,			0.06	1
SCRAGGY NECK ROAD EXTENSION	Bourne	Minor				Minor			Yes	Minor			0.14	3
SHORE ROAD	Bourne		Minor	Minor			Yes	Yes		Minor	Minor		3.98	3
SHORE ROAD	Bourne	Major			Minor		Yes	Yes		Major			1.49	3
SQUETEAGUE HARBOR ROAD	Bourne	Major	1			Minor			Yes	,			0.29	3
STANDISH ROAD	Bourne	1 ,		Minor									0.72	4.00

TROWBRIDGE ROAD	Bourne	Minor			Minor	Minor	Yes		Yes	Minor			0.62	3
VICKERSON AVENUE	Bourne	Minor		Minor					Yes	Minor			0.06	3.00
WILLIAMS AVENUE	Bourne	Minor				Minor	Yes	Yes	Yes	Minor			0.70	3
WILLISTON ROAD	Bourne	Minor		Minor	Minor			Yes	Yes	Minor			1.85	3.00
WINGS NECK ROAD	Bourne	Major		Major	Major	Minor	Yes		Yes	Minor			1.21	3
WINGS NECK ROAD	Bourne	Major		Minor			Yes	Yes		Minor			1.26	4
WINSOR ROAD	Bourne												0.12	1
WINSOR ROAD	Bourne									Minor			0.18	1
WINSOR ROAD	Bourne											Did not drive. Private road/property	0.10	5
AIRLINE ROAD	Brewster			Minor	Minor		Yes						0.41	3.00
AIRLINE ROAD	Brewster			Minor					Yes				0.07	3
CROWELLS BOG ROAD	Brewster	Major	Minor	Minor	Minor	Major	Yes	Yes		Major	Minor		0.33	5
FOSTER ROAD	Brewster	Minor	Major	Minor	Minor		Yes	Yes	Yes	Minor	Major		0.60	3
FREEMANS WAY	Brewster								Yes	Minor			2.79	2
GREAT FIELDS ROAD	Brewster		Major	Major	Major		Yes	Yes			Major		1.84	4.39
HARWICH ROAD	Brewster	Major	Major	Minor	Minor	Major	Yes	Yes	Yes	Major	Major		2.47	3.02
LONG POND ROAD	Brewster	Minor	Major	Minor	Minor		Yes	Yes	Yes	Minor	Major		0.95	3
LONG POND ROAD	Brewster												2.57	1
LONG POND ROAD	Brewster									Minor			0.03	2
LOWER ROAD	Brewster	Minor		Minor	Minor		Yes			Minor			1.62	3
MILLSTONE ROAD	Brewster	Major		Minor		Minor	Yes		Yes				2.50	3
POINT OF ROCKS ROAD	Brewster	Major	Major	Major	Major		Yes	Yes	Yes	Major	Major		0.65	3.95
SATUCKET ROAD	Brewster			Minor	Minor		Yes						1.93	2.03
SLOUGH ROAD	Brewster												1.67	2.00
SOUTH ORLEANS ROAD	Brewster									Minor			1.19	2
STONY BROOK ROAD	Brewster		Major	Major	Major						Major		2.35	2.00
TUBMAN ROAD	Brewster	Minor	Minor	Minor	Minor		Yes	Yes	Yes	Minor	Minor		1.55	4
UNDERPASS ROAD	Brewster				Minor								0.86	3
UNDERPASS ROAD	Brewster									Minor			0.20	2
BRIDGE STREET	Chatham	Major		Minor	Minor	Minor			Yes	Minor			0.78	3
CROWELL ROAD	Chatham	Major		Minor	Minor	Minor	Yes	Yes	Yes	Major			0.84	3
CROWELL ROAD	Chatham	Major			Minor		Yes		Yes				0.59	3
MAIN STREET	Chatham	Major		Minor	Minor	Minor	Yes		Yes	Major	Minor		1.28	3
MAIN STREET ROTARY	Chatham	Minor			Minor		Yes				Minor		0.04	3
MEETING HOUSE ROAD	Chatham												1.33	3.00
OLD COMERS ROAD	Chatham												0.38	3.00
OLD COMERS ROAD	Chatham				Minor								0.83	3
OLD QUEEN ANNE ROAD	Chatham												1.34	3.00

OLD QUEEN ANNE ROAD	Chatham	Major		Minor	Minor	Minor	Yes		Yes	Major			1.18	3
QUEEN ANNE ROAD	Chatham	1 1											0.06	3.00
SHORE ROAD	Chatham	Major			Minor	Minor	Yes		Yes	Major			1.16	3
STAGE HARBOR ROAD	Chatham						Yes			-			0.40	2
STAGE HARBOR ROAD	Chatham				Minor	Minor	Yes		Yes				0.59	3
STEPPING STONE ROAD	Chatham	Major		Minor	Minor	Minor	Yes		Yes	Major			0.43	4
STONY HILL ROAD	Chatham	Major		Minor	Minor	Minor	Yes			Major			0.45	4
TRAINING FIELD ROAD	Chatham	Minor			Minor		Yes	Yes		Minor			1.07	3.00
AIRLINE ROAD	Dennis			Minor	Minor		Yes						0.98	3.00
AIRLINE ROAD	Dennis	Minor	Minor	Minor	Minor	Minor	Yes	Yes	Yes	Minor	Minor		1.57	3
BAYVIEW ROAD	Dennis								Yes				0.20	3.00
BEACH STREET	Dennis												0.88	2.98
BOB CROWELL ROAD	Dennis	Minor		Minor	Minor	Minor	Yes	Yes	Yes	Minor			0.38	3
DEPOT ROAD	Dennis									Minor			0.19	2
DEPOT STREET	Dennis									Minor			0.42	2
DEPOT STREET	Dennis						Yes		Yes	Minor			1.71	3
EAST WEST DENNIS ROAD	Dennis												1.32	2.32
EAST WEST DENNIS ROAD	Dennis	Minor	Minor	Minor	Major	Minor	Yes	Yes	Yes	Minor	Minor		3.00	3
EAST WEST DENNIS ROAD	Dennis									Minor		Paint isn't doing so well, taken quite a beaten	1.47	2
ELM STREET	Dennis				Minor				Yes				0.24	3.00
FERRY STREET	Dennis	Minor	Minor		Minor		Yes		Yes				0.06	
GREAT WESTERN ROAD	Dennis				Minor	Minor	Yes		Yes				1.19	3
HENRY DAVIS CIRCLE	Dennis	Minor	Minor		Minor		Yes		Yes	Minor			0.08	3
HIGHBANK ROAD	Dennis												0.02	2.00
HIGHBANK ROAD	Dennis												0.29	2
HOKUM ROCK ROAD	Dennis												1.57	2.02
HORSEFOOT PATH	Dennis												0.07	2.00
LIGHTHOUSE ROAD	Dennis								Yes	Minor	Minor		0.40	
LIGHTHOUSE ROAD	Dennis	Minor	Minor		Minor		Yes		Yes	Minor			0.03	
LORING AVENUE	Dennis	Minor	Minor		Minor		Yes		Yes				1.09	3
LOWER COUNTY ROAD	Dennis												0.01	1
LOWER COUNTY ROAD	Dennis						Yes		Yes	Minor		New surface, was not re- paved, possibility re- surfaced	2.00	2
LOWER COUNTY ROAD	Dennis	1	<u> </u>		<u> </u>					Major	Minor		0.58	3

MAIN STREET	Dennis			Minor	Minor				Yes				0.43	3
MAIN STREET	Dennis						Yes			Minor			1.25	3
MAYFAIR ROAD	Dennis	Minor		Minor	Minor		Yes		Yes	Minor			1.17	3
NEW BOSTON ROAD	Dennis												0.25	3.00
NOBSCUSSETT ROAD	Dennis								Yes				0.39	3.00
OLD BASS RIVER ROAD	Dennis												1.85	3.00
OLD BASS RIVER ROAD	Dennis			Minor	Minor	Minor			Yes				2.04	3
OLD CHATHAM ROAD	Dennis	Minor	Minor	Minor	Minor	Minor	Yes	Yes	Yes	Minor	Minor		1.96	3
OLD MAIN STREET	Dennis						Yes		Yes	Major			0.42	3
OLD WHARF ROAD	Dennis												0.38	2
OLD WHARF ROAD	Dennis	Minor		Minor		Minor	Yes		Yes	Minor			0.85	3
OLD WHARF ROAD	Dennis	Minor	Major	Major	Minor	Major	Yes		Yes	Minor			0.39	4
SCARGO HILL ROAD	Dennis												1.23	3.00
SCHOOL STREET	Dennis									Major			0.51	3
SEA STREET	Dennis	Minor	Minor	Minor	Minor		Yes		Yes				0.30	3
SEA STREET	Dennis					Major		Yes					0.13	4
SESUIT NECK ROAD	Dennis								Yes				1.47	3.00
SETUCKET ROAD	Dennis												2.57	2.39
SHAD HOLE ROAD	Dennis									Minor			0.78	3
SHORE DRIVE	Dennis								Yes				0.65	3.00
SOUTH GAGES WAY	Dennis				Minor		Yes	Yes	Yes				0.34	3
SOUTH MAIN STREET	Dennis									Major			0.06	3
SOUTH YARMOUTH ROAD	Dennis												0.71	3.00
SWAN RIVER ROAD	Dennis									Minor	Minor		0.99	2
TELEGRAPH ROAD	Dennis						Yes		Yes	Minor			0.06	3
THEOPHILUS F SMITH ROAD	Dennis	Minor			Major	Minor	Yes	Yes	Yes	Minor			0.63	3
TROTTING PARK ROAD	Dennis			Minor			Yes			Major	Minor		0.97	2
TROTTING PARK ROAD	Dennis						Yes			Minor			0.15	3
UPPER COUNTY ROAD	Dennis			Minor	Minor	Minor	Yes		Yes				2.05	2.89
UPPER COUNTY ROAD	Dennis						Yes		Yes	Minor			0.34	3
WHIG STREET	Dennis				Minor				Yes				0.45	3.00
BRACKETT ROAD	Eastham								Yes				0.38	3
												WB direction		
BRACKETT ROAD	Eastham	Minor		Minor	Minor		Yes		Yes			is a 1 newly	0.57	3
												paved		
BRIDGE ROAD	Eastham	Minor	Minor	Minor	Major			Yes	Yes		Minor		2.54	
CANAL ROAD	Eastham	Minor				Minor				Minor			0.02	3.00
HERRING BROOK ROAD	Eastham	Minor	Minor	Minor	Minor	Major	Yes	Yes	Yes	Minor	Minor		1.02	3.00
HERRING BROOK ROAD	Eastham		Minor	Minor	Minor	Minor	Yes		Yes		Minor		2.22	3
MASSASOIT ROAD	Eastham		Minor	Minor	Minor	Minor	Yes		Yes		Minor		2.07	3

NAUSET ROAD	Eastham	Minor		Minor	Minor		Yes		Yes	Minor			1.52	1.64
NAUSET ROAD	Eastham	Minor				Minor	Yes			Minor			0.74	3
OCEAN VIEW DRIVE	Eastham			Minor		Major		Yes					0.93	4
OLD COUNTY ROAD	Eastham			Minor	Minor	Minor	Yes		Yes				0.18	3
ORCHARD ROAD	Eastham									Major		Faded paint	1.31	2
ROUTE 6A	Eastham	Minor			Minor	Minor	Yes			Minor			0.19	3.00
SAMOSET ROAD	Eastham	Minor	Minor	Minor	Major	Major	Yes	Yes	Yes	Minor	Minor		2.07	3.38
SCHOOL HOUSE ROAD	Eastham				Minor	Minor				Major			1.10	3
SMITH LANE	Eastham								Yes				0.02	3.00
ACAPESKET ROAD	Falmouth	Minor		Minor	Minor	Minor	Yes	Yes	Yes	Minor			1.80	3.00
ALBATROSS STREET	Falmouth									Minor			0.16	2
BARROWS ROAD	Falmouth			Minor	Minor		Yes	Yes					0.22	3.00
BLACKSMITH SHOP ROAD	Falmouth	Minor	Minor	Major			Yes						0.96	4
BLACKSMITH SHOP ROAD	Falmouth												0.31	5
BOXBERRY HILL ROAD	Falmouth	Major				Minor	Yes	Yes	Yes				0.17	1
BOXBERRY HILL ROAD	Falmouth	Minor		Major			Yes			Major	Minor		0.43	2
BOXBERRY HILL ROAD	Falmouth	Major	Major	Minor	Minor	Minor	Yes	Yes	Yes	Minor			1.97	3
BRICK KILN ROAD	Falmouth	Minor	Minor						Yes	Minor	Minor		2.66	2.79
CARRIAGE SHOP ROAD	Falmouth			Minor	Minor	Minor	Yes	Yes	Yes				3.26	2.61
CENTRAL AVENUE	Falmouth								Yes				1.94	3.00
CHESTER STREET	Falmouth												0.10	1
CHESTER STREET	Falmouth	Major			Minor	Minor	Yes		Yes	Minor			0.14	3
CHESTER STREET	Falmouth	Major			Major	Major	Yes		Yes	Minor			0.60	4
CLINTON AVENUE	Falmouth	Major	Minor	Minor				Yes	Yes	Major	Minor		0.43	4
COUNTY ROAD	Falmouth	Major				Minor	Yes		Yes				0.50	3
CROSS ROAD	Falmouth			Minor	Minor	Minor	Yes	Yes	Yes				0.39	3.00
CURLEY BOULEVARD	Falmouth	Major					Yes		Yes	Minor			0.56	3
CURRIER ROAD	Falmouth			Minor	Minor		Yes	Yes	Yes				1.18	3.00
DAVISVILLE ROAD	Falmouth	Minor				Minor	Yes	Yes	Yes	Minor			1.87	3.00
ELYSIAN AVENUE	Falmouth	Major	Major	Minor	Minor	Minor	Yes	Yes	Yes	Major	Major		0.35	3
EMERSON ROAD	Falmouth	Minor				Minor				Minor			0.21	3.00
FALMOUTH HEIGHTS ROAD	Falmouth	Major	Major	Minor	Minor	Minor	Yes	Yes	Yes	Major	Major		1.09	3.55
FALMOUTH-SANDWICH ROAD	Falmouth	Major		Minor	Major		Yes		Yes	Major			0.01	3
FRESH POND ROAD	Falmouth				Minor	Minor		Yes	Yes				0.92	3.00
GARNET AVENUE	Falmouth												0.56	1
GIFFORD STREET	Falmouth		Minor				Yes	Yes	Yes	Minor	Minor		2.40	3
GIFFORD STREET EXTENSION	Falmouth	Minor	Minor	Minor	Minor		Yes	Yes	Yes	Minor	Minor		0.72	3
GRAND AVENUE	Falmouth	Minor	Minor		Minor	Minor	Yes	Yes	Yes	Minor	Minor		1.21	3.34
HARBOR HILL ROAD	Falmouth	Major	Minor	Minor	Minor		Yes	Yes		Major	Minor		0.43	4
HATCHVILLE ROAD	Falmouth	Major	Major	Major		Minor	Yes	Yes	Yes	Major			2.01	3

HAYWAY ROAD	Falmouth			Minor	Minor	Minor	Yes	Yes	Yes				1.86	3.00
JERICHO PATH	Falmouth	Major	Major	Minor	Minor	Minor	Yes	Yes	Yes	Major	Major		0.62	3
JOHN PARKER ROAD	Falmouth						Yes		Yes	_			1.35	3.00
JONES ROAD	Falmouth	Minor	Minor	Minor	Minor		Yes	Yes	Yes	Minor	Minor		1.12	3
KATHERINE LEE BATES ROAD	Falmouth	Minor	Minor	Minor	Minor	Minor	Yes	Yes	Yes	Minor	Minor		0.63	3
LOCUSTFIELD ROAD	Falmouth	Minor		Minor	Minor		Yes	Yes	Yes	Minor			0.42	3
MAIN STREET	Falmouth	Minor	Minor		Minor	Minor	Yes		Yes	Minor	Minor		1.27	2.04
MARAVISTA AVENUE	Falmouth	Minor			Minor		Yes		Yes	Minor			1.26	3.00
MARAVISTA AVENUE	Falmouth			Minor	Minor	Minor	Yes						0.41	3
MARAVISTA AVENUE EXTENSION	Falmouth				Minor		Yes		Yes				0.45	3.00
MEETING HOUSE ROAD	Falmouth	Minor			Minor	Minor	Yes		Yes	Minor			0.57	3.00
MENAUHANT ROAD	Falmouth	Minor			Minor		Yes	Yes	Yes	Minor			2.49	3.00
MILL ROAD	Falmouth	Major	Minor	Major	Minor		Yes	Yes	Yes	Major	Minor		0.77	3
MILLFIELD STREET	Falmouth				Minor		Yes			Minor			0.26	3
NASHAWENA STREET	Falmouth									Minor			0.43	2
NASHAWENA STREET	Falmouth	Major		Minor		Major	Yes		Yes				0.58	3
NATHAN ELLIS HIGHWAY	Falmouth				Minor				Yes				1.16	3.00
NATHAN ELLIS HIGHWAY	Falmouth	Minor		Major			Yes		Yes	Major	Minor		2.77	2
NATHAN ELLIS HIGHWAY	Falmouth		Major	Major	Minor				Yes				0.49	3
NOBSKA ROAD	Falmouth				Minor								0.25	3
OLD BARNSTABLE ROAD	Falmouth			Minor	Minor	Minor	Yes	Yes	Yes				3.24	3.00
OLD DOCK ROAD	Falmouth						Yes	Yes		Minor			0.14	3
OLD MAIN ROAD	Falmouth												0.04	3
OX BOW ROAD	Falmouth				Minor		Yes		Yes				0.06	3
OYSTER POND ROAD	Falmouth	Major	Minor	Major	Minor		Yes	Yes	Yes	Major	Minor		2.03	3.64
												SB side		
PALMER AVENUE	Falmouth	 Major						Yes		Minor		follows this.	0.80	1
FALIVIER AVENUE	aiiiioutii	iviajoi						163		IVIIIIOI		NB is recently	0.00	,
												paved/new		
PALMER AVENUE	Falmouth												0.53	2
PINE STREET	Falmouth	Major		Minor		Minor	Yes		Yes				0.23	3
QUAKER ROAD	Falmouth												0.01	1
QUAKER ROAD	Falmouth	Major		Minor	Major	Major	Yes		Yes	Minor			2.11	3
QUAKER ROAD	Falmouth	Major			Major	Major	Yes			Minor			0.75	4
QUISSETT AVENUE	Falmouth	Yes	Minor	Minor				Yes	Yes	Minor			1.58	3
RANDOLPH STREET	Falmouth				Minor		Yes						0.20	3
RANSOM ROAD	Falmouth	Major	Minor					Yes		Minor			0.22	4
RED BROOK ROAD	Falmouth			Minor		Minor			Yes				0.71	2.00

SAM TURNER ROAD	Falmouth												0.03	1
SAM TURNER ROAD	Falmouth	Major	Major	Major	Minor	Minor	Yes	Yes		Minor			1.03	3
SAM TURNER ROAD	Falmouth	Major		-	Minor		Yes						0.35	4
SANDWICH ROAD	Falmouth	Major	Minor	Minor	Major		Yes	Yes	Yes	Major	Minor		5.76	2.85
SCHOOL STREET	Falmouth	Minor				Minor				Minor			0.20	2
SCHOOL STREET	Falmouth	Minor			Minor	Minor	Yes	Yes		Minor			0.05	3
SCRANTON AVENUE	Falmouth			Minor	Minor		Yes		Yes				0.71	4
SEACOAST SHORES BOULEVARD	Falmouth	Minor			Minor	Minor	Yes			Minor			1.70	3.00
SHORE STREET	Falmouth	Major	Minor	Major	Minor	Minor	Yes	Yes	Yes	Major	Minor		0.68	3.33
SHOREVIEW AVENUE	Falmouth				Major	Minor							0.29	3.00
SHOREWOOD DRIVE	Falmouth	Minor			Major	Minor	Yes	Yes		Minor			0.99	4.00
SIPPEWISSETT ROAD	Falmouth	Major	Minor	Major			Yes	Yes	Yes	Minor			2.90	3
SPRING BARS ROAD	Falmouth	Minor			Minor		Yes	Yes	Yes	Minor			0.32	3
SURF DRIVE	Falmouth	Major	Minor	Major	Minor		Yes	Yes	Yes	Major	Minor		1.36	4
THATCHERS LANE	Falmouth							Yes					0.20	3.00
THOMAS B LANDERS ROAD	Falmouth												0.75	1
THOMAS B LANDERS ROAD	Falmouth			Minor						Major			2.01	2
THOMAS B LANDERS ROAD	Falmouth	Minor		Minor	Minor		Yes	Yes	Yes	Minor			0.16	3 3 4 2 3
TURNER ROAD	Falmouth	Minor		Minor	Minor		Yes	Yes	Yes	Minor			0.51	3
WALKER STREET	Falmouth	Minor	Minor	Minor	Minor		Yes	Yes	Yes	Minor	Minor		0.76	4
WATER STREET	Falmouth				Minor		Yes	Yes		Minor			0.07	2
WATER STREET	Falmouth				Minor		Yes	Yes					0.21	3
WEST FALMOUTH HIGHWAY	Falmouth	Major						Yes				SB side follows this. NB is recently paved/new	1.23	3
WILD HARBOR ROAD	Falmouth	Major			Major	Major	Yes		Yes	Minor			0.49	4
WORCESTER AVENUE	Falmouth	Major	Major	Minor	Minor	Minor	Yes	Yes	Yes	Major	Major		0.13	3
WORCESTER COURT	Falmouth	Major	Major	Minor	Minor	Minor	Yes	Yes	Yes	Major	Major		1.02	3
BANK STREET	Harwich	Major	Minor	Minor	Minor	Minor	Yes		Yes	Major	Minor		1.38	4 3 3 3 2
BELMONT ROAD	Harwich						Yes	Yes					0.37	2
BELMONT ROAD	Harwich						Yes	Yes					0.27	3
BROOKS ROAD	Harwich				Minor	Minor	Yes			Minor			0.23	3
CHASE STREET	Harwich						Yes		Yes	Minor		New surface, was not re- paved, possibility re- surfaced	0.04	2
CHASE STREET	Harwich						Yes			Minor			0.58	3

CHATHAM ROAD	Harwich												1.48	3.00
CHURCH STREET	Harwich												1.27	3.00
DEPOT ROAD	Harwich												1.50	3.00
DEPOT ROAD	Harwich									Minor			0.70	2
DEPOT STREET	Harwich												0.03	
DEPOT STREET	Harwich						Yes						0.96	2
DEPOT STREET	Harwich		Minor	Minor			Yes	Yes	Yes	Major			0.35	2
DEPOT STREET	Harwich					Minor	Yes			Minor	Minor		0.36	3
EARLE ROAD	Harwich												0.28	1
EARLE ROAD	Harwich								Yes			New surface, was not re- paved, possibility re- surfaced	0.01	2
FREEMAN STREET	Harwich	Minor	Minor		Minor		Yes	Yes	Yes	Minor	Minor		0.33	3
GREAT WESTERN ROAD	Harwich	Major	Minor	Minor	Minor	Minor	Yes	Yes	Yes	Major	Minor		2.24	3
LONG POND DRIVE	Harwich				Minor	Minor	Yes		Yes				2.70	3.47
LOTHROP AVENUE	Harwich	Major	Minor	Minor	Minor	Minor	Yes	Yes	Yes	Major	Minor		1.44	3
LOWER COUNTY ROAD	Harwich												0.07	1
LOWER COUNTY ROAD	Harwich								Yes			New surface, was not re- paved, possibility re- surfaced	2.16	2
MAIN STREET	Harwich				Minor		Yes	Yes					0.06	3.00
MAIN STREET	Harwich	Major	Minor	Minor	Minor	Minor	Yes	Yes	Yes	Major	Minor		1.60	3
MAIN STREET	Harwich	Minor	Minor	Minor				Yes	Yes	Major	Minor		1.41	3
OLD CHATHAM ROAD	Harwich					Minor	Yes		Yes				0.63	3
OLD QUEEN ANNE ROAD	Harwich												0.11	
ORLEANS ROAD	Harwich				Minor		Yes	Yes					4.65	
ORLEANS ROAD	Harwich									Minor			0.03	2
PLEASANT BAY ROAD	Harwich													3.00
PLEASANT LAKE AVENUE	Harwich	Major		Minor	Minor	Minor			Yes	Major			2.67	
QUEEN ANNE ROAD	Harwich				Minor		Yes	Yes					3.02	2.99
QUEEN ANNE ROAD	Harwich				Minor								2.16	2
RIVERSIDE DRIVE	Harwich												0.57	2
ROUTE 137	Harwich												1.72	3.00
ROUTE 137	Harwich				Minor								0.18	3
SISSON ROAD	Harwich	Minor		Minor	Minor	Minor	Yes		Yes	Minor	]		0.59	3

SISSON ROAD	Harwich						Yes					0.86	3
SOUTH STREET	Harwich						Yes			Minor		0.28	2
SOUTH STREET	Harwich	Minor		Major	Minor		Yes	Yes	Yes	Minor		1.12	3.39
UNCLE VENIES ROAD	Harwich											0.86	3.00
ASHERS PATH EAST	Mashpee				Minor	Minor						0.43	3
BOARDLEY ROAD	Mashpee											0.00	1
BOARDLEY ROAD	Mashpee	Minor		Minor	Minor				Yes	Minor		0.01	2
COTUIT ROAD	Mashpee	Minor		Minor		Minor	Yes		Yes	Minor	Minor	0.80	3
COTUIT ROAD	Mashpee	Major		Major	Major		Yes	Yes	Yes	Major		0.92	4
FALMOUTH-SANDWICH ROAD	Mashpee	Major		Minor	Major		Yes		Yes	Major		0.72	3
GREAT NECK ROAD NORTH	Mashpee	Minor	Minor	Minor	Minor	Minor	Yes	Yes	Yes	Minor	Minor	2.28	4
GREAT NECK ROAD SOUTH	Mashpee			Minor	Minor	Minor	Yes		Yes			2.77	3.00
GREAT OAK ROAD	Mashpee			Minor	Minor	Minor	Yes		Yes			2.83	3.00
LOWELL ROAD	Mashpee	Minor	Minor	Minor	Minor	Minor	Yes		Yes	Minor	Minor	0.81	3
MAIN STREET	Mashpee	Minor		Minor		Minor	Yes		Yes	Minor	Minor	4.13	3
MASHPEE NECK ROAD	Mashpee			Minor	Minor	Minor	Yes	Yes	Yes			1.50	3
MEETINGHOUSE ROAD	Mashpee	Minor	Minor	Minor	Minor	Minor	Yes	Yes	Yes	Minor	Minor	1.73	4
MONOMOSCOY ROAD	Mashpee			Minor		Minor			Yes			0.03	2.00
NATHAN ELLIS HIGHWAY	Mashpee			Minor	Minor	Minor	Yes	Yes	Yes			2.31	3.00
OLD BARNSTABLE ROAD	Mashpee			Minor	Minor	Minor	Yes	Yes	Yes			1.22	3.00
OLD BARNSTABLE ROAD	Mashpee	Minor	Minor	Minor	Minor	Minor	Yes		Yes	Minor	Minor	1.08	3
ORCHARD ROAD	Mashpee			Minor	Minor	Minor	Yes	Yes				0.51	3
PIMLICO POND ROAD	Mashpee						Yes			Minor		0.00	1
PIMLICO POND ROAD	Mashpee	Minor			Major		Yes	Yes		Major		0.96	3
PIMLICO POND ROAD	Mashpee	Major			Major		Yes		Yes	Major		0.03	4
QUINAQUISSET AVENUE	Mashpee				Minor		Yes	Yes				1.72	3
RED BROOK ROAD	Mashpee				Minor		Yes		Yes				2.06
SOUTH SANDWICH ROAD	Mashpee	Minor		Major		Minor	Yes			Minor	Minor	1.22	3
WAKEBY ROAD	Mashpee	Minor		Minor	Major	Minor				Minor		80.0	3
BEACH ROAD	Orleans				Minor		Yes		Yes			1.54	3
BRICK HILL ROAD	Orleans			Minor	Minor		Yes		Yes			1.34	3
BRIDGE ROAD	Orleans				Minor				Yes			0.19	3.00
CANAL ROAD	Orleans				Minor	Minor	Yes					0.57	2.62
ELDREDGE PARK WAY	Orleans	Minor			Minor				Yes			0.73	3
FINLAY ROAD	Orleans	Minor		Minor		Minor			Yes			0.67	3
HARWICH ROAD	Orleans											0.02	1
HARWICH ROAD	Orleans											0.66	2

HOPKINS LANE	Orleans			Minor	Minor		Yes		Yes			0.99	3
LOTS HOLLOW ROAD	Orleans											0.17	2
MAIN STREET	Orleans	Minor			Minor	Major	Yes			Minor		0.77	2.76
MAIN STREET	Orleans				Minor	,		Yes	Yes			1.00	3
MONUMENT ROAD	Orleans				Minor		Yes	Yes	Yes			0.28	3
MONUMENT ROAD	Orleans									Minor		1.22	2
OLD COLONY WAY	Orleans	Major			Minor	Minor	Yes	Yes	Yes	Minor		0.61	4
POND ROAD	Orleans	Minor		Minor			Yes		Yes			0.46	3
ROCK HARBOR ROAD	Orleans	Minor				Major	Yes			Minor			2.55
ROUTE 6A	Orleans	Minor			Minor					Minor			3.00
SKAKET BEACH ROAD	Orleans	Minor				Minor				Minor		0.61	1
SKAKET BEACH ROAD		Minor				Minor			Yes			0.45	3
TONSET ROAD	Orleans			Minor	Minor		Yes		Yes			1.69	3
TONSET ROAD	Orleans	Minor										0.23	2
WEST ROAD	Orleans	Minor			Minor	Minor			Yes	Minor		0.75	3
BRADFORD STREET	Provincetown			Minor	Minor			Yes					3.00
BRADFORD STREET	Provincetown	Minor					Yes			Minor		0.85	3
COMMERCIAL STREET	Provincetown						Yes			Minor		2.51	2.46
CONWELL STREET	Provincetown			Minor	Minor		Yes	Yes				0.08	3.00
ROUTE 6	Provincetown	Minor		Minor	Minor	Minor	Yes			Major	Minor	7.77	3
SHANK PAINTER ROAD	Provincetown	Minor			Minor		Yes		Yes	Minor		0.55	4
ASA MEIGGS ROAD	Sandwich											0.00	1
ASA MEIGGS ROAD	Sandwich	Minor		Major		Minor	Yes	Yes	Yes			0.23	3
ASA MEIGGS ROAD	Sandwich	Minor		Major	0	Minor	Yes	Yes	Yes	Major		0.34	3
BEALE AVENUE	Sandwich			j						j		0.31	2
BOARDLEY ROAD	Sandwich	Minor		Minor	Minor				Yes	Minor		1.25	2
CHASE ROAD	Sandwich				Minor		Yes					0.46	3.00
CHASE ROAD	Sandwich				Minor							0.62	3
COTUIT ROAD	Sandwich	Major	Minor		Major	Minor	Yes		Yes	Major	Minor	1.39	3
COTUIT ROAD	Sandwich								Yes	Minor		0.88	3
COTUIT ROAD	Sandwich	Major		Major	Major	Minor	Yes	Yes	Yes	Major		0.97	4
FALMOUTH-SANDWICH ROAD	Sandwich	Major		Minor	Major		Yes		Yes	Major		0.01	3
FARMERSVILLE ROAD	Sandwich	Major		Major			Yes		Yes	Minor		0.73	2
FARMERSVILLE ROAD	Sandwich								Yes	Major		1.56	3
FORESTDALE ROAD	Sandwich	Major			Major		Yes			Major		1.74	2.45
FORESTDALE ROAD	Sandwich				-					-		0.01	1
FORESTDALE ROAD	Sandwich	Minor			Minor	Minor			Yes	Minor	Minor	0.00	2

FORESTDALE ROAD	Sandwich	Minor		Minor	Minor	Minor	Yes		Yes	Minor	Minor		1.71	3
GREAT HILL ROAD	Sandwich				Minor								1.74	3
GREAT HILL ROAD	Sandwich								Yes	Minor			0.04	2
HARLOW ROAD	Sandwich	Minor		Minor	Minor	Minor			Yes	Minor			1.29	2
HOWLAND LANE	Sandwich	Minor			Minor				Yes	Minor			0.34	3.92
JONES LANE	Sandwich	Major		Major			Yes		Yes	Major			0.56	4.00
MAIN STREET	Sandwich	Minor	Minor	Minor	Minor		Yes	Yes	Yes	Minor	Minor		0.24	3
MAIN STREET	Sandwich	Minor		Minor		Minor	Yes		Yes	Minor	Minor		0.00	3
MEIGGS BACKUS ROAD	Sandwich	Major		Minor	Minor		Yes	Yes		Major			0.00	4.00
MEIGGS BACKUS ROAD	Sandwich		Minor	Major						Major			0.44	3
MEIGS BACKUS RD	Sandwich		Minor	Major						Major			0.06	3
MEIGS BACKUS RD	Sandwich							Yes				Dirt road, one lane drive	0.47	5
NEWTOWN ROAD	Sandwich	Major		Major			Yes		Yes	Minor			0.05	2
NEWTOWN ROAD	Sandwich	Major		Major			Yes		Yes	Major			0.50	4
OLD COUNTY ROAD	Sandwich				Minor		Yes						2.70	3.00
PIMLICO POND ROAD	Sandwich						Yes			Minor			0.70	1
PINKHAM ROAD	Sandwich	Major	Minor	Major	Minor		Yes	Yes	Yes	Major	Minor		1.34	4.2
QUAKER MEETING HOUSE ROAD	Sandwich				Minor				Yes				1.06	3.00
QUAKER MEETING HOUSE ROAD	Sandwich	Major	Minor		Minor	Minor	Yes		Yes	Major	Minor		3.24	3
QUAKER MEETING HOUSE ROAD	Sandwich	Minor			Minor				Yes	Minor	Minor		0.08	3
RACE LANE	Sandwich									Minor			0.40	2
SANDY NECK ROAD	Sandwich	Minor			Minor					Minor			0.70	
SERVICE ROAD	Sandwich	Minor		Minor	Minor	,	Yes	Yes		Minor			4.84	2.88
SNAKE POND ROAD	Sandwich	Minor			Minor	Minor				Minor	Minor		1.73	2
SOUTH SANDWICH ROAD	Sandwich			Minor					Yes				0.19	2
SOUTH SANDWICH ROAD	Sandwich	Minor		Major			Yes			Minor			0.02	3
STOWE ROAD	Sandwich				Minor	Minor			Yes				0.34	4
TUPPER ROAD	Sandwich			Minor						Minor			1.76	3
WATER STREET	Sandwich	Minor	Minor	Minor	Minor		Yes	Yes	Yes	Minor	Minor		0.83	3
CASTLE ROAD	Truro	Minor		Minor	Minor					Minor			1.99	3
DEPOT ROAD	Truro												0.52	2
HIGHLAND ROAD	Truro	Minor	Minor	Major	Minor	Major	Yes	Yes		Minor	Minor		0.74	4
OLD COUNTY ROAD	Truro	Minor	Minor	Minor	Major	Minor	Yes	Yes		Major			2.75	4
OLD ROUTE 6A	Truro	Minor		Minor	Minor					Minor			0.35	3
SHORE ROAD	Truro	Minor	Minor	Minor	Minor	Major	Yes		Yes	Minor	Minor		4.61	3.00
SOUTH HIGHLAND ROAD	Truro			Minor	Minor								1.45	3
BOUND BROOK ISLAND ROAD	Wellfleet			Major		Minor	Yes		Yes				0.84	3
BRIAR LANE	Wellfleet	Major	•			Minor	Yes		Yes				0.53	3

CAHOONS HOLLOW ROAD	Wellfleet	Minor		Minor	Minor		Yes	Yes	Yes	Minor		2.03	3.00
CHEQUESSETT NECK ROAD	Wellfleet				Minor				Yes			0.77	3.00
COLE NECK ROAD	Wellfleet			Major					Yes			0.69	1
COLES NECK ROAD	Wellfleet			Major		Minor	Yes		Yes			0.05	3
COMMERCIAL STREET	Wellfleet						Yes		Yes			0.51	3.00
EAST COMMERCIAL STREET	Wellfleet						Yes		Yes			0.22	3.00
GROSS HILL ROAD	Wellfleet								Yes			1.92	3.32
HOLBROOK AVENUE	Wellfleet								Yes			0.08	3.00
KENDRICK AVENUE	Wellfleet				Minor	Minor	Yes		Yes			0.82	2.27
LECOUNT HOLLOW ROAD	Wellfleet			Minor		Minor			Yes			0.77	3
LONG POND ROAD	Wellfleet			Minor					Yes			2.14	2.33
LONG POND ROAD	Wellfleet			Minor		Minor			Yes			0.04	3
MAIN STREET	Wellfleet	Minor				Minor	Yes		Yes			0.74	3
OCEANVIEW DRIVE	Wellfleet			Minor					Yes			0.03	3.00
OCEANVIEW DRIVE	Wellfleet			Minor		Minor			Yes			2.92	3
OLD COUNTY ROAD	Wellfleet			Major			Yes					0.33	3
OLD COUNTY ROAD SOUTH	Wellfleet	Minor		Minor	Minor			Yes	Yes	Minor		1.89	3.00
PAMET POINT ROAD	Wellfleet			Major		Minor	Yes		Yes			0.27	3
POLE DIKE ROAD	Wellfleet			Major					Yes			0.67	3
SCHOOL STREET	Wellfleet								Yes			0.02	4
SCHOOL STREET	Wellfleet	Minor				Minor	Yes		Yes			0.31	3
WEST MAIN STREET	Wellfleet											0.30	2
WEST MAIN STREET	Wellfleet	Major		Major		Minor	Yes		Yes			0.21	3
WEST ROAD	Wellfleet											0.59	2
WHITS LANE	Wellfleet						Yes		Yes			0.08	3.00
ABELLS ROAD	Yarmouth								Yes	Minor		0.37	3
BAXTER AVENUE	Yarmouth				Minor	Minor	Yes		Yes	Minor		0.80	3
BAYVIEW STREET	Yarmouth	Minor			Major	Minor	Yes	Yes	Yes	Minor		0.15	2
BAYVIEW STREET	Yarmouth	Minor				Minor	Yes	Yes	Yes			0.39	4
BERRY AVENUE	Yarmouth				Minor					Minor		0.66	3
BRAY FARM ROAD NORTH	Yarmouth											0.14	3.00
BRAY FARM ROAD SOUTH	Yarmouth											0.40	3.00
BROADWAY	Yarmouth				Minor					Minor		0.24	3
BUCK ISLAND ROAD	Yarmouth											0.11	2
BUCK ISLAND ROAD	Yarmouth											0.01	1
BUCK ISLAND ROAD	Yarmouth							1	Yes	Minor	Minor	2.58	2
CAMP STREET	Yarmouth		Minor	Minor	Minor		Yes	1		Minor		0.69	2

CAMP STREET	Yarmouth							Yes	Minor	0.44	3
CAPTAIN SMALL ROAD	Yarmouth			Minor		Yes				0.18	3.00
CENTER STREET	Yarmouth			Minor		100		Yes		0.79	3
COTTAGE DRIVE	Yarmouth				Minor				Minor	0.06	3
FOREST ROAD	Yarmouth	Minor	Minor	Minor	IVIIIIOI	Yes	Yes		Minor	2.16	3
GLENWOOD STREET	Yarmouth		IVIIII OI		Minor		. 00		Minor	0.20	3
GREAT WESTERN ROAD	Yarmouth			Minor						1.03	2.00
HARBOR ROAD	Yarmouth				Minor	Yes		Yes	Minor	0.29	3
HIGGINS CROWELL ROAD	Yarmouth									0.55	1
HIGGINS CROWELL ROAD	Yarmouth					Yes			Minor	2.23	2
HIGGINS CROWELL ROAD	Yarmouth							Yes	Minor	0.03	3
HIGHBANK ROAD	Yarmouth			Minor		Yes	Yes			1.79	2.88
HIGHLAND STREET	Yarmouth				Minor	Yes		Yes	Minor	0.04	3
LEWIS ROAD	Yarmouth			Minor					Minor	0.59	3
LONG POND DRIVE	Yarmouth			Minor		Yes				0.95	3.00
LONG POND DRIVE	Yarmouth	Minor		Minor		Yes	Yes	Yes	Minor	0.92	3
MAYFAIR ROAD	Yarmouth	Minor	Minor	Minor		Yes			Minor	0.26	3
NORTH DENNIS ROAD	Yarmouth			Minor		Yes				2.03	2.97
NORTH MAIN STREET	Yarmouth			Minor		Yes	Yes	Yes		1.71	2.80
OLD CHURCH STREET	Yarmouth			Minor				Yes		0.32	3
OLD MAIN STREET	Yarmouth									0.98	2.00
OLD MAIN STREET	Yarmouth		Minor	Minor	Minor	Yes		Yes		0.28	3
OLD TOWN HOUSE ROAD	Yarmouth			Minor		Yes				0.03	3.00
OLD TOWN HOUSE ROAD	Yarmouth		Minor	Minor	Minor	Yes		Yes		1.15	3
PARK AVENUE	Yarmouth			Minor	Minor	Yes		Yes	Minor	0.28	3
PINE GROVE ROAD	Yarmouth		Minor	Minor	Minor	Yes	Yes	Yes		0.88	3
PLAYGROUND LANE	Yarmouth			Minor				Yes		0.11	3
RAYMOND AVENUE	Yarmouth			Minor		Yes	Yes			0.35	3.00
REGIONAL AVENUE	Yarmouth			Minor		Yes	Yes			0.46	3.00
SCHOLL AVENUE	Yarmouth			Minor	Minor			Yes	Minor	0.28	4
SEAVIEW AVENUE	Yarmouth		Minor	Minor		Yes		Yes		0.75	3
SETUCKET ROAD	Yarmouth									1.08	
SHERIDAN ROAD	Yarmouth			Minor		Yes	Yes	Yes		0.17	3.00
SILVER LEAF LANE	Yarmouth			Minor	Minor	Yes			Major	0.62	3
SOMERSET STREET	Yarmouth			Minor	Minor	Yes			Minor	0.10	3
SOUTH SEA AVENUE	Yarmouth			Minor	Minor	Yes		Yes	Major	1.10	2
SOUTH SHORE DRIVE	Yarmouth		Minor	Minor	Minor	Yes	Yes	Yes		0.94	3

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SOUTH STREET	Yarmouth		Minor	Minor	Minor	Yes		Yes			0.86	3
STATION AVENUE	Yarmouth			Minor		Yes					1.98	3.00
STRAWBERRY LANE	Yarmouth		Major		Minor	Yes		Yes			0.37	3
TOWN BROOK ROAD	Yarmouth			Minor		Yes			Minor	Minor	0.32	3
UNION STREET	Yarmouth										1.06	2
WEIR ROAD	Yarmouth			Minor		Yes					0.70	3.00
WEST GREAT WESTERN ROAD	Yarmouth			Minor		Yes					1.40	3.00
WEST YARMOUTH ROAD	Yarmouth		Minor		Minor	Yes		Yes			2.80	3
WEST YARMOUTH ROAD	Yarmouth										1.03	1
WEST YARMOUTH ROAD	Yarmouth								Minor		0.04	2
WHITE ROCK ROAD	Yarmouth		Major		Minor	Yes		Yes			1.08	3
WHITES PATH	Yarmouth			Minor		Yes					1.74	2.02
WILLOW AVENUE	Yarmouth	Major			Minor	Yes	Yes	Yes			0.07	3
WILLOW STREET	Yarmouth		Minor	Minor	Minor	Yes	Yes	Yes			1.33	3
WILLOW STREET	Yarmouth							Yes	Minor	Minor	0.29	2
WILLOW STREET	Yarmouth			Minor					Minor	Minor	0.55	3
WINSLOW GRAY ROAD	Yarmouth	Minor		Minor		Yes	Yes	Yes	Minor		0.73	3
WINSLOW GRAY ROAD	Yarmouth	Minor	Minor					Yes	Minor		1.16	3
WITCHWOOD ROAD	Yarmouth			Minor		Yes					0.57	3.00
WOOD ROAD	Yarmouth			Minor		Yes	Yes	Yes			1.29	3.00

